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**GRADALL**<sup>®</sup>

# PART MANUAL

**GRADALL**<sup>®</sup>

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## **CORPORATE OFFICE**

JLG INDUSTRIES, INC.  
1 JLG DRIVE  
McConnellsburg, PA  
17233-9533  
USA  
Telephone: (717) 485-5161  
Fax: (717) 485-6417

## **GRADALL DIVISION**

JLG INDUSTRIES, INC.  
406 Mill Avenue S.W.  
New Philadelphia, OH  
44663  
USA  
Telephone: (330) 339-2211  
Fax: (330) 339-8458



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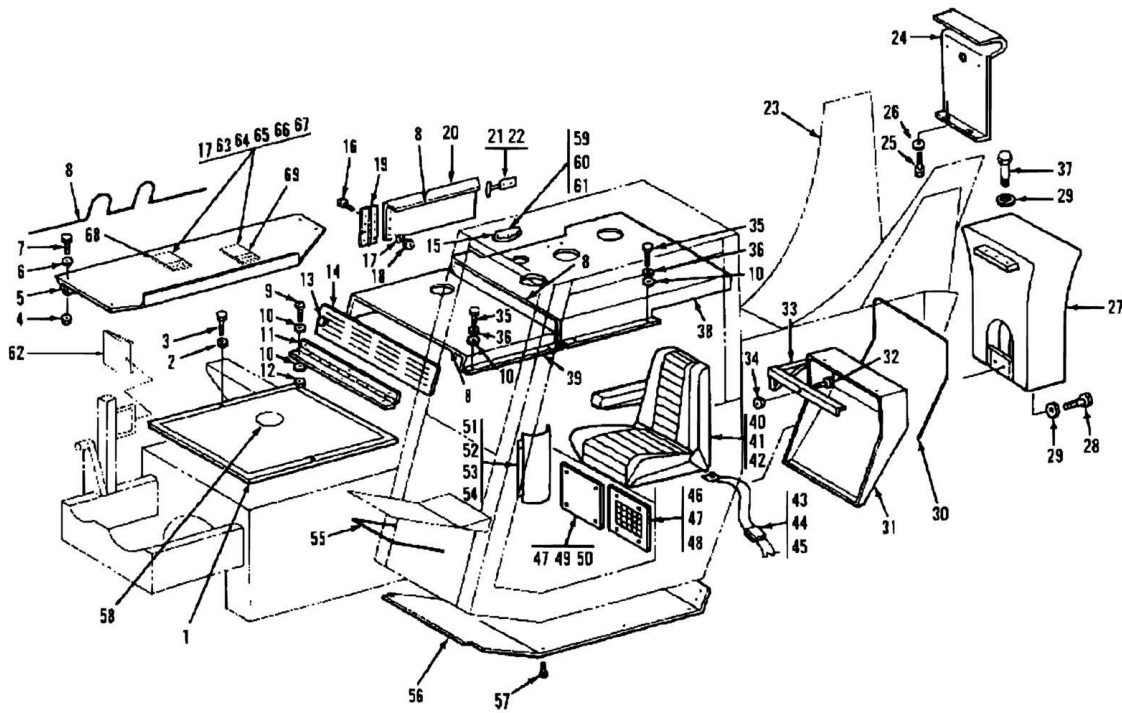
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# SECTION 1 - CHASSIS AND ATTACHING PARTS

## SECTION 1 - CHASSIS AND ATTACHING PARTS

# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 0155299S to Present)





# SECTION 1 - CHASSIS AND ATTACHING PARTS

**FIGURE 1-1. FRAME SHROUDING AND TRIM (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91035096	1	DECK ASSY	
2	88551010	2	LOCKWASHER, 5/16	
3	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
4	88521308	4	HEX LOCKNUT, 1/2-13	
5	91031260	1	TANK COVER	
6	85401340	4	HARDENED WASHER	
7	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4 GR5	
8	90206196	AR	TRIM, 11 FT LONG	
9	88261017	6	SOCKET BUTTON HD CAPSCREW 1/4-20X7/8	
10	88561107	16	FLAT WASHER, 1/4	
11	91031075	1	HINGE	
12	88521304	6	HEX LOCKNUT, 1/4-20	
13	83683311	2	PAWL LATCH	
14	91031074	1	FRONT SERVICE DOOR	
15	91033320	1	LEVEL GAUGE	
16	88261009	8	SOCKET BUTTON HD CAPSCREW, #10-24X5/8	
17	88561105	16	FLAT WASHER, #10	
19	91033077	1	HINGE	
20	91031067	1	SIDE SERVICE DOOR	
21	90207458	2	DRAW LATCH	
22	90028951	8	POP RIVET	
23	91046032	1	FRAME WELDMENT	
24	91041080	1	BOOM COVER	
25	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2 GR5	
26	88561109	4	FLAT WASHER, 3/8	
27	91040002	1	COUNTERWEIGHT	
28	88201115	3	HEX HD CAPSCREW, 3/4-10X3 GR5	
29	88561009	3	FLAT WASHER, 3/4	
30	90206194	AR	TRIM, 8 FT LONG	
31	91036079	1	REAR CAB COVER	
32	77143004	3	LOCK SCREW	
33	90602885	1	BRACKET	
34	77143006	3	LOCK NUT	
35	88201003	8	HEX HD CAPSCREW, 1/4-20x3/4 GR5	
36	88551009	8	LOCKWASHER, 1/4	
37	88201118	2	HEX HD CAPSCREW, 3/4-10X3-3/4 GR5	
38	91045027	1	REAR HOOD ASSY (includes items 16 thru 20)	
39	91036016	1	FRONT HOOD ASSY	
40	91033485	1	SEAT (standard)	
40	91124107	1	SLIDE ADJ KIT	
40	91043237	1	SEAT W/BELTS (optional)	
41	86671164	2	SPACER	
42	77143006	4	LOCK NUT	
43	91033029	1	SEAT BELT	
44	88201050	2	HEX HD CAPSCREW, 7/16-14X1 GR5	
45	88501007	2	HEX NUT, 7/16-14	
46	90205746	1	HEATER COVER	
47	77143003	8	LOCK SCREW	
48	77143006	4	LOCK NUT	
49	77103044	4	CLIP NUT	

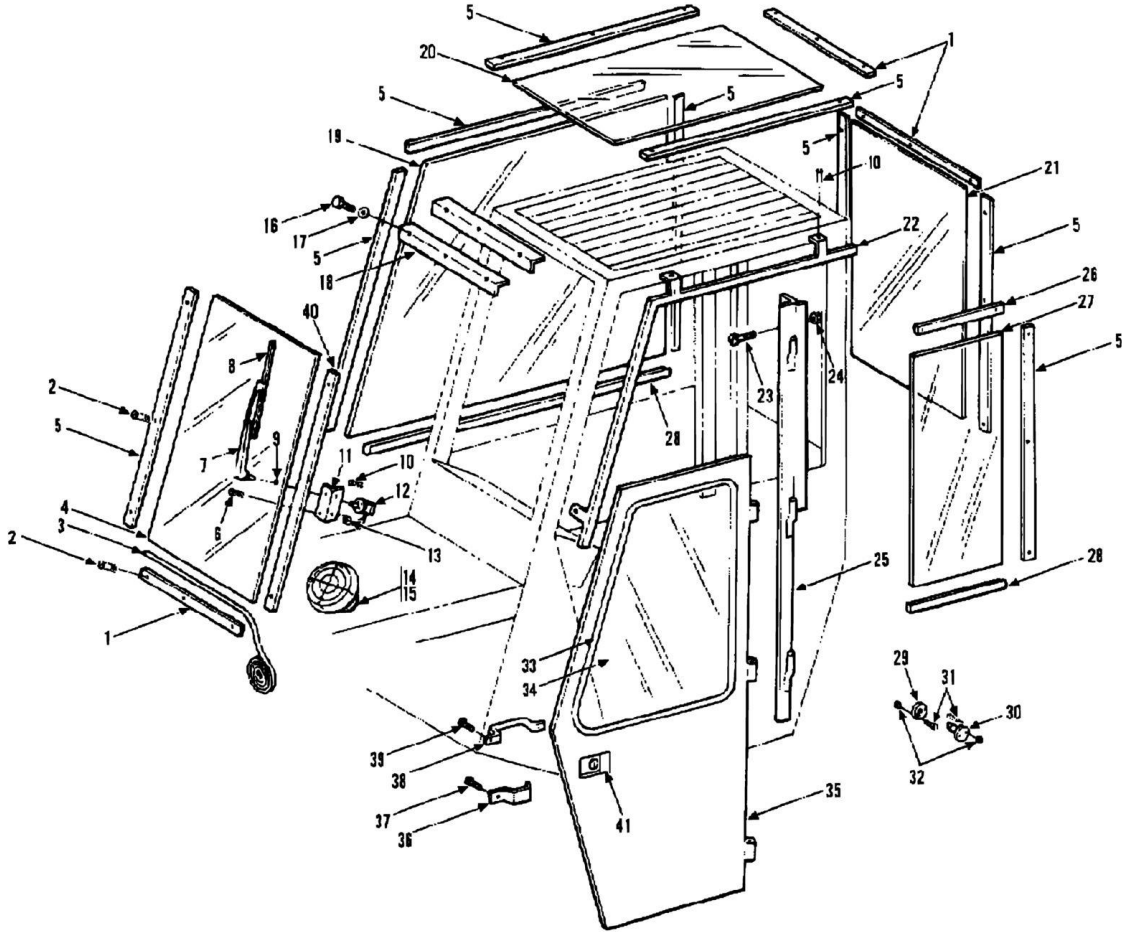
## SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	90205730	1	VALVE COVER	
51	91046056	1	JOYSTICK COVER	
52	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
53	88551010	2	LOCKWASHER, 5/16	
54	88501005	2	HEX NUT, 5/16-18	
55	90206196	AR	TRIM, 4 FT LONG	
56	91031363	1	CAB BOTTOM COVER	
57	77143003	1	LOCK SCREW	
58	90206200	AR	TRIM, 15.7IN LONG	
59	88204912	1	HEX HD CAPSCREW, 1/4-20X1 GR5	
60	88561107	1	FLAT WASHER, 1/4	
61	88521204	1	HEX LOCKNUT, 1/4-20	
62	83683291	1	MIRROR (For earlier models use service kit 91045150) <b>(SN 0155436 to Present)</b>	
63	85071132	2	SEMI OFFSET HINGE	
64	85071028	2	SPRING AND BRACKET	
65	88301092	8	RD HD MACH SCREW, 10-24X5/8	
66	88551007	8	LOCKWASHER, #10	
67	88501612	8	HEX NUT, #10-24	
68	91031456	1	SERVICE DOOR	
69	91031457	1	SERVICE DOOR	



# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-2. CAB ENCLOSURE, WIPER AND DEFROSTER (SN 0155299S to Present)



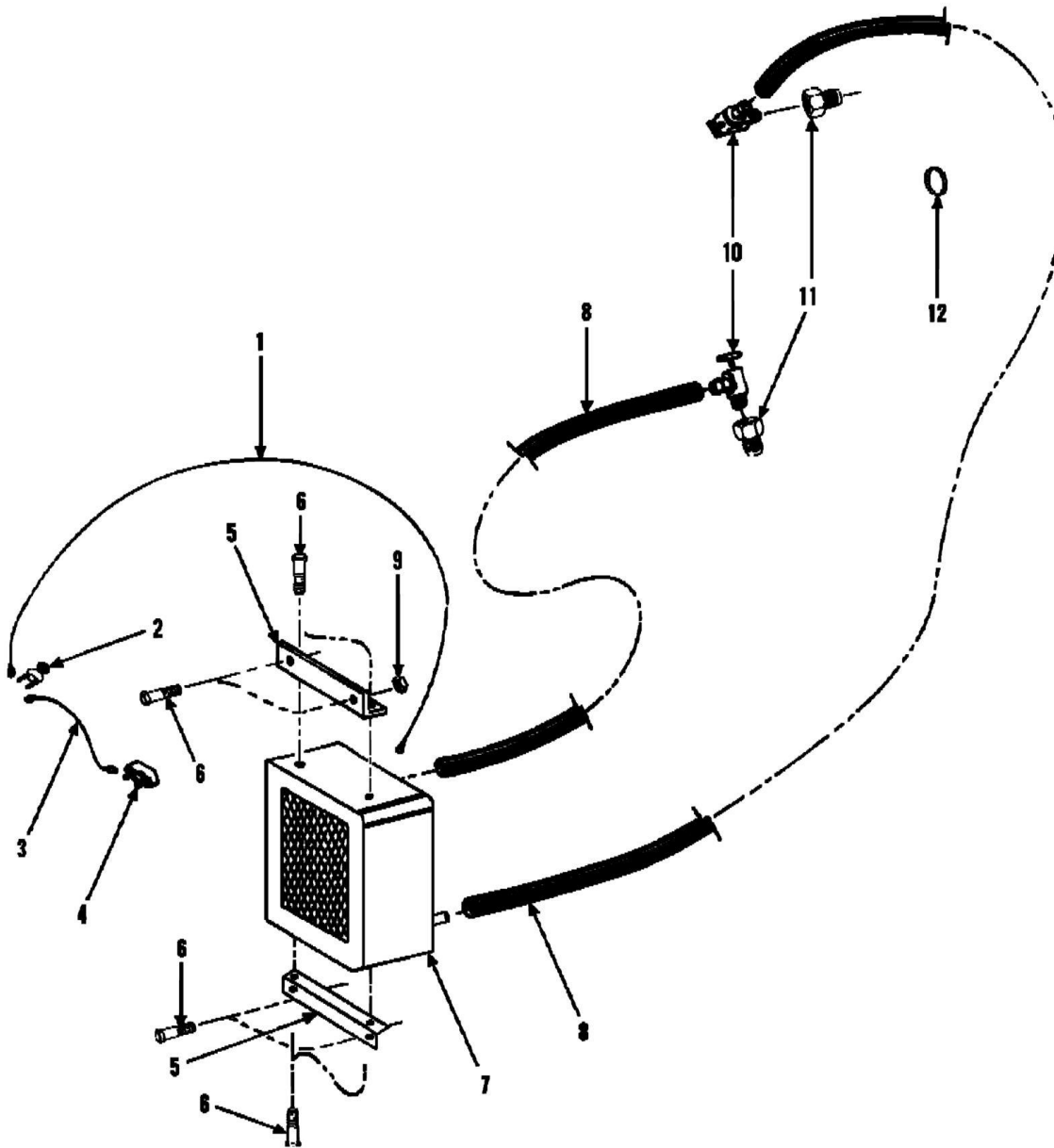
## SECTION 1 - CHASSIS AND ATTACHING PARTS

**FIGURE 1-2. CAB ENCLOSURE, WIPER AND DEFROSTER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91031361	2	WINDOW HOLD DOWN BAR	
2	90027319	AR	SELF TAPPING SCREW (window hold down bar)	
3	90200755	AR	BULK WEATHERSTRIPPING (50ft)	
4	90403036	1	FRONT WINDOW	
5	91031362	4	WINDOW HOLD BAR	
6	88201003	1	HEX HD CPASCREW, 1/4-20X3/4, GR5	
7	91033464	1	WINDSHIELD WIPER ARM	
8	91033465	1	WIPER BLADE	
9	90027214	1	WIPER MOTOR SHAFT GROMMET	
10	90027319	5	SELF TAPPING SCREW	
11	90206025	1	WIPER MOTOR MOUNTING ANGLE	
12	90206023	1	WIPER MOTOR	
13	88501004	1	HEX NUT, 1/4-20	
14	90200680	1	DEFROSTER FAN	
15	88321025	4	SELF TAPPING SCREW, #8-32X3/4	
16	88201031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
17	88551011	2	LOCKWASHER, 3/8-16X1/2	
18	90206613	1	ANGLE	
19	90205846	1	RIGHT SIDE WINDOW	
20	90403034	1	TOP WINDOW	
21	90403035	1	REAR WINDOW	
22	90403032	1	DOOR TROUGH	
23	88301309	4	FLAT HD MACHINE SCREW, 1/4-20X3/4	
24	88501004	4	HEX NUT, 1/4-20	
25	90403082	1	DOOR POST	
26	91031360	1	L. WINDOW TOP HOLD DOWN BAR	
27	90403033	1	LEFT SIDE WINDOW	
28	90206100	AR	RUBBER GLAZING STRIP	
29	90205888	1	PLUNGER SOCKET	
30	90205886	1	DOOR HOLD PLUNGER	
31	88201309	4	HEX HD CAPSCREW, 3/8-16X2, GR5	
32	88501006	4	HEX NUT, 3/8-16	
33	90410229	1	DOOR WINDOW	
34	83661145	AR	RUBBER GLAZING STRIP (8ft long)	
35	90801238	1	DOOR ASSY	
36	90203627	1	HANDLE	
37	88201031	2	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
38	90203840	1	DOOR PULL HANDLE	
39	88321039	2	SELF TAPPING SCREW, #10-32X1/2	
40	91031362	1	WINDOW HOLD DOWN BAR	
41	91034033	1	LATCH ASSY	

# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. CAB HEATER AND HOSES (SN 0155299S to Present)



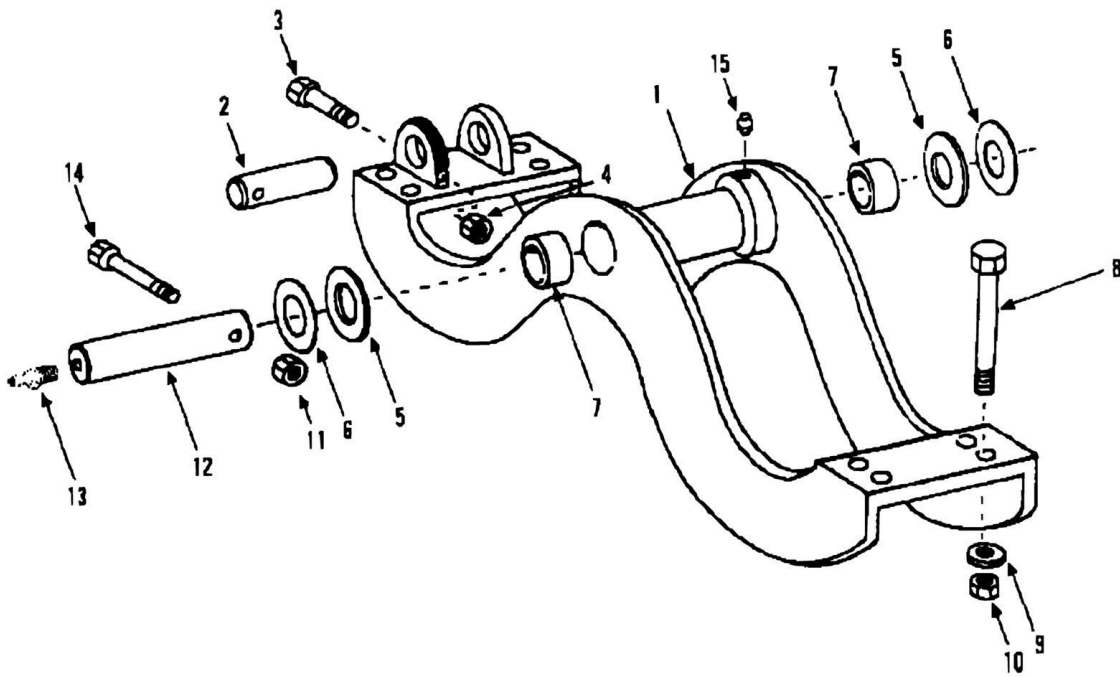
## SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-3. CAB HEATER AND HOSES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90206134	1	JUMPER WIRE	
2	91034098	1	HEATER SWITCH (furnished with heater)	
3	90206133	1	JUMPER WIRE	
4	90206131	1	CIRCUIT BREAKER	
5	90205731	2	HEATER MOUNTING BRACKET	
6	88201005	8	HEX HD CAPSCREW 1/4-20X1, GR5	
7	90200679	1	HEATER (includes item 2)	
8		Ref	HOSE, 5/8 I.D.	
9	88501004	4	HEX NUT, 1/4-20	
10	24641328	2	SHUT-OFF VALVE	
11	88711383	2	REDUCING BUSHING, 1/2X3/8	
12	86683193	4	HOSE CLAMP	

# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-4. FRONT AXLE CRADLE AND ATTACHING PARTS (SN 0155299S to Present)





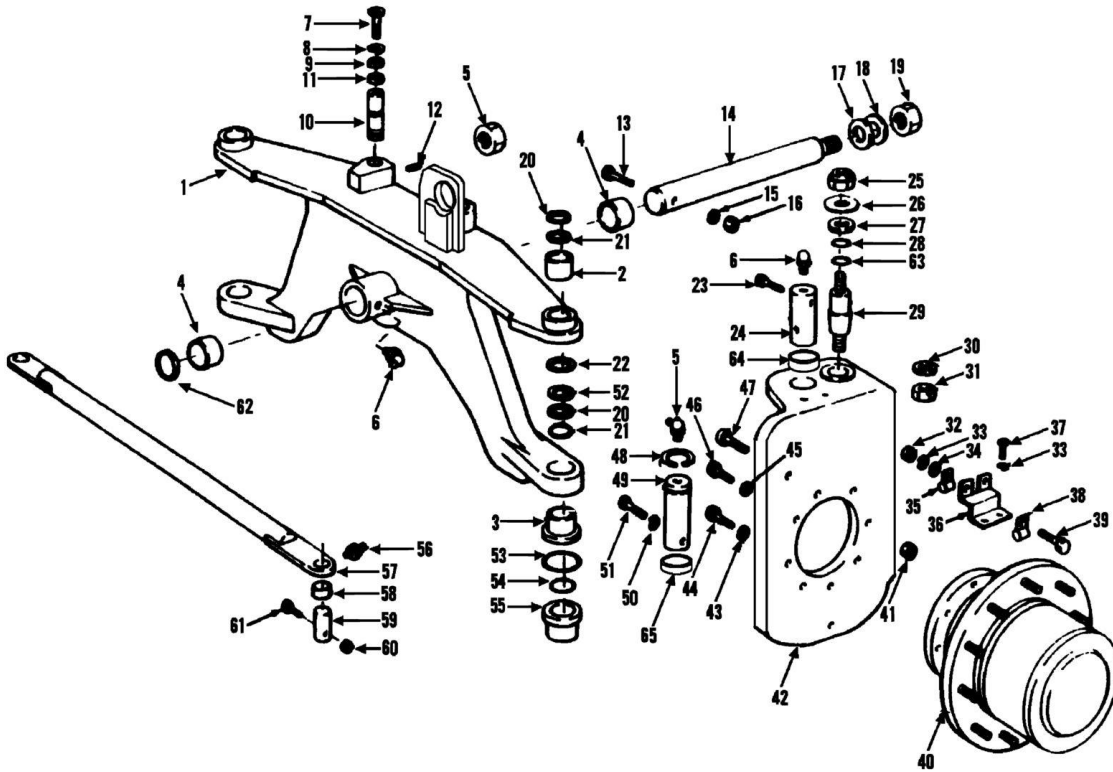
## SECTION 1 - CHASSIS AND ATTACHING PARTS

**FIGURE 1-4. FRONT AXLE CRADLE AND ATTACHING PARTS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90801303	1	FRONT AXLE CRADLE	
2	90206847	1	SWAY CYLINDER ROD PIN	
3	88201106	1	HEX HD CAPSCREW, 5/8-11x4-1/2 Gr5	
4	88501010	1	HEX NUT, 5/8-11	
5	90205891	2	SPACER	
6	91031014	AR	SHIM	
7	91031096	2	BUSHING	
8	83201107	8	HEX HD CAPSCREW (lubricate and torque to 545-595 ft lbs)	
9	90027475	8	WASHER	
10	88521216	8	HEX LOCKNUT, 1-8	
11	88521016	1	HEX LOCKNUT, 1-8 (stover)	
12	91031243	1	FRAME PIN	
13	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
14	83201031	1	HEX HD CAPSCREW	
15	88671001	2	LUBE FITTING, STRAIGHT, 1/8	

# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-5. REAR STEERING AXLE AND ATTACHING PARTS (SN 0155299S to Present)



NOTE: All machines must bore out Steering Knuckles to use items 64 & 65. Unless you have purchased new Steering Knuckles part number 91120003 & 91120004. See engineering print that comes with the Steering Knuckle Kit for details.

## SECTION 1 - CHASSIS AND ATTACHING PARTS

**FIGURE 1-5. REAR STEERING AXLE AND ATTACHING PARTS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035240	AR	STEERING KNUCKLE KIT (includes items 2, 3, 4 pieces of item 6, items 20 thru 24, 26, 27, 28, 47 thru 55, 63, 64, & 65, one kit will do both sides)	
	91045152	AR	STEERING CYLINDER PIN KIT (includes one each of items 25 thru 31, one kit needed for each side)	
1	91046114	1	AXLE FRAME ASSY, (includes items 2 thru 5)	
2	91123028	2	FRAME UPPER BUSHING	
3	91123027	2	FRAME LOWER BUSHING	
4	91123031	2	FRAME AXLE PIN BUSHING	
5	91041489	1	FRAME AXLE STABILIZER BUSHING	
6	88671022	6	LUBE FITTING, 90, 1/8	
7	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
8	88551013	2	LOCKWASHER, 1/2	
9	91081461	2	WASHER	
10	91081384	2	STEERING CYLINDER PIVOT PIN	
11	90201918	2	WASHER	
12	88221701	2	SOCKET SET SCREW, 3/8-16X1/2, SELF-LOCKING, (cup point)	
13	90020247	2	HEX HD CAPSCREW	
14	91031440	1	AXLE MOUNTING PIN	
15	88561119	1	FLAT WASHER, 1-1/4	
16	85101098	1	HEX NUT	
17	90206846	AR	SHIM, (1/8 thick)	
18	91031009	AR	SHIM, (1/4 thick)	
19	90022234	1	HEX LOCKNUT	
20	91123030	4	BACK-UP RING	
21	88591032	4	O-RING	
22	86921268	2	LIP SEAL	
23	88211121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8	
23	88521208	2	HEX LOCKNUT, 1/2	
24	91081693	2	UPPER KING PIN	
25	88521312	2	HEX LOCKNUT, 3/4-10	
26	91081415	2	DIRT SHIELD	
27	91041732	2	SPACER	
28	88591104	2	O-RING	
29	91041481	2	STEERING CYLINDER PIN	
30	91041459	2	WASHER	
31	88501416	2	HEX JAM NUT, 1-14, (lubricate and torque to 425-475 ft lbs)	
32	88501006	4	HEX NUT, 3/8-16	
33	88551011	8	LOCKWASHER, 3/8	
34	90027470	4	HARDENED WASHER	
35	86521144	2	CLAMP	
36	91081387	2	TUBE SUPPORT	
37	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
38	90202343	4	TUBE CLAMP	
39	88201036	4	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
40		Ref	WHEEL DRIVE ASSY, (See DRIVE TRAIN SECTION for Breakdown)	
41	88501110	2	HEAVY HEX JAM NUT, 5/8-11	
42	91120003	1	STEERING KNUCKLE, LH	
42	91120004	1	STEERING KNUCKLE, RH	

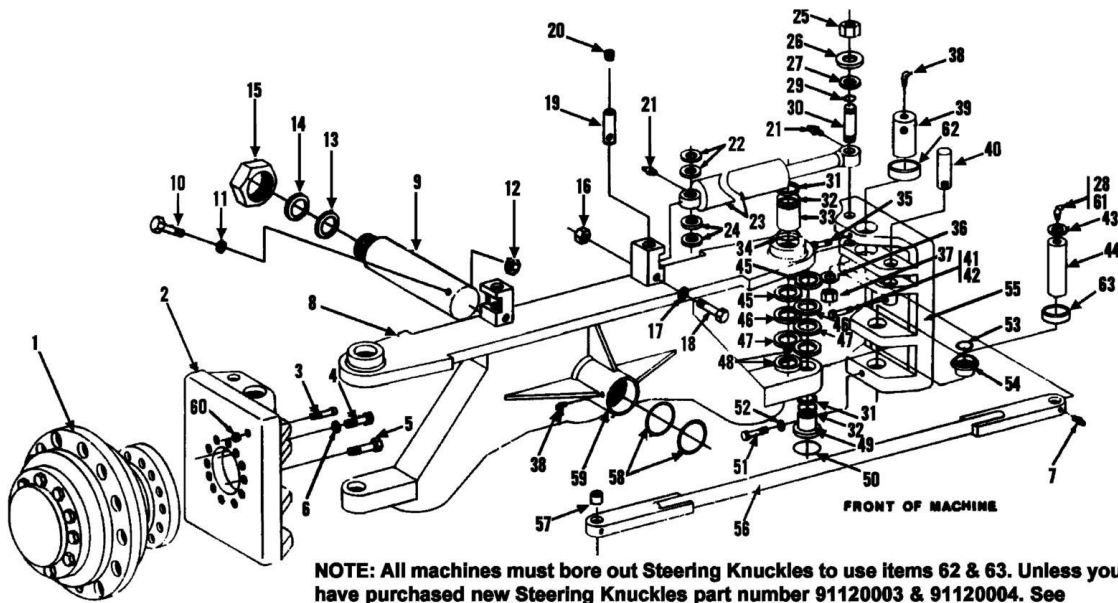
## SECTION 1 - CHASSIS AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	91041403	4	MODIFIED WASHER	
44	91043222	4	CAPSCREW, 12PT HD, 3/4-10X2, (lubricate and torque to 270-290 ft lbs)	
45	86681572	12	HARDENED WASHER, 3/4	
46	83201006	12	HEX HD CAPSCREW, 3/4-10X2, GR8 (lubricate and torque to 270-290 ft lbs)	
47	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
48	88581323	2	RETAINING RING	
49	91141424	2	LOWER KING PIN	
50	88551153	2	LOCKWASHER, (hi-collar) 5/8	
51	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
52	91041450	4	SHIM, (.0478 thick, use as required)	
52	91041449	4	SHIM, (.060 thick, use as required)	
52	91041451	6	SHIM, (.106 thick, use as required)	
52	91041596	4	SHIM, (20 gauge, use as required)	
53	91123029	2	O-RING	
54	88591104	2	O-RING	
55	91121091	2	THRUST BEARING	
56	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
57	91166063	1	TIE ROD ASSY, (includes item 58)	
58	91043247	2	SELF-ALIGNING BUSHING	
59	91041439	2	TIE ROD PIN	
60	88521306	2	HEX LOCKNUT, 3/8-16	
61	86241716	2	HEX HD CAPSCREW, 3/8-16X3, GR8	
62	24601570	2	LIP SEAL	
63	88591019	2	O-RING	
64	91121239	2	BUSHING	
65	91121240	4	BUSHING	



# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 0155369 to Present)



**NOTE: All machines must bore out Steering Knuckles to use items 62 & 63. Unless you have purchased new Steering Knuckles part number 91120003 & 91120004. See engineering print that comes with the Steering Knuckle Kit for details.**

## SECTION 1 - CHASSIS AND ATTACHING PARTS

**FIGURE 1-6. REAR STEERING AXLE AND ATTACHING PARTS (SN 0155369 to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035240	1	STEERING KNUCKLE KIT (includes items 26, 27, 29, 31, 32, 33, 34, 35, 38, 39, 43 thru 54, 62, & 63, one kit will do both sides)	
	91045152	AR	STEERING CYLINDER PIN KIT (includes one each of items 25, 26, 27, 29, 30, 36, & 37, one kit needed for each side)	
1		Ref	DRIVE HUB, (See DRIVE TRAIN SECTION for Breakdown)	
2	91120004	1	R.H. STEERING KNUCKLE	
3	88212321	2	SOCKET HD CAPSCREW, 5/8-11X3-3/4, GR8	
4	83201006	12	HEX HD CAPSCREW, 3/4-10X2, GR8, (lubricate and torque to 270-290 ft lbs)	
5	91043222	4	CAPSCREW, 12PT 3/4-10X2, (lubricate and torque to 270-290 ft lbs)	
6	86681572	12	HARDENED WASHER, 3/4	
7	88671001	2	LUBE FITTING, STRAIGHT, 1/8	
8	91046114	1	REAR AXLE WELDMENT, (includes items 33, 49, & 59)	
9	91031440	1	REAR AXLE MOUNTING PIN	
10	90020247	1	HEX HD CAPSCREW, 1-1/4-7X6	
11	88561119	1	FLATWASHER, 1-1/4	
12	85101098	1	HEX NUT, 1-1/4-7	
13	90206846	AR	SHIM, (1/8 thick)	
14	91031009	AR	SHIM, (1/4 thick)	
15	90022234	1	HEX LOCKNUT	
16	88501006	2	HEX NUT, 3/8-16	
17	88551011	2	LOCKWASHER, 3/8	
18	83201144	2	HEX HD CAPSCREW, 3/8-16X5-3/4, GR5	
19	91081695	2	STEERING CYLINDER PIVOT PIN	
20	88711280	2	PIPE PLUG	
21	88671033	4	LUBE FITTING, STRAIGHT, 1/4-28	
22	91041598	AR	SHIM	
23		Ref	STEERING CYLINDER ASSY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
24	90201918	AR	SHIM, (10 gauge thick)	
25	88521312	2	HEX LOCKNUT, 3/4-10	
26	91081415	2	DIRT SHIELD	
27	91041732	2	SPACER	
28	91033445	2	LUBE FITTING	
29	88591019	2	O-RING	
30	91041481	2	STEERING CYLINDER PIN	
31	91123030	4	BACK-UP RING	
32	88591032	4	O-RING	
33	91123028	2	BUSHING	
34	86921268	2	LIP SEAL	
35	88211121	2	SOCKET HD CAPSCREW, 1/2-13X6-1/2, GR8	
35	88521208	2	HEX LOCKNUT, 1/2	
36	91041459	2	WASHER	
37	88501416	2	HEX JAM NUT, 1-14, (lubricate and torque to 425-475 ft lbs)	
38	88671022	4	LUBE FITTING, 30, 1/8	
39	91081693	2	UPPER KING PIN	
40	91041439	2	TIE ROD PIN	
41	83201140	2	HEX HD CAPSCREW, 3/8-16X2-3/4, GR8	
42	88521306	2	LOCKNUT, 3/8-16	
43	88581323	2	RETAINING RING	

## SECTION 1 - CHASSIS AND ATTACHING PARTS

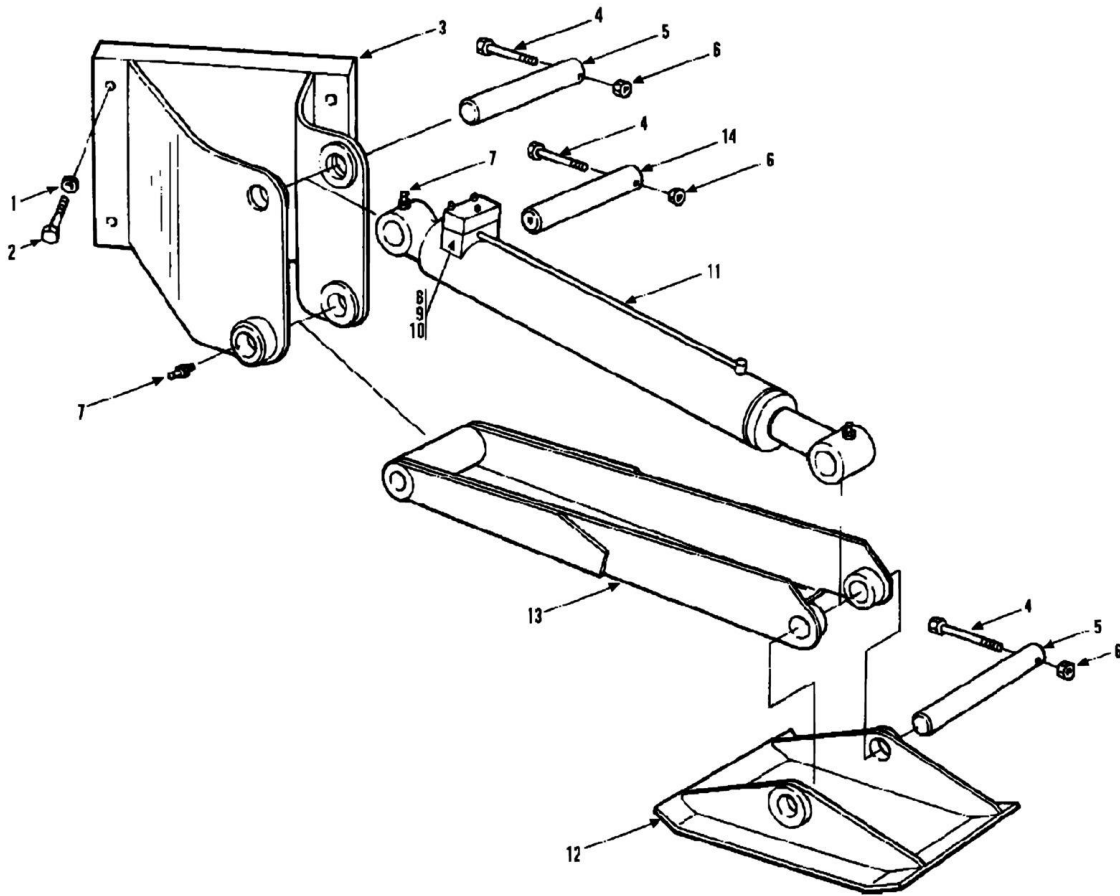
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	91081382	2	LOWER KING PIN	
45	91041596	4	SHIM, (20 gauge, use as required)	
46	91041449	4	SHIM, (.060 thick, use as required)	
47	91041450	4	SHIM, (.0478 thick, use as required)	
48	91041451	6	SHIM, (.106 thick, use as required)	
49	91123027	2	BUSHING	
50	91123029	2	O-RING	
51	88212321	2	SLOT HD CAPSCREW, 5/8-11X3-3/4, GR8	
52	88551153	2	LOCKWASHER, 5/8	
53	88591104	2	O-RING	
54	91121091	2	THRUST BUSHING	
55	91120003	1	L.H. STEERING KNUCKLE	
56	91166063	1	TIE ROD, (includes item 57)	
57	91043247	2	SELF-ALIGNING BUSHING	
58	24601570	2	LIP SEAL	
59	91123031	2	BUSHING	
60	88501110	2	HEAVY HEX JAM NUT, 5/8-11	
61	91033444	2	STREET ELBOW	
62	91121239	2	BUSHING	
63	91121240	4	BUSHING	





# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-7. OUTRIGGER AND ATTACHING PARTS (SN 0155299S to Present)



## SECTION 1 - CHASSIS AND ATTACHING PARTS

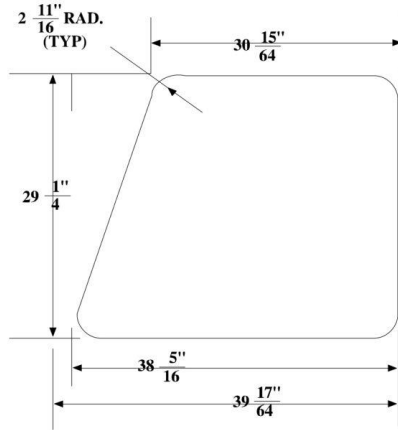
**FIGURE 1-7. OUTRIGGER AND ATTACHING PARTS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	86431005	16	HEX HD CAPSCREW (lubricate and torque to 795-845 ft lbs)	
2	05101441	16	HEAT TREATED WASHER	
3	91036029	1	OUTRIGGER BRACKET, L.H.	
3	91036030	1	OUTRIGGER BRACKET, R.H.	
4	83201073	6	HEX HD CAPSCREW	
5	91031141	4	SHOE PIN	
6	88521206	6	HEX LOCKNUT, 3/8-16	
7	88671001	8	LUBE FITTING, STRAIGHT, 1/8	
8	91043258	2	DUAL P.O. CHECK VALVE	
9	88201040	6	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
10	88551011	6	LOCK WASHER, 3/8	
11		Ref	OUTRIGGER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
12	91036032	2	OUTRIGGER SHOE	
13	91036041	2	ARM WELDMENT	
14	91031140	2	ARM PIN	

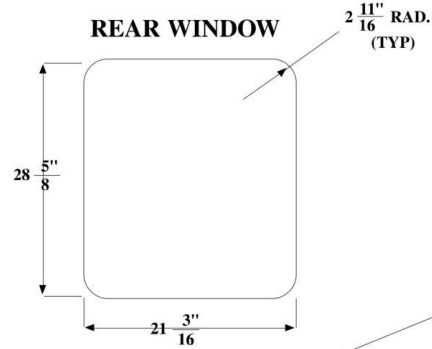
# SECTION 1 - CHASSIS AND ATTACHING PARTS

FIGURE 1-8. CAB GLASS (SN 0155390S to Present)

## STANDARD



RIGHT SIDE WINDOW

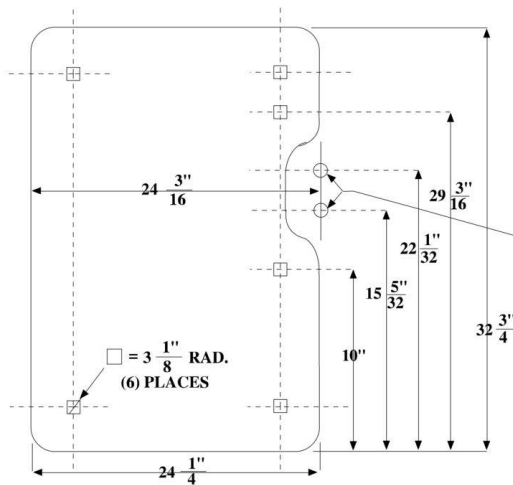


REAR WINDOW

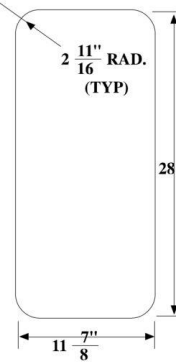
NOTE: ALL LAMINATED SAFETY GLASS, TINTED FOR 73% LIGHT TRANSMISSION SEAMED EDGES, 7/32" THICK.

CAB GLASS CAN ONLY BE SHIPPED WITH THE COMPLETE CAB ENCLOSURE OPTION. IF GLASS BREAKAGE OCCURS IN THE FIELD IT MUST BE REPLACED LOCALLY USING THE DIMENSIONS GIVEN. WITH THE EXCEPTION OF THE DOOR SLIDING WINDOW ASSY WHICH MAY BE PURCHASED THROUGH THE PARTS DEPARTMENT.

## OPTIONAL

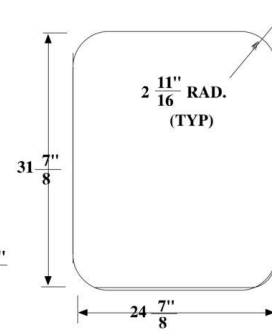


FRONT WINDOW

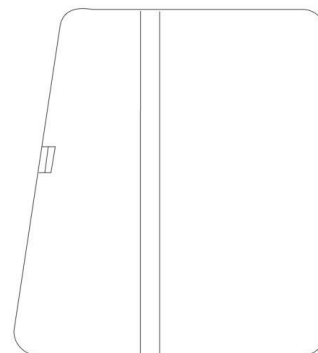


LEFT SIDE WINDOW

○ = 2 7/8 RAD. (2) PLACES



TOP WINDOW

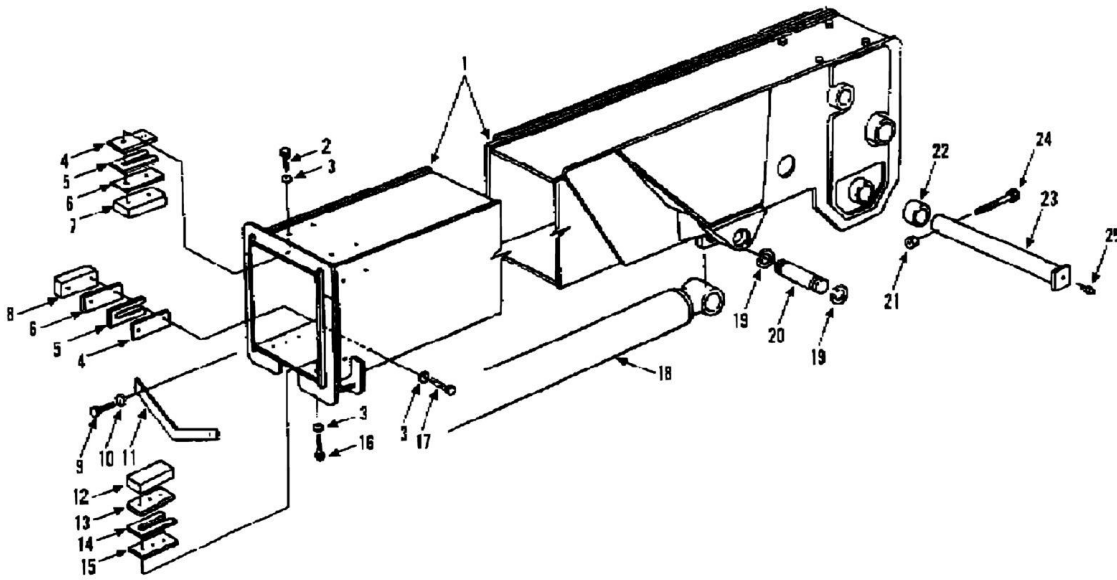


DOOR SLIDING WINDOW (91043437)

**SECTION 2 - BOOMS**

# SECTION 2 - BOOMS

FIGURE 2-1. 1ST BOOM SECTION (SN 0155299S to Present)



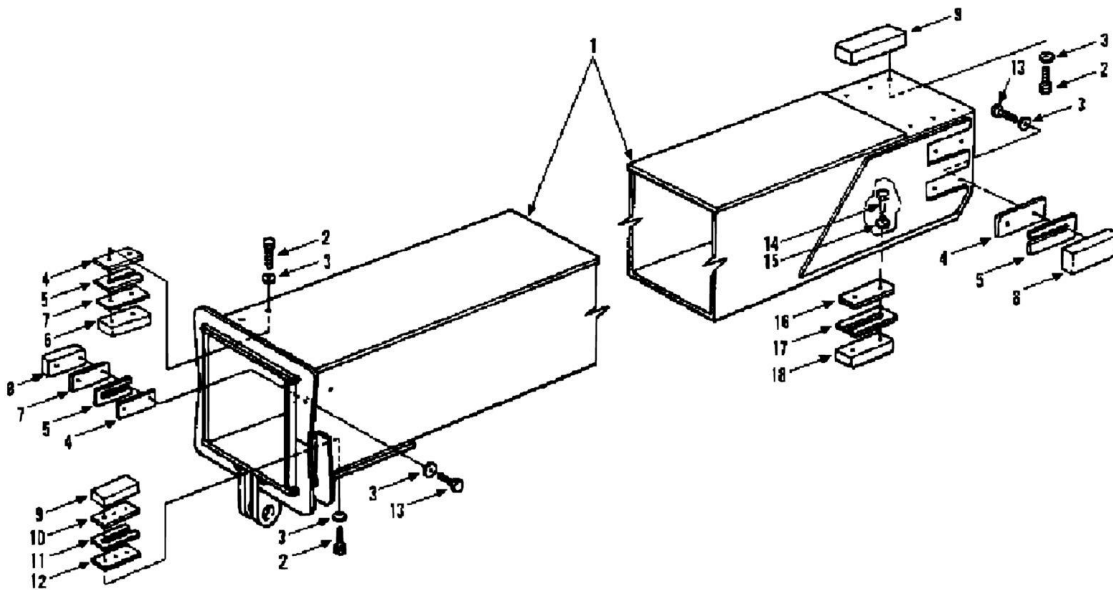
## SECTION 2 - BOOMS

**FIGURE 2-1. 1ST BOOM SECTION (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91046079	1	FIRST BOOM SECTION WELDMENT	
2	88201564	4	HEX HD CAPSCREW, 1/2-20X1, GR5 (lubricate and torque to 68-78 ft lbs)	
3	12381025	24	HARDENED WASHER	
4	91041277	8	SPACER	
5	91041276	10	SHIM	
6	91041278	6	SPACER	
7	91043180	2	BEARING PAD	
8	91043177	4	BEARING PAD	
9	88201069	2	HEX HD CAPSCREW, 1/2-13X2, GR5	
10	88551013	2	LOCKWASHER, 1/2	
11	91041009	1	CYLINDER SUPPORT PLATE	
12	91043164	4	BEARING PAD	
13	91041265	4	SPACER	
14	91041006	12	SHIM	
15	91041007	4	SPACER	
16	88201566	12	HEX HD CAPSCREW, 1/2-20X1-1/12, GR5 (lubricate and torque to 68-78 ft lbs)	
17	88201562	8	HEX HD CAPSCREW, 1/2-20x3/4, GR5 (lubricate and torque to 68-78 ft lbs)	
18		Ref	CROWD CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	90028935	2	RETAINING RING	
20	90207352	1	PIN	
21	88521010	1	HEX LOCKNUT, 5/8-11	
22	91031371	2	BUSHING	
23	91031389	1	PIN	
24	83481645	1	HEX HD CAPSCREW	
25	88671001	2	LUBE FITTING, STRAIGHT, 1/8	

# SECTION 2 - BOOMS

FIGURE 2-2. 2ND BOOM SECTION (SN 0155299S to Present)





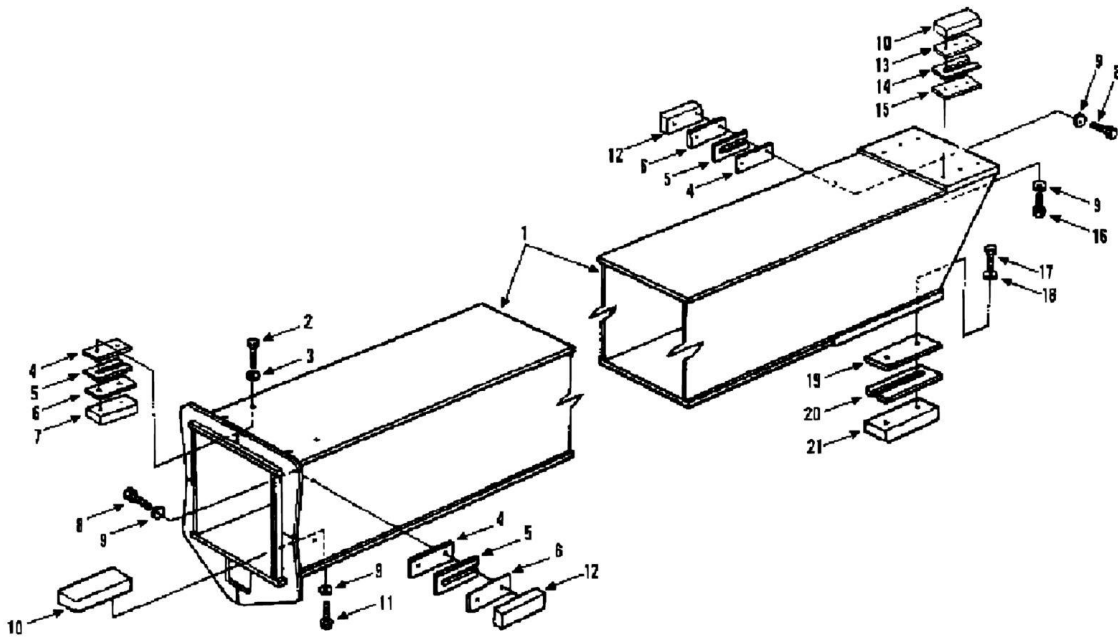
## SECTION 2 - BOOMS

**FIGURE 2-2. 2ND BOOM SECTION (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91046018	1	SECOND BOOM SECTION WELDMENT	
2	88201563	16	HEX HD CAPSCREW, 1/2-20X7/8, GR5 (lubricate and torque to 69-78 ft lbs)	
3	12381025	32	HARDENED WASHER	
4	91041277	12	SPACER	
5	91041276	12	SHIM	
6	91043180	2	BEARING PAD	
7	91041278	10	SPACER	
8	91043177	8	BEARING PAD	
9	91043164	4	BEARING PAD	
10	91041265	2	SPACER	
11	91041006	6	SHIM	
12	91041007	2	SPACER	
13	88201562	16	HEX HD CAPSCREW, 1/2-20x3/4, GR5 (lubricate and torque to 68-78 ft lbs)	
14	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5 (lubricate and torque to 30-35 ft lbs)	
15	12001234	4	HARDENED WASHER	
16	91031234	2	SHIM	
17	90207029	6	SHIM	
18	91033188	2	BEARING PAD	

# SECTION 2 - BOOMS

FIGURE 2-3. 3RD BOOM SECTION (SN 0155299S to Present)



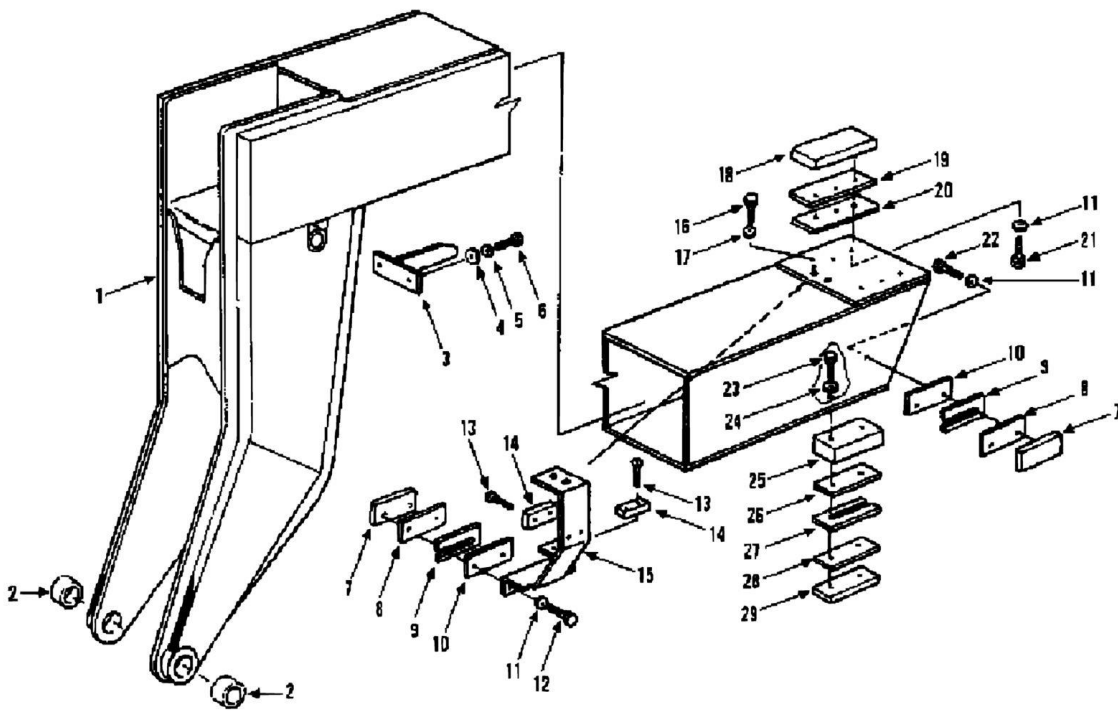
## SECTION 2 - BOOMS

**FIGURE 2-3. 3RD BOOM SECTION (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91046019	1	THIRD BOOM SECTION WELDMENT	
2	88201563	4	HEX HD CAPSCREW, 1/2-20x7/8, GR5 (lubricate and torque to 68-78 ft lbs)	
3	12381025	8	HARDENED WASHER	
4	91041277	10	SPACER	
5	91041276	12	SHIM	
6	91041278	10	SPACER	
7	91043180	2	BEARING PAD	
8	88201562	16	HEX HD CAPSCREW, 1/2-20x3/4, GR5 (lubricate and torque to 68-78 ft lbs)	
9	12381025	24	HARDENED WASHER	
10	91043164	4	BEARING PAD	
11	88201567	6	HEX HD CAPSCREW, 1/2-20X1-3/4, GR5 (lubricate and torque to 68-78 ft lbs)	
12	91043177	8	BEARING PAD	
13	91041265	2	SPACER	
14	91041006	4	SHIM	
15	91041007	2	SPACER	
16	88201565	6	HEX HD CAPSCREW, 1/2-20x1-1/4, GR5 (lubricate and torque to 68-78 ft lbs)	
17	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5 (lubricate and torque to 30-35 ft lbs)	
18	12001234	4	HARDENED WASHER	
19	91031234	2	SHIM	
20	90207029	6	SHIM	
21	91033188	2	BEARING PAD	

# SECTION 2 - BOOMS

FIGURE 2-4. 4TH BOOM SECTION (SN 0155299S to Present)



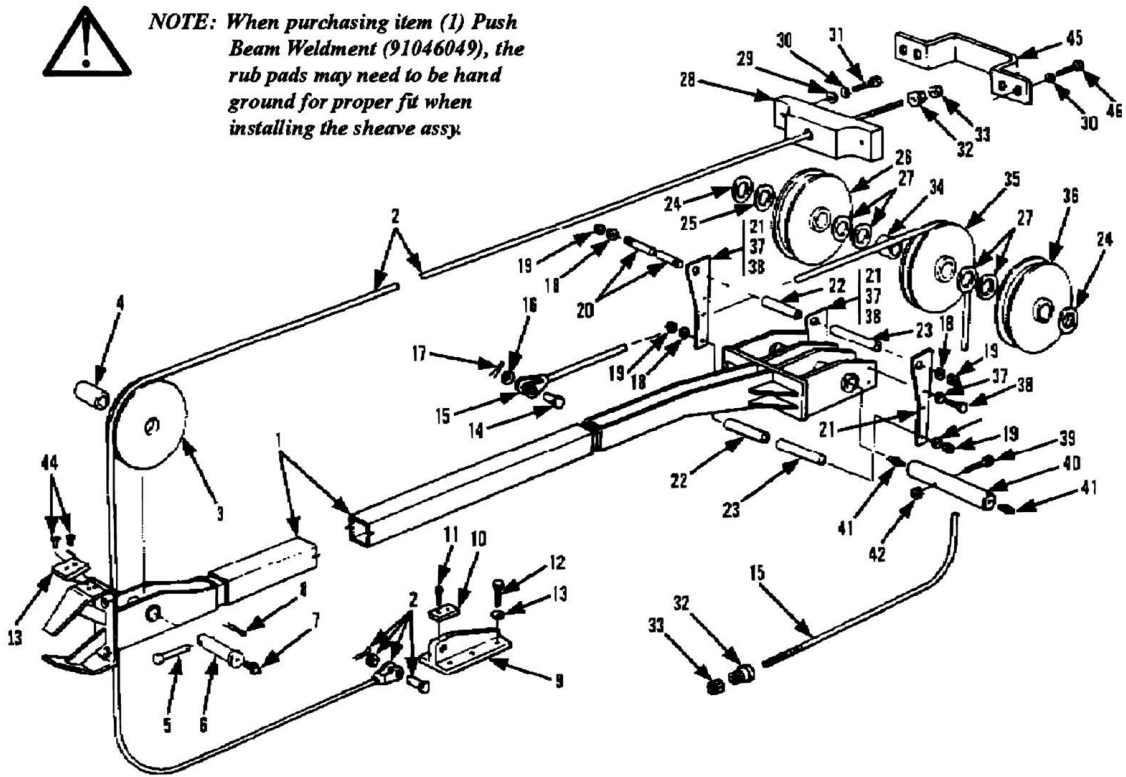
## SECTION 2 - BOOMS

**FIGURE 2-4. 4TH BOOM SECTION (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91046020	1	FOURTH BOOM SECTION WELDMENT (includes item 2)	
2	91031136	2	BUSHING	
3	91046008	1	SWITCH ACTUATOR	
4	88561004	2	FLAT WASHER, 3/8	
5	88551011	2	LOCK WASHER, 3/8	
6	88501035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
7	91043177	2	BEARING PAD	
8	91041278	2	SPACER	
9	91041276	4	SHIM	
10	91041277	2	SPACER	
11	12381025	10	HARDENED WASHER	
12	88201563	2	HEX HD CAPSCREW, 1/2-20x7/8, GR5 (lubricate and torque to 68-78 ft lbs)	
13	88241029	4	SOCKET FLAT HD CAPSCREW 1/4-20X1/2	
14	91043099	2	BEARING PAD	
15	91046006	1	SUPPORT WELDMENT	
16	88201065	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
17	88551013	2	LOCK WASHER, 1/2	
18	91043164	2	BEARING PAD	
19	91041007	2	SPACER	
20	91041265	2	SPACER	
21	88201565	6	HEX HD CAPSCREW, 1/2-20x1-1/4, GR5 (lubricate and torque to 68-78 ft lbs)	
22	88201562	2	HEX HD CAPSCREW, 1/2-20x3/4, GR5 (lubricate and torque to 68-78 ft lbs)	
23	88201538	4	HEX HD CAPSCREW, 3/8-24X2, GR5 (lubricate and torque 30-35 ft lbs)	
24	12001234	4	HARDENED WASHER	
25	91041134	2	BEARING BLOCK	
26	91041005	2	SPACER	
27	91041004	6	SHIM	
28	91041264	2	SPACER	
29	91043059	2	BEARING PAD	

# SECTION 2 - BOOMS

## FIGURE 2-5. PUSH BEAM AND CABLES (SN 0155299 to Present)



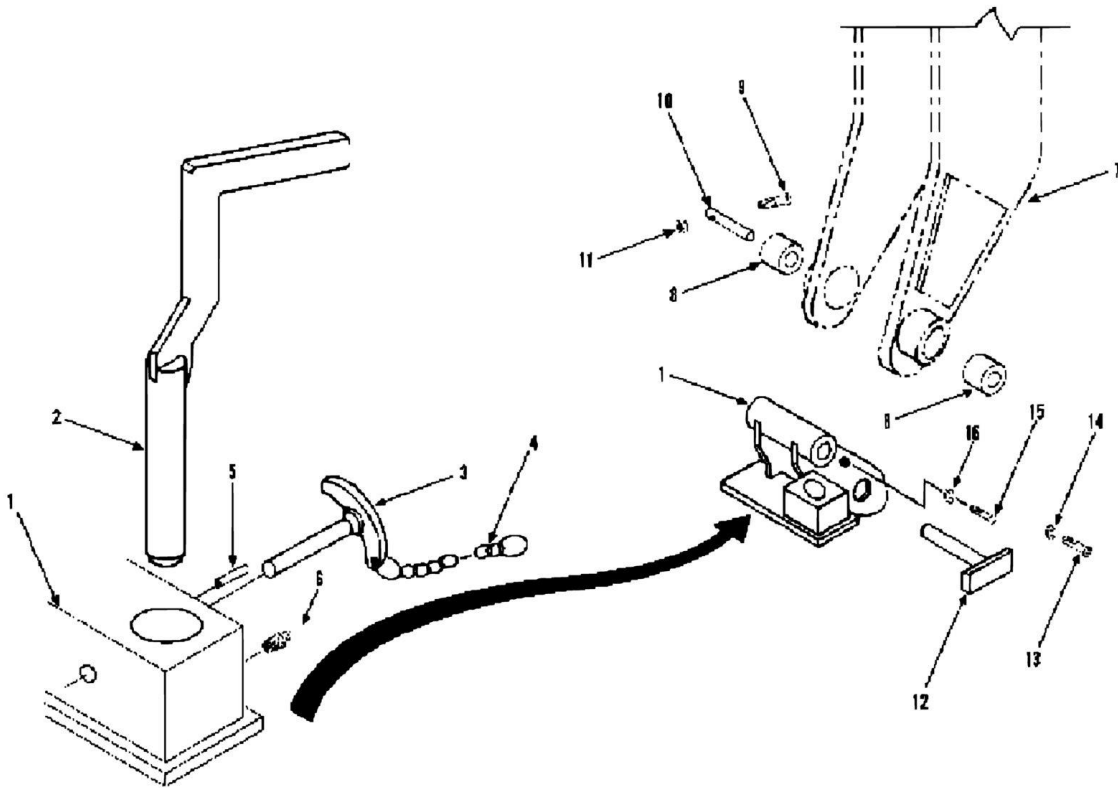
## SECTION 2 - BOOMS

**FIGURE 2-5. PUSH BEAM AND CABLES (SN 0155299 to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91046049	1	PUSH BEAM WELDMENT	
2	91043418	1	EXTENSION CABLE (includes mounting hardware)	
3	91045126	1	SHEAVE ASSY (includes item 4)	
4		Ref	BUSHING	
5	90021608	1	CLEVIS PIN	
6	91041232	1	SHEAVE PIN	
7	88671002	1	LUBE FITTING, STRAIGHT, 1/8	
8	88631310	1	COTTER PIN, 3/32X1	
9	91046052	1	CABLE ANCHOR	
10	91043099	1	BEARING PAD	
11	88241030	2	SOCKET FLAT HD CAPSCREW, 1/4-20X5/8	
12	83201003	6	HEX HD CAPSCREW, 5/8-11X1-3/4 (nylok) GR8	
13	77141077	6	HARDENED WASHER	
14	91043062	1	CABLE PIN	
15	91043047	1	RETRACTION CABLE	
16	88561013	1	FLATWASHER	
17	88631339	1	COTTER PIN, 3/16X2	
18	88551011	4	LOCKWASHER, 3/8	
19	88501006	8	HEX NUT, 3/8-16	
20	91041012	2	HOSE RETAINER STUD	
21	91041404	3	HOSE RETAINER PLATE	
22	91041406	2	RETAINER ROLLER, 5IN LONG	
23	91041405	2	RETAINER ROLLER, 8-1/2IN LONG	
24	90203039	2	THRUST WASHER	
25	90203040	1	THRUST WASHER	
26	91043101	1	SHEAVE	
27	90200253	4	THRUST WASHER	
28	91041013	1	STRONG BACK PLATE	
29	85401340	2	HARDENED WASHER	
30	88551013	6	LOCKWASHER, 1/2	
31	88201071	2	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
32	90028965	2	FLANGE HALF	
33	88501116	2	HEX JAM NUT, 1IN-8	
34		Ref	BUSHING	
35	91035147	1	SHEAVE ASSY (includes item 34)	
36	91043100	1	SHEAVE	
37	88561109	6	FLATWASHER, 3/8	
38	88201033	6	HEX HD CAPSCREW, 3/8-16X3/4	
39	88201044	1	HEX HD CAPSCREW, 3/8-16X3-1/4, GR5	
40	91041008	1	PUSH BEAM PIN	
41	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
42	88521006	1	HEAVY HEX JAM LOCKNUT, 3/8-16	
43	91043261	1	BEARING PAD	
44	88301339	2	FLAT HD MACHINE SCREW, 3/8-16X1	
45	91041510	1	BOOM CABLE GUARD	
46	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 2 - BOOMS

FIGURE 2-6. QUICK SWITCH ASSEMBLY (SN 0155299S through 0155421S)





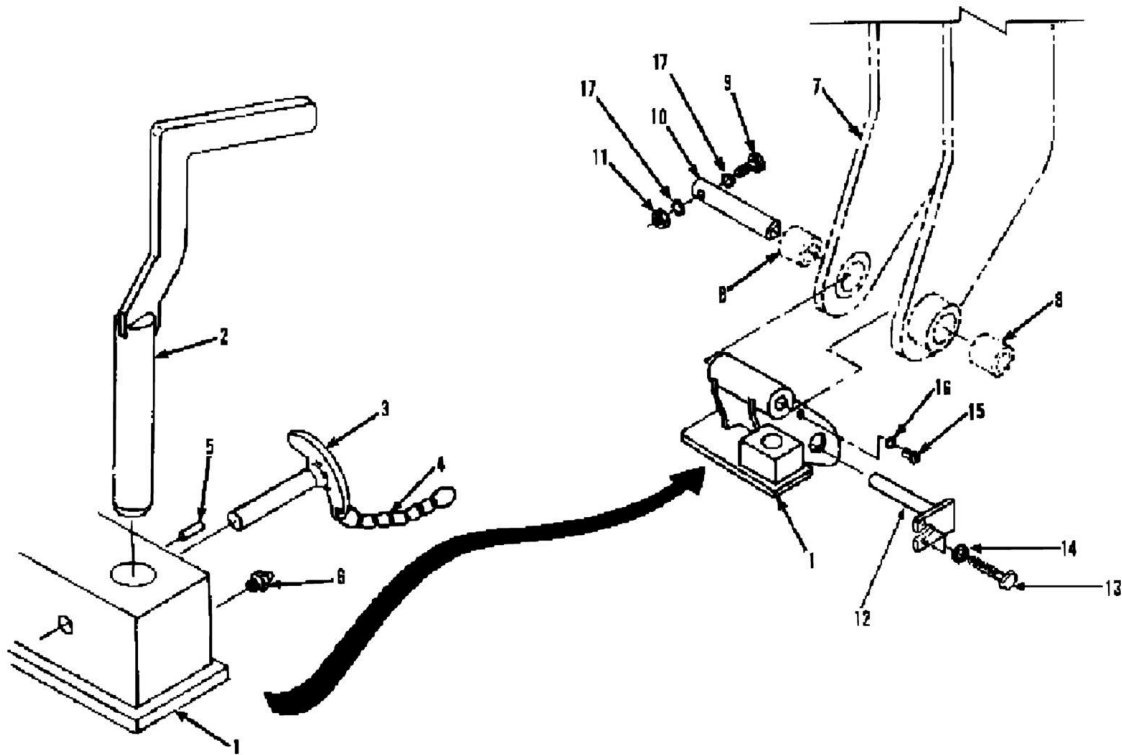
## SECTION 2 - BOOMS

**FIGURE 2-6. QUICK SWITCH ASSEMBLY (SN 0155299S through 0155421S)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045095	1	QUICK SWITCH ASSEMBLY	
1	91086074	1	QUICK SWITCH WELDMENT	
2	91086073	1	PLUNGER WELDMENT	
3	90207902	1	QUICK RELEASE PIN	
4	91033038	1	JACK CHAIN, 8IN LONG, SIZE 12	
5	88631509	1	ROLL PIN, 1/4INX2	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7	91046020	REF	FOURTH BOOM SECTION WELMENT	
8	91031136	REF	BUSHING	
9	88641057	1	HEX HD CAPSCREW	
10	91041365	1	HEAD PIN	
11	88521010	1	HEX LOCKNUT, 5/8-11	
12	90207046	1	TILT CYLINDER ROD END PIN	
13	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
14	88551013	2	LOCKWASHER, 1/2	
15	88301090	1	RD HD MACH SCREW, #10-24X1/2	
16	88561105	1	FLATWASHER#10	

## SECTION 2 - BOOMS

FIGURE 2-7. QUICK SWITCH ASSEMBLY (SN 0155422S to Present)



## SECTION 2 - BOOMS

**FIGURE 2-7. QUICK SWITCH ASSEMBLY (SN 0155422S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085049	Ref	QUICK SWITCH OPTION (includes 91085091 plus items 9,10, 11, & 17)	
	91085091	1	QUICK SWITCH ASSY (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, 1/4IN X2	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7		Ref	THIRD BOOM SECTION (See 3RD BOOM SECTION for Breakdown)	
8	91031136	2	BUSHING	
9	91121308	1	HEX HD CAPSCREW, 5/8-11X5, GR5	
10	91041365	1	PIN	
11	91121309	1	HEX NUT, 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	ROUNDHD MACHINE SCREW, #10-32X1/2	
16	88561105	1	FLATWASHER, #10	
17	91121310	2	WASHER, 5/8	

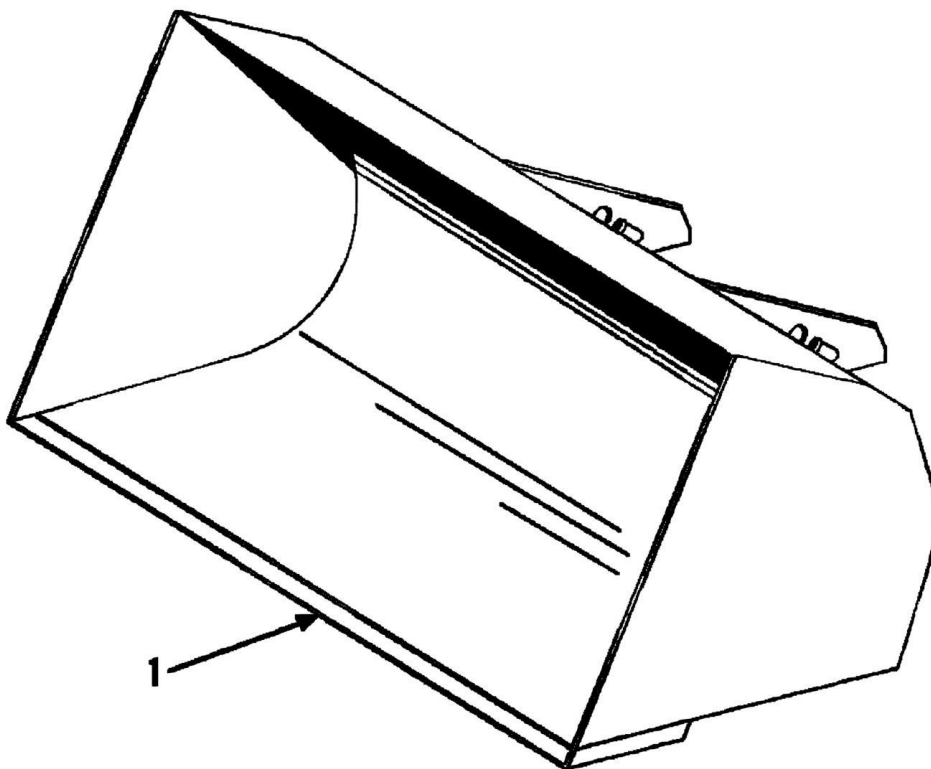


## **SECTION 3 - ATTACHMENTS AND ACCESSORIES**

## **SECTION 3 - ATTACHMENTS AND ACCESSORIES**

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-1. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)



**NOTE: MANY DIFFERENT FORK  
ASSEMBLIES ARE AVAILABLE  
FOR THE CARRIAGE  
ASSEMBLIES ON THE 544B.  
PLEASE SEE FORK  
INFORMATION FOR LIST OF FORKS.**

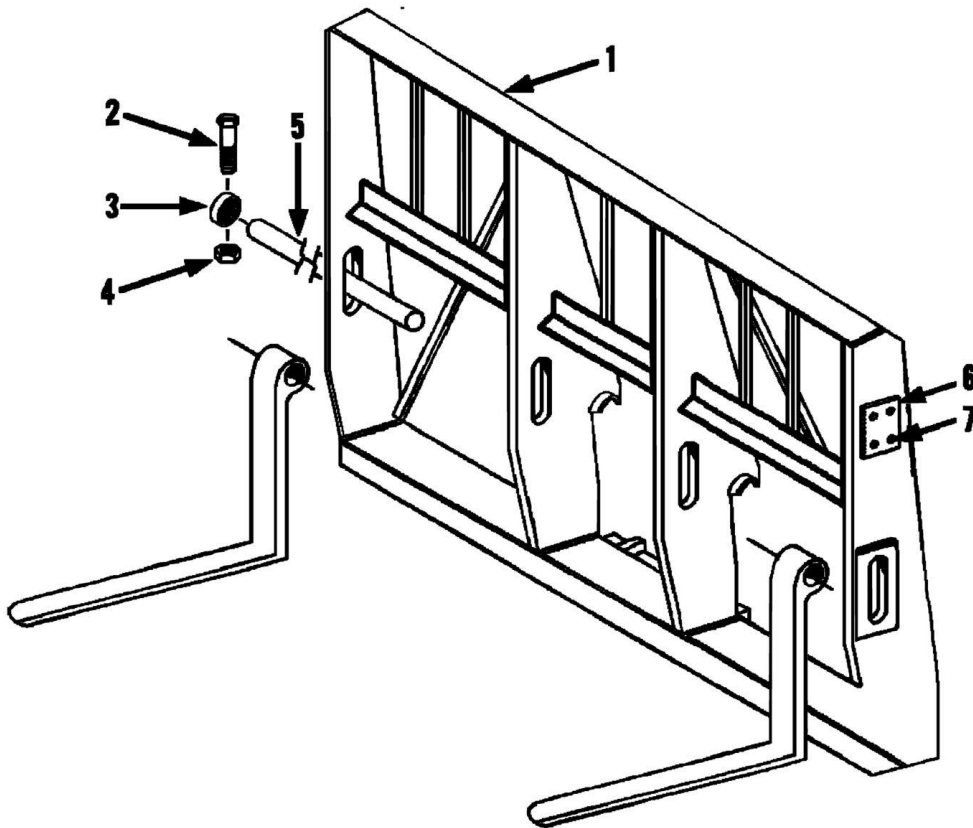
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-1. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90801332	1	SAND BUCKET	

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-2. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)



NOTE: MANY DIFFERENT FORK  
ASSEMBLIES ARE AVAILABLE  
FOR THE CARRIAGE  
ASSEMBLIES ON THE 544B.  
PLEASE SEE FORK  
INFORMATION FOR LIST OF FORKS.



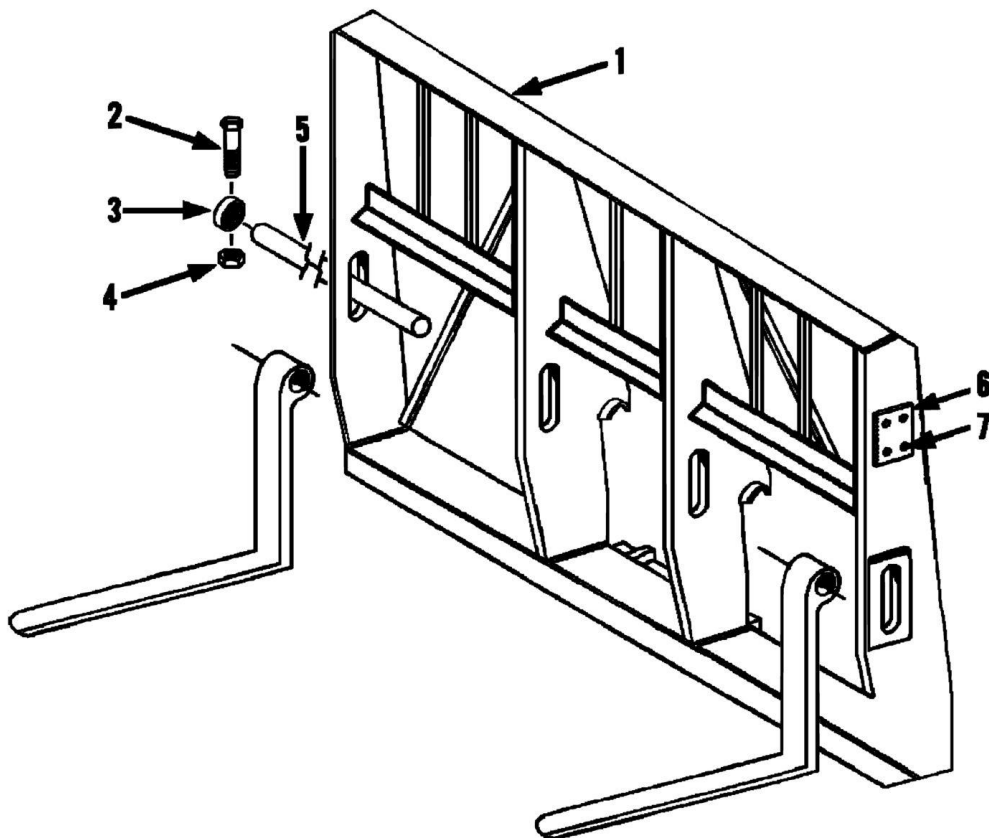
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-2. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455007	1	48IN CARRIAGE ASSY, (includes all tems)	
1	90801315	1	48IN CARRIAGE WELDMENT	
2	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	2	COLLAR	
4	88521310	2	HEX LOCKNUT, 5/8-11	
5	90402477	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	4	DRIVE SCREW, #10X3/8	

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-3. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)



**NOTE: MANY DIFFERENT FORK ASSEMBLIES ARE AVAILABLE FOR THE CARRIAGE ASSEMBLIES ON THE 544B. PLEASE SEE FORK INFORMATION FOR LIST OF FORKS.**

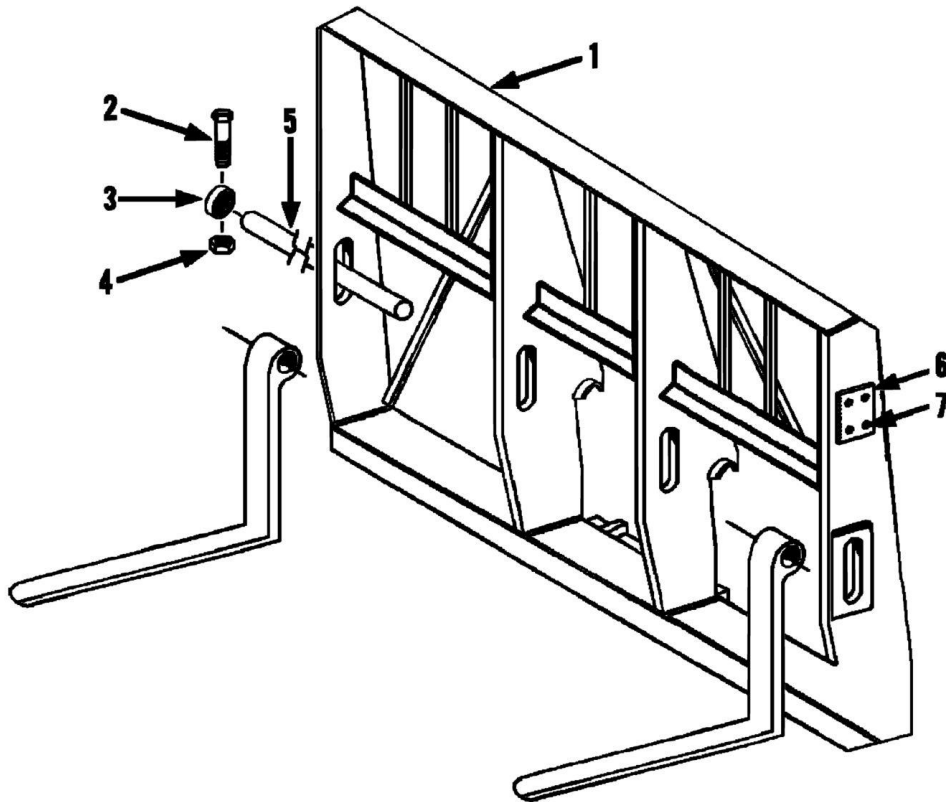
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-3. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90555008	1	72IN CARRIAGE ASSY, (includes all items)	
1	90556003	1	72IN CARRIAGE WELDMENT	
2	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	2	COLLAR	
4	88521310	2	HEX LOCKNUT, 5/8-11	
5	90551013	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	4	DRIVE SCREW, #10X3/8	

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-4. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)



NOTE: MANY DIFFERENT FORK  
ASSEMBLIES ARE AVAILABLE  
FOR THE CARRIAGE  
ASSEMBLIES ON THE 544B.  
PLEASE SEE FORK  
INFORMATION FOR LIST OF FORKS.

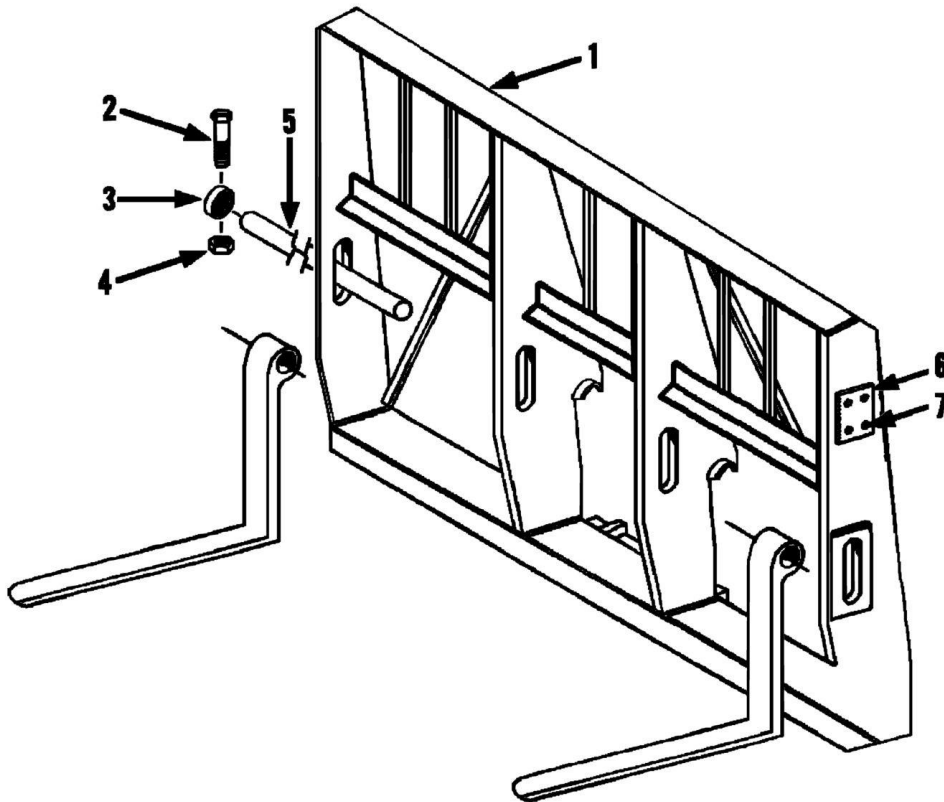
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-4. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455008	1	66IN CARRIAGE ASSY, (includes all items)	
1	90801314	1	66IN CARRIAGE WELDMENT	
2	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	2	COLLAR	
4	88521310	2	HEX LOCKNUT, 5/8-11	
5	90402478	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	4	DRIVE SCREW, #10X3/8	

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-5. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)



**NOTE: MANY DIFFERENT FORK  
ASSEMBLIES ARE AVAILABLE  
FOR THE CARRIAGE  
ASSEMBLIES ON THE 544B.  
PLEASE SEE FORK  
INFORMATION FOR LIST OF FORKS.**

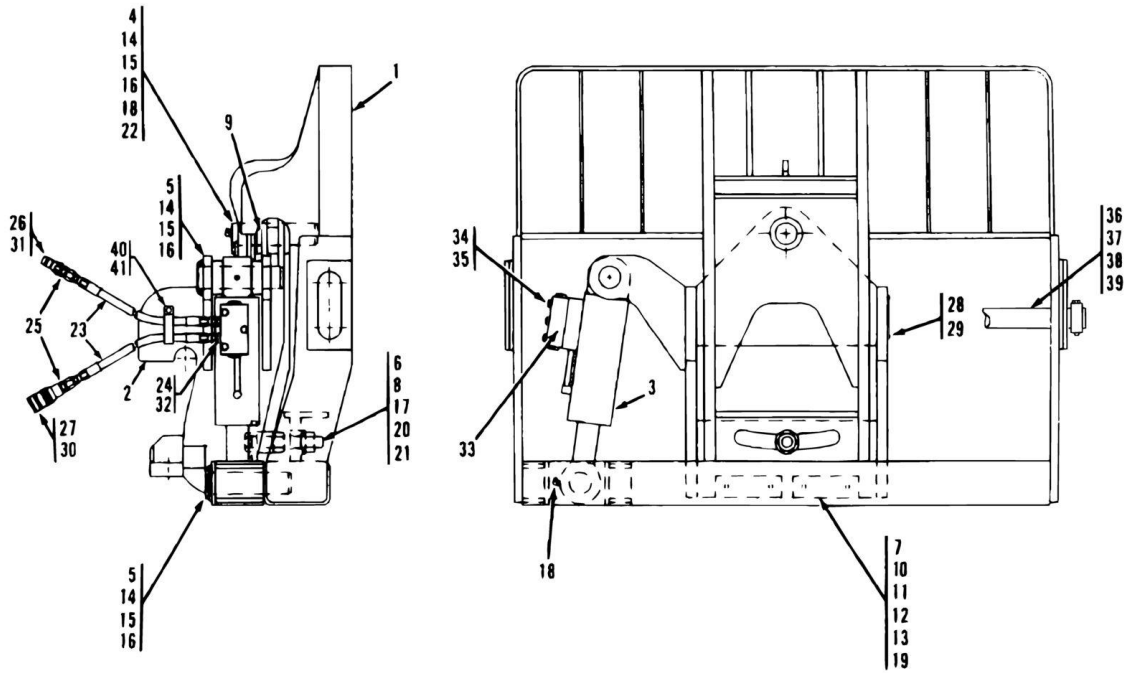
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-5. SAND BUCKET AND CARRIAGES (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455038	1	80IN CARRIAGE ASSY, (includes all items)	
1	90456003	1	80IN CARRIAGE WELDMENT	
2	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
3	90200003	2	COLLAR	
4	88521310	2	HEX LOCKNUT, 5/8-11	
5	90451011	1	FORK PIN	
6	90153001	1	SERIAL NUMBER PLATE	
7	88341022	4	DRIVE SCREW, #10X3/8	

# SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-6. (91305016) 66IN SLOPE PILER CARRIAGE (SN 0155299S to Present)





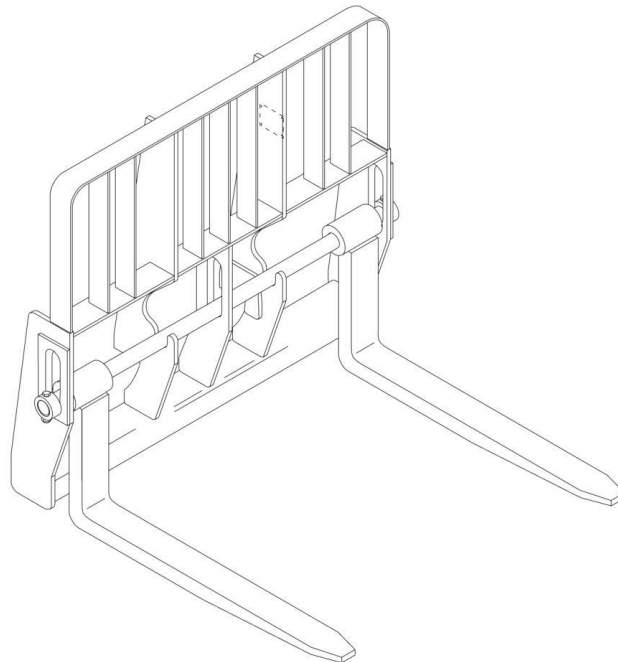
## SECTION 3 - ATTACHMENTS AND ACCESSORIES

**FIGURE 3-6. (91305016) 66IN SLOPE PILER CARRIAGE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91305016	Ref	66IN SLOPE PILER CARRIAGE, (includes all items)	
	91033426	1	CAPACITY DECAL	
1	91306030	1	CARRIAGE WELDMENT	
2	91086122	1	ADAPTER WELDMENT	
3		Ref	SWAY CYLINDER, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
4	91083248	1	BUSHING	
5	3423263	2	PIN	
6	90204007	1	TUBE	
7	91033186	2	BEARING PAD	
8	91081577	1	TAP BOLT	
9	91081594	1	THRUST WASHER	
10	90205870	AR	SHIM	
11	91031236	2	SPACER	
12	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	
13	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
14	91081313	3	KEEPER PLATE	
15	88201065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88551013	6	LOCKWASHER, 1/2	
17	88521016	1	HEX LOCKNUT, 1-8	
18	88671022	2	LUBE FITTING, 90, 1/8	
19	88561109	4	FLAT WASHER, 3/8	
20	88501016	1	HEX NUT, 1-8	
21	05101441	1	WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSY	
24	83661316	2	CONNECTOR	
25	88661010	2	CONNECTOR (Prior to SN 2005283-01)	
25	88662018	2	CONNECTOR, (SN 2005283-01 to Present)	
26	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
26	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
27	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
27	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
28	88341022	4	DRIVE SCREW, #10X3/8	
29	90153001	1	SERIAL NUMBER PLATE	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	88662105	2	ELBOW, 90, (swivel nut)	
33		Ref	DUAL P.O. CHECK VALVE, (See OPTIONAL EQUIPMENT SECTION for Breakdown)	
34	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
35	88551011	3	LOCKWASHER, 3/8	
36	91301083	1	FORK PIN	
37	90200003	2	COLLAR	
38	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
39	88521310	2	LOCKNUT, 5/8-11	
40	84521062	1	SUPPORT CLAMP	
41	77143015	1	WHIZ-LOK NUT, 3/8-16	

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

FIGURE 3-7. FORK INFORMATION



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

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

## SECTION 3 - ATTACHMENTS AND ACCESSORIES

**FIGURE 3-7. FORK INFORMATION**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90600390	2	48IN CUBING FORK, 2X2, 3000 lbs, (B, C and D series)	
	90601819	2	48IN PALLET FORK, 1-3/4X6, 9000 lbs, (B, C and D series)	
	90453002	2	48IN PALLET FORK, 2X4, 8000 lbs, (B, C and D series)	
	90553005	2	48IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	90553008	2	48IN PALLET FORK, 1-3/4X4, 5000 lbs, (used on 6FT swing mast only, P/N 90455047)	
	90601015	2	60IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	91163269	2	60IN PALLET FORK, 2X6, 11,300 lbs, (B, C and D series)	
	90453045	2	60IN PALLET FORK, 2X6, 11,300 lbs, (used on 6FT swing mast only, P/N 90455054)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	91123132	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	
	90600832	2	48IN PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552, & 554)	
	90601873	2	48IN PALLET FORK, 2-1/4X7, 15,000 lbs, (used on the 542, 552, & 554)	
	90600833	2	60IN PALLET FORK, 2-1/4X8, 16,000 lbs, (used on the 542, 552 & 554)	
	90601219	2	60IN PALLET FORK, 2-1/2X8, 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 and D series)	
	90553018	2	72IN PALLET FORK, 2X6, 10,000 lbs, (B, C and D series)	

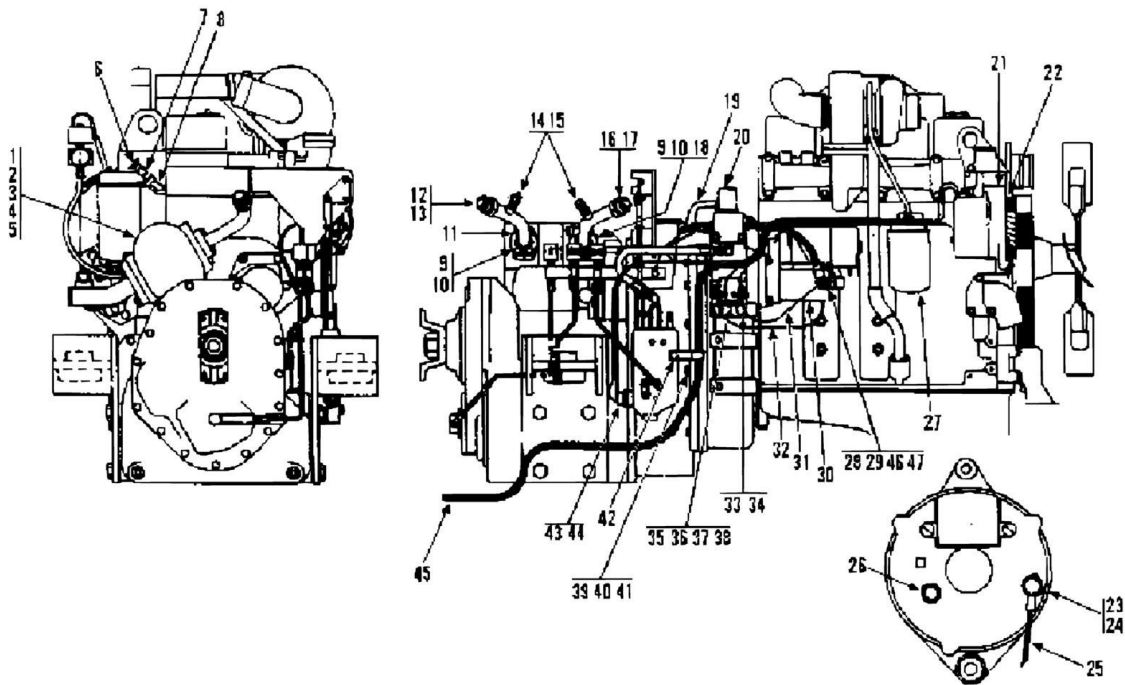


## **SECTION 4 - ENGINE AND ATTACHING PARTS**

## **SECTION 4 - ENGINE AND ATTACHING PARTS**

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-1. ENGINE LEFT SIDE VIEW (SN 0155299S to Present)



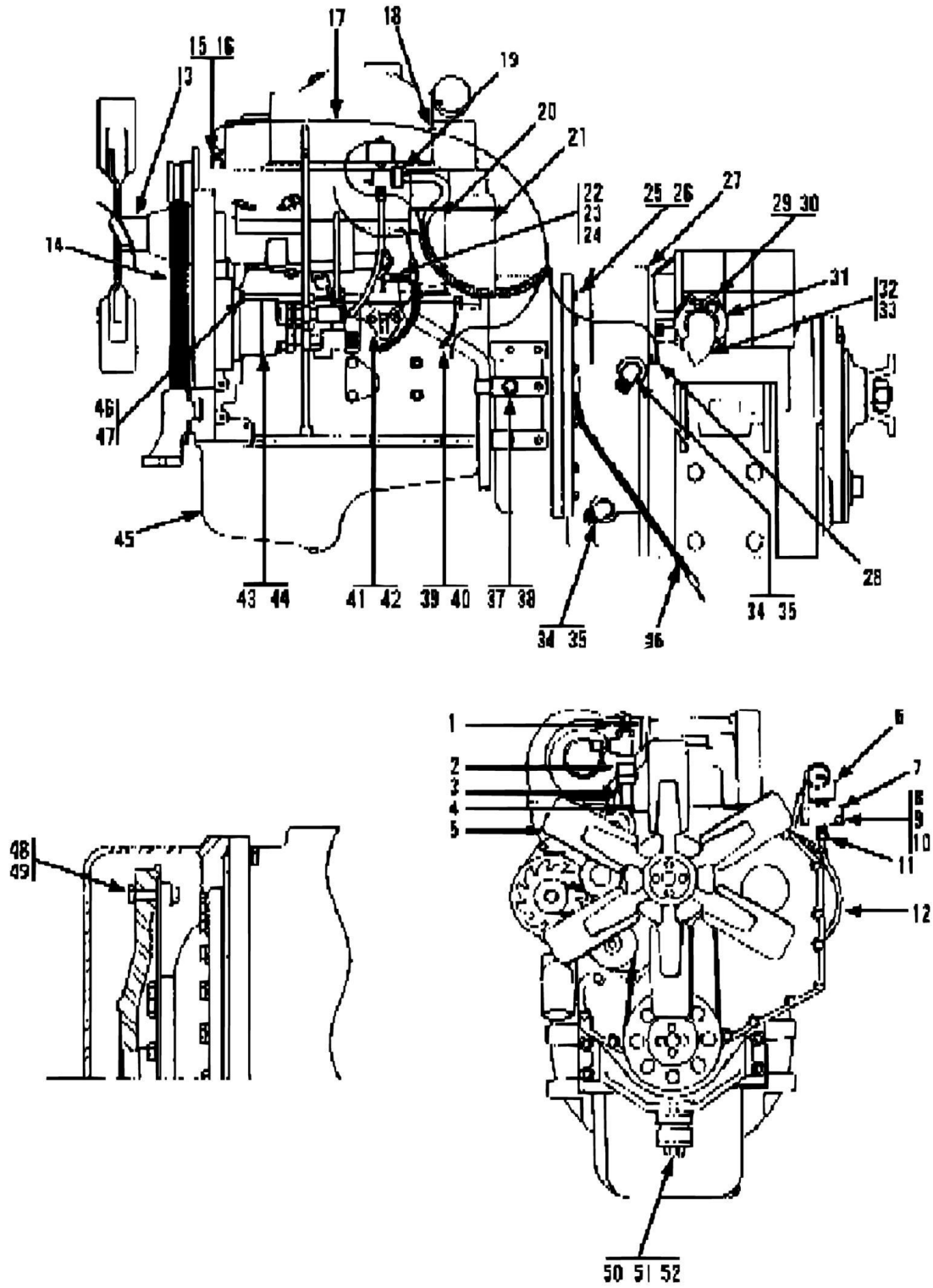
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-1. ENGINE LEFT SIDE VIEW (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043175	Ref	MAIN HYDRAULIC PUMP ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	77134059	1	PUMP GASKET	
3	88201067	2	HEX HD CAPSCREW, 1/2-13X1/2, GR5	
4	85401340	2	HARDENED WASHER	
5	88551013	2	LOCKWASHER, 1/2	
6	24641328	1	SHUT-OFF VALVE	
7	88711383	1	REDUCING BUSHING, 1/2X3/8	
8	88712034	1	STREET ELBOW, 45, 1/2	
9	88201036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
10	88551011	8	LOCKWASHER, 3/8	
11	84711369	2	FLANGE HALF	
12	91053345	1	TUBE ASSY	
13	85031525	1	SQUARE O-RING	
14	77133089	2	MINI CHECK COUPLING	
15	88591204	2	O-RING	
16	91053344	1	TUBE ASSY	
17	83661304	1	SQUARE O-RING	
18	84711333	2	FLANGE HALF	
19	90207719	1	JUMPER WIRE	
20	90206739	Ref	SOLENOID VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
21	83674109	1	ALTERNATOR ASSY	
22	83674110	1	ALTERNATOR FAN	
23	83191007	1	HEX HD CAPSCREW, M8X1.25X16	
24	83191011	1	LOCKWASHER, M8	
25	90207497	1	JUMPER WIRE	
26	83191019	1	HEX NUT M6x1	
27	91084001	1	OIL FILTER (spin-on type)	
28	91033086	1	POSITIVE BATTERY CABLE (See ELECTRICAL SECTION for Breakdown)	
29	91033134	1	HEX NUT, M10X1.5	
30	91044350	1	STARTING MOTOR ASSY	
31	90207497	1	JUMPER WIRE	
32	90205205	1	JUMPER WIRE	
33	83191004	2	HEX HD CAPSCREW, M12X1.75X30	
34	83191010	2	LOCKWASHER, M12	
35	90402427	1	STARTER SOLENOID	
36	88201001	2	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
37	88551009	2	LOCKWASHER, 1/4	
38	88561107	2	FLAT WASHER, 1/4	
39	91043342	1	STUD, M10X1.5X57MM LONG	
40	83191015	1	HEX NUT, M10X1.5	
41	83191013	1	FLATWASHER, M10	
42	85941017	1	SUPPORT CLAMP	
43	89981036	2	PAN HD MACHINE SCREW, #8-32X3/8	
44	88551006	2	LOCKWASHER, #8	
45	91033079	1	WIRING HARNESS	
46	71492134	84 in	LOOM	
47	86683122	7	TY -WRAP	

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-2. ENGINE RIGHT SIDE VIEW (SN 0155299S to Present)





## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-2. ENGINE RIGHT SIDE VIEW (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083155	1	SHUT-OFF VALVE	
2	88711213	1	PIPE COUPLING, 1/2	
3	88701070	1	PIPE NIPPLE, 1/2X1-1/2	
4	77383540	1	COOLANT RESTRICTOR ORIFICE	
5	91043253	1	FAN BLADE	
6	91033246	1	OIL PRESSURE SENDER	
7	91081388	1	TAPPED BAR	
8	88201009	2	HEX HD CAPSCREW, 1/4-20X2, GR5	
9	88551009	2	LOCKWASHER, 1/4	
10	88501004	2	HEX NUT, 1/4-20	
11	86883075	2	TUBE FITTING	
12		Ref	NYLON TUBE, 3/8 O.D. 15IN LONG	
13	77383259	1	FAN SPACER	
14	77383204	1	FAN BELT (v-ribbed)	
15	90206124	1	WATER TEMPERATURE SENDER	
16	88711384	1	REDUCING BUSHING, 1/2X1/4	
17	91041558	1	JUMPER WIRE	
18	86683480	1	CRIMP-ON CONNECTOR	
19	24741047	1	PRESSURE SWITCH	
20	77383202	1	FUEL FILTER (spin on, primary)	
21	77383203	1	FUEL FILTER (spin on, secondary)	
22	82092118	1	FUEL LINE HOSE, 36IN LONG	
23	88741800	1	HOSE NIPPLE	
24	83483497	1	HOSE CLAMP	
25	83191006	11	HEX HD CAPSCREW, M10X1.5X40	
26	83191013	11	LOCKWASHER	
27	91033319	1	TRANSMISSION ASSY (See DRIVE TRAIN SECTION for Breakdown)	
28	91033283	1	OIL TEMPERATURE SENDER	
29	88201067	4	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
30	88551013	4	LOCKWASHER, 1/2	
31	84711427	2	FLANGE HALF	
32	91043176	1	SUCTION TUBE	
33	88591106	1	O-RING	
34	88662067	2	ELBOW, 90, (includes item 35)	
35	88591207	2	O-RING	
36	90200811	1	GROUND CABLE (See ELECTRICAL SECTION for Breakdown)	
37	83191004	1	HEX HD CAPSCREW, .30M12X1.75	
38	88561111	1	FLATWASHER, 1/2	
39	91043324	1	FUEL LINE HOSE	
40	86683106	1	HOSE CLAMP	
41	91044351	1	FUEL LINE HOSE	
42	91044352	1	PUMP GASKET	
43	91043259	1	PILOT PUMP ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
44	86671112	1	PUMP GASKET	
45	91043252	1	CUMMINS DIESEL ENGINE (for parts information see separate engine manual)	
46	83191021	2	HEX HD CAPSCREW, M10X1.5X30	
47	83191013	2	LOCKWASHER, M10	

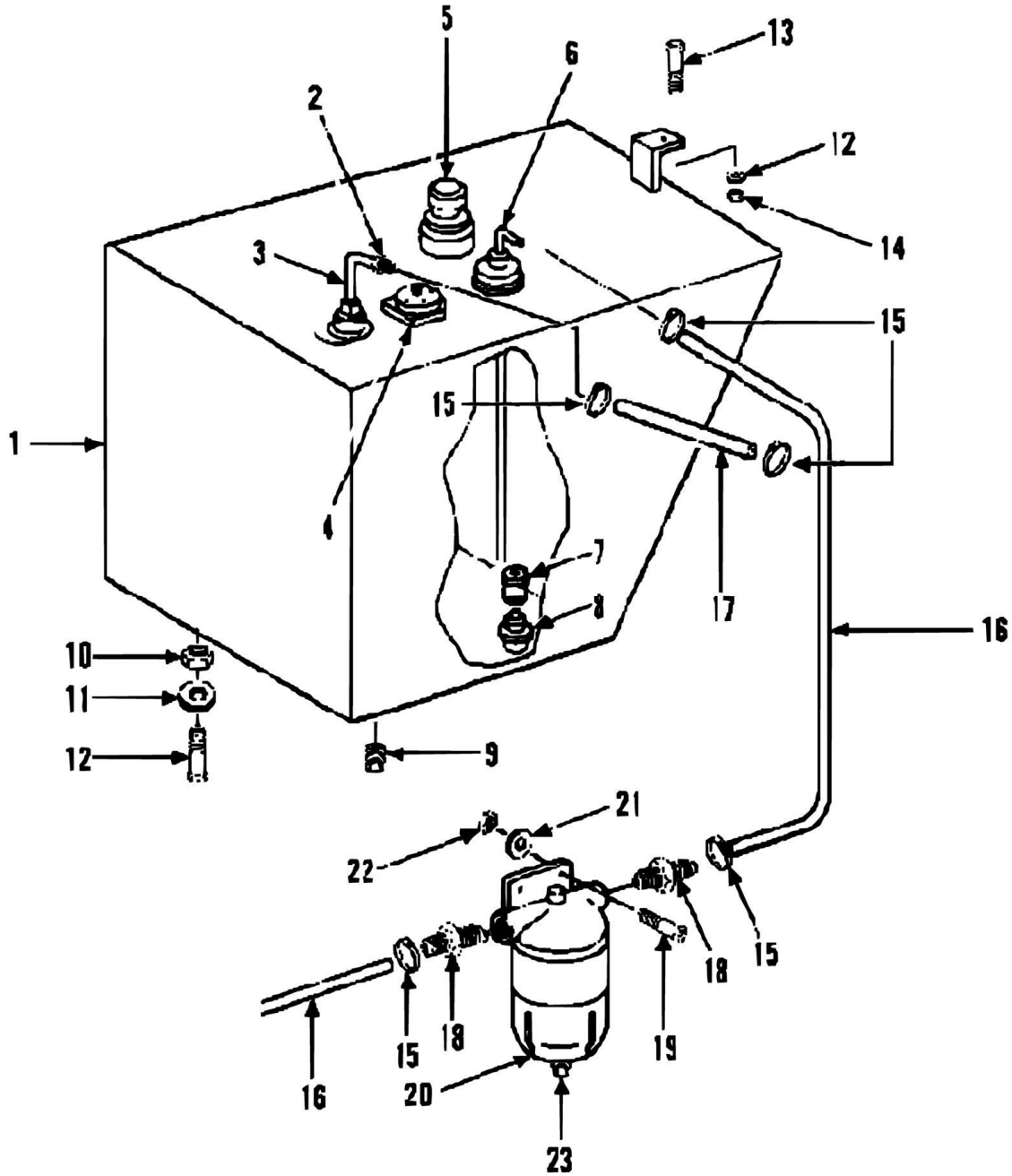
## SECTION 4 - ENGINE AND ATTACHING PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48	88201536	8	HEX HD CAPSCREW, 3/8-24X1-1/2, GR5 (lubricate and torque to 25-30 ft. lbs.)	
49	88561109	8	FLATWASHER, 3/8	
50	91083338	1	HEX HD CAPSCREW, M16X2X120	
51	91081158	2	REBOUND WASHER	
52	86881227	1	SHOCK MOUNT	
53	83191039	4	HEX HD CAPSCREW	
54	88561108	4	FLATWASHER, 5/16	



# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-3. FUEL TANK AND LINES (SN 0155299S to Present)



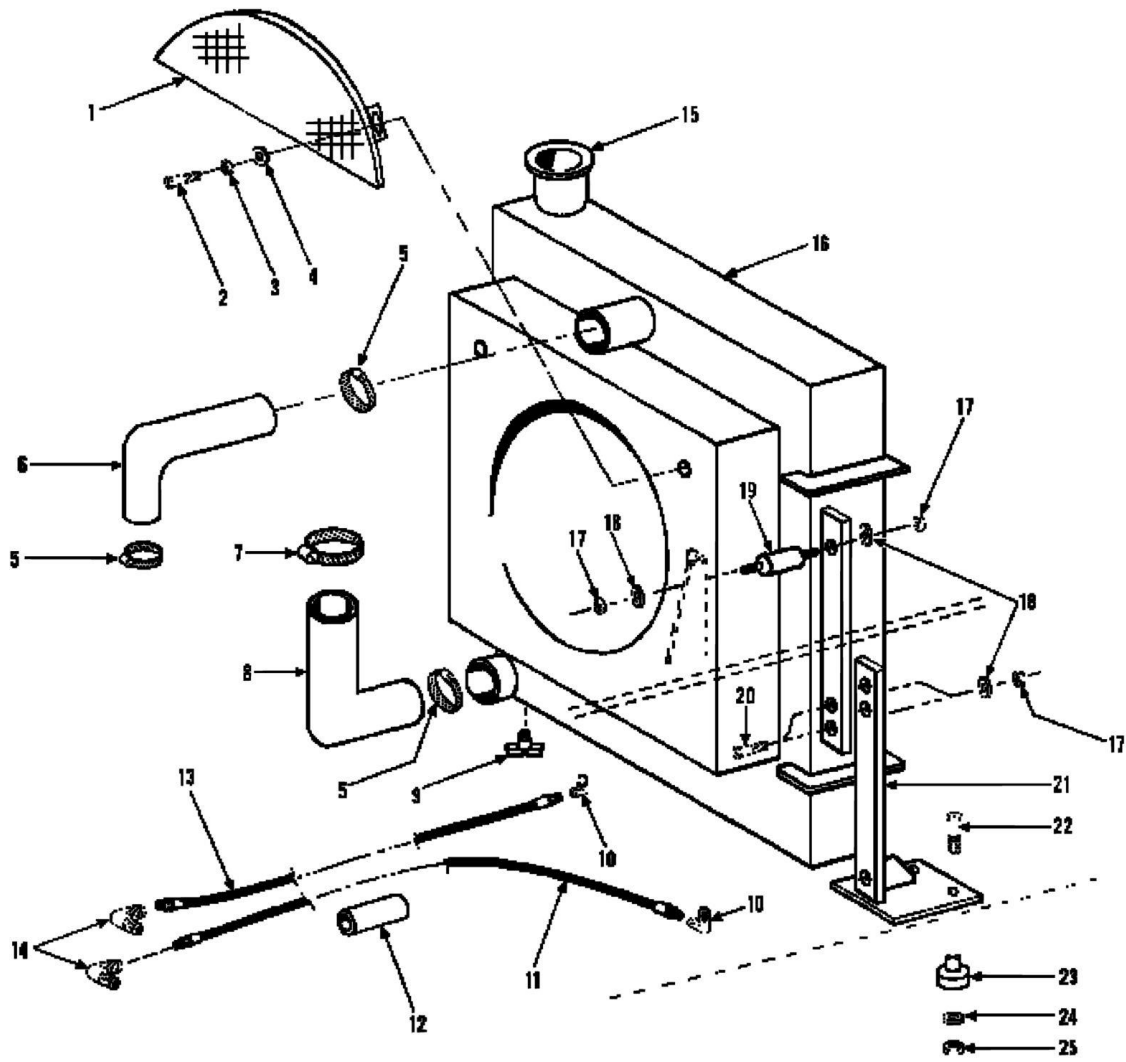
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-3. FUEL TANK AND LINES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035093	1	FUEL TANK ASSY (includes items 1 thru 9)	
1	91036047	1	FUEL TANK WELDMENT	
2	90028674	1	PUSH LOCK FITTING	
3	90402827	1	STANDPIPE WELDMENT	
4	90400654	1	FUEL LEVEL SENDER (includes gasket and mounting hardware)	
5	91003186	1	FILLER - BREATHER (includes gasket and mounting hardware)	
5	86541381	1	SCREW ON GAS CAP	
6	91056106	1	STANDPIPE WELDMENT	
7	88711212	1	PIPE COUPLING, 1/4	
8	90205223	1	SUCTION SCREEN	
9	88711255	1	SQUARE HD PIPE PLUG, 1IN	
10	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
11	88551013	2	LOCKWASHER, 1/2	
12	88561111	4	FLATWASHER, 1/2	
13	88201070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5	
14	88521208	1	HEX LOCKNUT, 1/2-13	
15	86683106	6	HOSE CLAMP	
16		Ref	HOSE, 5/16 I.D.	
17		Ref	HOSE, 1/4 I.D.	
18	91033131	2	BARB CONNECTOR	
19	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
20	91033054	1	WATER SEPARATOR	
21	88561108	2	FLATWASHER, 5/16	
22	88521305	2	HEX LOCKNUT, 5/16-18	
23	91034396	1	SCREW ASSY (push-on type)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-4. RADIATOR AND HOSES (SN 0155299S to Present)



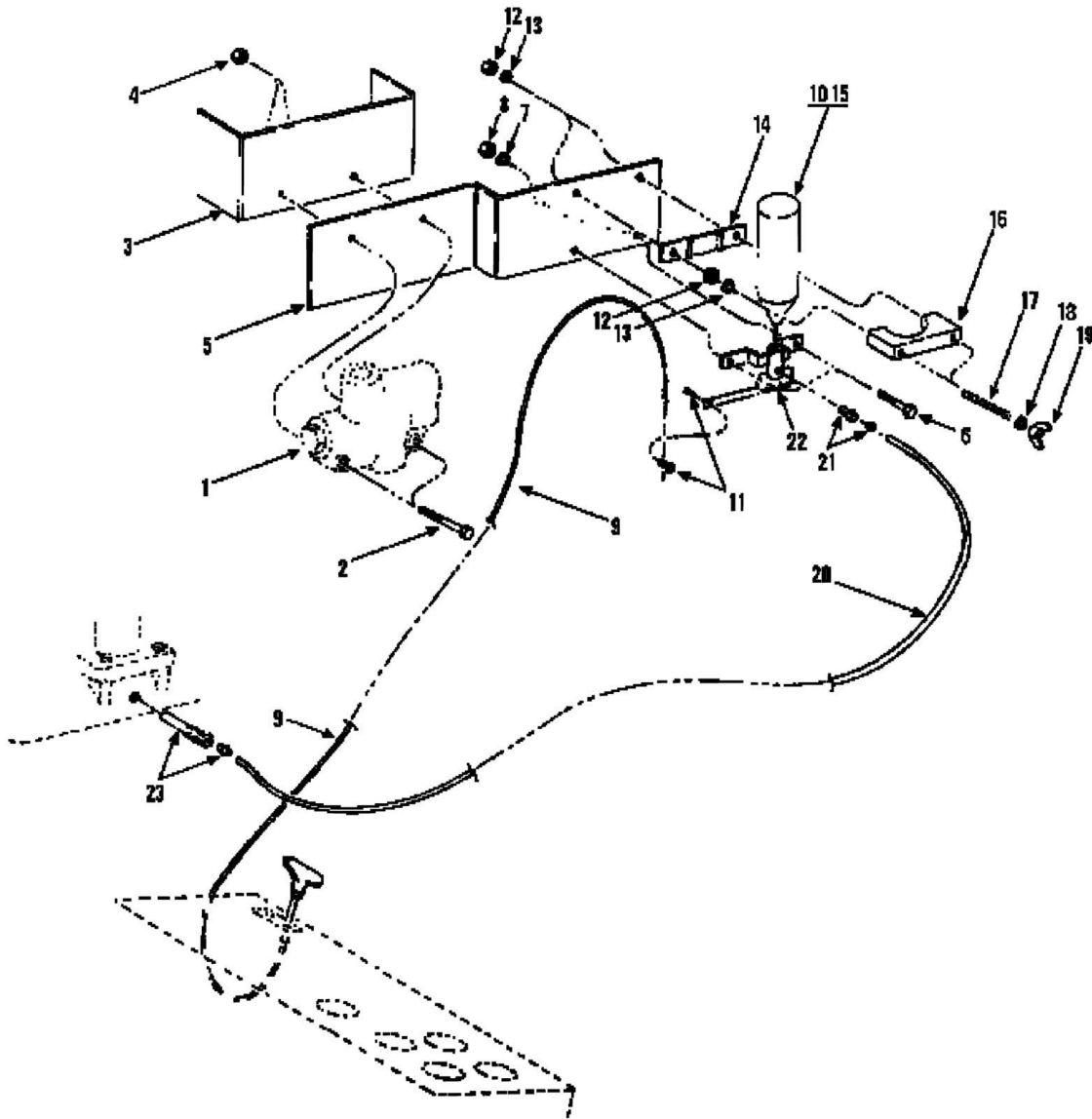
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-4. RADIATOR AND HOSES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036051	1	FAN GUARD	
2	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
3	88551009	2	LOCKWASHER, 1/4	
4	88561107	2	FLATWASHER, 1/4	
5	85071128	3	HOSE CLAMP	
6	91043345	1	UPPER RADIATOR HOSE	
7	86883327	1	HOSE CLAMP	
8	91043320	1	LOWER RADIATOR HOSE	
9	84521056	1	DRAIN VALVE	
10	90028492	2	ELBOW, 90	
11	84717570	1	HOSE ASSY	
12	90207622	1	HOSE GUARD	
13	84717571	1	HOSE ASSY	
14	88661118	2	MALE ELBOW, 90, 3/4X3/4 TUBE	
15	86671609	1	RADIATOR CAP (7 PSI)	
16	91033254	1	RADIATOR	
17	88521305	8	HEX LOCKNUT, 5/16-18	
18	88561108	8	FLATWASHER, 5/16	
19	91033137	2	SHOCK MOUNT	
20	88201022	4	HEX HD CAPSCREW, 5/16-18X1-1/2, GR5	
21	91006016	1	LEFT RADIATOR MOUNT	
21	91006017	1	RIGHT RADIATOR MOUNT	
22	88201039	4	HEX HD CAPSCREW, 3/8-16X2, GR5	
23	83683308	4	SHOCK MOUNT	
24	90205918	8	SPECIAL WASHER	
25	88521206	4	HEX LOCKNUT, 3/8-16	

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-5. ETHER STARTING KIT (SN 0155299S to Present)





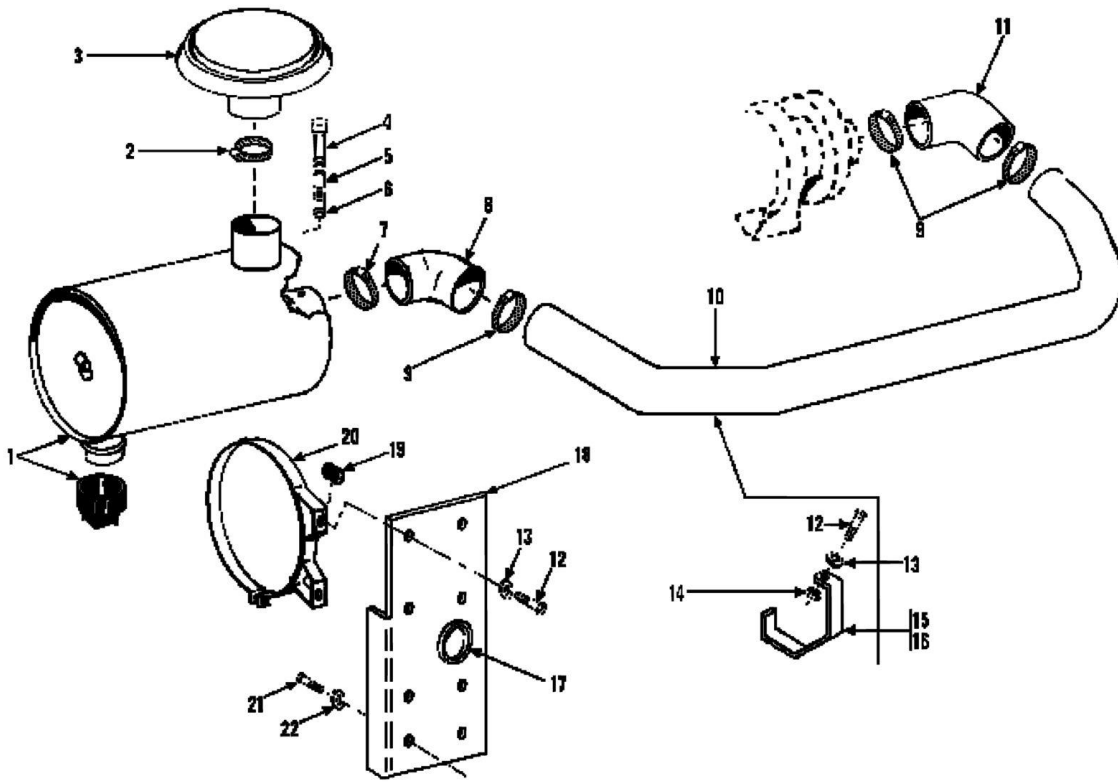
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-5. ETHER STARTING KIT (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	PRIORITY VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	90025075	2	HEX HD CAPSCREW	
3	90205767	1	VALVE MOUNTING BRACKET	
4	88501005	2	HEX NUT, 5/16-18	
5	90403110	1	MOUNTING BRACKET	
6	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
7	90021454	2	WASHER	
8	90021903	2	HEX NUT	
9	90200308	1	CABLE	
10	90206316	1	ETHER START KIT (includes items 11 thru 23)	
11	Kit	1	CABLE STOP	
12	Kit	1	HEX NUT	
13	Kit	4	LOCKWASHER	
14	Kit	1	TANK MOUNTING BRACKET	
15	Kit	1	ETHER TANK	
16	Kit	1	CLAMP	
17	Kit	2	STUD	
18	Kit	6	LOCK WASHER	
19	Kit	2	WING NUT	
20	Kit	1	HOSE	
21	Kit	1	VALVE FITTING	
22	Kit	1	VALVE	
23	Kit	1	ATOMIZER	
		Ref	NOTE: ONLY PART NUMBERED ITEMS ARE AVAILABLE FOR SERVICE REPLACEMENT	

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-6. (90205663) AIR CLEANER PIPING (SN 0155299S to Present)



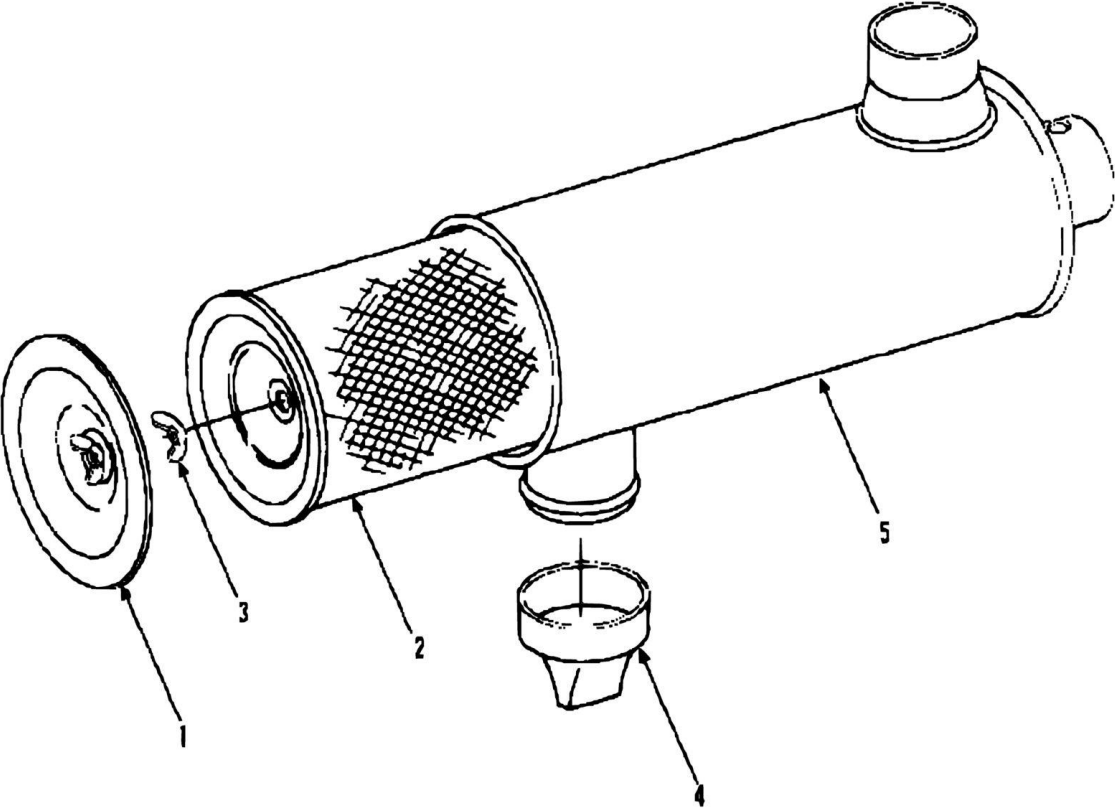
## SECTION 4 - ENGINE AND ATTACHING PARTS

**FIGURE 4-6. (90205663) AIR CLEANER PIPING (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90205663	1	AIR CLEANER ASSY (See AIR CLEANER for Breakdown)	
2	85031160	1	CLAMP	
3	91033028	1	INLET CAP	
4	77383154	1	SERVICE INDICATOR	
6	88701023	1	CLOSE NIPPLE, 1/8X3	
7	86871176	1	CLAMP	
8	91033343	1	ELBOW, 90	
9	85111214	3	CLAMP	
10	91043344	1	INTAKE TUBE	
11	91043255	1	ELBOW, 90	
12	88201021	5	HEX HD CAPSCREW, 5/16-18X1, GR5	
13	88561108	5	FLATWASHER, 5/16	
14	88521005	1	HEX LOCKNUT, 5/16-18	
15	91031154	1	BRACKET	
16	90206200	1	TRIM LOK, 18IN LONG	
17	90206200	1	TRIM LOK, 15IN LONG	
18	91031042	1	AIR CLEANER BRACKET	
19	88521305	4	HEX LOCKNUT, 5/16-18	
20	77103138	2	AIR CLEANER BAND	
21	88201018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
22	88551010	4	LOCKWASHER, 5/16	

**SECTION 4 - ENGINE AND ATTACHING PARTS**

**FIGURE 4-7. AIR CLEANER (SN 0155299S to Present)**



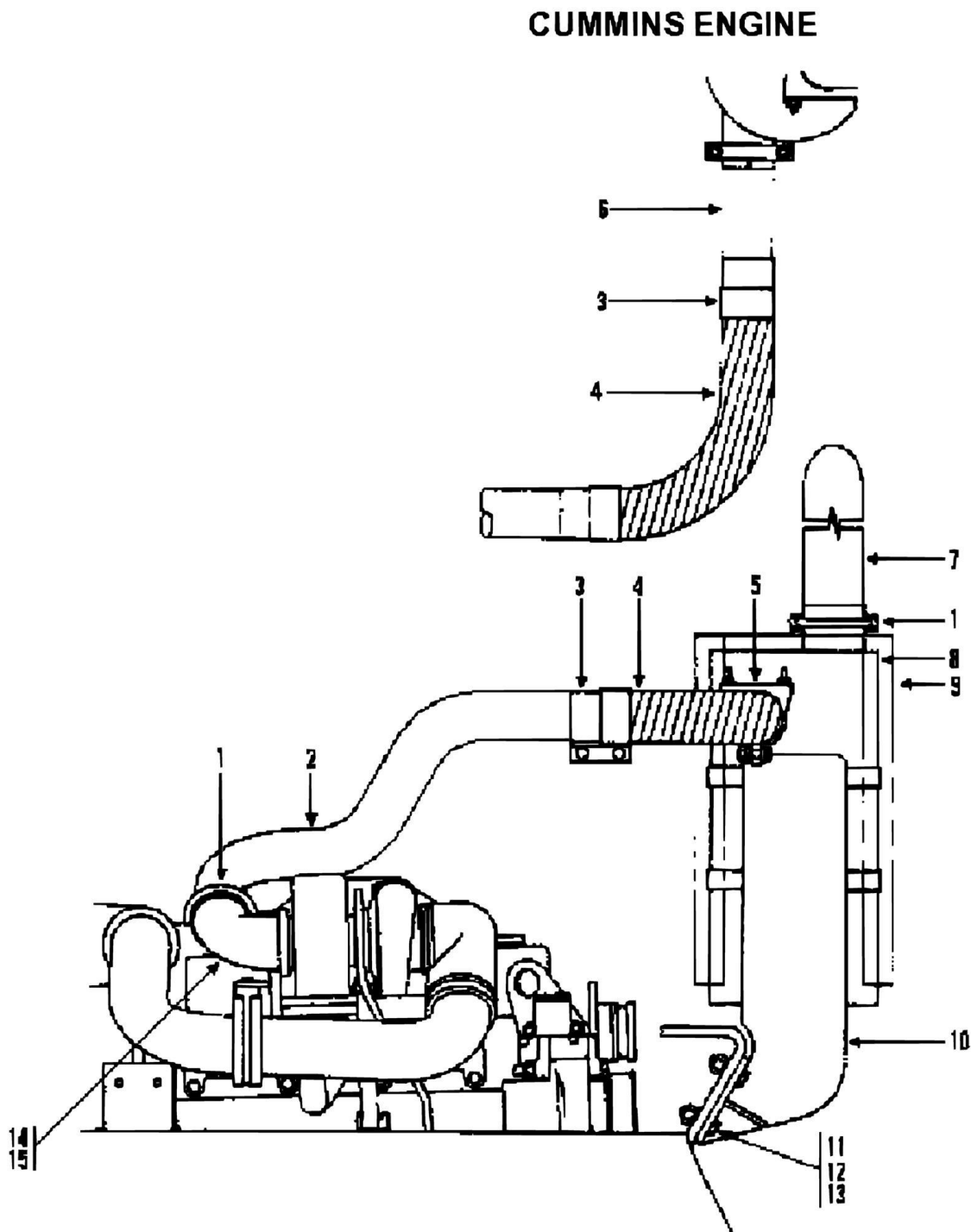
## SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-7. AIR CLEANER (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90205663	1	AIR CLEANER (includes items 1 thru 5)	
1	90206606	1	COVER W/NUT	
2	90206262	1	ELEMENT	
3	90201414	1	WING NUT W/SEAL	
4	90200807	1	VACUATOR	
5		Ref	BODY (not sold separately order P/N 90205663)	

# SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. EXHAUST SYSTEM (SN 0155299S to Present)



## SECTION 4 - ENGINE AND ATTACHING PARTS

FIGURE 4-8. EXHAUST SYSTEM (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	24921332	2	MUFFLER CLAMP	
2	91043348	1	EXHAUST PIPE	
3	77213031	2	SEAL CLAMP	
4	91043150	1	FLEXIBLE TUBING	
5	83683175	1	MUFFLER CLAMP	
6	91041016	1	SLEEVE	
7	91043198	1	EXHAUST STACK	
8	91043151	1	MUFFLER	
9	91043197	1	MUFFLER CAGE (includes mounting bands and hardware)	
9	91044471	1	MUFFLER CAGE BAND KIT	
10	91046005	1	MUFFLER BRACKET	
11	88201068	4	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
12	88551013	4	LOCKWASHER, 1/2	
13	88501008	4	HEX NUT, 1/2-13	
14	91044340	1	EXHAUST OUTLET ELBOW	
15	77383153	1	V-BAND CLAMP	

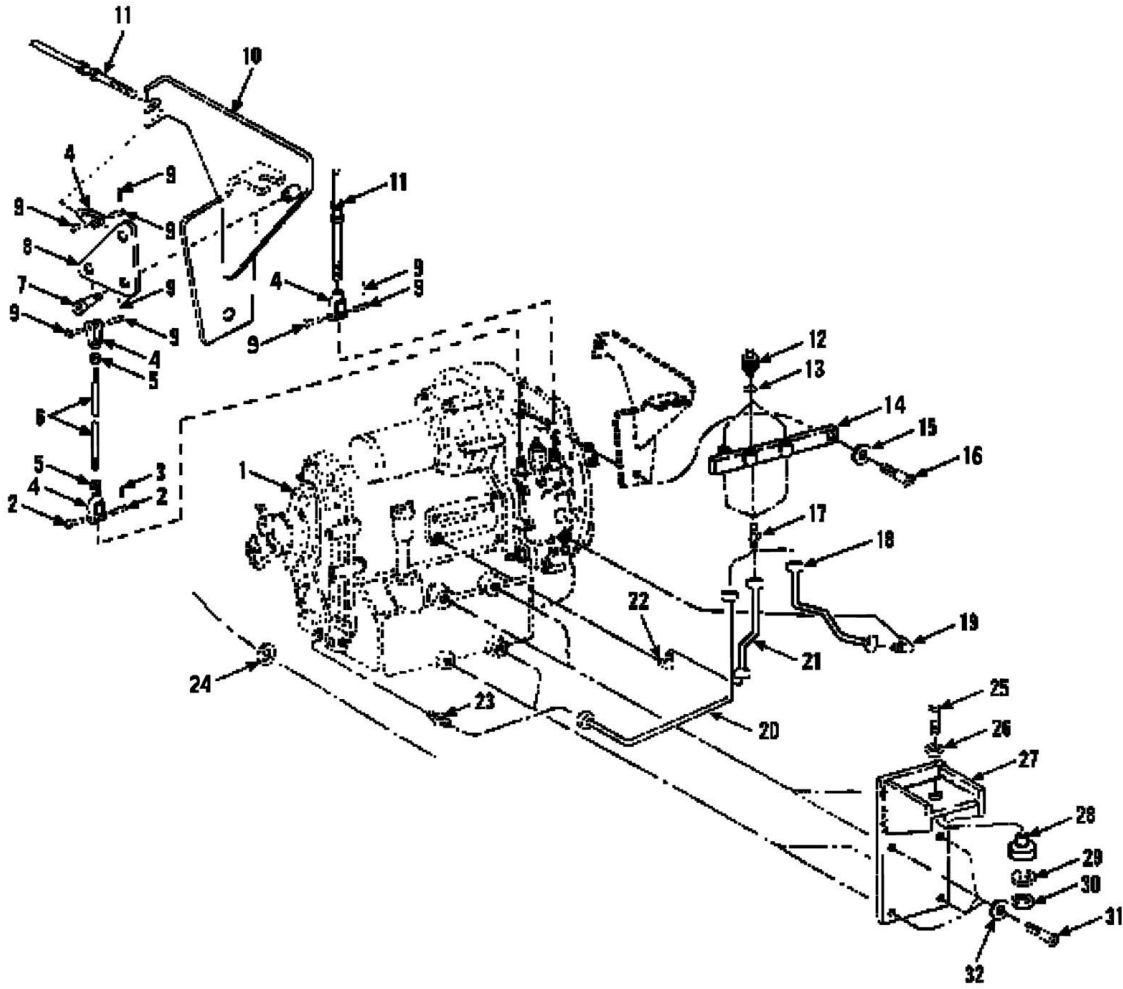




**SECTION 5 - DRIVE TRAIN**

# SECTION 5 - DRIVE TRAIN

FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 0155299S to Present)



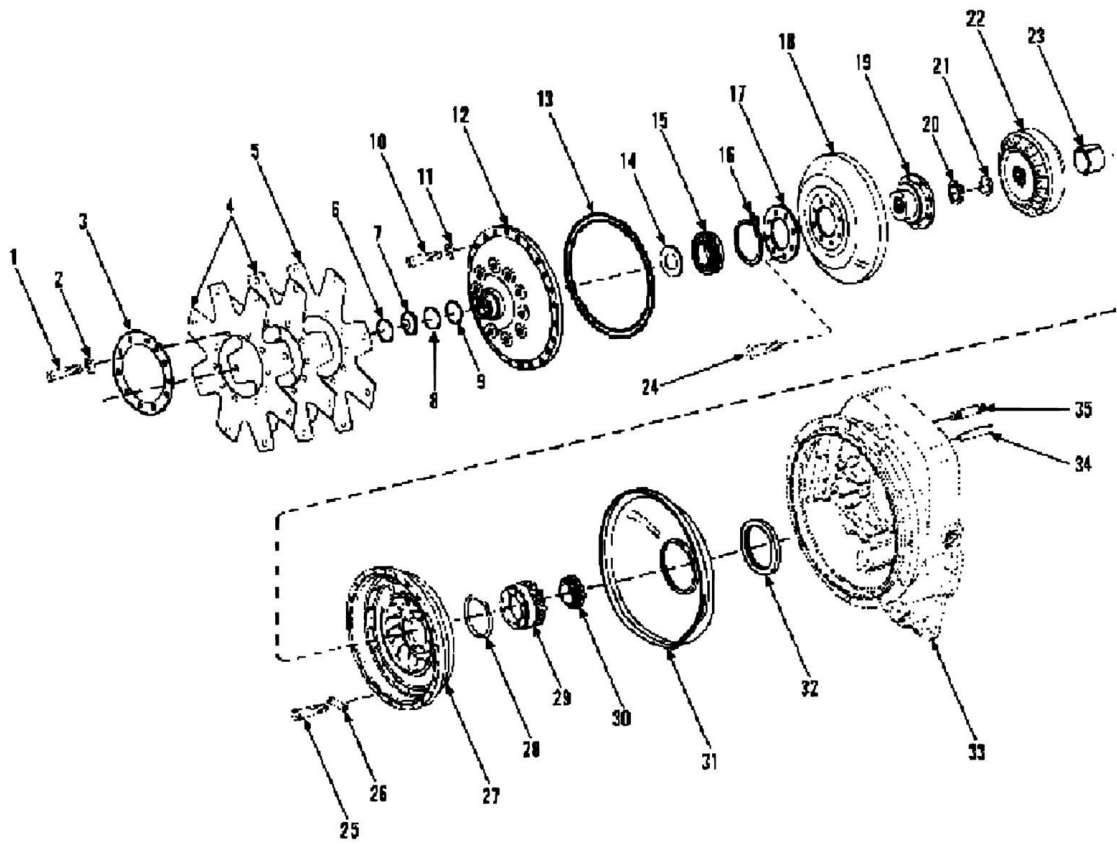
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-1. TRANSMISSION MOUNTING AND CONTROLS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034326	1	TRANSMISSION O-RING KIT	
	91034327	1	TORQUE CONVERTER O-RING KIT	
1	91033319	1	TRANSMISSION ASSY (includes all items TRANSMISSION ASSEMBLIES for Breakdown)	
2	88633002	2	YOKE PIN, 5/16	
3	88631308	2	COTTER PIN, 3/32X1/2	
4	88821003	4	ADJUSTABLE YOKE END, 5/16-24	
5	88501405	2	JAM NUT, 5/16-24	
6	91061094	1	THREADED ROD	
7	88251017	1	SOCKET HD SHOULDER SCREW, 3/8X3/8 (5/16-18 thread)	
8	91061095	1	BELLCRANK	
9	90027720	2	YOKE PIN ASSY	
10	91066035	1	TRANSMISSION SHIFT BRACKET	
11	90203374	2	PUSH-PULL CONTROL CABLE	
12	91035112	3	PRESSURE SWITCH	
13	88591201	3	O-RING	
14	90403349	1	SWITCH BRACKET	
15	88201066	1	HEX HD CAPSCREW, 1/2-13X1/4, GR5	
16	88551013	1	LOCKWASHER, 1/2	
17	88743000	3	MALE ADAPTER, 1/8X1/4 TUBE	
18	90207258	1	TUBE LINE	
19	88743041	1	MALE ADAPTER, 90, 1/8X1/4	
20	90207256	1	TUBE LINE	
21	90207257	1	TUBE LINE	
22	88743055	1	MALE ELBOW, 90, 1/4X1/4 TUBE	
23	90028750	1	ADAPTER	
24	90202303	2	CABLE GROMMET	
25	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
26	91081158	2	REBOUND WASHER	
27	91046089	2	MOUNTING BRACKET	
28	86881227	2	SHOCK MOUNT	
29	88561113	2	FLAT WASHER, 5/8	
30	88521010	2	HEX LOCKNUT, 5/8-11	
31	88201110	8	HEX HD CAPSCREW, 3/4-10X1-3/4, GR5	
32	88551016	8	LOCKWASHER, 3/4	
33	91033283	1	TRANS TEMP. SENDER (not shown, See ENGINE AND ATTACHING PARTS SECTION for Breakdown)	
34	91033282	1	TRANS TEMP. GAGE (not shown, See ELECTRICAL SECTION for Breakdown)	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-2. TRANSMISSION FLEX PLATE AND TORQUE CONVERTER (SN 0155299S to Present)



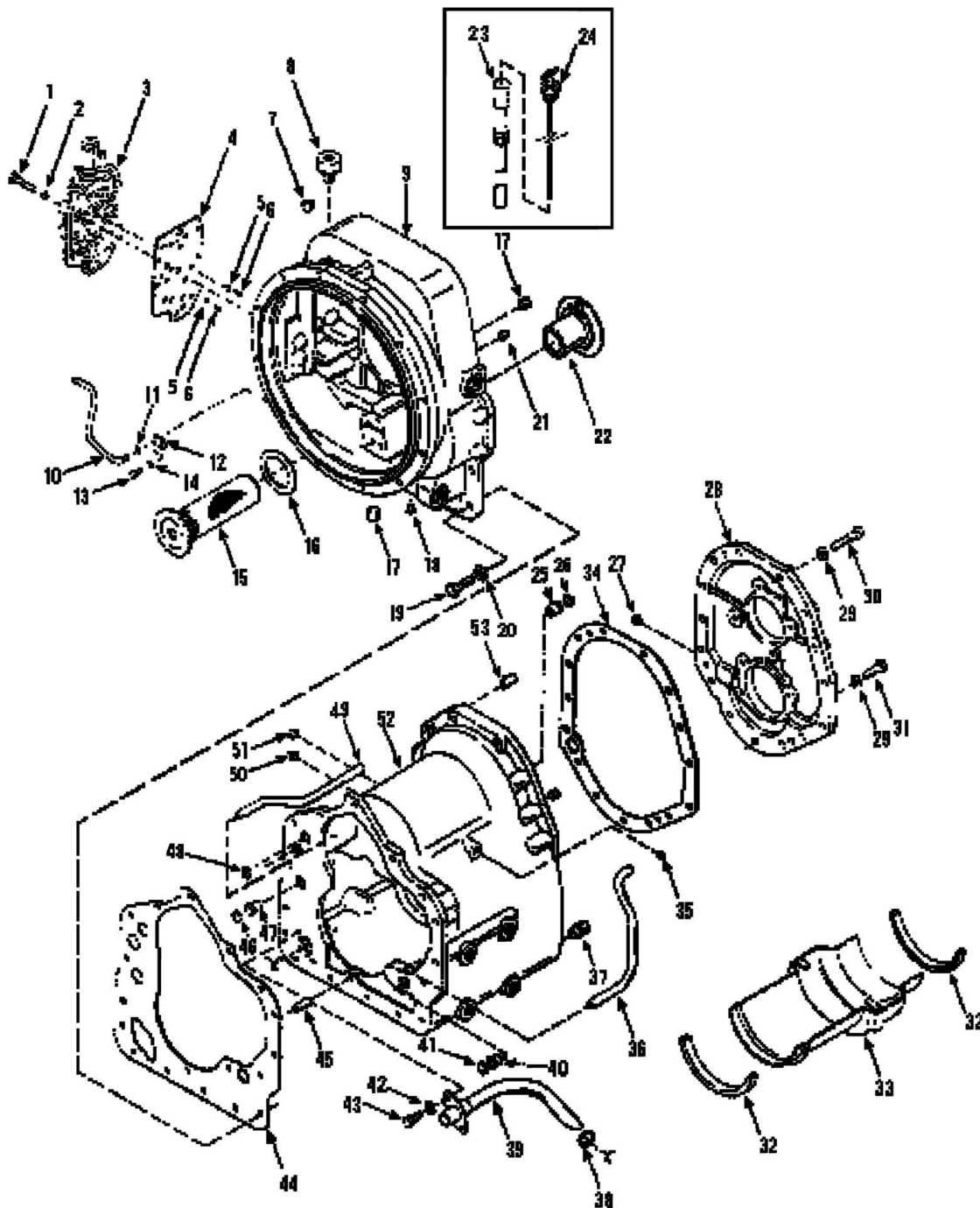
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-2. TRANSMISSION FLEX PLATE AND TORQUE CONVERTER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034238	1	DRIVE PLATE KIT ASSY (includes item 1 thru 5)	
1	77104045	10	HEX HD CAPSCREW AND LOCKWASHER ASSY (includes item 2)	
2		Ref	LOCKWASHER	
3	77104044	1	DRIVE PLATE BACKING RING	
4	90204784	2	DRIVE PLATE	
5	77104042	1	DRIVE PLATE ASSY	
6	77104041	1	BORE PLUG RETAINING RING	
7	77104040	1	BORE PLUG	
8	77104039	1	O-RING	
9	77104032	1	TURBINE RETAINING RING	
10	77104046	24	HEX HD CAPSCREW AND LOCK WASHER ASSY (includes item 11)	
11		Ref	LOCKWASHER	
12	90204779	1	IMPELLER COVER ASSY (includes item 6)	
13	77104037	1	O-RING	
14	77104036	1	BEARING RETAINING WASHER	
15	77104035	1	TURBINE HUB BEARING	
16	77104034	1	BEARING LOCATING RING	
17	91034239	1	TURBINE RING	
18	91034240	1	TURBINE	
19	91034241	1	TURBINE HUB	
20	77104032	1	TURBINE RETAINING RING	
21	77104031	1	RETAINING RING	
22	77104030	1	REACTION MEMBER	
23	91034242	1	SPACER	
24	91034243	12	HEX HD CAPSCREW	
25	91034244	8	HEX HD CAPSCREW	
26	77104027	4	LOCK TAB	
27	90204767	1	IMPELLER	
28	77104012	1	O-RING	
29	90206386	1	IMPELLER HUB GEAR	
30	90206385	1	IMPELLER HUB GEAR BEARING	
31	90204756	1	OIL BAFFLE ASSY	
32	90204755	1	OIL SEAL	
33		Ref	CONVERTER HOUSING (See TRANSMISSION CASE AND CONVERTER HOUSING for Breakdown)	
34	90206378	1	PUMP MOUNTING STUD	
35	90206379	1	PUMP MOUNTING STUD	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-3. TRANSMISSION CASE AND CONVERTER HOUSING (SN 0155299S to Present)



## SECTION 5 - DRIVE TRAIN

**FIGURE 5-3. TRANSMISSION CASE AND CONVERTER HOUSING (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201046	9	HEX HD CAPSCREW, 3/8-16X3-3/4, GR5	
2	88551011	9	LOCK WASHER, 3/8	
3		Ref	MODULATOR VALVE ASSY (See TRANSMISSION CONTROL VALVE for Breakdown)	
4	91034245	1	GASKET	
5	77104284	2	DETENT BALL	
6	77104285	2	DETENT SPRING	
7	77104112	1	PIPE PLUG	
8	77104096	1	AIR BREATHER	
9	91034246	1	CONVERTER HOUSING ASSY (includes items 10 thru 13)	
10	91044050	1	LUBE BYPASS TUBE	
11	91044051	1	O-RING	
12	91044052	1	TUBE CLIP	
13	77104102	1	HEX HD CAPSCREW	
14	77104103	1	LOCKWASHER	
15	90204800	1	SCREEN ASSY	
16	90204799	1	SCREEN GASKET	
17	90027267	2	PIPE PLUG	
18	77104116	1	PIPE PLUG	
19	77104086	16	HEX HD CAPSCREW	
20	77104085	16	LOCKWASHER	
21	77104116	1	PIPE PLUG	
22	77104097	1	CONVERTER HOUSING SLEEVE	
23	90204823	1	DIPSTICK TUBE	
24	90204824	1	DIPSTICK	
25	77104109	1	TUBE SLEEVE	
26	77104111	1	O-RING	
27	77104116	1	COVER PIPE PLUG	
28	90204798	1	COVER AND PLUG ASSY (includes item 27)	
29	77104085	15	LOCKWASHER	
30	88201053	9	HEX HD CAPSCREW, 7/16-1-3/4, GR5	
31	77104086	6	HEX HD CAPSCREW	
32	90204806	6	OIL BAFFLE SEAL	
33	90204807	1	OIL BAFFLE	
34	90204802	1	GASKET	
35	77104112	2	PIPE PLUG	
36	90204804	1	CLUTCH LUBE TUBE	
37	77104119	1	MAGNETIC DRAIN PLUG	
38	77104057	1	O-RING	
39	90204809	1	SUCTION TUBE ASSY	
40	77104107	1	TUBE SLEEVE	
41	77104111	1	O-RING	
42	88551010	2	LOCKWASHER, 5/16	
43	88201017	2	HEX HD CAPSCREW, 5/16-18X5/8, GR5	
44	77104098	1	GASKET	
45	77104113	1	DOWEL PIN	
46	77104116	1	O-RING	
47	77104109	1	TUBE SLEEVE	
48	77104048	2	O-RING	
49	77104110	1	LOW SPEED CLUTCH PRESSURE TUBE	

## SECTION 5 - DRIVE TRAIN

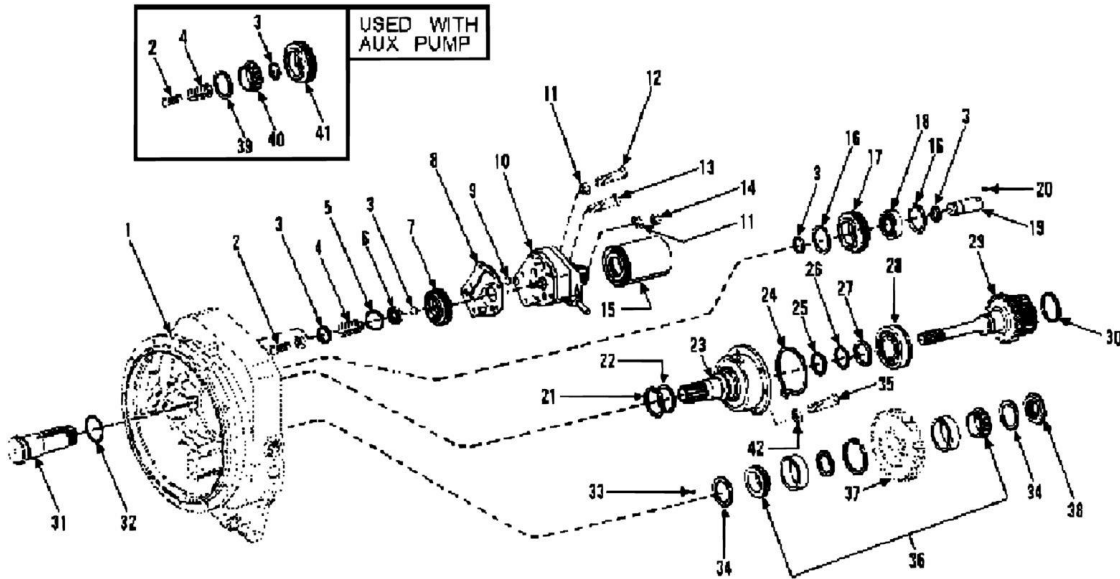
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	77104112	1	PIPE PLUG	
51	77104118	1	PIPE PLUG	
52	90204817	1	TRANSMISSION CASE ASSY (includes items 25, 32, 33, 36, 38, 39, 40, 42, 43, 47, 49)	
53	77104113	2	DOWEL PIN	





# SECTION 5 - DRIVE TRAIN

## FIGURE 5-4. TRANSMISSION DRIVE GEARING (SN 0155299S to Present)



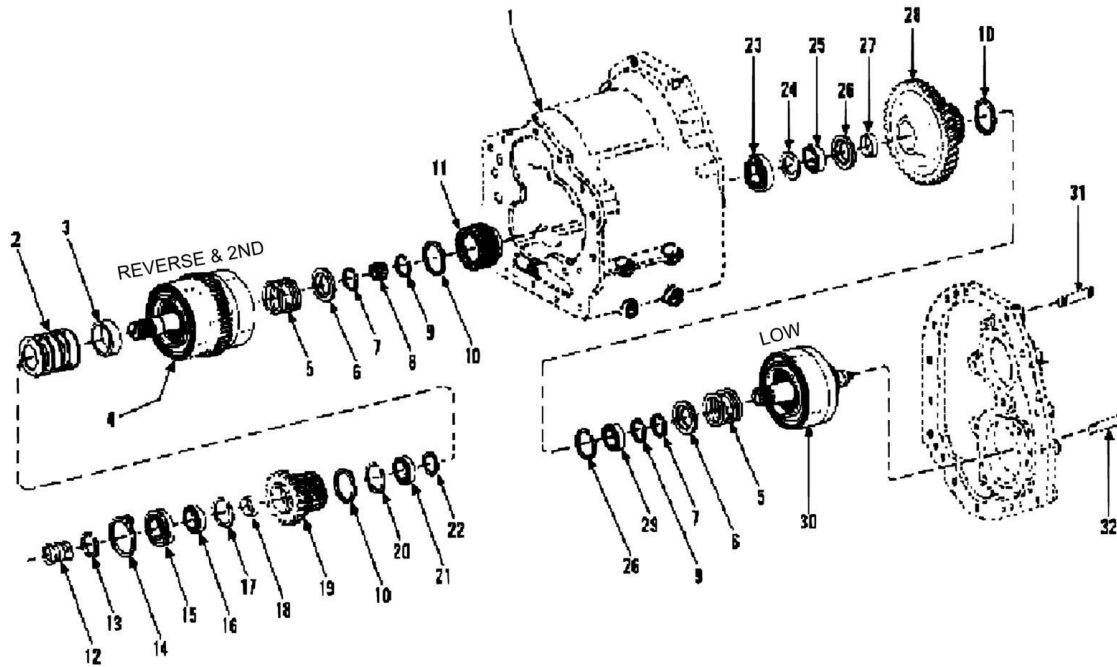
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-4. TRANSMISSION DRIVE GEARING (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	CONVERTER HOUSING (See TRANSMISSION CASE AND CONVERTER HOUSING for Breakdown)	
2	91034247	4	BEARING SUPPORT SCREW AND LOCKWASHER	
3	90204733	AR	BEARING LOCATING RING	
4	90204734	AR	PUMP DRIVE BEARING SUPPORT	
5	90204735	1	BEARING RETAINING RING	
6	90204793	1	PUMP DRIVE GEAR BEARING	
7	90204737	1	PUMP DRIVE GEAR	
8	90204730	1	GASKET	
9	77104048	1	O-RING	
10	90204731	1	CHARGING PUMP ASSY	
10	91034331	1	CHARGE PUMP SEAL KIT	
11	77104085	3	LOCKWASHER	
12	90028641	1	HEX HD CAPSCREW,	
13	88201062	2	HEX HD CASPCREW, 7/16-14X4, GR5	
14	77104204	2	HEX NUT	
15	90204732	1	FILTER	
16	77104181	2	BEARING RETAINING RING	
17	90204740	1	IDLER GEAR	
18	90204741	1	IDLER STUB SHAFT BEARING	
19	90204738	1	IDLER GEAR SHAFT	
20	90205047	1	LOCK BALL	
21	90206377	1	PISTON RING	
22	77104016	1	PISTON RING EXPANDER SPRING	
23	91034248	1	STATOR SUPPORT	
24	90204749	1	SNAP RING	
25	90204748	1	PISTON RING	
26	77104164	1	BEARING RETAINING RING	
27	77104197	1	BEARING LOCATING WASHER	
28	77104022	1	TURBINE SHAFT BEARING	
29	90204744	1	TURBINE SHAFT ASSY (includes item 30)	
30	91034255	1	RETAINING RING	
31	91034249	1	REVERSE IDLER SHAFT	
32	91034250	1	O-RING	
33	91034251	1	LOCK BALL	
34	91034252	2	THRUST PLATE	
35	91034253	6	HEX HD CAPSCREW	
36	77104255	1	BEARING ASSY	
37	90206382	1	REVERSE IDLER GEAR	
38	91034254	1	RETAINING RING	
39	90204787	1	BEARING RETAINING RING	
40	90204788	1	AUXILIARY PUMP GEAR BEARING	
41	90204790	1	AUXILIARY PUMP DRIVE GEAR	
42	77104007	6	LOCKWASHER	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-5. TRANSMISSION CLUTCH AND GEARING (REVERSE 2ND AND LOW) (SN 0155299S to Present)



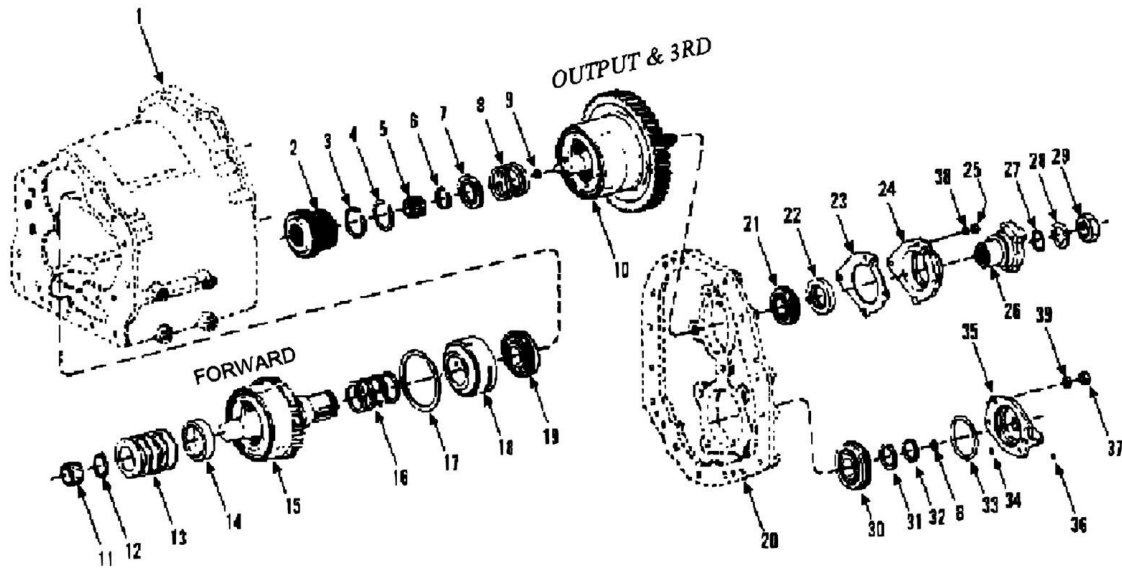
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-5. TRANSMISSION CLUTCH AND GEARING (REVERSE 2ND AND LOW) (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TRANSMISSION CASE ASSY (See TRANSMISSION CASE AND CONVERTER HOUSING for Breakdown)	
2	77104207	5	PISTON RETURN SPRING	
3	77104208	1	RETURN SPRING SPACER	
4		Ref	REVERSE AND 2ND SHAFT DRUM AND PLUG ASSY (See TRANSMISSION CLUTCH ASSEMBLIES for Breakdown)	
5	77104187	1	PISTON RETURN SPRING	
6	77104186	2	SPRING RETAINER	
7	77104185	2	SNAP RETAINER	
8	77104231	1	REVERSE AND 2ND SHAFT REAR BEARING	
9	77104184	2	RETAINING RING	
10	91034255	3	RETAINING RING	
11	90204855	1	CLUTCH DISC HUB (includes item 10)	
12	77104219	3	PISTON RING	
13	77104220	1	RETAINING RING	
14	77104221	1	SNAP RING	
15	77104222	1	REVERSE AND 2ND SHAFT FRONT BEARING	
16	77104223	1	CLUTCH DRIVEN GEAR BEARING	
17	77104224	1	RETAINING RING	
18	77104225	1	SPACER	
19	77104226	1	REVERSE CLUTCH GEAR AND HUB ASSY (includes item 10)	
20	77104224	1	RETAINING RING	
21	77104227	1	CLUTCH DRIVEN GEAR BEARING	
22	77104206	1	SNAP RING	
23	77104158	1	LOW SPEED SHAFT FRONT BEARING	
24	77104179	1	SPACER	
25	77104180	1	LOW SPEED GEAR BEARING	
26	77104181	2	LOCATING RING	
27	77104182	1	SPACER	
28	91034256	1	LOW GEAR AND HUB ASSY (includes item 10)	
29	77104180	1	LOW SPEED GEAR BEARING	
30		Ref	LOW CLUTCH DRUM AND BLEED VALVE ASSY (See TRANSMISSION CLUTCH ASSEMBLIES for Breakdown)	
31	77104177	4	BEARING CAP STUD	
32	77104203	4	BEARING CAP STUD	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-6. TRANSMISSION CLUTCH AND GEARING (FORWARD, OUTPUT AND THIRD) (SN 0155299S to Present)



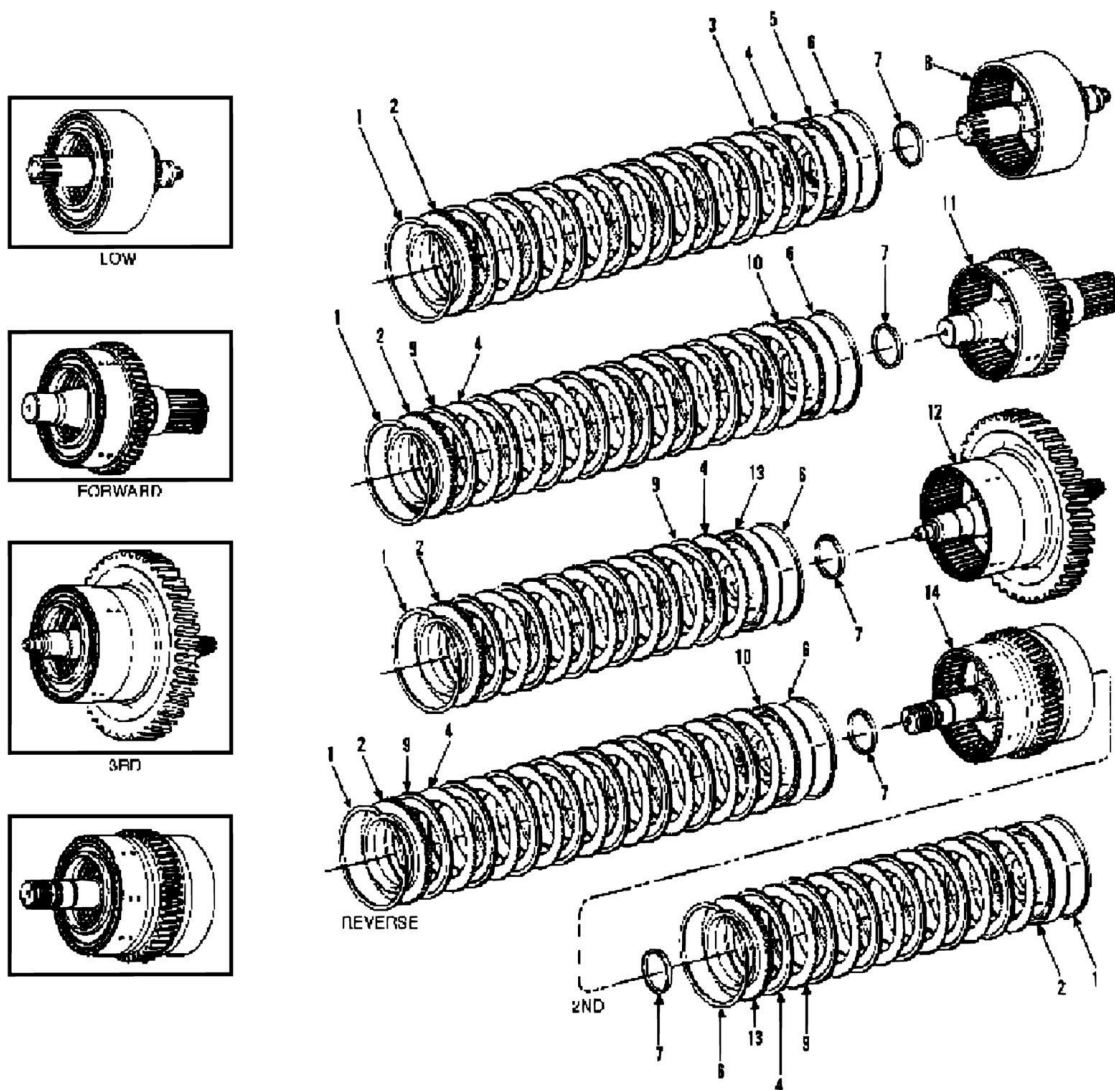
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-6. TRANSMISSION CLUTCH AND GEARING (FORWARD, OUTPUT AND THIRD) (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TRANSMISSION CASE ASSY (See TRANSMISSION CASE AND CONVERTER HOUSING for Breakdown)	
2	91034257	1	THIRD GEAR AND HUB ASSY	
3	91034255	1	RETAINING RING	
4	77104217	1	RETIANING RING	
5	90204862	1	PILOT BEARING	
6	77104185	1	SNAP RING	
7	77104186	1	SPRING RETAINER	
8	77104187	1	PISTON RETURN SPRING	
9	77104198	1	PISTON RING	
10		Ref	OUTPUT SHAFT AND 3RD CLUTCH ASSY	
11	77104205	1	SHAFT PILOT BEARING	
12	77104206	1	SNAP RING	
13	77104207	5	PISTON RETURN SPRING	
14	77104208	1	SPACER	
15		Ref	FORWARD SHAFT DRUM AND PLUG ASSY (See TRANSMISSION CLUTCH ASSEMBLIES for Breakdown)	
16	77104211	4	PISTON RING	
17	77104212	1	RETAINER RING	
18	77104213	1	PISTON RING SLEEVE	
19	91034258	1	FORWARD SHAFT BEARING	
20		Ref	COVER AND PLUG ASSY (See TRANSMISSION CASE AND CONVERTER HOUSING for Breakdown)	
21	90204829	1	OUPUT SHAFT BEARING	
22	90204831	1	OIL SEAL	
23	90206394	1	GASKET	
24	90206395	1	CAP	
25	77104142	4	HEX NUT	
26	90206396	1	OUTPUT FLANGE	
27	77104128	1	O-RING	
28	77104088	1	FLANGE WASHER	
29	77104087	1	FLANGE NUT	
30	90204842	1	LOW SPEED SHAFT BEARING	
31	77104197	1	BEARING SUPPORT WASHER	
32	77104184	1	BEARING RING	
33	77104202	1	O-RING	
34	77104199	1	O-RING	
35	91034259	1	REAR BEARING CAP ASSY (includes item 36)	
36	77104201	1	PIPE PLUG	
37	77104204	4	HEX NUT	
38	77104143	4	LOCKWASHER	
39	77104085	4	LOCKWASHER	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-7. TRANSMISSION CLUTCH ASSEMBLIES (SN 0155299S to Present)





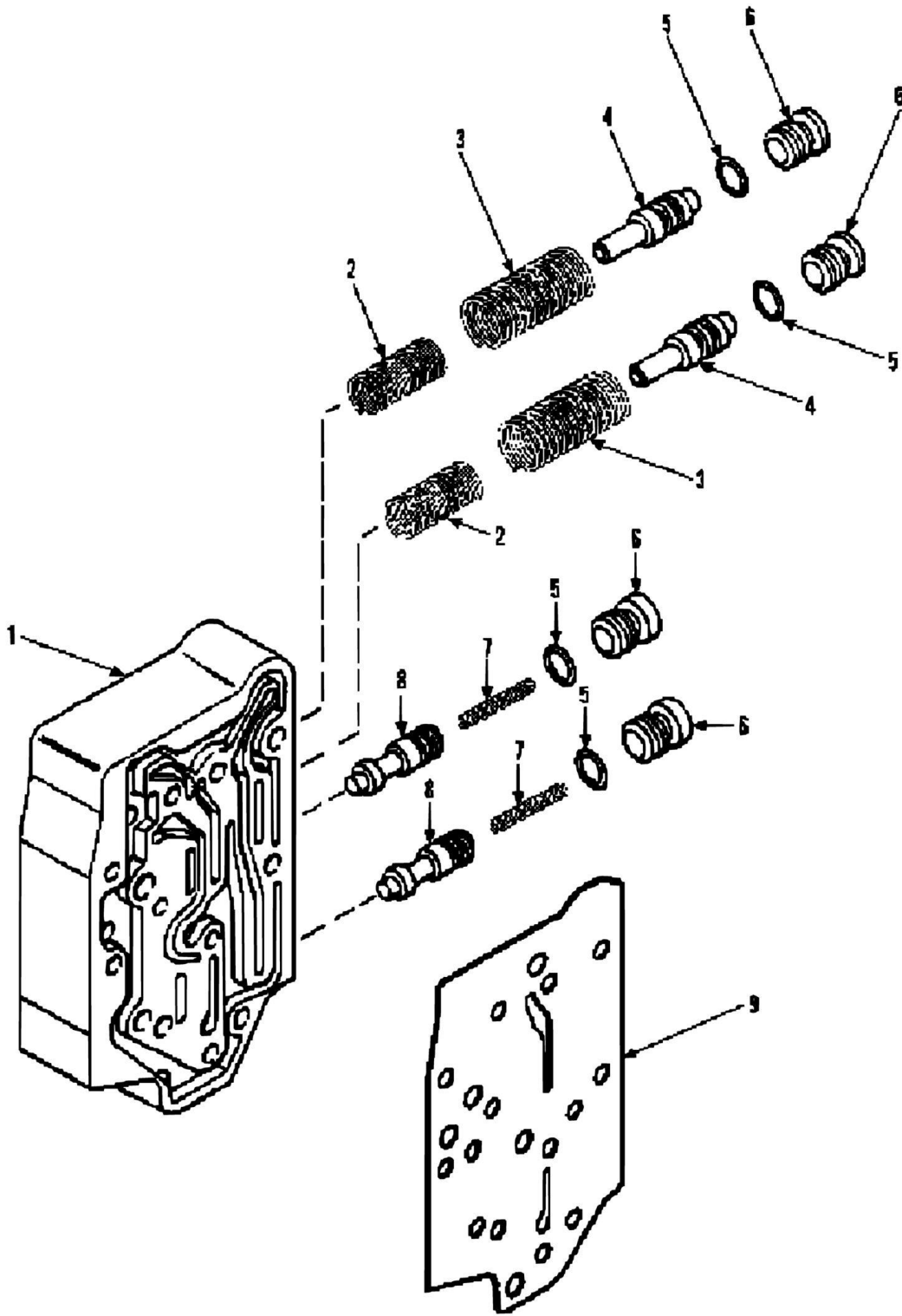
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-7. TRANSMISSION CLUTCH ASSEMBLIES (SN 0155299S to Present)**

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

# SECTION 5 - DRIVE TRAIN

FIGURE 5-8. TRANSMISSION MODULATOR VALVE (SN 0155299S to Present)



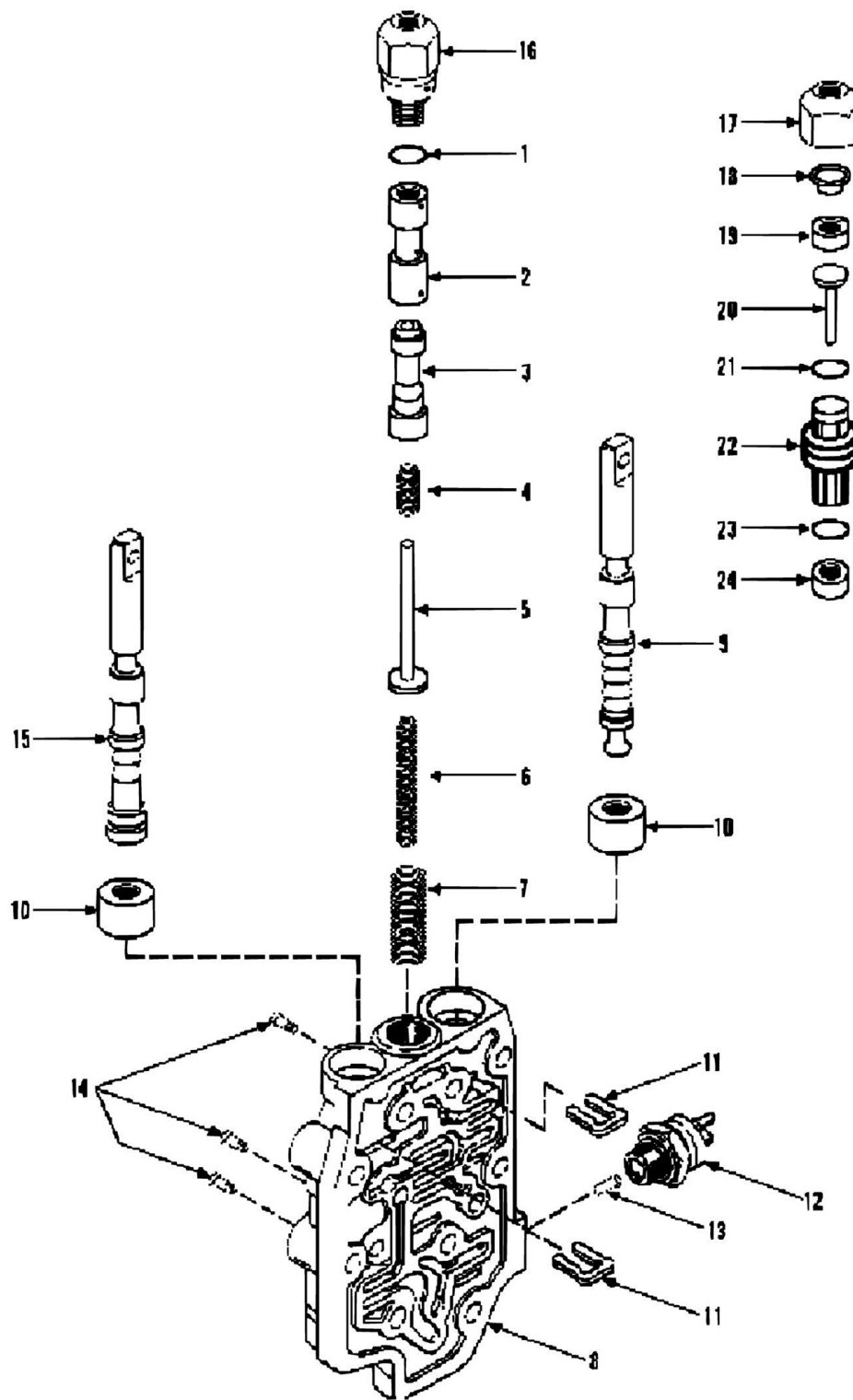
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-8. TRANSMISSION MODULATOR VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90204990	1	MODULATOR VALVE (includes items 1 thru 8)	
1		Ref	VALVE HOUSING	
2	91034263	1	ACCUMULATOR SPRING (inner)	
3	90204992	1	ACCUMULATOR SPRING (outer)	
4		Ref	ACCUMULATOR VAVLE (part of valve assy)	
5	90205056	4	O-RING	
6	90205057	4	SPOOL STOP PLUG (includes item 6)	
7	91034264	2	REGULATOR SPRING	
8		Ref	REGULATOR SPOOL (part of valve assy)	
9	90204820	1	GASKET (modulator valve to converter housing)	

# SECTION 5 - DRIVE TRAIN

## FIGURE 5-9. TRANSMISSION CONTROL VALVE (SN 0155299S to Present)



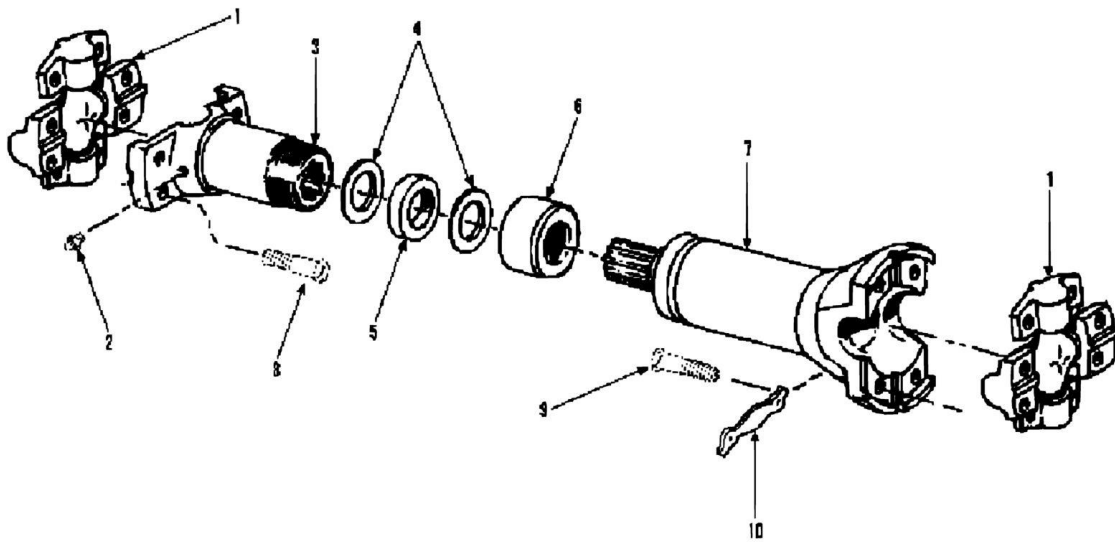
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-9. TRANSMISSION CONTROL VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034260	1	CONTROL VALVE ASSY (includes all items)	
1	90204957	1	RETAINING RING	
2	90204959	1	INCHING VALVE SLEEVE	
3	90204969	1	VALVE SPOOL	
4	91034261	1	BALANCING SPRING	
5	90204964	1	ROD	
6	90204966	1	INNER SPRING	
7	90204968	1	OUTER SPRING	
8		Ref	VALVE HOUSING	
9	77104276	1	FORWARD AND REVERSE SPOOL	
10	77104275	2	OIL SEAL	
11	77104277	2	SPOOL STOP	
12	77104278	1	NEUTRAL SWITCH	
13	77104279	1	SWITCH ACTUATING PIN	
14	77104008	3	PIPE PLUG	
15	77104273	1	SPEED SELECTOR SPOOL AND PLUG ASSY	
16	91034262	1	INCHING SLAVE CYLINDER ASSY (includes items 17 thru 24)	
17	90204980	1	CAP	
18	90204981	1	PISTON CUP STOP	
19	90207872	1	PISTON CUP	
20	90204983	1	PISTON	
21	90205058	1	O-RING	
22	90204984	1	PISTON HOUSING AND FILTER DISC ASSY	
23	90023115	1	O-RING	
24	90204986	1	OIL SEAL	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT	

## SECTION 5 - DRIVE TRAIN

FIGURE 5-10. PROPELLER SHAFT (SN 0155299S to Present)



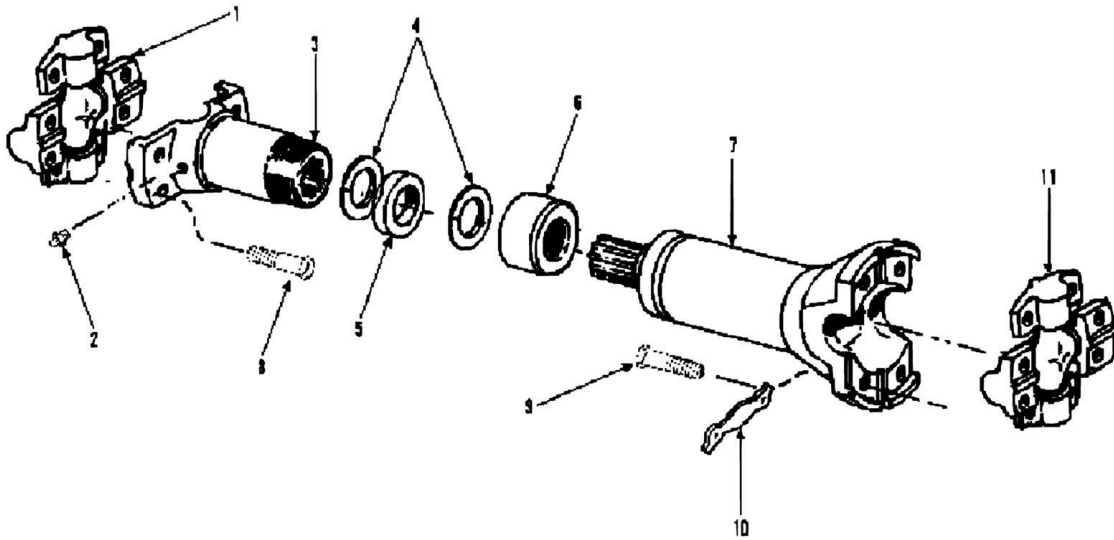
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-10. PROPELLER SHAFT (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043032	2	DRIVE SHAFT ASSY (includes all items)	
1	90201058	2	SPIDER AND BEARING ASSY	
2	90022218	1	LUBE FITTING	
3	91044008	1	SLIP YOKE ASSY (includes items 4, 5, & 6)	
4	90206545	2	WASHER	
5	90206546	1	FELT SEAL	
6	90206544	1	CAP	
7		Ref	TUBE ASSY	
8	91044009	8	HEX HD CAPSCREW	
9	91044010	8	HEX HD CAPSCREW	
10	91031194	8	LOCKSTRAP	

## SECTION 5 - DRIVE TRAIN

FIGURE 5-11. PROPELLER SHAFT (SN 0155309S to Present)





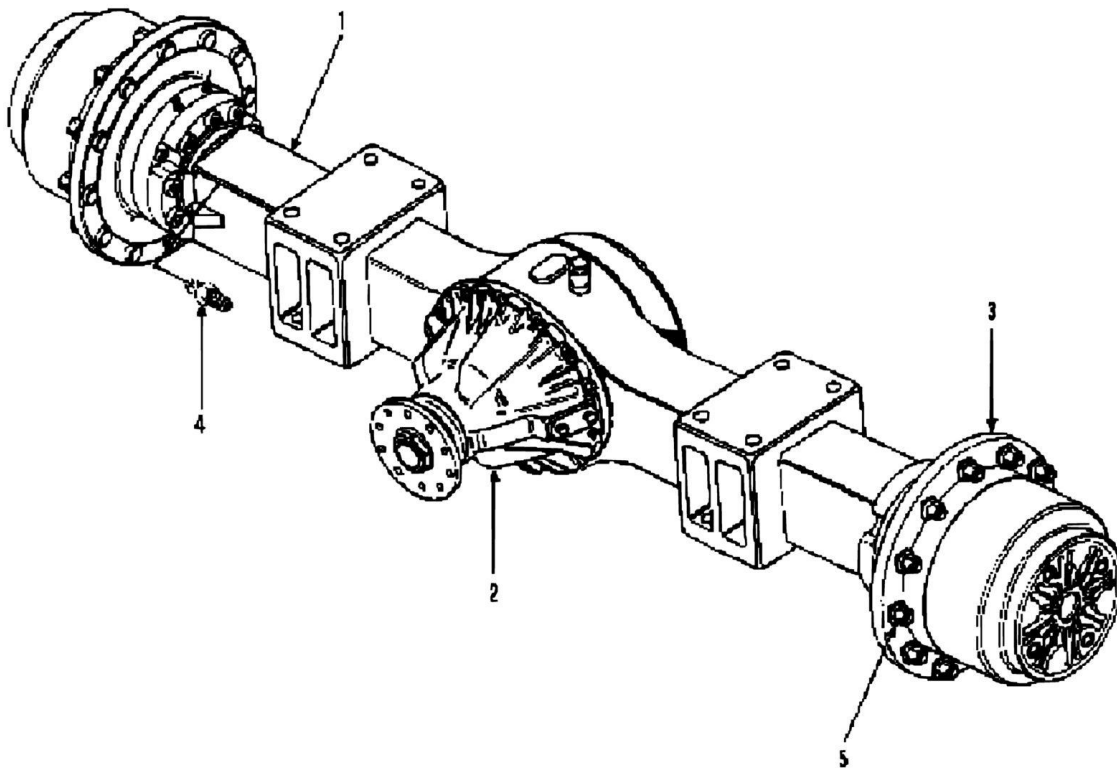
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-11. PROPELLER SHAFT (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033390	2	DRIVE SHAFT ASSY (includes all items)	
1	90201058	2	SPIDER AND BEARING ASSY	
2	90022218	1	LUBE FITTING	
3	91044008	1	SLIP YOKE ASSY (includes items 4, 5, & 6)	
4	90206545	2	WASHER	
5	90206546	1	FELT SEAL	
6	90206544	1	CAP	
7		Ref	TUBE ASSY	
8	91044009	8	HEX HD CAPSCREW	
9	91044010	8	HEX HD CAPSCREW	
10	91031194	8	LOCKWASHER	
11	91034311	1	SPIDER AND BEARING ASSY	

## SECTION 5 - DRIVE TRAIN

FIGURE 5-12. FRONT AXLE ASSEMBLY (SN 0155299S to Present)



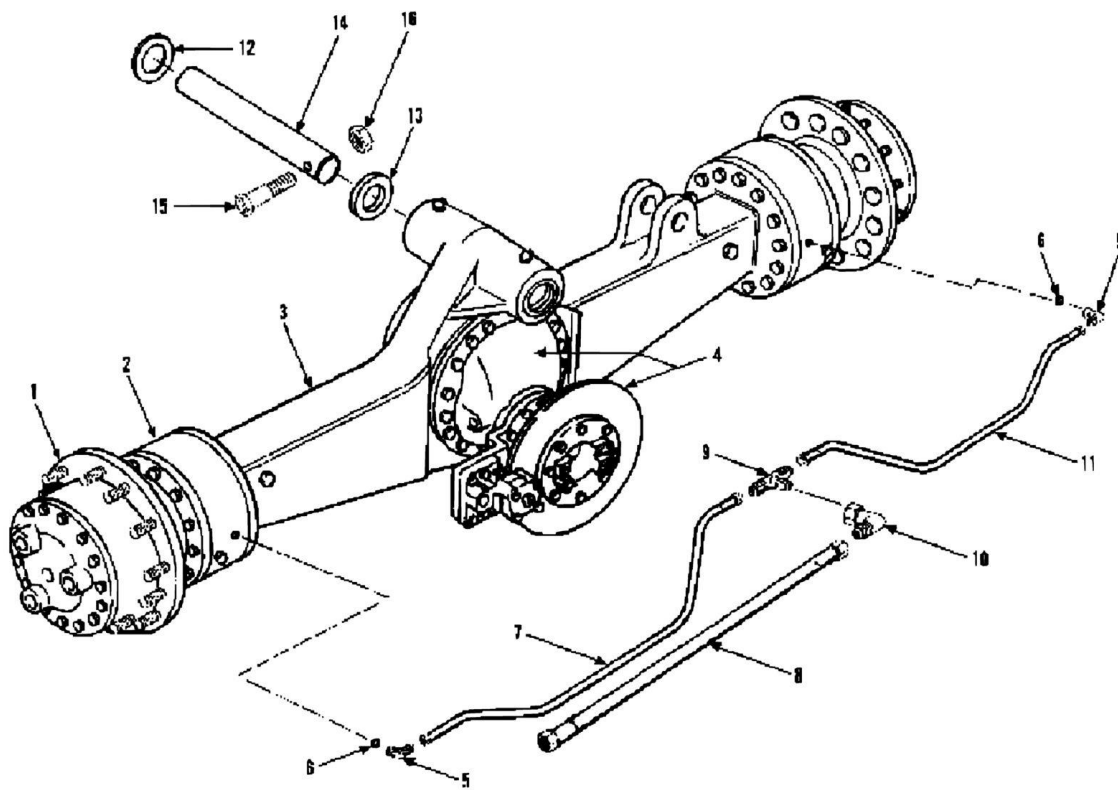
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-12. FRONT AXLE ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043291	1	FRONT AXLE ASSY (includes items 1 thru 4)	
1	91044444	1	AXLE HOUSING ASSY (See FRONT AXLE HOUSING for Breakdown)	
2	91044448	1	DIFFERENTIAL CARRIER ASSY (See FRONT AXLE DIFFERENTIAL CARRIER for Breakdown)	
3		Ref	AXLE SHAFT AND PLANETARY WHEEL END ASSY (See FRONT AXLE SHAFT AND PLANETARY WHEEL END for Breakdown)	
4	83193009	4	FITTING	
5	91043146	24	LUG NUT (lubricate and torque to 350-400 ft lbs)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-13. FRONT AXLE ASSEMBLY (SN 0155309S to Present)



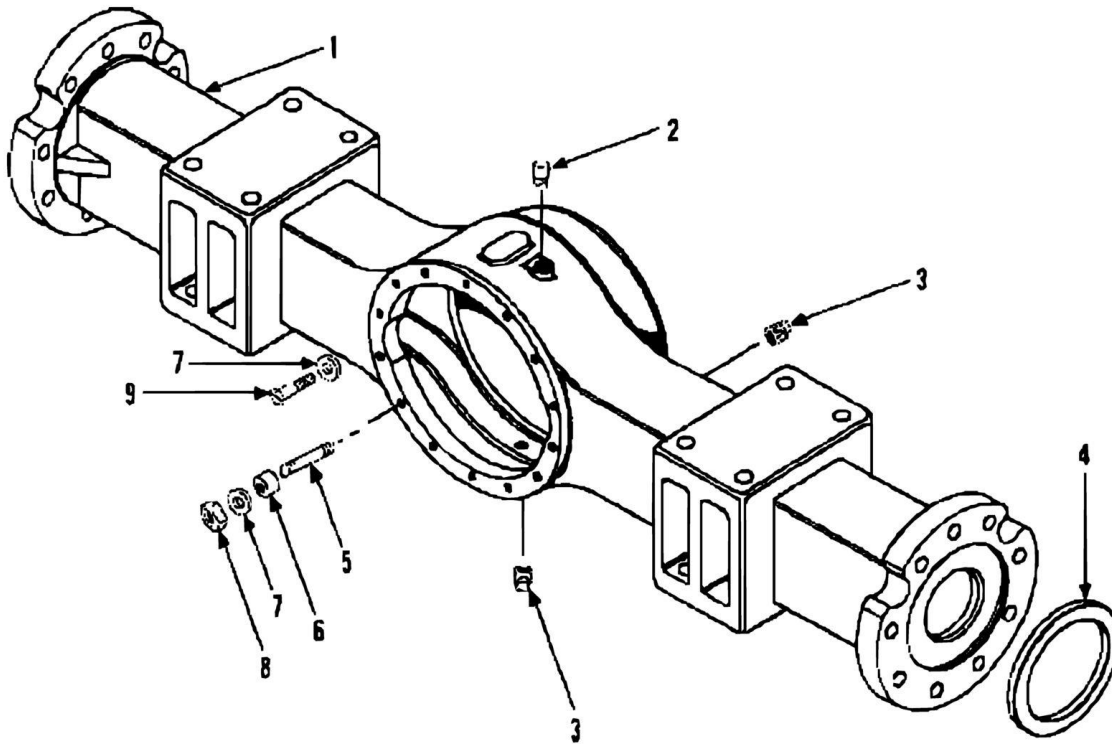
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-13. FRONT AXLE ASSEMBLY (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035208	1	FRONT AXLE ASY (includes items 1 thru 11)	
	91033359	1	FRONT AXLE ASSY (includes items 1 thru 4	
1		Ref	WHEEL END ASSY (See FRONT AXLE SHAFT AND PLANETARY WHEEL END for Breakdown)	
2		Ref	WET DISC BRAKE ASSY (See FRONT AXLE SERVICE BRAKES for Breakdown)	
3		Ref	HOUSING ASSY (See FRONT AXLE HOUSING for Breakdown)	
4		Ref	DIFFERENTIAL CARRIER ASSY AND PARKING BRAKE (See FRONT AXLE DIFFERENTIAL CARRIER for Breakdown)	
5	88662064	2	ELBOW, 90, (includes item 6)	
6	88591204	2	O-RING	
7	91033374	1	BRAKE LINE, L.H.	
8	84717524	1	HOSE ASSY	
9	88661305	1	UNION TEE, 3/8 TUBE	
10	88662105	1	ELBOW, 90, (swivel nut)	
11	91033373	1	BRAKE LINE R.H.	
12	91031014	1	SHIM WASHER	
13	90205891	1	SPACER	
14	91081176	1	FRONT SWAY PIN	
15	83201031	1	HEX HD CAPSCREW, 1-8X5, GR8	
16	88521016	1	HEX LOCKNUT, 1-8	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-14. FRONT AXLE HOUSING (SN 155299S to Present)



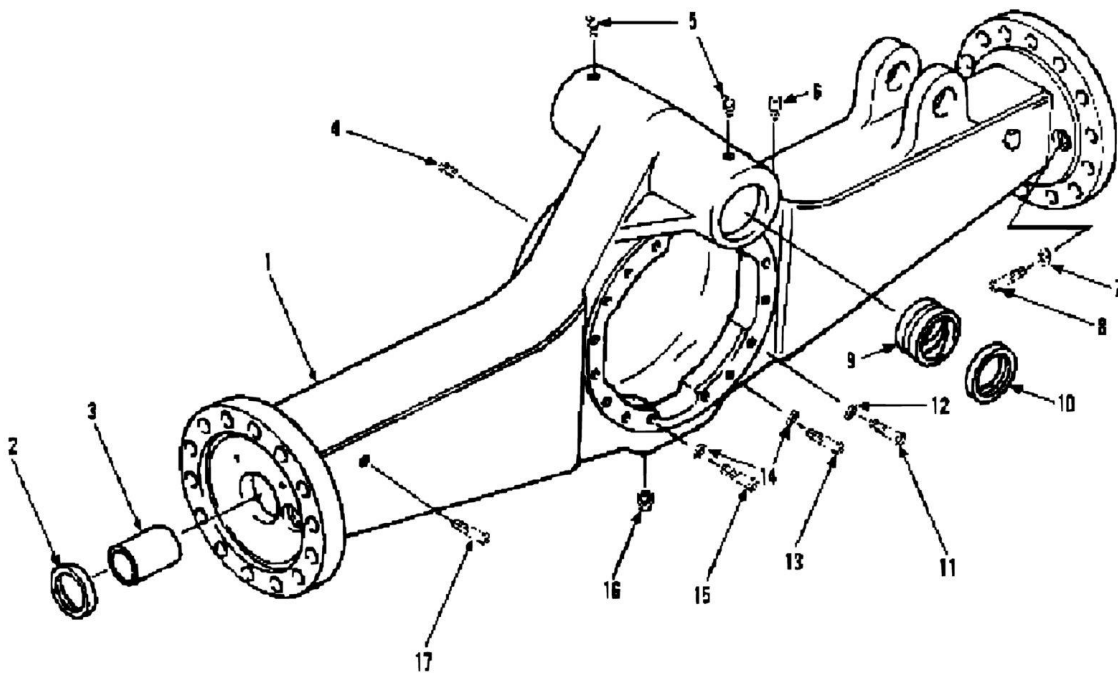
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-14. FRONT AXLE HOUSING (SN 155299S to Present)**

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

# SECTION 5 - DRIVE TRAIN

FIGURE 5-15. FRONT AXLE HOUSING (SN 0155309S to Present)





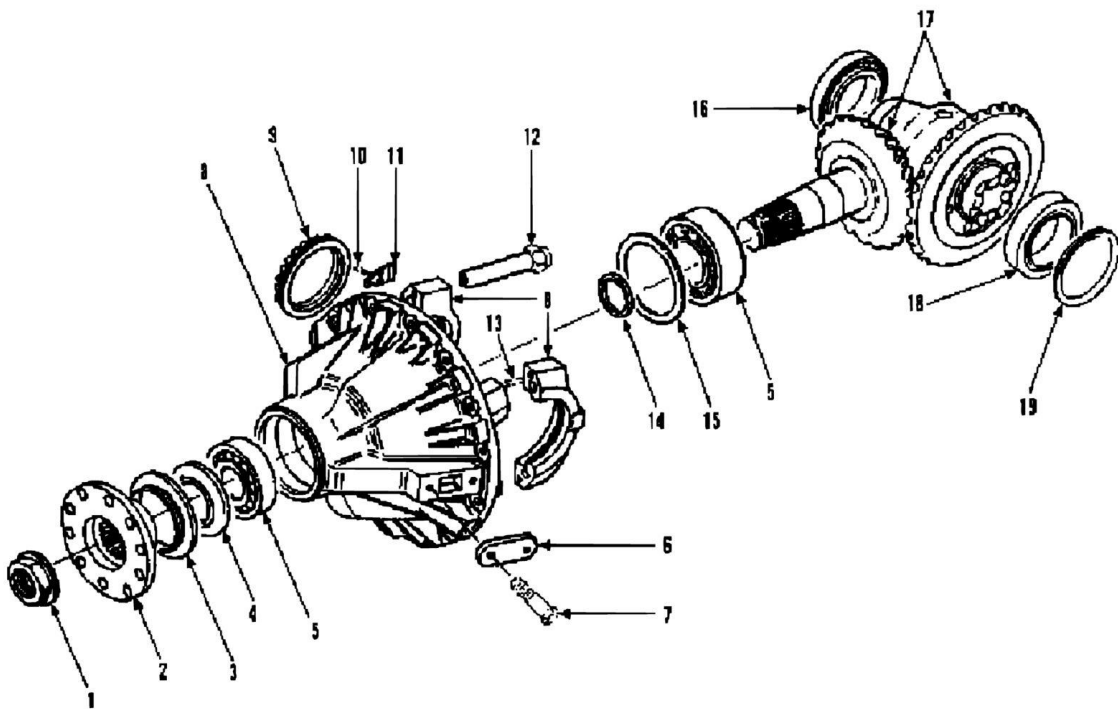
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-15. FRONT AXLE HOUSING (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91044422	1	AXLE HOUSING ASSY (includes items 2 thru 5, 7 thru 10, 16, 17)	
2	91044423	4	AXLE SHAFT OIL SEAL	
3	91044424	2	AXLE SHAFT BUSHING	
4	83073699	1	OIL FILLER PLUG	
5	91084045	2	LUBE FITTING	
6	77104289	1	HOUSING BREATHER	
7	91044425	2	WASHER	
8	91044426	2	HEX HD CAPSCREW	
9	91084046	2	INNER RACE BEARING	
10	91084047	2	TRUNNION OIL SEAL	
11	91084048	12	HEX HD CAPSCREW, SHORT	
12	91084049	12	WASHER	
13	91084050	2	HEX HD CAPSCREW, SHORT	
14	91084051	4	WASHER	
15	91084052	2	HEX HD CAPSCREW, LONG	
16	77104343	1	DRAIN PLUG	
17	91044419	4	COOLING PLUG	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-16. FRONT AXLE DIFFERENTIAL CARRIER (SN 155299S to Present)



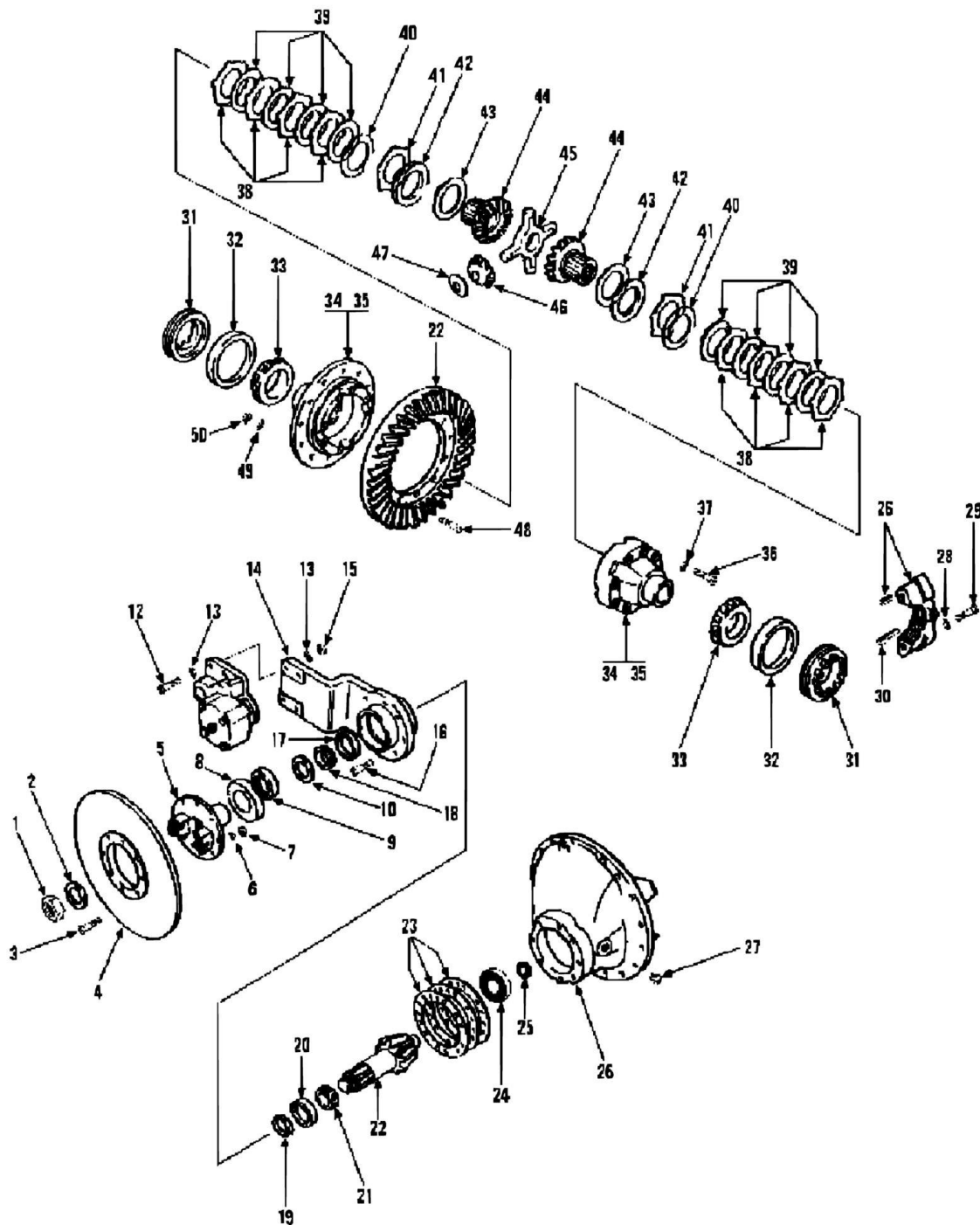
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-16. FRONT AXLE DIFFERENTIAL CARRIER (SN 155299S to Present)**

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

# SECTION 5 - DRIVE TRAIN

FIGURE 5-17. (91034328) FRONT AXLE DIFFERENTIAL CARRIER (SN 0155309S to Present)



## SECTION 5 - DRIVE TRAIN

**FIGURE 5-17. (91034328) FRONT AXLE DIFFERENTIAL CARRIER (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91034328	Ref	DIFFERENTIAL CARRIER ASSY (includes all items)	
1	91084053	1	BEVEL PINION NUT	
2	91084054	1	WASHER	
3	77104303	8	HEX HD CAPSCREW	
4	91044372	1	BRAKE DISC	
5	91044373	1	FLANGE ASSY (includes item 8)	
6	91084051	8	WASHER	
7	77104439	8	HEX NUT	
8	91044374	1	DEFLECTOR	
9	91084056	1	OIL SEAL	
10	91044375	1	THRUST WASHER	
11		Ref	PARKING BRAKE ASSY (See FRONT AXLE PARKING BRAKES for Breakdown)	
12	86881704	4	HEX HD CAPSCREW	
13	91084113	4	WASHER	
14	91044376	1	PINION BEARING CAGE ASSY (includes items 17, 20)	
15	83384172	4	HEX NUT	
16	77104303	8	HEX HD CAPSCREW	
17	90200440	1	OUTER BEARING CUP	
18	91084059	1	OUTER BEARING CONE	
19	91044377	AR	SHIM (.125 thick)	
19	91084065	AR	SHIM (.126 thick)	
19	91084066	AR	SHIM (.127 thick)	
19	91084067	AR	SHIM (.128 thick)	
19	91084068	AR	SHIM (.129 thick)	
19	91084069	AR	SHIM (.130 thick)	
19	91084070	AR	SHIM (.136 thick)	
19	91084071	AR	SHIM (.142 thick)	
19	91084072	AR	SHIM (.148 thick)	
19	91084073	AR	SHIM (.154 thick)	
19	91084074	AR	SHIM (.158 thick)	
20	90200440	1	INNER BEARING CUP	
21	91084059	1	INNER BEARING CONE	
22	91044378	1	RING GEAR AND PINION SET	
23	91044379	AR	SHIM (.003 thick)	
23	91084076	AR	SHIM (.005 thick)	
23	91084077	AR	SHIM (.010 thick)	
24	91084078	1	PINION REAR BEARING	
25	91084079	1	PINION BEARING LOCK RING	
26	91044380	1	DIFFERENTIAL CARRIER ASSY (includes items 28, 29)	
27	83073699	1	OIL LEVEL AND FILLER PLUG	
28	83081182	4	WASHER	
29	91044381	4	HEX HD CAPSCREW	
30	91084100	2	ADJUSTING RING COTTER PIN	
31	91084099	2	BEARING ADJUSTING RING	
32	91084098	2	BEARING CUP	
33	91084097	2	BEARING CONE	
34	91084094	1	DIFFERENTIAL CASE ASSY (includes items 1, 22, 24, 25, 36 thru 50)	
35	91084095	1	DIFFERENTIAL CASE ASSY (includes items 36 thru 47)	

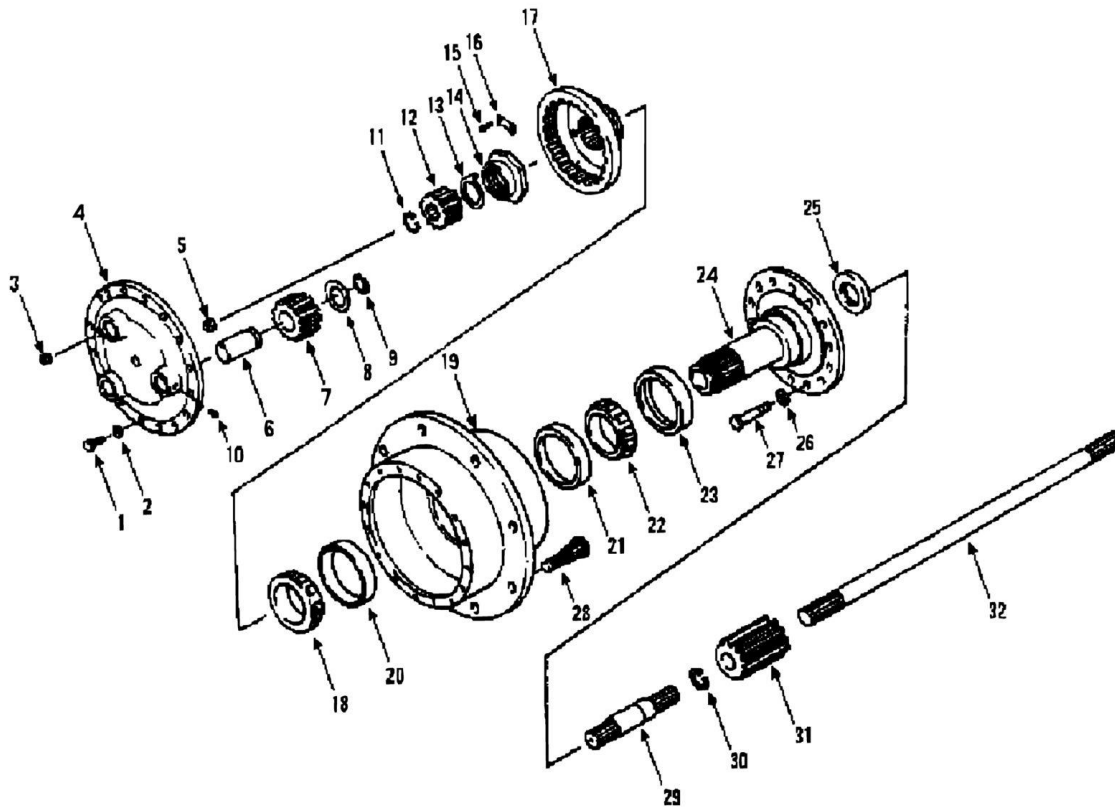
## SECTION 5 - DRIVE TRAIN

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
36	91044382	12	HEX HD CAPSCREW	
37	91084113	12	WASHER	
38	91084103	8	CLUTCH DRIVE DISC	
39	91084092	8	CLUTCH DRIVE DISC	
40	91084088	AR	SHIM (.005 thick)	
40	91084089	AR	SHIM (.010 thick)	
40	91084090	AR	SHIM (.013 thick)	
40	91084091	AR	SHIM (.015 thick)	
41	91084087	2	CLUTCH DRIVE DISC	
42	91084086	2	CLUTCH SPACER	
43	91084085	2	SIDE GEAR THRUST WASHER	
44	91084084	2	DIFFERENTIAL SIDE GEAR	
45	91084083	1	DIFFERENTIAL SPIDER	
46	91084082	4	DIFFERENTIAL PINION	
47	91084081	4	THRUST WASHER	
48	91084101	12	HEX HD CAPSCREW	
49	91084113	12	WASHER	
50	91084102	12	HEX NUT	



# SECTION 5 - DRIVE TRAIN

FIGURE 5-18. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0155309S to Present)





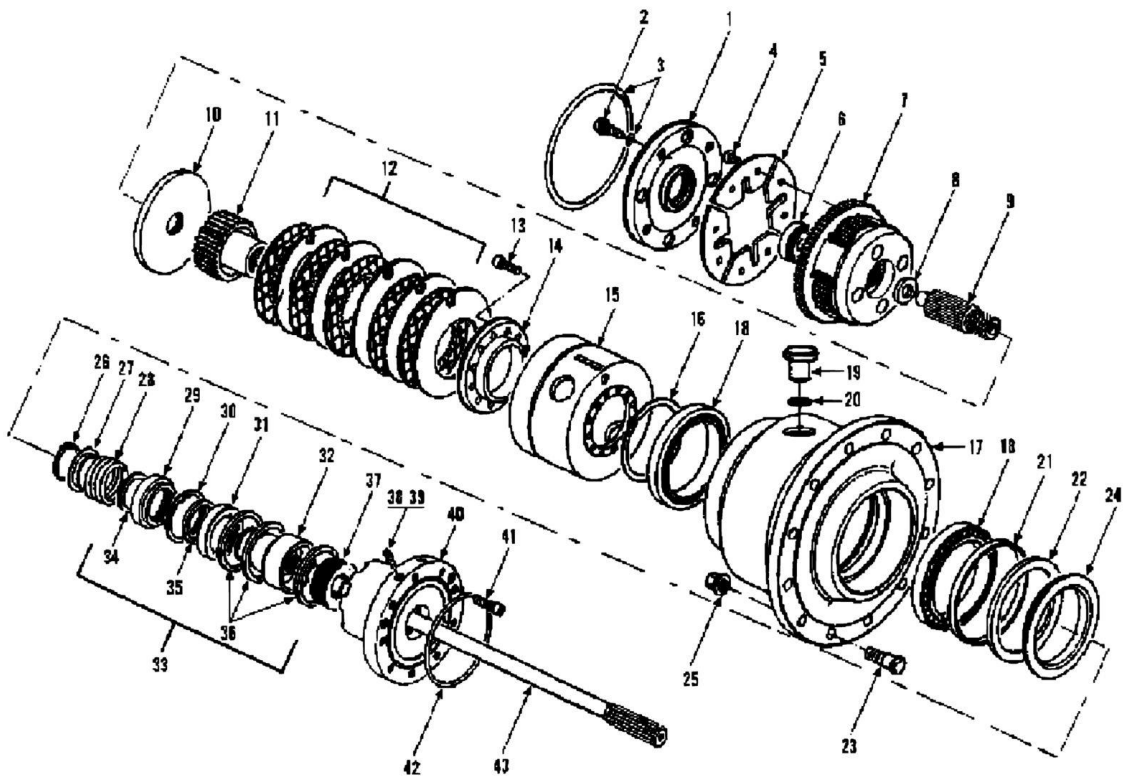
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-18. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91084112	48	HEX HD CAPSCREW	
2	91084113	48	WASHER	
3	77104343	2	OIL LEVEL PLUG	
4	91044383	2	PLANET GEAR SPIDER ASSY (includes items 5 thru 9)	
5	91084106	2	THRUST BUTTON	
6	91044385	6	PLANET PINION SHAFT	
7	91044384	6	PLANET PINION	
8	91044386	6	THRUST WASHER	
9	91084107	6	SNAP RING	
10	91084114	6	PINION SHAFT SET SCREW	
11	91084107	2	AXLE SHAFT SNAP RING	
12	91044387	2	PLANETARY SUN GEAR	
13	91084109	2	SUN GEAR THRUST WASHER	
14	91044388	2	HUB BEARING NUT	
15	91044389	4	HEX HD CAPSCREW	
16	91044390	2	WHEEL BEARING NUT LOCK	
17	91044391	2	PLANET RING GEAR	
18	91044392	2	HUB BEARING, OUTER CONE	
19	91044393	2	WHEEL HUB ASSY (includes items 20, 21)	
20	91044394	1	HUB BEARING, OUTER CUP	
21	77104444	1	HUB BEARING, INNER CUP	
22	77104445	2	HUB BEARING, INNER CONE	
23	91044395	2	OIL SEAL	
24	91044396	2	SPINDLE ASSY (includes item 25)	
25	91044397	2	OIL SEAL	
26	83081182	28	WASHER	
27	91044398	28	HEX HD CAPSCREW	
28	91084126	24	WHEEL STUD	
29	91044399	2	OUTER AXLE SHAFT	
30	91044400	2	COUPLING SNAP RING	
31	91044401	2	AXLE SHAFT COUPLING ASSY (includes item 30)	
32	91044402	2	INNER AXLE SHAFT	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-19. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 155299S to Present)



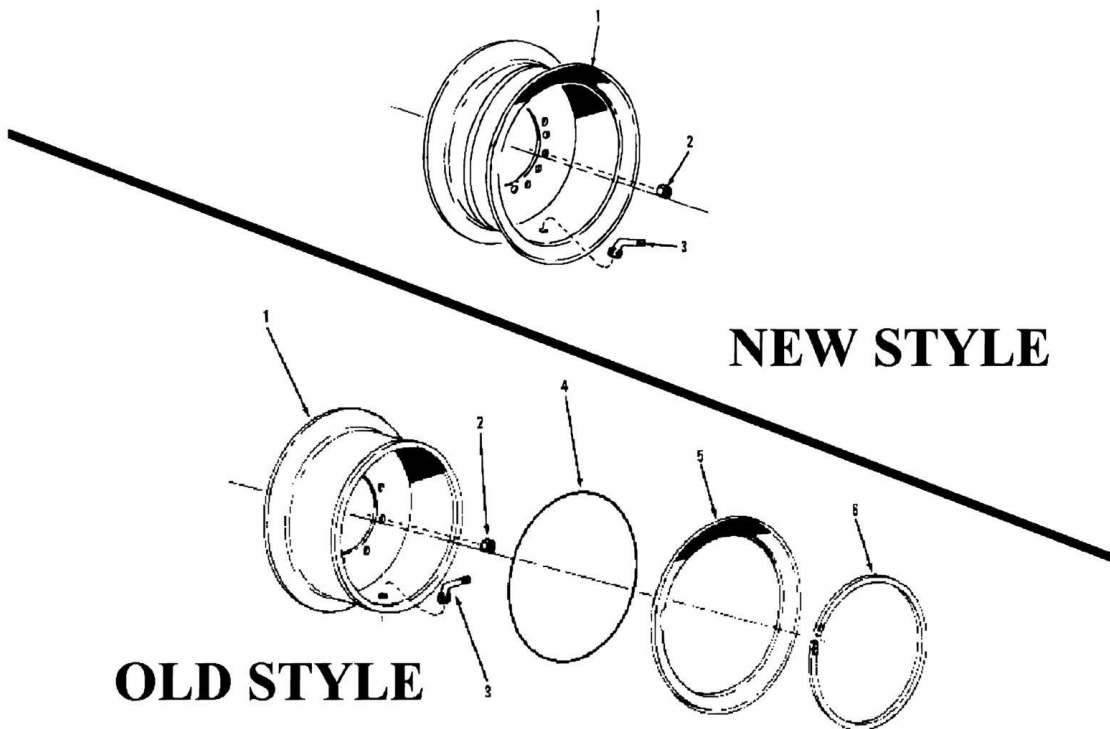
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-19. FRONT AXLE SHAFT AND PLANETARY WHEEL END (SN 155299S to Present)**

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

# SECTION 5 - DRIVE TRAIN

FIGURE 5-20. WHEELS AND TIRES FRONT-STANDARD (SN 155299S to Present)



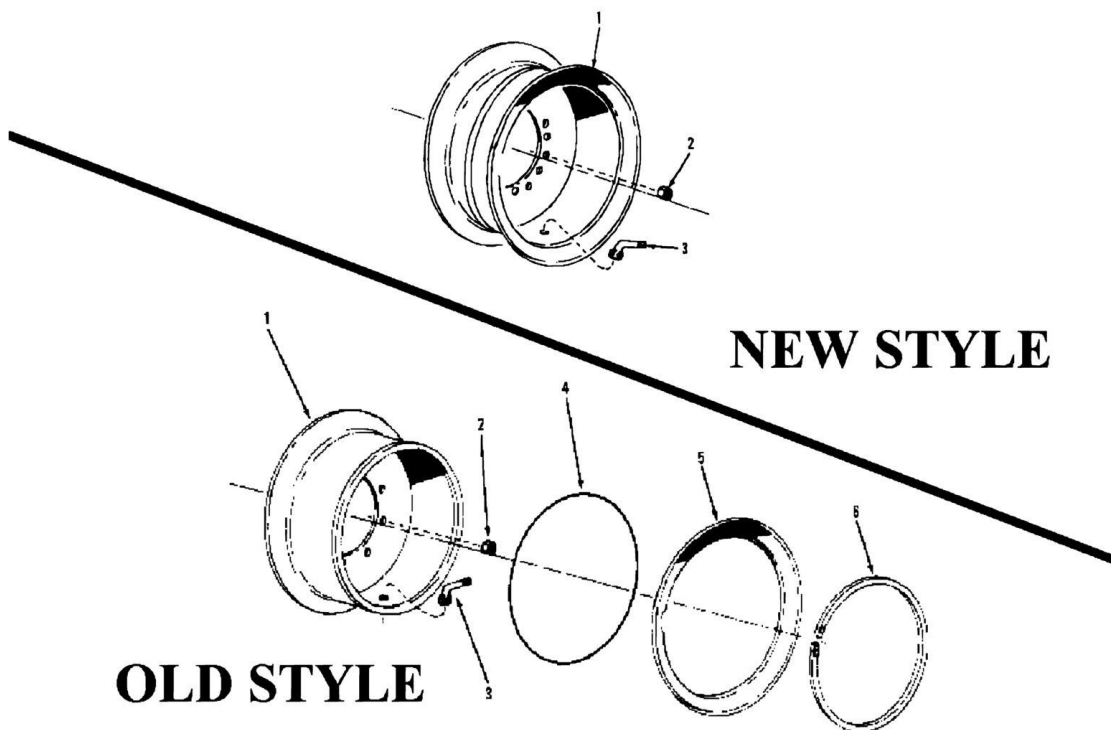
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-20. WHEELS AND TIRES FRONT-STANDARD (SN 155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043276	1	RIM, 8.00 TG X 24 (Note: No longer available, replaced by 91043430)	
1	91043430	1	RIM, 9.00 X 24 (New One Piece Style)	
2	91043146	12	LUG NUT (lubricate and torque to 350- 400 ft lbs)	
3	91083385	1	VALVE (air/liquid) (Note: use with 91043276 only)	
4	90200561	1	O-RING	
5	90200772	1	GUTTER RING	
6	90201615	1	LOCK RING	
7	91033104	1	TIRE, 13.00 X 24-12 PLY (not illustrated)	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-21. WHEELS AND TIRES REAR-STANDARD (SN 155299S to Present)



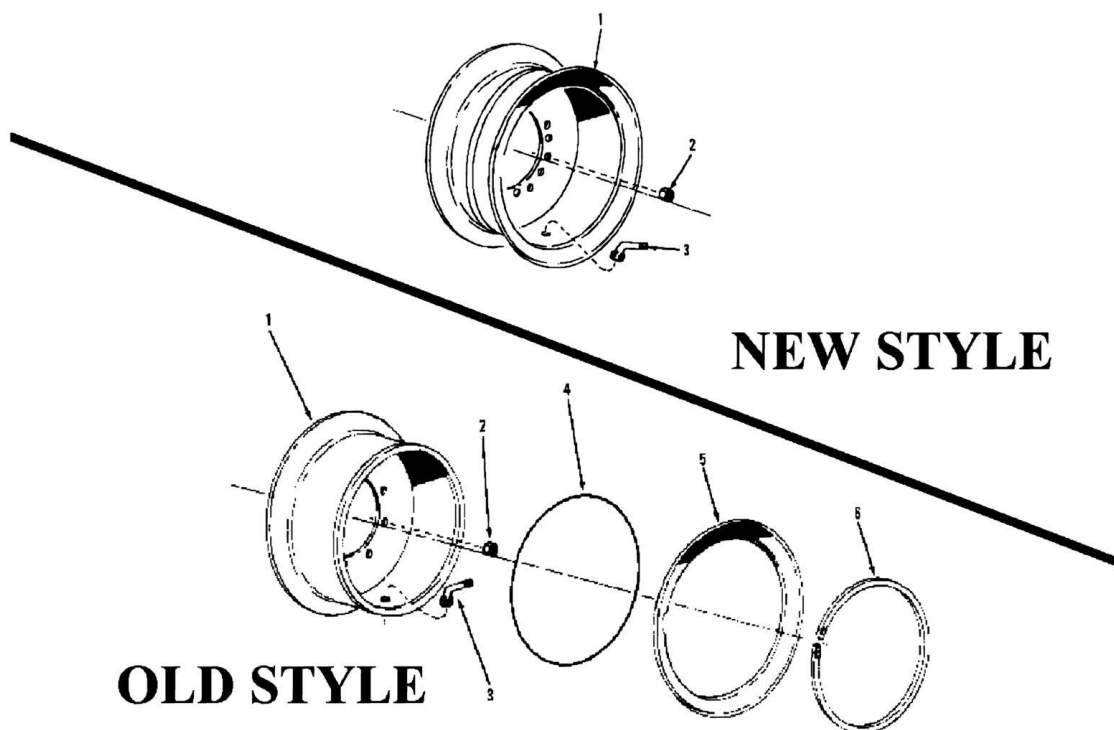
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-21. WHEELS AND TIRES REAR-STANDARD (SN 155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043298	1	RIM, 9.00 X 24	
2	91043146	12	LUG NUT (lubricate and torque to 350- 400 ft lbs)	
3	91083385	2	VALVE (air/liquid)	
4	91043084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless) (not illustrated)	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-22. WHEELS AND TIRES FRONT-FLOATATION (SN 155299S to Present)





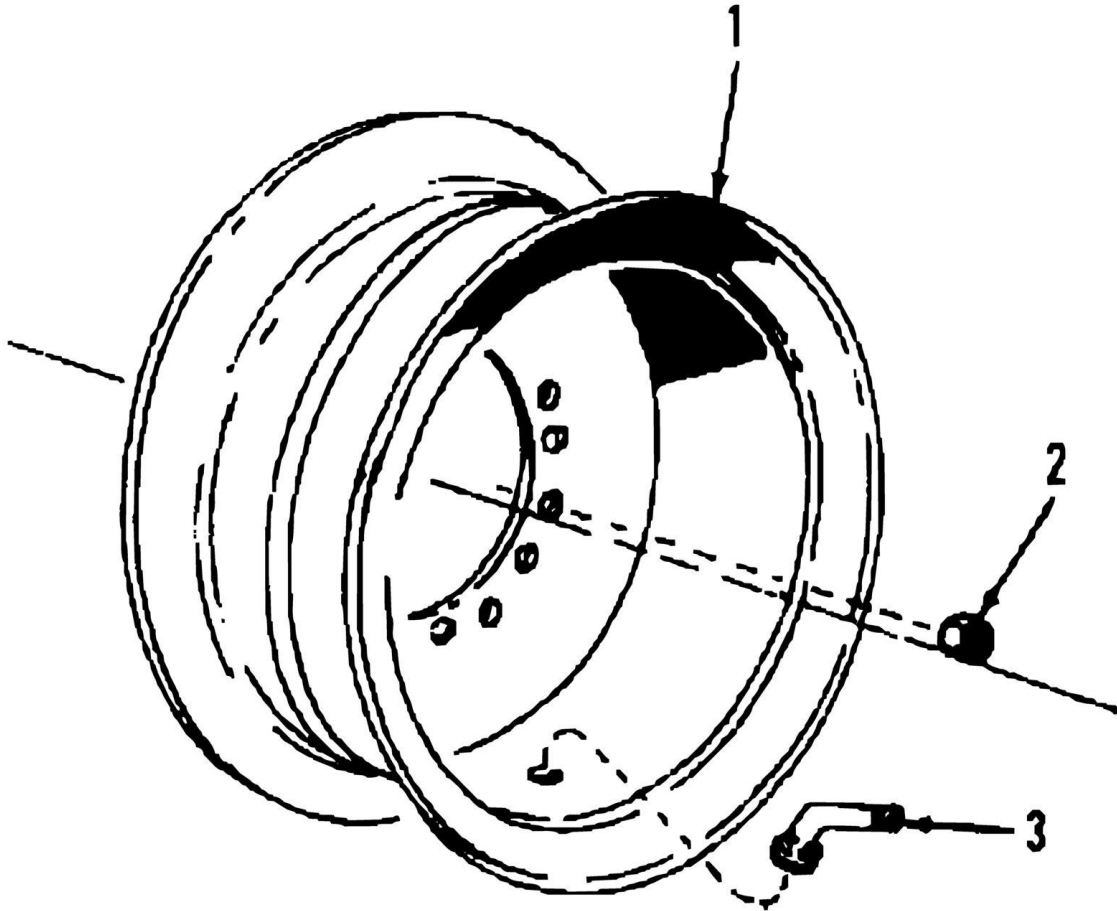
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-22. WHEELS AND TIRES FRONT-FLOATATION (SN 155299S to Present)**

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

# SECTION 5 - DRIVE TRAIN

FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0155309S to Present)



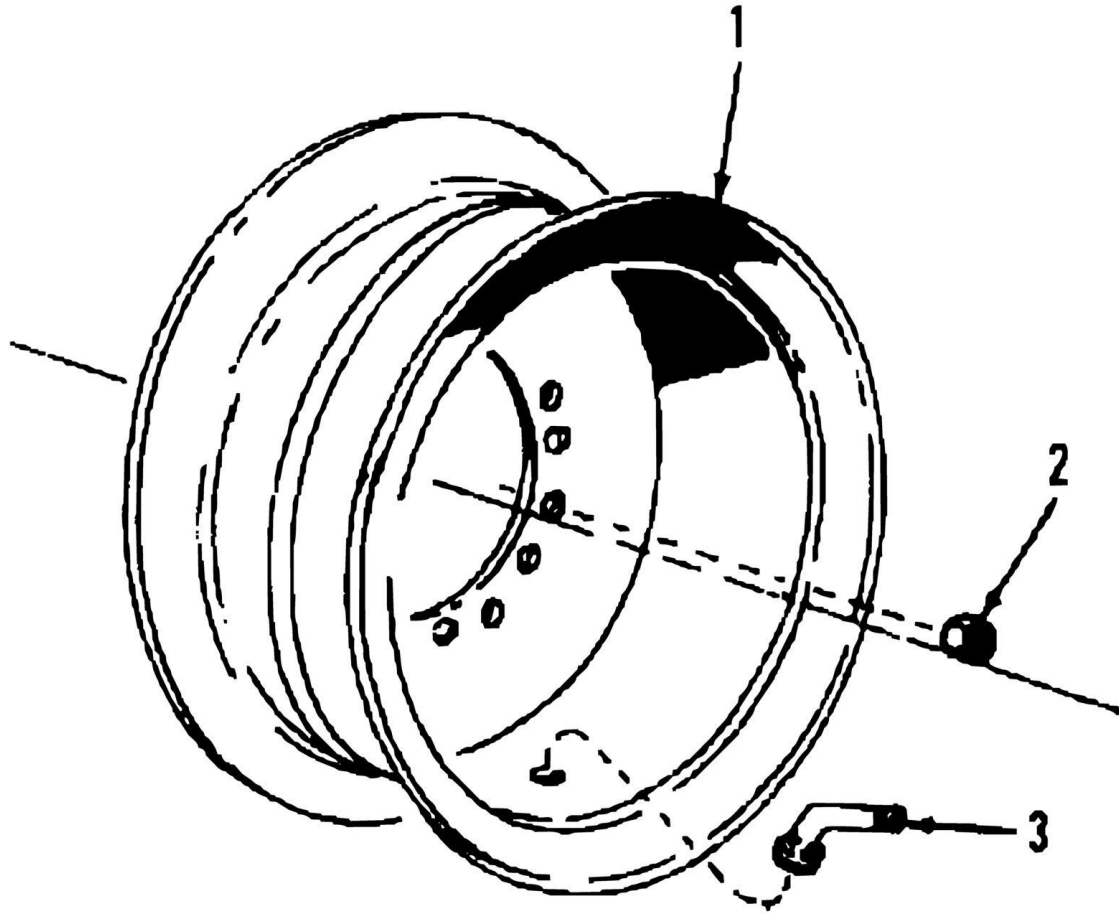
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-23. WHEELS AND TIRES FRONT-STANDARD (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043298	1	RIM, 9.00 X 24	
2	91043146	12	LUG NUT (lubricate and torque to 350- 400 ft lbs)	
3	91083385	2	VALVE (air/liquid)	
4	91043084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless)(not illustrated)	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0155309S to Present)



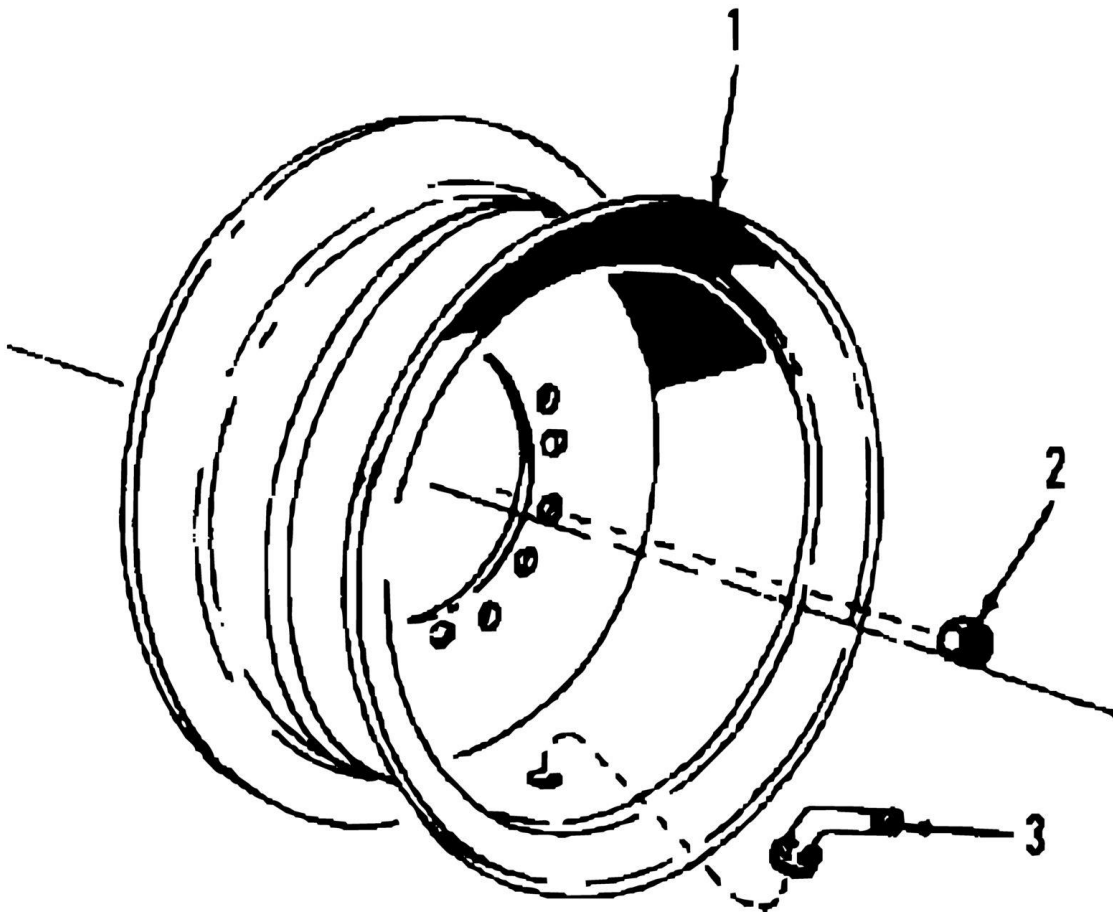
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-24. WHEELS AND TIRES REAR-STANDARD (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043298	1	RIM, 9.00 X 24	
2	91043146	12	LUG NUT (lubricate and torque to 350- 400 ft lbs)	
3	91083385	2	VALVE (air/liquid)	
4	91043084	1	TIRE, 14.00 X 24, 12 PLY (G-2 Grader tubeless)(not illustrated)	

## SECTION 5 - DRIVE TRAIN

FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0155309S to Present)



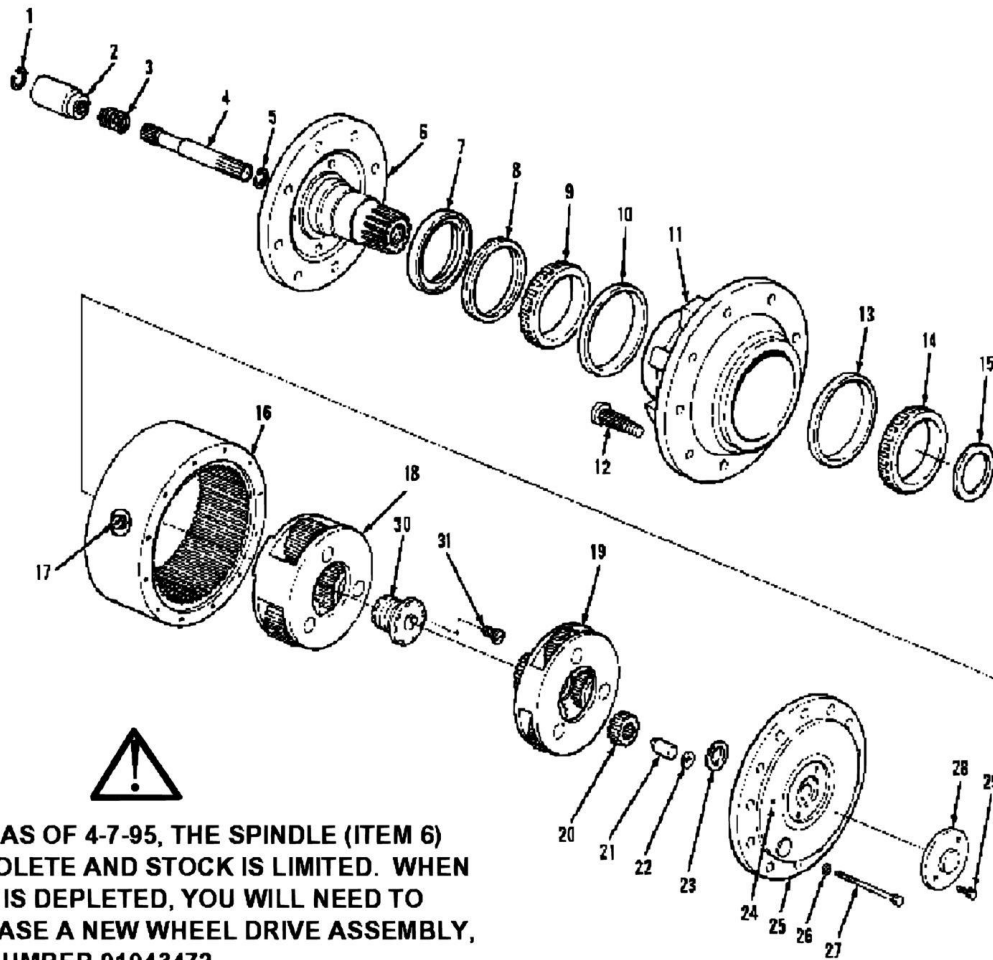
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-25. WHEELS AND TIRES FRONT-FLOATATION (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043292	1	RIM, 14.00 X 25	
2	91043146	10	LUG NUT (lubricate and torque to 350- 400 ft lbs)	
3	90201452	1	VALVE (air/liquid)	
3	91033361	1	TIRE, 17.5 x 25, (L-2 Michelin radial) (not illustrated)	

## SECTION 5 - DRIVE TRAIN

FIGURE 5-26. (91043328) REAR STEERING AXLE PLANETARY WHEEL DRIVE (SN 155299S to Present)



**\* NOTE: AS OF 4-7-95, THE SPINDLE (ITEM 6) IS OBSOLETE AND STOCK IS LIMITED. WHEN STOCK IS DEPLETED, YOU WILL NEED TO PURCHASE A NEW WHEEL DRIVE ASSEMBLY, PART NUMBER 91043472.**



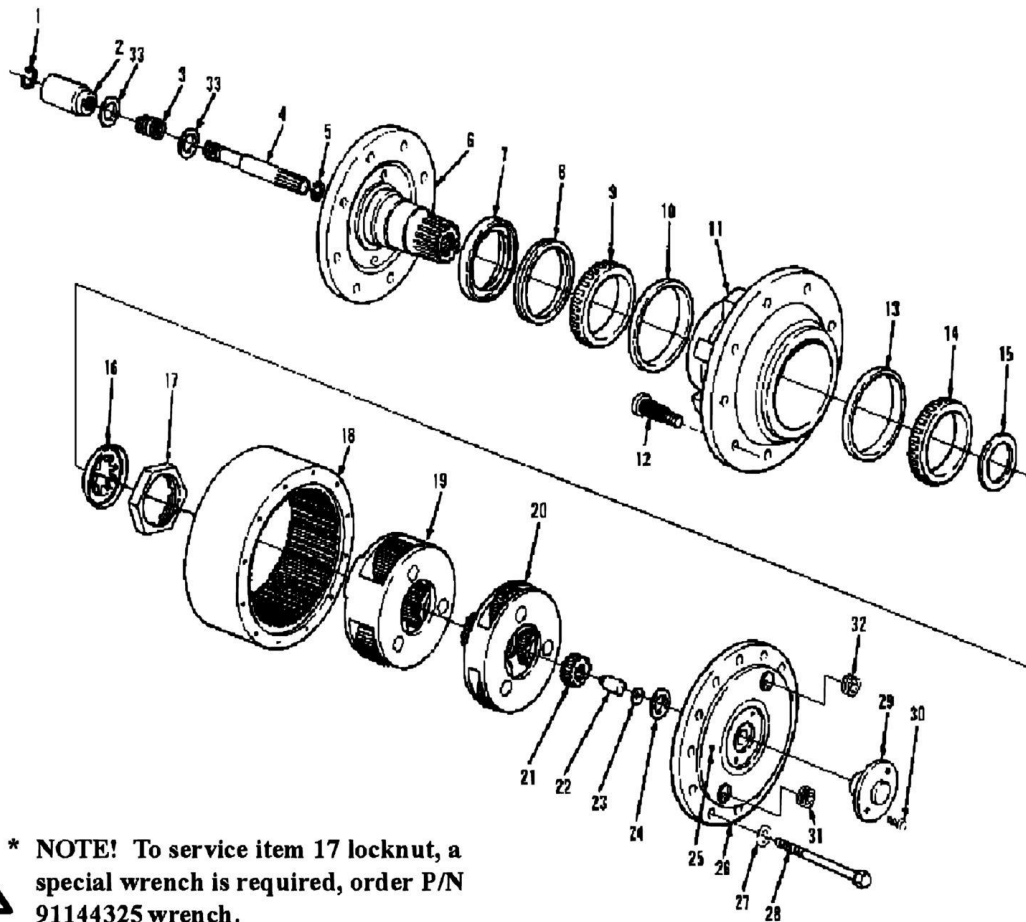
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-26. (91043328) REAR STEERING AXLE PLANETARY WHEEL DRIVE (SN 155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043328	2	WHEEL DRIVE ASSY (includes all items)	
	91044462	Ref	REPAIR KIT (includes item 7, 8, & 31)	
1	91044276	1	RETAINING RING	
2	91044277	1	COUPLING	
3	91044278	1	SPRING	
4	91044279	1	INPUT SHAFT	
5	91044099	1	RETAINING RING	
6	91044280	1	SPINDLE	
7	Kit	1	SEAL	
8	Kit	1	OIL SEAL	
9	91044090	1	OUTER BEARING CONE	
10	91044091	1	OUTER BEARING CUP	
11	91044360	1	HUB	
12	91044311	12	WHEEL BOLT	
13	91064005	1	INNER BEARING CUP	
14	91064006	1	INNER BEARING CONE	
15	91064007	1	THRUST WASHER	
16	91044100	1	RING GEAR	
17	91044101	1	MAGNETIC PLUG	
18	91044282	1	SECONDARY CARRIER ASSY (includes item 30 & 31)	
19	91044103	1	PRIMARY CARRIER ASSY	
20	91044104	1	PRIMARY SUN GEAR	
21	91044106	1	PLUNGER	
22	91044107	1	O-RING	
23	91044105	1	THRUST WASHER	
24	91044361	1	PIPE PLUG	
25	91044109	1	COVER	
26	91044110	12	FLATWASHER	
27	91044111	12	HEX HD CAPSCREW	
28	91044112	1	DISENGAGE COVER	
29	91044113	2	HEX HD CAPSCREW	
30		Ref	LOCKNUT	
31	Kit	1	LOCK SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE WHEEL ASSY ONLY.	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-27. (91043472) REAR STEERING AXLE PLANETARY WHEEL DRIVE (SN 0155410S to Present)



\* NOTE! To service item 17 locknut, a special wrench is required, order P/N 91144325 wrench.

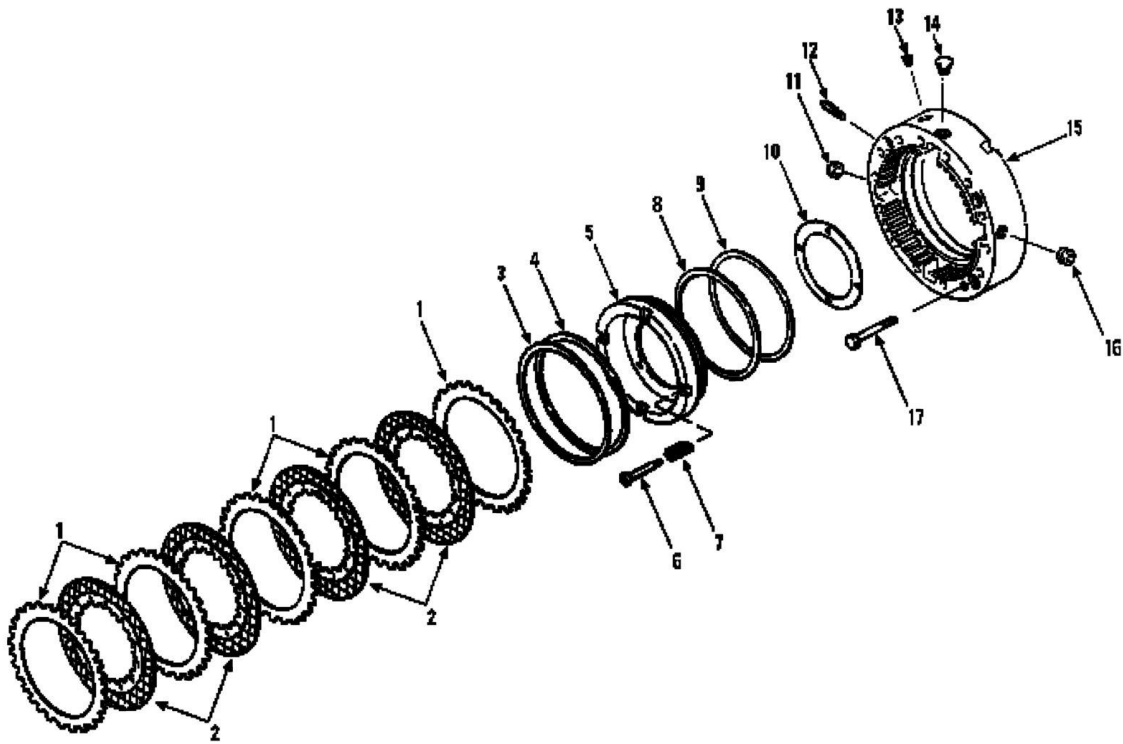
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-27. (91043472) REAR STEERING AXLE PLANETARY WHEEL DRIVE (SN 0155410S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043472	2	REAR STEERING AXLE DRIVE HUB	
	91044462	Ref	REPAIR KIT (includes items 7, 8 & 30)	
1	91044276	1	RETAINING RING	
2	91044277	1	COUPLING	
3	91144175	1	SPRING	
4	91144176	1	INPUT SHAFT	
5	91044099	2	RETAINING RING	
6	91144177	1	SPINDLE	
7	Kit	1	SEAL	
8	Kit	1	OIL SEAL	
9	90202501	1	OUTER BEARING CONE	
10	90202500	1	OUTER BEARING CUP	
11	91144178	1	HUB	
12	91044311	12	WHEEL BOLT	
13	91144179	1	INNER BEARING CUP	
14	91144180	1	INNER BEARING CONE	
15	91144181	1	THRUST WASHER	
16	91144182	1	LOCKWASHER	
17	91144183	1	LOCK NUT	
18	91144184	1	RING GEAR	
19	91144185	1	SECONDARY CARRIER ASSY	
20	91144186	1	PRIMARY CARRIER ASSY	
21	91144187	1	PRIMARY SUN GEAR	
22	91044106	1	PLUNGER	
23	91044107	1	O-RING	
24	91044105	1	THRUST WASHER	
25	91044361	1	PIPE PLUG	
26	91144188	1	COVER	
27	91044110	12	FLATWASHER	
28	91144189	12	HEX HD BOLT	
39	91044112	1	DISENGAGE COVER	
30	Kit	1	LOCK SCREW	
31	91044101	1	MAGNETIC PLUG	
32	91034389	1	PIPE PLUG	
33	91034390	2	THRUSTWASHER	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	
		Ref	NOTE: QUANTITIES SHOWN ARE FOR ONE HUB ASSY ONLY.	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-28. FRONT AXLE SERVICE BRAKES (SN 0155309S to Present)



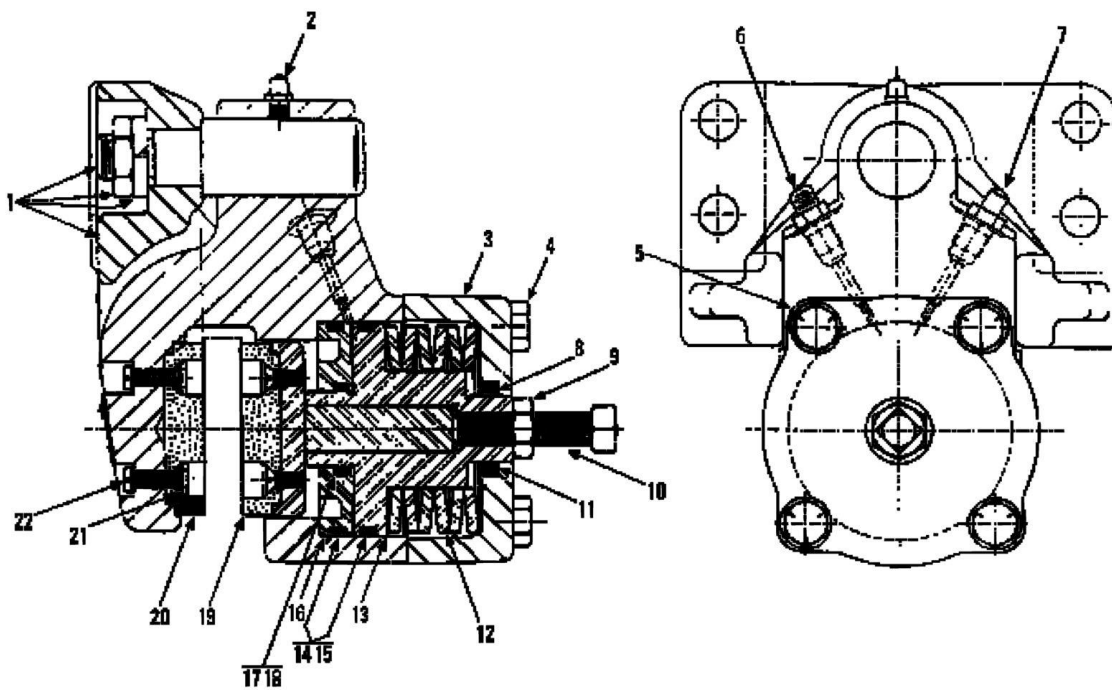
## SECTION 5 - DRIVE TRAIN

**FIGURE 5-28. FRONT AXLE SERVICE BRAKES (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91044403	10	STATIONARY DISC	
2	91044404	8	FRICION DISC	
3	91044405	2	PISTON OUTER BACK-UP RING	
4	91044406	2	PISTON OUTER QUAD RING	
5	91044407	2	BRAKE PISTON	
6	91044408	8	SHOULDER BOLT	
7	91044409	8	SHOULDER BOLT SPRING	
8	91044410	2	PISTON INNER QUAD RING	
9	91044411	2	PISTON INNER BACK-UP RING	
10	91044412	AR	SHIM (.003 thick)	
10	91044413	AR	SHIM (.005 thick)	
10	91044414	AR	SHIM (.010 thick)	
10	91044415	AR	SHIM (.020 thick)	
11	91044416	2	DRAIN PLUG	
12	91044417	2	BLEEDER SCREW	
13	91044418	2	INLET PLUG	
14	91044419	4	COOLING PLUG	
15	91044420	2	BRAKE HOUSING	
16	83073699	2	FILLER PLUG	
17	91044421	8	HEX HD CAPSCREW	

# SECTION 5 - DRIVE TRAIN

FIGURE 5-29. FRONT AXLE PARKING BRAKES (SN 0155309S to Present)



## SECTION 5 - DRIVE TRAIN

**FIGURE 5-29. FRONT AXLE PARKING BRAKES (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91053540	1	PARKING BRAKE ASSY (includes all items)	
	91044427	AR	REPAIR KIT (includes items 11, 14, 15, 17 & 18)	
	91044428	AR	LINING KIT (includes item 19 thru 22)	
1	91044429	1	MOUNTING ASSY	
2	91044430	1	LUBE FITTING	
3	91044431	1	COVER	
4	91044432	4	HEX HD CAPSCREW	
5	91044433	4	LOCKWASHER	
6	91044434	1	CONNECTOR	
7	91004021	1	BLEEDER SCREW	
8	91044435	1	PUSH ROD	
9	91044436	1	HEX JAM NUT	
10	91044437	1	SQUARE HD SET SCREW	
11	Kit	1	WIPER SEAL	
12	91044438	6	BELLVILLE SPRING	
13	91044439	1	PISTON	
14	Kit	2	BACK-UP RING	
15	Kit	2	O-RING	
16	91044440	1	PISTON	
17	Kit	2	O-RING	
18	Kit	1	BACK-UP RING	
19	Kit	1	LINING ASSY	
20	Kit	1	LINING	
21	Kit	1	BUSHING	
22	Kit	1	SLOTTED SCREW	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

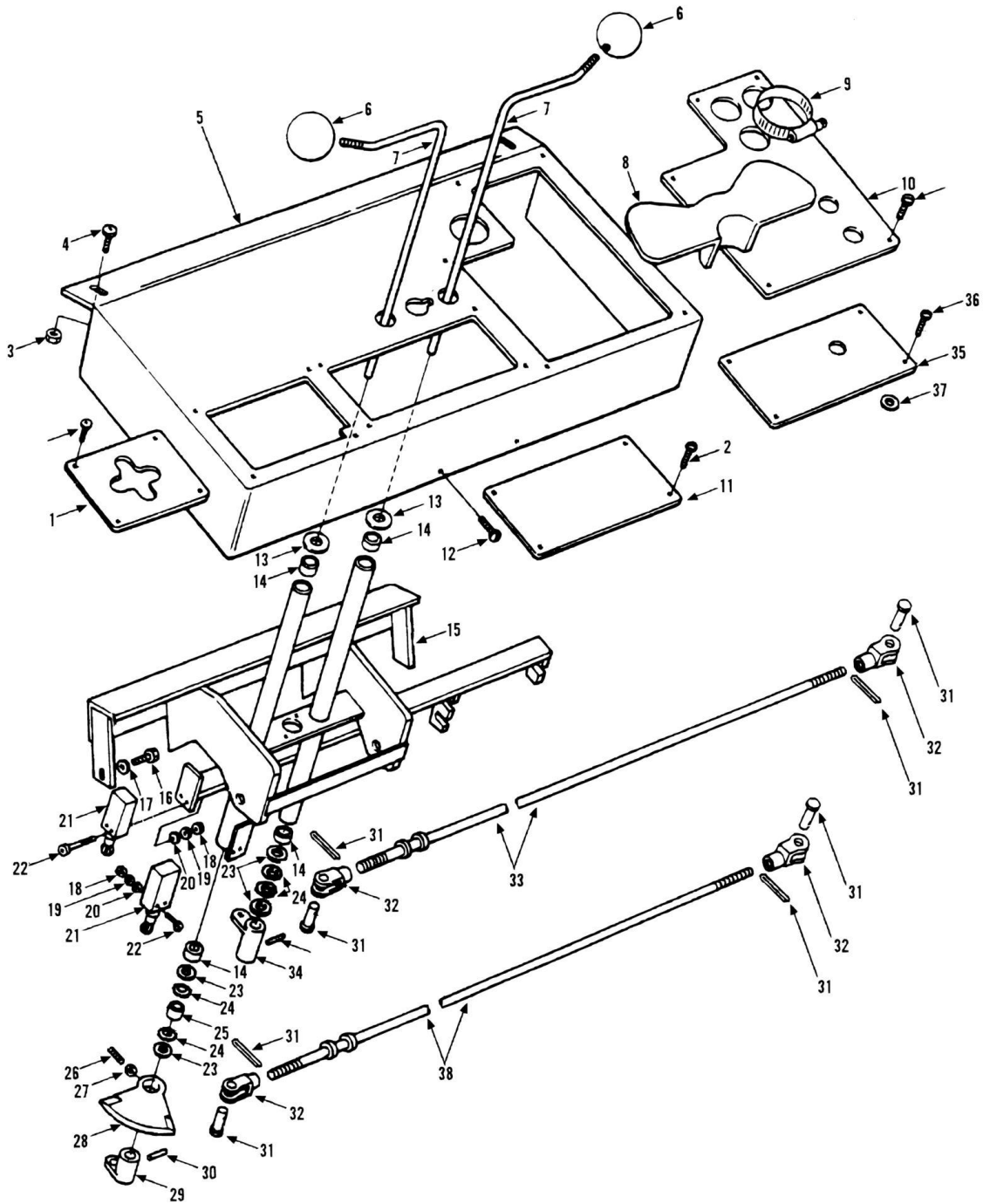




**SECTION 6 - CONTROLS**

# SECTION 6 - CONTROLS

FIGURE 6-1. FORWARD AND REVERSE, SPEED SELECTOR (SN 0155299S to Present)



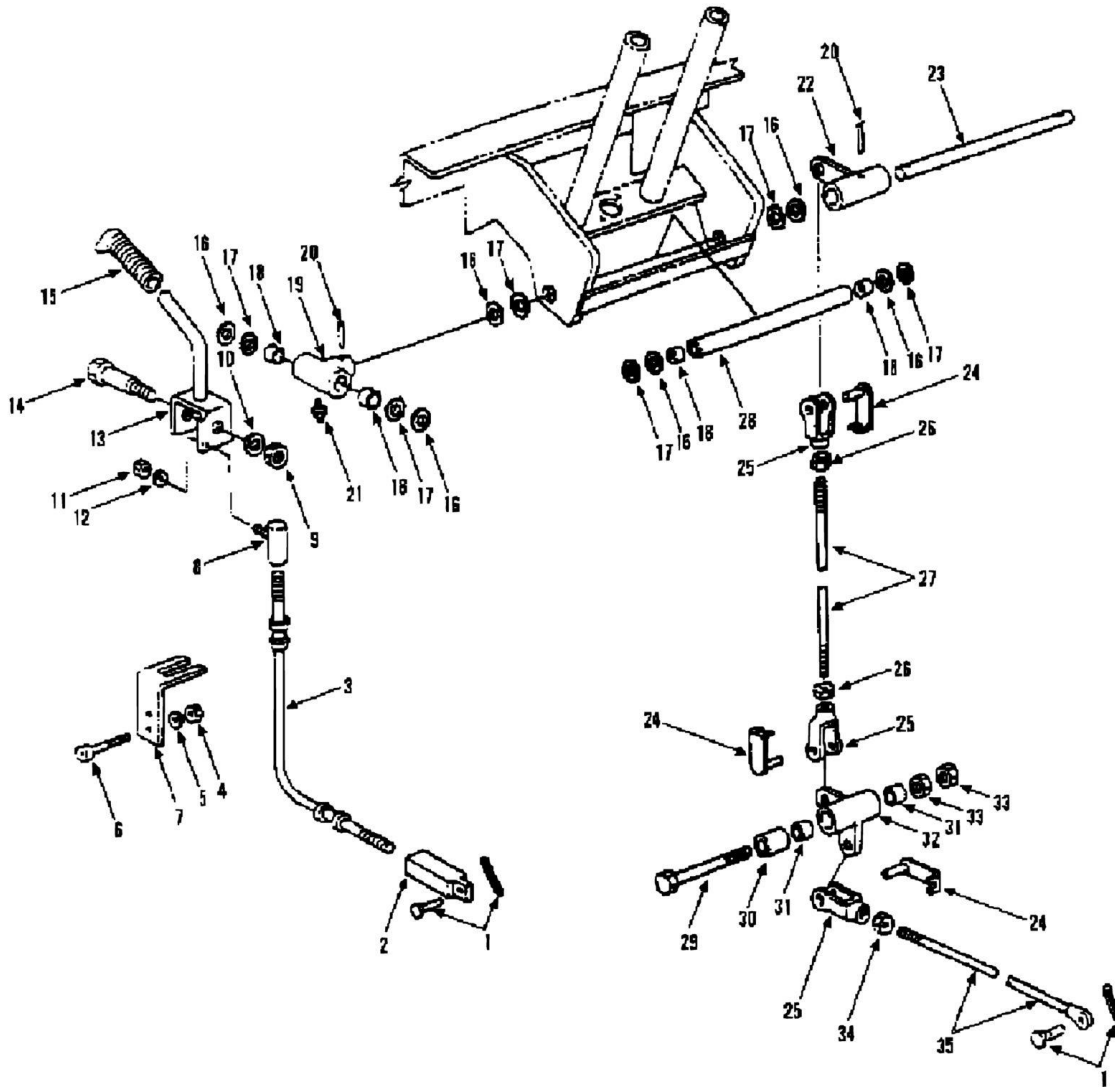
## SECTION 6 - CONTROLS

**FIGURE 6-1. FORWARD AND REVERSE, SPEED SELECTOR (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91033310	1	TILT-SWAY COVER PLATE	
2	88321015	4	SELF TAPPING SCREW, #6-32X1/2	
3	77143006	2	LOCKNUT	
4	77143004	2	LOCK SCREW	
5	90602789	1	CONTROL AND INSTRUMENT PANEL	
6	90200299	2	KNOB	
7	90205542	2	CONTROL ROD	
8	90402903	1	CONTROL ROD BRACKET	
9	90028695	1	CLAMP	
10		Ref	INSTRUMENT PANEL PLATE (See ELECTRICAL SECTION for Breakdown)	
11	90205574	1	DASH PANEL	
12	90027319	2	SELF TAPPING SCREW	
13	90027472	2	HARDENED WASHER	
14	90200290	4	NEEDLE BEARING	
15	90801213	1	CONTROL BRACKET	
16	88201065	2	HEX HD CAPSCREW, 1/2-13X1, GR5	
17	88561111	2	FLATWASHER, 1/2	
18	88501612	4	HEX NUT, #10-24	
19	88551007	4	LOCKWASHER, #10	
20	88561105	4	FLATWASHER, #10	
21	91033439	2	FORWARD/REVERSE SWITCH	
22	88211032	4	SOCKET HD CAPSCREW, #10-24X1, GR8	
23	88561113	4	FLATWASHER, 5/8	
24	90028662	4	WAVE BEND WASHER	
25	91031224	1	SPACER	
26	88227929	1	SOCKET SET SCREW 1/4-20X3/4	
27	88501616	1	HEX NUT, 1/4-20	
28	91031226	1	CAM	
29	91036042	1	BELL CRANK	
30	88631479	2	ROLL PIN 3/16X1-1/4	
31	90027720	4	YOKE PIN ASSY	
32	88821003	4	ADJUSTABLE YOKE END, 5/16-24	
33	90203374	1	PUSH PULL CABLE	
34	90205973	1	BELL CRANK	
35	91033255	1	GAUGE PROTECTOR	
36	88321019	4	SELF-TAPPING SCREW, #6-32X1	
37	91033277	4	RUBBER SPACER	
38	91033427	1	PUSH PULL CABLE	

# SECTION 6 - CONTROLS

FIGURE 6-2. TILT AND SWAY (SN 0155299S to Present)



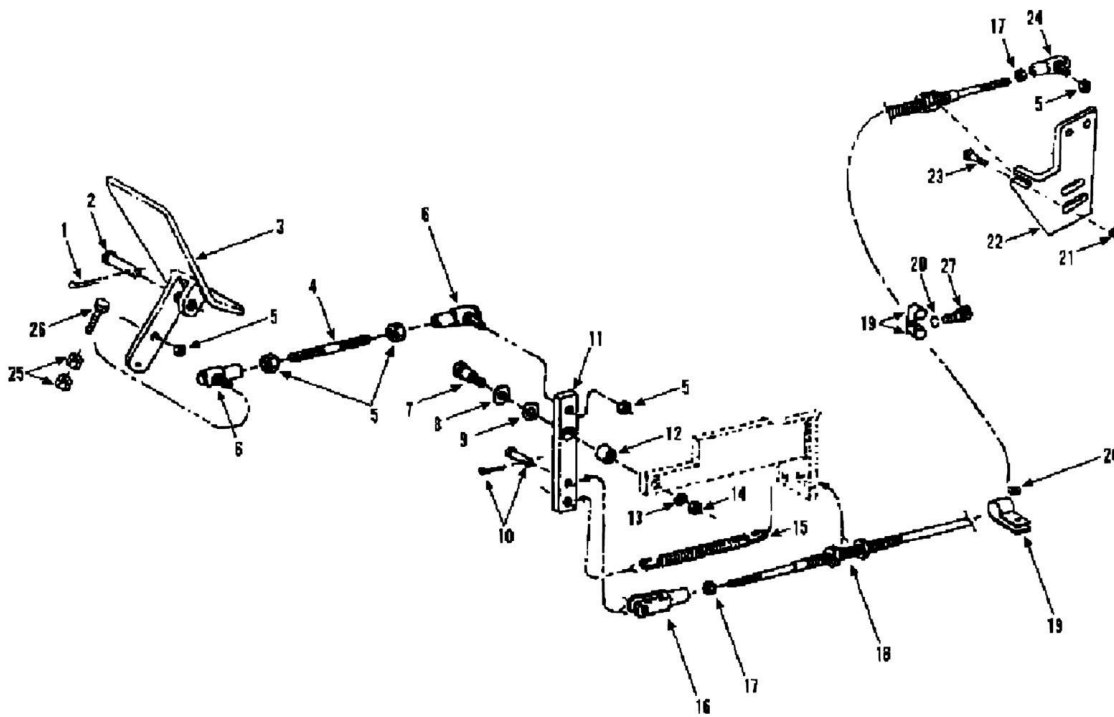
## SECTION 6 - CONTROLS

**FIGURE 6-2. TILT AND SWAY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90021552	2	CLEVIS PIN	
2	91041236	1	CABLE END	
3	90206861	1	CABLE ASSY	
4	88551011	2	LOCKWASHER, 3/8	
5	88501006	2	HEX NUT, 3/8-16	
6	88261030	2	SOCKET BUTTON HD CAPSCREW 3/8-16X1-1/4	
7	91031013	1	CABLE BRACKET	
8	86683117	1	BALL JOINT	
9	88501008	1	HEX NUT, 1/2-13	
10	88551013	1	LOCKWASHER, 1/2	
11	88551010	1	LOCKWASHER, 5/16	
12	88501305	1	HEX NUT, 5/16-24	
13	90403406	1	HANDLE WELDMENT	
14	90203502	1	SHOULDER BOLT	
15	90200774	1	HANDLE GRIP	
16	88561113	6	FLATWASHER	
17	90028662	6	WAVE BEND WASHER	
18	90200290	4	NEEDLE BEARING	
19	90206859	1	HOUSING WELDMENT	
20	88631479	2	ROLL PIN, 3/16X1-1/4	
21	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
22	90205541	1	BELL CRANK	
23	90205571	1	SHAFT	
24	90027987	3	SPRING CLEVIS	
25	88821004	3	ADJUSTABLE YOKE END, 3/8-24	
26	88501108	2	HEX NUT, 3/8-24	
27	90202361	1	ROD	
28	90205579	1	SPACER	
29	88201328	1	HEX HD CAPSCREW, 5/8-11X6-1/2, GR5	
30	90205580	1	SPACER	
31	90200290	2	NEEDLE BEARING	
32	90205533	1	BELL CRANK	
33	88501010	2	HEX NUT, 5/8-11	
34	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
35	88501306	1	HEX NUT, 3/8-24	
36	91066019	1	CONTROL ROD	

# SECTION 6 - CONTROLS

FIGURE 6-3. ACCELERATION LINKAGE (SN 0155299S to Present)



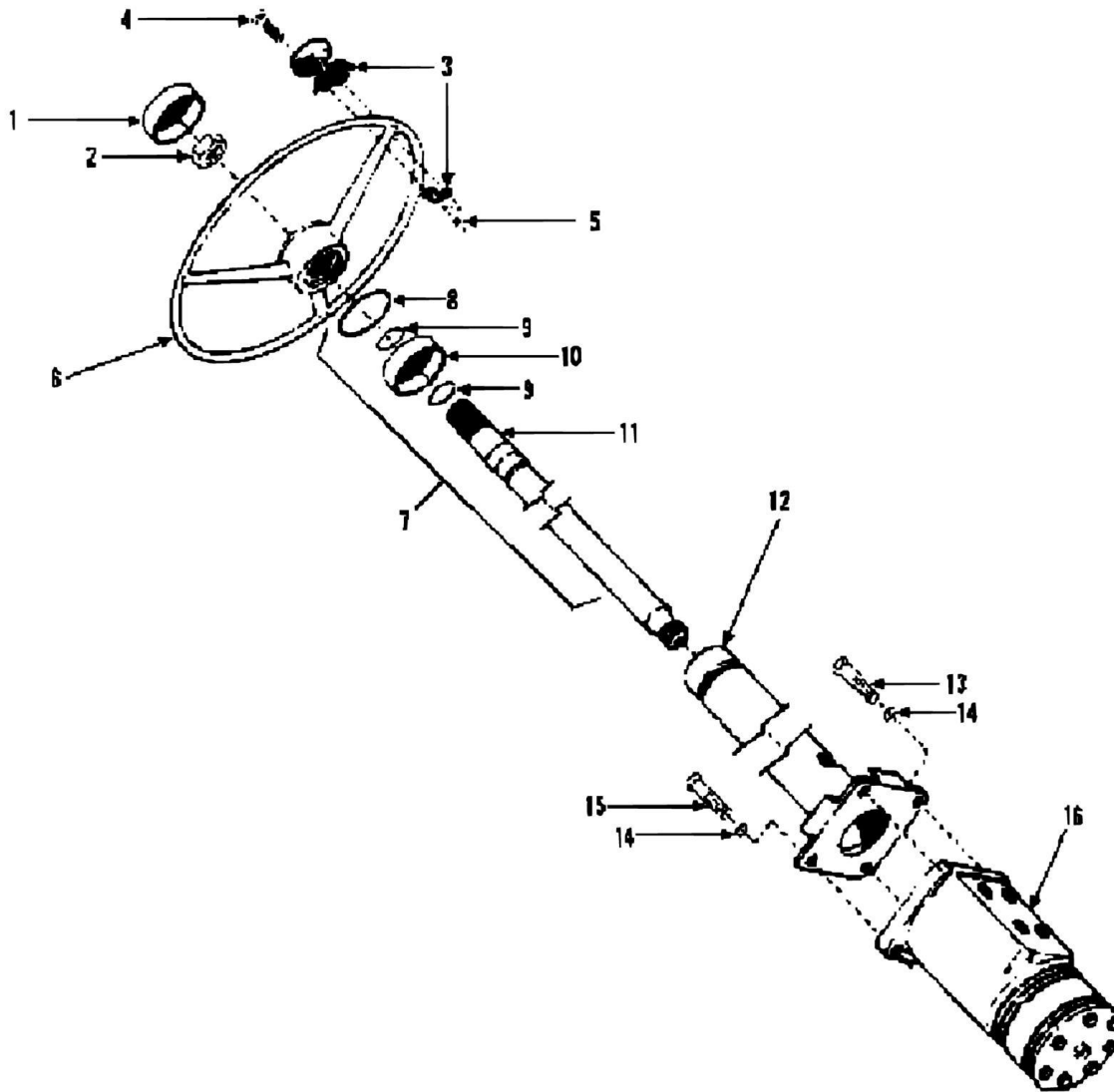
## SECTION 6 - CONTROLS

**FIGURE 6-3. ACCELERATION LINKAGE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88631318	1	COTTER PIN, 1/8X1	
2	90021584	1	CLEVIS PIN	
3	91036022	1	ACCELERATOR PEDAL	
4	91031088	1	LINKAGE ROD	
5	88501404	5	HEX NUT, 1/4-28	
6	86683118	2	BALL JOINT	
7	88251018	1	SOCKET HD SHOULDER SCREW, 3/8X1/2 (5/16-18 thread)	
8	88561109	1	FLATWASHER, 3/8	
9	90028946	AR	WAVY WASHER	
10	90027685	1	CLEVIS AND COTTER PIN	
11	91031087	1	BELL CRANK	
12	91033281	1	BEARING	
13	88561111	1	FLATWASHER, 1/2	
14	88501105	1	HEAVY HEX JAM NUT, 5/16-18	
15	90207801	1	SPRING	
16	90028977	1	YOKE	
17	88501613	2	HEX NUT, #10-32	
18	91043488	1	ACCELERATOR CABLE	
19	90028660	3	HOSE CLIP	
20	77104085	2	LOCKWASHER	
21	88521305	2	HEX LOCKNUT, 5/16-18	
22	91041560	1	CABLE AND SENDER BRACKET	
23	88201021	2	HEX HD CAPSCREW, 5/16-18X1-1/4, GR5	
24	90027908	1	BALL JOINT	
25	88501110	2	HEAVY HEX JAM NUT, 5/8-11	
26	88201106	1	HEX HD CAPSCREW, 5/8 -11X4,GR5	
27	88201054	2	HEX HD CAPSCREW,7/16-14X2,GR5	

# SECTION 6 - CONTROLS

FIGURE 6-4. STEERING COLUMN (SN 0155299S to Present)





## SECTION 6 - CONTROLS

**FIGURE 6-4. STEERING COLUMN (SN 0155299S to Present)**

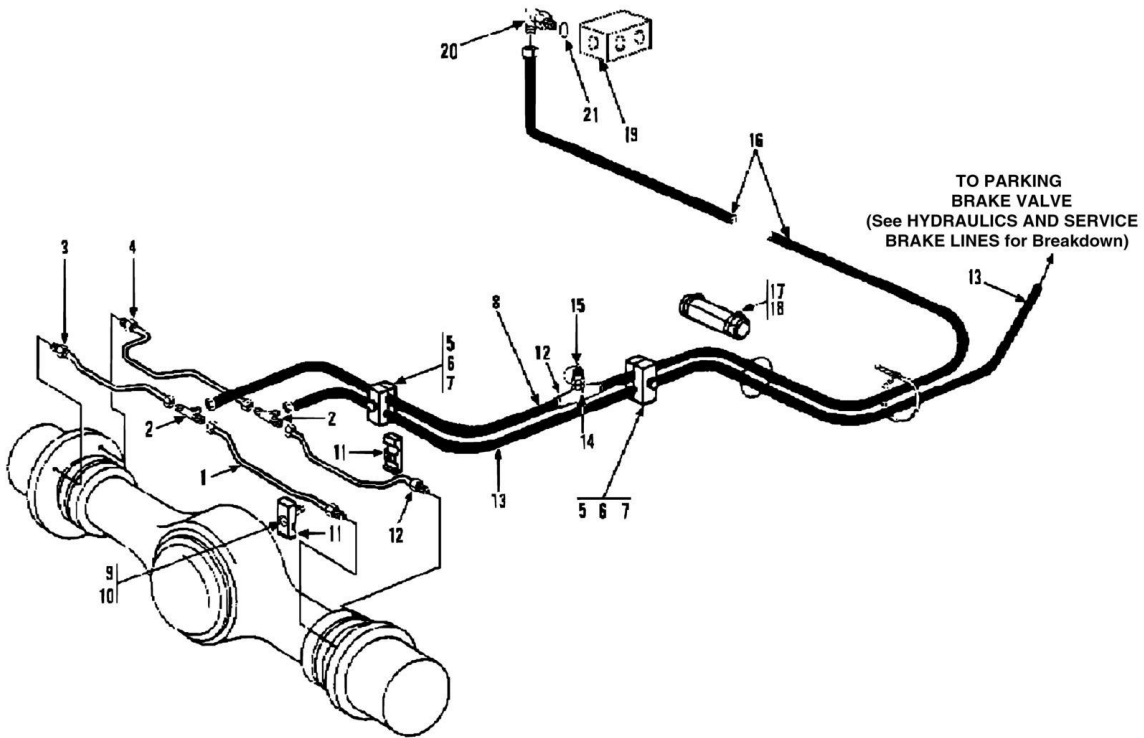
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90600274	1	STEERING CAP	
2	90200266	1	STEERING WHEEL NUT	
3	90202230	1	SPINNER KNOB (includes items 4 & 5)	
4	88301311	2	FLAT HD MACHINE SCREW, 1/4-20X1	
5	88501615	2	HEX NUT, 1/4-20	
6	90600273	1	STEERING WHEEL	
7	90600267	1	ORBITROL COLUMN ASSY (includes items 8 thru 12)	
8	90601347	1	RETAINING RING	
9	90201346	2	RETAINING RING	
10	90201348	1	BEARING	
11	90201349	1	SHAFT	
12	90201350	1	TUBE AND FLANGE	
13	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
14	88551011	4	LOCKWASHER	
15	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
16	90206762	1	ORBITROL	
16	90206567	1	ORBITROL SEAL KIT	



**SECTION 7 - BRAKES**

# SECTION 7 - BRAKES

FIGURE 7-1. HYDRAULICS AND PARKING BRAKE LINES (SN 0155299S to Present)



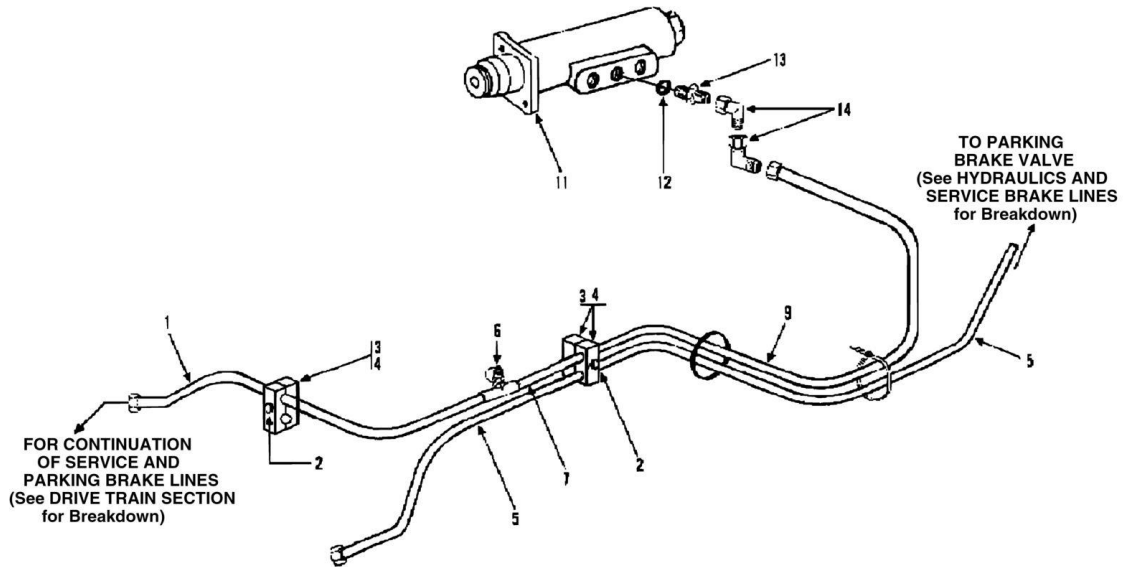
## SECTION 7 - BRAKES

**FIGURE 7-1. HYDRAULICS AND PARKING BRAKE LINES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043293	1	TUBE ASSY	
2	88661305	2	UNION TEE, 3/8 TUBE	
3	91043294	1	TUBE ASSY	
4	91043189	1	TUBE ASSY	
5	77133177	2	HEX HD CAPSCREW	
6	77133140	2	COVER PLATE	
7	77133139	2	CLAMP SET	
8	84717524	1	HOSE ASSY	
9	88201005	2	HEX HD CAPSCREW, 1/4-20X1, GR5	
10	88561002	2	FLATWASHER, 1/4	
11	77133270	2	CLAMP SET	
12	91043190	1	TUBE ASSY	
13	84717522	1	HOSE ASSY	
14	91043091	1	FEMALE BRANCH TEE	
15	91033032	1	MINI CHECK COUPLING	
16	84717523	1	HOSE ASSY	
17	90027178	AR	NYLON HOSE TIE	
18	91041258	1	HOSE	
19	91043076	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
20	88662064	1	ELBOW, 90, (includes item 21)	
21	88591204	1	O-RING	

# SECTION 7 - BRAKES

FIGURE 7-2. HYDRAULICS AND PARKING BRAKE LINES (SN 0155309S to Present)



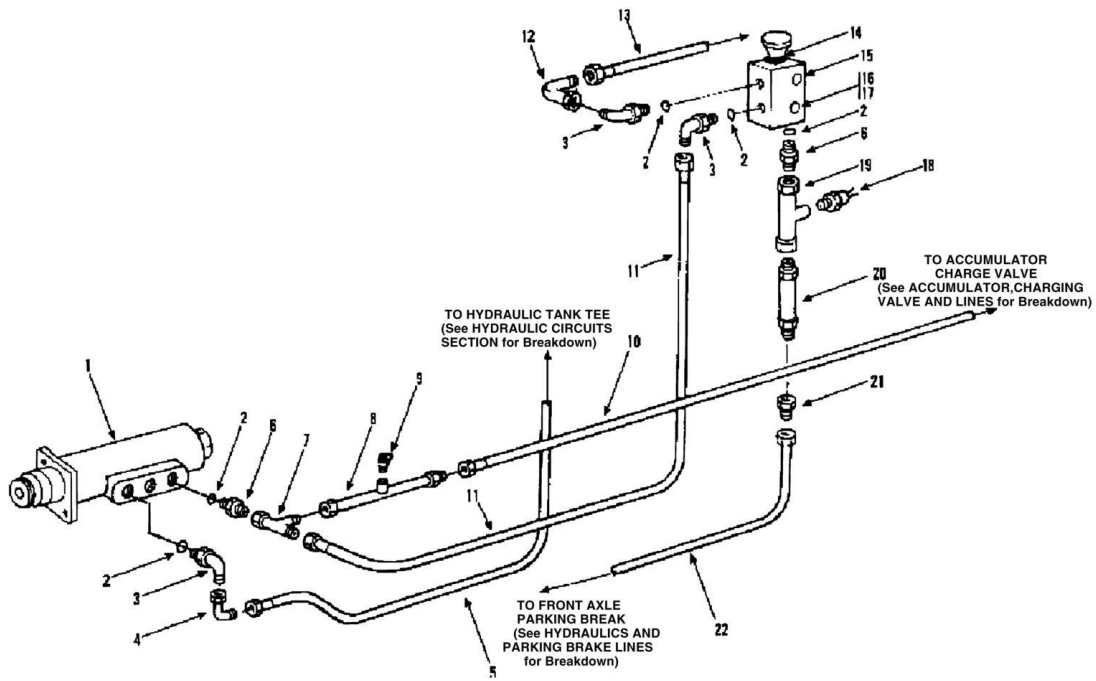
## SECTION 7 - BRAKES

**FIGURE 7-2. HYDRAULICS AND PARKING BRAKE LINES (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717524	Ref	HOSE ASSY (See DRIVE TRAIN SECTION for Breakdown)	
2	77133177	2	HEX HD CAPSCREW	
3	77133140	2	COVER PLATE	
4	77133139	2	CLAMP SET	
5	84717987	1	HOSE ASSY	
6	91033032	1	MINI-CHECK COUPLING	
7	91043091	1	FEMALE BRANCH TEE	
8	91043227	1	NEOPRENE GROMMET	
9	84717523	1	HOSE ASSY	
10	90027187	AR	NYLON HOSE TIE	
11	91083154	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
12	88591205	1	O-RING	
13	88662018	1	CONNECTOR (includes item 12)	
14	88662105	2	ELBOW, 90, (swivel nut)	

# SECTION 7 - BRAKES

## FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 0155309S to Present)





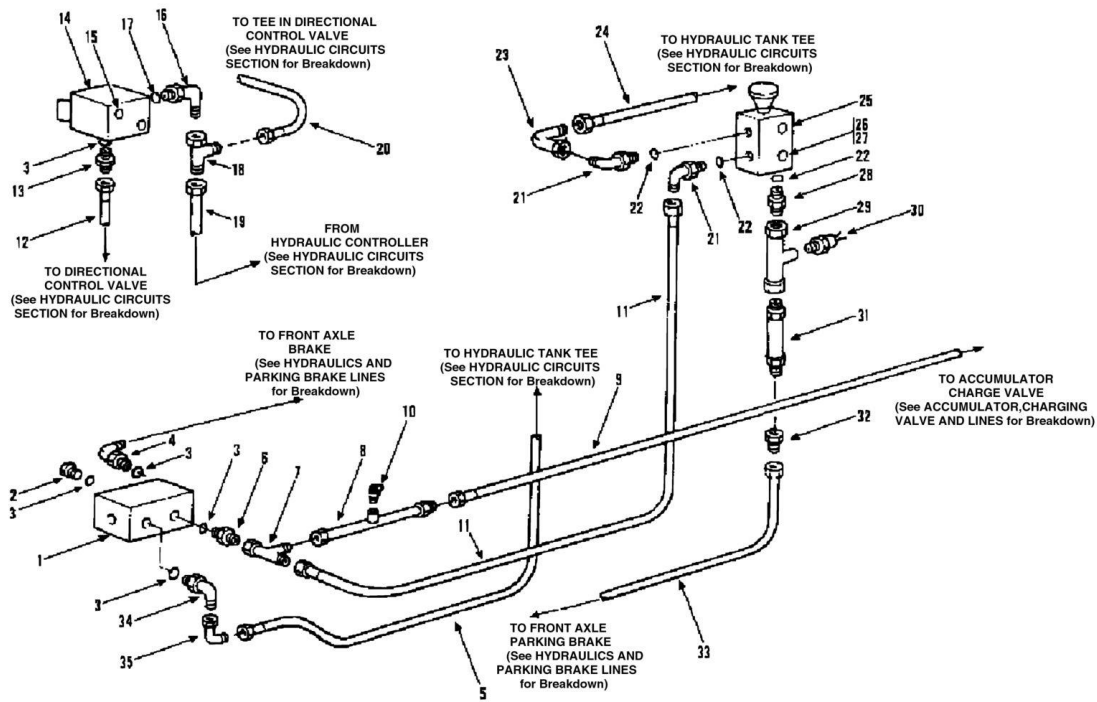
## SECTION 7 - BRAKES

**FIGURE 7-3. HYDRAULICS AND SERVICE BRAKE LINES (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083154	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591205	5	O-RING	
3	88662065	3	ELBOW, 90, (includes item 2)	
4	88662106	1	ELBOW, 90, (swivel nut)	
5	84717842	1	HOSE ASSY	
6	88662018	2	CONNECTOR (includes item 2)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9	77133089	1	MINI-CHECK COUPLING	
10	84717317	1	HOSE ASSY	
11	84717508	1	HOSE ASSY	
12	88662105	1	ELBOW, 90, (swivel nut)	
13	77133167	1	HOSE ASSY	
14	91033378	1	BOOT	
15	91043090	Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
16	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
17	88551010	2	LOCKWASHER, 5/16	
18	91033416	1	PRESSURE SWITCH	
19	91043131	1	TUBE ASSY	
20	91043143	1	CHECK VALVE	
21	88661342	1	TUBE END REDUCER, 1/2X3/8	
22	84717987	1	HOSE ASSY	

# SECTION 7 - BRAKES

## FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0155299S to Present)



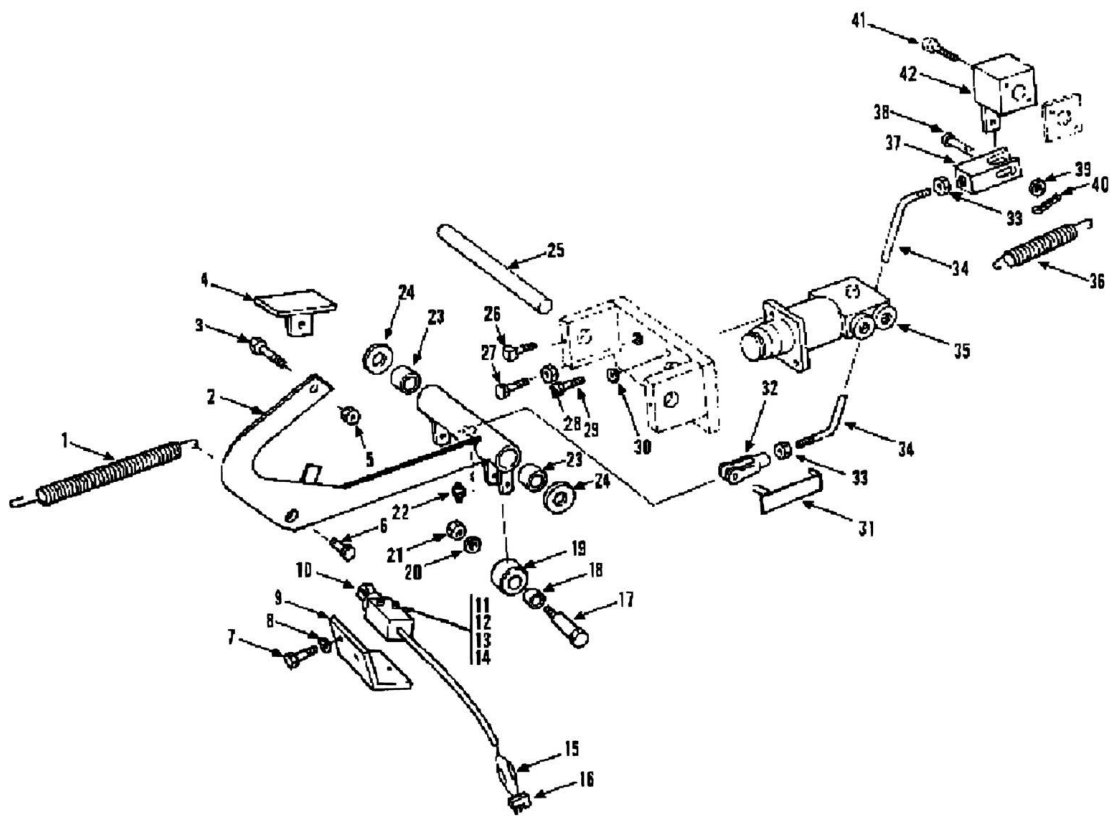
## SECTION 7 - BRAKES

**FIGURE 7-4. HYDRAULICS AND SERVICE BRAKE LINES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043076	Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88662174	1	HEX HD PLUG (includes item 3)	
3	88591204	4	O-RING	
4	88662064	1	ELBOW, 90, (includes item 3)	
5	84717842	1	HOSE ASSY	
6	88662005	1	CONNECTOR (includes item 3)	
7	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
8	91043163	1	TUBE ASSY	
9	84717317	1	HOSE ASSY	
10	77133089	1	MINI-CHECK VALVE	
11	84717508	1	HOSE ASSY	
12	77133342	1	HOSE ASSY	
13	88662005	1	CONNECTOR (includes item 3)	
15	91033096	1	INCHING VALVE ASSY	
15	91034018	1	INCHING VALVE SEAL KIT	
16	88662064	1	ELBOW, 90, (includes item 17)	
17	88591204	1	O-RING	
18	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
19	84717341	1	HOSE ASSY	
20	84717466	1	HOSE ASSY	
21	88662065	2	ELBOW, 90, (includes item 22)	
22	88591205	3	O-RING	
23	88662105	1	ELBOW, 90, (swivel nut)	
24	77133198	1	HOSE ASSY	
25	91043090	Ref	PARK BRAKE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
26	88261021	2	SOCKET BUTTON HD CAPSCREW, 5/16-18X5/8	
27	88551009	2	LOCKWASHER, 5/16	
28	88662018	1	CONNECTOR (includes item 22)	
29	91063098	1	TUBE ASSY	
30	91043077	1	PRESSURE SWITCH	
31	91043143	1	CHECK VALVE	
32	88661342	1	TUBE END REDUCER, 1/2X3/8	
33	84717522	1	HOSE ASSY	
34	77131088	1	ELBOW, 90	
35	88662106	1	ELBOW, 90, (swivel nut)	

# SECTION 7 - BRAKES

FIGURE 7-5. BRAKE PEDAL AND INCHING LINKAGE (SN 0155299S to Present)



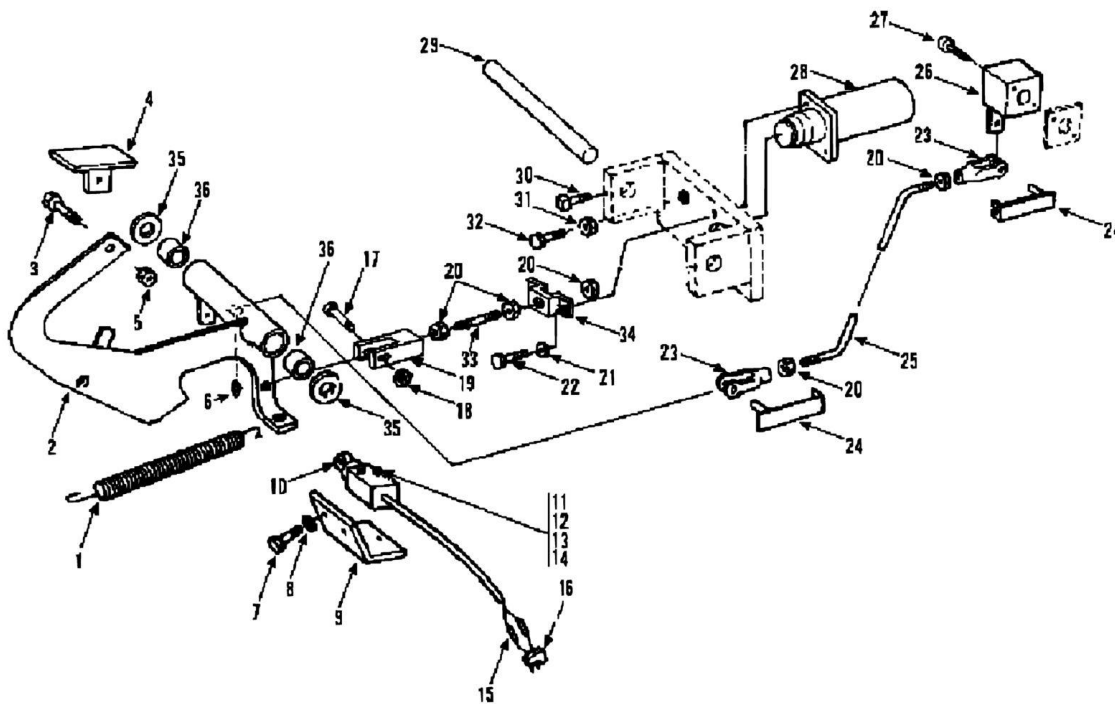
## SECTION 7 - BRAKES

**FIGURE 7-5. BRAKE PEDAL AND INCHING LINKAGE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043214	1	RETURN SPRING	
2	91046083	1	BRAKE LEVER WELDMENT	
3	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
4	90201463	1	PEDAL WELDMENT	
5	88501008	1	HEX NUT, 1/2-13	
6	91041402	1	SPECIAL CLEVIS PIN	
7	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
8	88551009	2	LOCKWASHER, 1/4	
9	91041431	1	SWITCH MOUNTING BRACKET	
10	91033439	1	TRANSMISSION DISCONNECT SWITCH	
11	88211032	2	SOCKET HD CAPSCREW, #10-24, GR8	
12	88561105	2	FLATWASHER, #10	
13	88551007	2	LOCKWASHER, #10	
14	88501612	2	HEX NUT, #10-24	
15	86683480	2	CRIMP-ON CONNECTOR	
16	83483114	1	MALE CONNECTOR	
17	88251023	1	SOCKET HD SHOULDER SCREW, 3/81-1/2, 5/16-18 THREAD	
18	91043086	1	BEARING	
19	91041196	1	ROLLER	
20	88551010	1	LOCKWASHER, 5/16	
21	88501005	1	HEX NUT, 5/16-18	
22	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
23	90200290	2	BEARING	
24	90028662	2	WASHER	
25	90201562	1	PIN	
26	88441001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)	
27	88201038	1	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5	
28	88501106	1	HEX JAM NUT, 3/8-16	
29	83191028	2	HEX HD CAPSCREW, M8X1.25	
30	83191011	2	LOCKWASHER, M8	
31	90027987	1	CLEVIS PIN	
32	88821004	1	ADJUSTABLE YOKE END, 3/8-24	
33	88501406	2	HEX JAM NUT, 5/16-24	
34	91031085	1	ROD	
35		Ref	BRAKE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
36	90207801	1	SPRING	
37	91041424	1	SPECIAL YOKE END	
38	91041425	1	SPECIAL CLEVIS PIN	
39	88561004	1	FLAT WASHER, 3/8	
40	88631303	1	COTTER PIN, 1/16X1	
42	91033096	1	INCHING VALVE	
42	91034018	1	INCHING VALVE SEAL KIT	

# SECTION 7 - BRAKES

FIGURE 7-6. BRAKE PEDAL AND INCHING LINKAGE (SN 0155309S to Present)



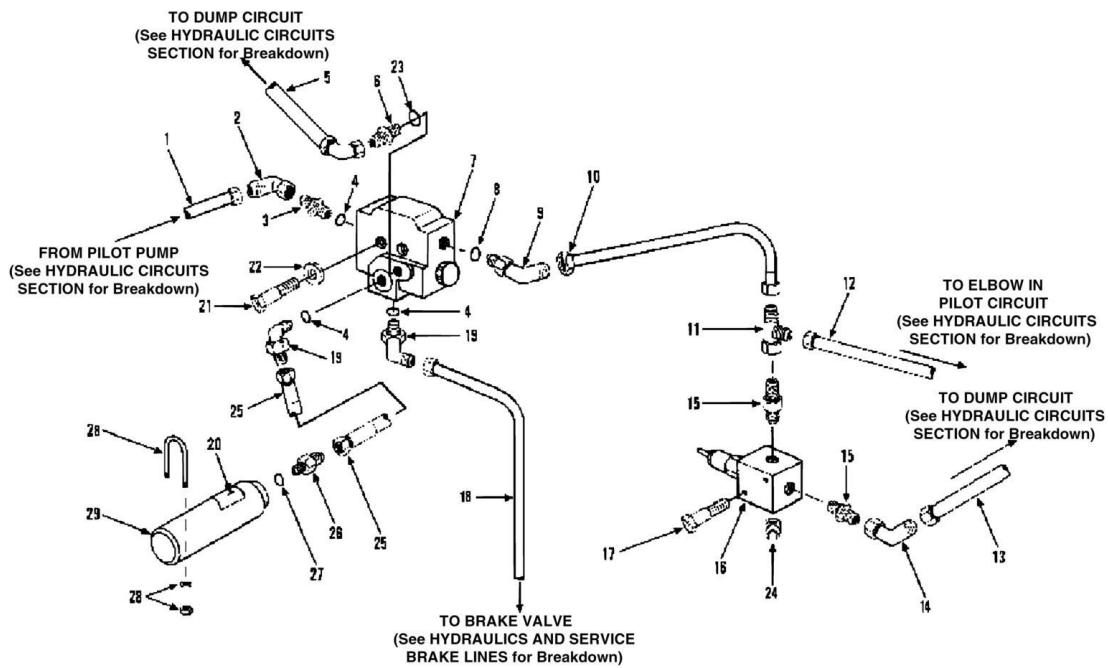
## SECTION 7 - BRAKES

**FIGURE 7-6. BRAKE PEDAL AND INCHING LINKAGE (SN 0155309S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043214	1	RETURN SPRING	
2	91046101	1	BRAKE LEVER WELDMENT	
3	88201068	1	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
4	91046104	1	PEDAL WELDMENT	
5	88521208	1	HEX NUT, 1/2-13	
6	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
7	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
8	88551009	2	LOCKWASHER, 1/4	
9	91041431	1	SWITCH MOUNTING BRACKET	
10	91033439	1	TRANSMISSION DISCONNECT SWITCH	
11	88211032	2	SOCKET HD CAPSCREW, #10-24, GR8	
12	88561105	2	FLATWASHER, #10	
13	88551007	2	LOCKWASHER, #10	
14	88501612	2	HEX NUT, #10-24	
15	86683480	2	CRIMP-ON CONNECTOR	
16	83483114	1	MALE CONNECTOR	
17	88251021	1	SOCKET HD SHOULDER SCREW, 3/8X1, 5/16-18 THREAD	
18	88521205	1	HEX LOCKNUT, 5/16-18	
19	91041521	1	SPECIAL CLEVIS	
20	88501406	5	HEX JAM NUT, 3/8-24	
21	88551011	2	LOCKWASHER, 3/8	
22	88201036	2	HEX HD CAPSCREW, 3/8-16X1-1/4	
23	88821004	2	ADJUSTABLE YOKE END, 3/8-24	
24	90027987	2	SPRING CLEVIS	
25	91041522	1	ROD	
26	91033096	1	INCHING VALVE	
26	91034018	AR	SEAL KIT	
28		Ref	BRAKE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
29	90201562	1	PIN	
30	88441001	2	SQUARE HD SET SCREW, 1/4-20X1/2 (cup point)	
31	88501106	1	HEX JAM NUT, 3/8-16	
32	83201073	1	HEX HD CAPSCREW, 3/8-16X4-1/2	
33	91041536	1	PUSH ROD	
34	91041520	1	BRAKE VALVE RETAINER	
35	90028662	2	WASHER	
36	90200290	2	BEARING	

# SECTION 7 - BRAKES

## FIGURE 7-7. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0155299S to Present)





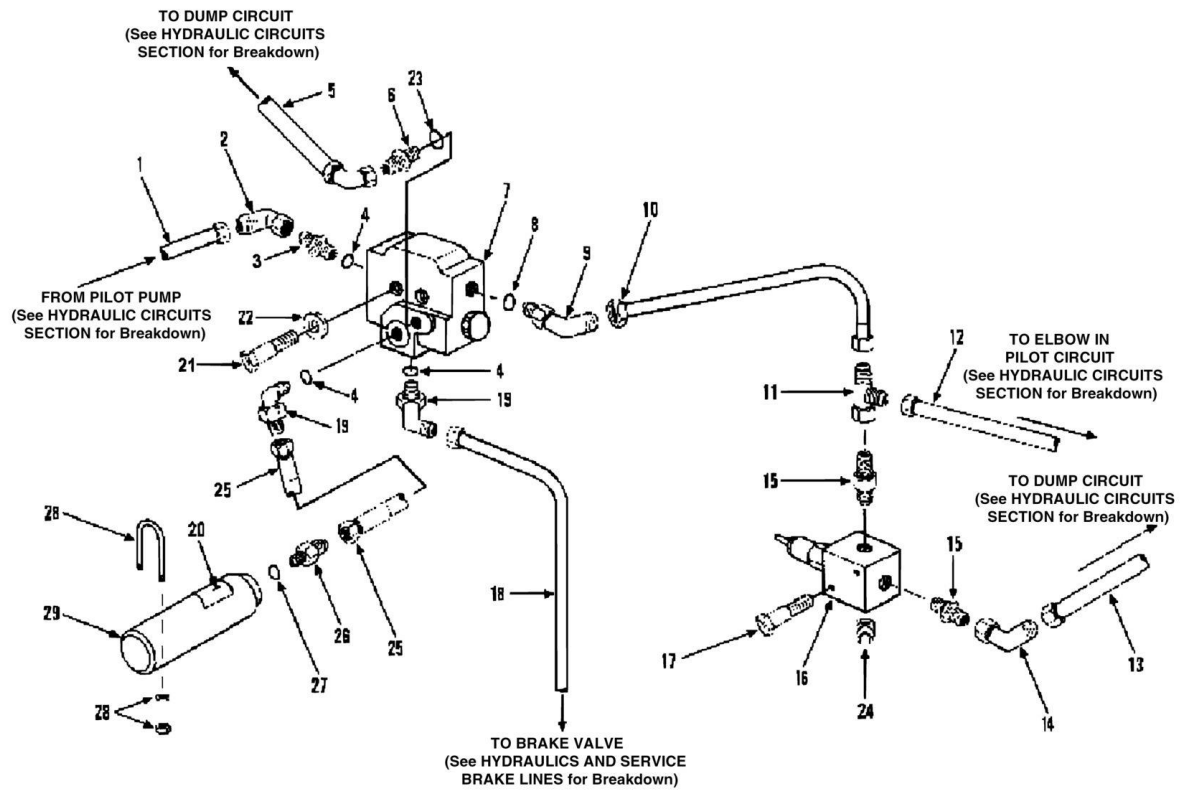
## SECTION 7 - BRAKES

**FIGURE 7-7. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84716251	1	HOSE ASSY	
2	88662108	1	ELBOW, 90, (swivel nut)	
3	88662023	1	CONNECTOR (includes item #4)	
4	88591205	3	O-RING	
5	84717489	1	HOSE ASSY	
6	88662003	1	CONNECTOR (includes item #23)	
7	91043296	Ref	ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88591205	1	O-RING	
9	88662085	1	ELBOW, 45, (includes item #8)	
10	90207360	1	HOSE ASSY	
11	88662225	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	84717413	1	HOSE ASSY	
13	84717418	1	HOSE ASSY	
14	88662120	1	ELBOW, 45, (swivel nut)	
15	88743003	2	MALE ADAPTER, 3/8 X 1/2 TUBE	
16	91033128	1	RELIEF VALVE ASSY	
17	88201009	2	HEX HD CAPSCREW 1/4-20 X 2, GR5	
18	84717317	1	HOSE ASSY	
19	88662065	2	ELBOW, 90, (includes item 4)	
20	91033312	2	ACCUMULATOR WARNING DECAL	
21	88211047	2	SOCKET HD CAPSCREW, 1/4-20 X 2-1/4, GR8	
22	88551105	2	LOCKWASHER, 1/4 (hi-collar)	
23	88591202	1	O-RING	
24	88711282	1	SOCKET HD PIPE PLUG, 3/8	
25	84717610	1	HOSE ASSY	
26	88662020	1	CONNECTOR (includes item #27)	
27	88591207	1	O-RING	
28	83683175	2	CLAMP	
29	91053380	1	ACCUMULATOR	
29	91054003	1	ACCUMULATOR (uncharged)	

# SECTION 7 - BRAKES

## FIGURE 7-8. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0155309S to Present)



## SECTION 7 - BRAKES

**FIGURE 7-8. ACCUMULATOR, CHARGING VALVE AND LINES (SN 0155309S to Present)**

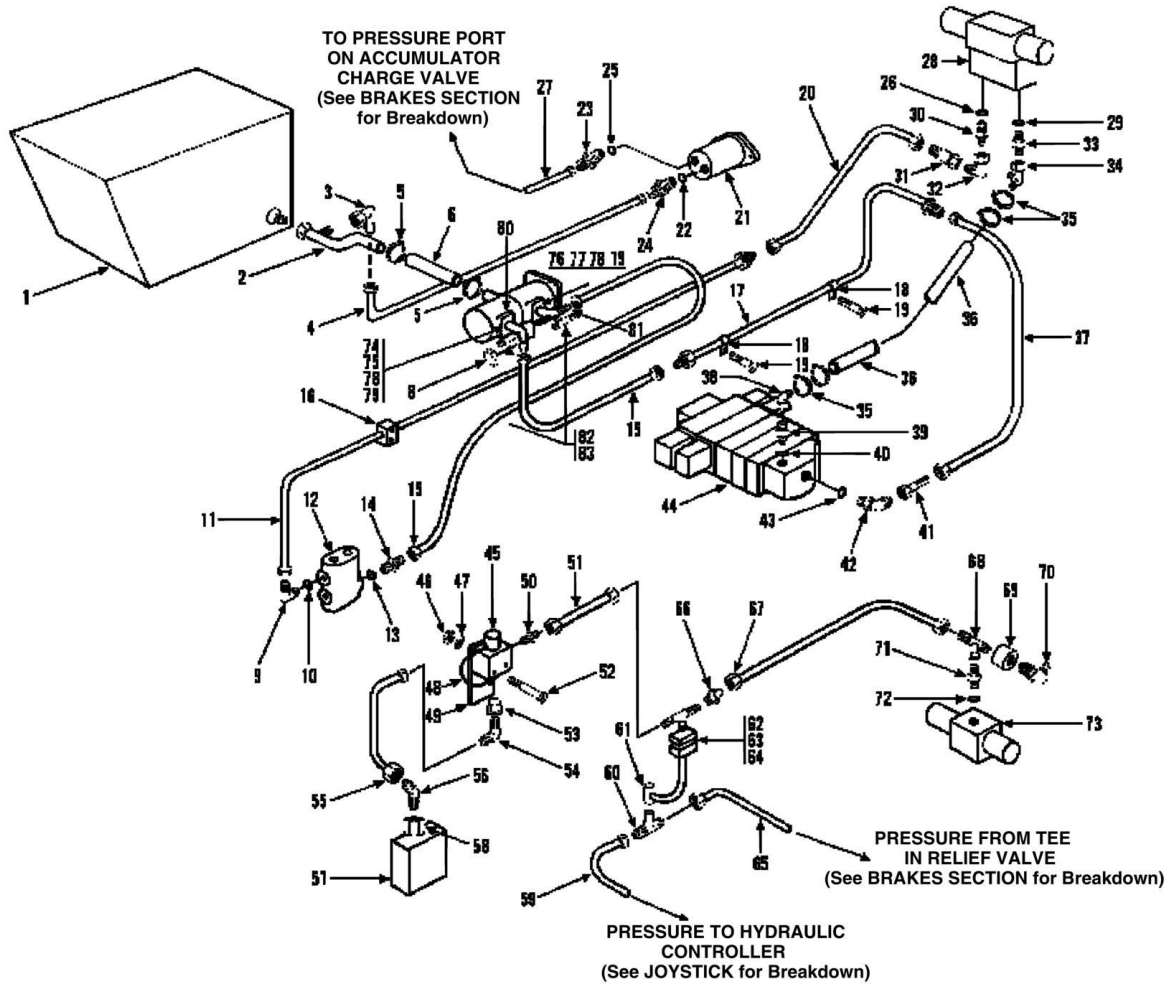
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84716251	1	HOSE ASSY	
2	88662108	1	ELBOW, 90, (swivel nut)	
3	88662023	1	CONNECTOR (includes item #4)	
4	88591205	3	O-RING	
5	84717489	1	HOSE ASSY	
6	88662003	1	CONNECTOR (includes item #23)	
7	91083239	Ref	ACCUMULATOR CHARGE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88591205	1	O-RING	
9	88662085	1	ELBOW, 45, (includes item #8)	
10	90207360	1	HOSE ASSY	
11	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
12	84717413	1	HOSE ASSY	
13	84717518	1	HOSE ASSY	
14	88662120	1	ELBOW, 45, (swivel nut)	
15	88743003	2	MALE ADAPTER, 3/8 X 1/2 TUBE	
16	91033128	1	RELIEF VALVE ASSY	
17	88201009	2	HEX HD CAPSCREW 1/4-20 X 2, GR5	
18	84717317	1	HOSE ASSY	
19	88662065	2	ELBOW, 90, (includes item #4)	
20	91043206	1	ACCUMULATOR WARNING DECAL	
21	88211047	2	SOCKET HD CAPSCREW, 1/4-20 X 2-1/4, GR8	
22	88551105	2	LOCKWASHER, 1/4 (hi-collar)	
23	88591202	1	O-RING	
24	88711282	1	SOCKET HD PIPE PLUG, 3/8	
25	84717518	1	HOSE ASSY	
26	88662020	1	CONNECTOR (includes item #27)	
27	88591207	1	O-RING	
28	83683175	2	CLAMP	
29	91053380	1	ACCUMULATOR	
29	91054003	1	ACCUMULATOR (uncharged)	



**SECTION 8 - HYDRAULIC CIRCUITS**

# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-1. OIL SUPPLY AND PRESSURE LINES (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-1. OIL SUPPLY AND PRESSURE LINES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	OIL RESERVOIR ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91033257	1	ELBOW	
3	88662110	1	ELBOW - 90, (swivel nut)	
4	77133875	1	HOSE ASSY	
5	90028720	2	HOSE CLAMP	
6	91033125	1	SUCTION HOSE	
7		Ref	MAIN HYDRAULIC PUMP (See ENGINE AND ATTACHING PARTS AND HYDRAULIC COMPONENTS SECTION for Breakdown)	
8	88661366	1	HEX CAP, 5/8 TUBE	
9	88662069	1	ELBOW - 90, (includes item 10)	
10	88591209	1	O-RING	
11	90207690	1	TUBE ASSY	
12		Ref	PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
13	88591209	1	O-RING	
14	88662010	1	CONNECTOR (includes item 13)	
15	90022045	2	HOSE ASSY	
16	90205792	1	CLAMP ASSY	
17	91033069	1	TUBE ASSY	
18	90200481	2	CLAMP	
19	88201033	2	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
20	90022045	1	HOSE ASSY	
21		Ref	PILOT PUMP ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88591206	1	O-RING	
23	88662024	1	CONNECTOR (includes item 22)	
24	88662027	1	STRAIGHT CONNECTOR (includes item 25)	
25	88591207	1	O-RING	
26	88591210	1	O-RING	
27	84716251	1	HOSE ASSY	
28		Ref	FORWARD-REVERSE CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
29	88591210	1	O-RING	
30	88662028	1	CONNECTOR (includes item 26)	
31	88662124	1	ELBOW - 45, (swivel nut)	
32	88662110	1	ELBOW - 90, (swivel nut)	
33	88662011	1	CONNECTOR (includes item 29)	
34	91033142	1	ELBOW	
35	90028482	4	HOSE CLAMP	
36	91043153	1	HOSE	
37	90022045	1	HOSE ASSY	
38	90205783	1	TUBE ASSY	
39	88662011	1	CONNECTOR (includes item 40)	
40	88591210	1	O-RING	
41	83251262	1	REDUCER	
42	88662070	1	ELBOW - 90, (includes item 43)	
43	88591210	1	O-RING	
44		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

## SECTION 8 - HYDRAULIC CIRCUITS

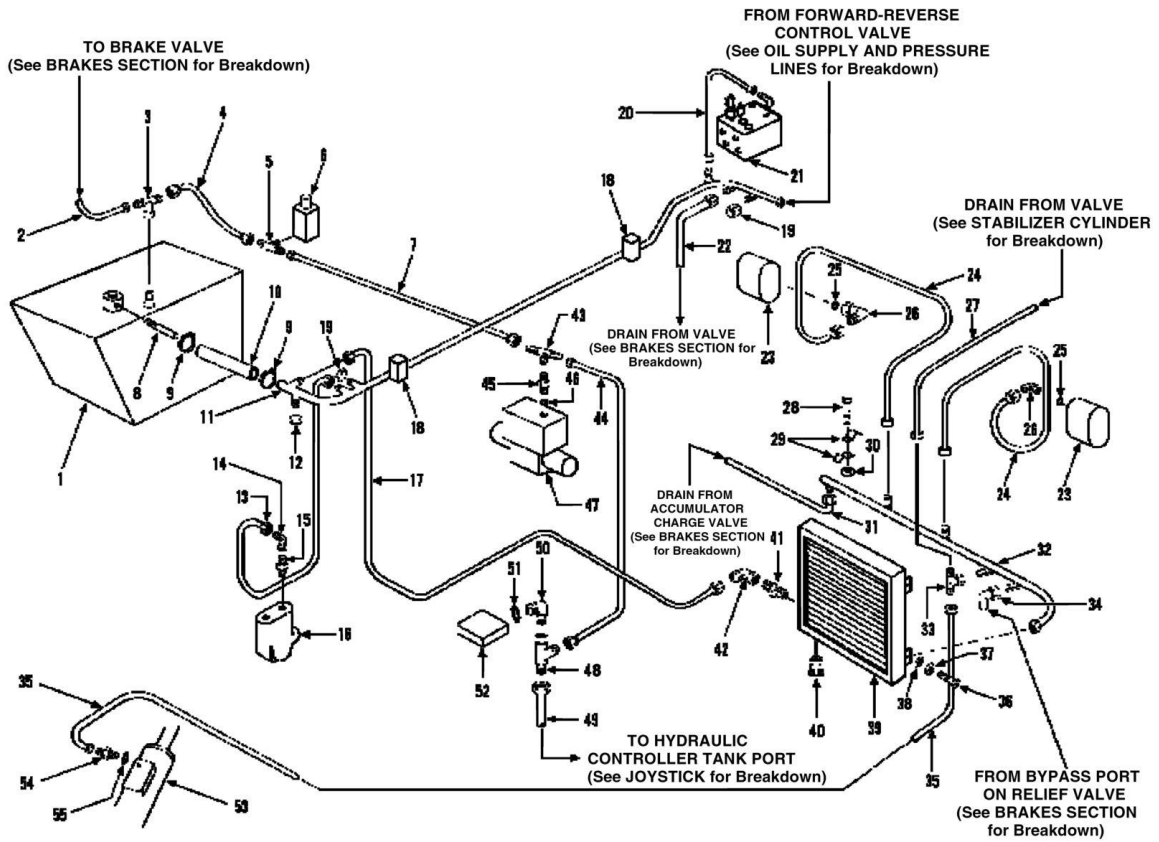
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45		Ref	SOLENOID VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
46	88521304	2	HEX LOCKNUT, 1/4-20	
47	88561107	2	FLATWASHER, 1/4	
48	90207719	1	JUMPER WIRE	
49	91041557	1	MOUNTING PLATE	
50	88743003	1	MALE ADAPTER, 3/8X1/2, GR5	
51	84717468	1	HOSE ASSY	
52	88201009	2	HEX HD CAPSCREW, 1/4-20X2, GR5	
53	88711381	1	REDUCING BUSHING, 3/8X1/4	
54	88743042	1	MALE ELBOW, 90, 1/4X5/16 TUBE	
55	84716238	1	HOSE ASSY	
56	88743036	1	MALE ELBOW, 45, 1/8X5/16 TUBE	
57		Ref	TRANSMISSION CONTROL VALVE (See DRIVE TRAIN SECTION for Breakdown)	
58	90207872	1	HYDRAULIC CUP	
59	84717490	1	HOSE ASSY	
60	88661306	1	UNION TEE	
61	91033073	1	TUBE ASSY	
62	77133499	4	HEX HD CAPSCREW	
63	77133498	2	COVER PLATE	
64	91033138	2	CLAMP	
65	84717413	1	HOSE ASSY	
66	91033100	1	INLINE STRAINER	
67	77133147	1	HOSE ASSY	
68	88662225	1	SWIVEL NUT RUN TEE	
69	77241003	1	ADAPTER	
70	77133089	1	MINI-CHECK COUPLING	
71	88662026	1	CONNECTER (includes item 75)	
72	88591204	1	O-RING	
73		Ref	DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
74	84711369	2	SPLIT FLANGE CLAMP	
75	85031525	1	SQUARE O-RING -12	
76	84711333	2	SPLIT FLANGE CLAMP	
77	83661304	1	SQUARE O-RING - 16	
78	88201036	8	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
79	88551011	8	LOCKWASHER, 3/4X.141X.094	
80	91053345	1	TUBE ASSY	
81	91053344	1	TUBE ASSY	
82	77133089	2	MINI-CHECK COUPLING (includes item 83)	
83	88591204	2	O-RING	





# SECTION 8 - HYDRAULIC CIRCUITS

## FIGURE 8-2. DUMP CIRCUIT (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-2. DUMP CIRCUIT (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	OIL RESEVOIR ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	84717842	1	HOSE ASSY	
3	88662225	1	SWIVEL NUT BRANCH TEE	
4	90207599	1	HOSE ASSY	
5	88661245	1	MALE OUTLET TEE, 3/8X1/2 TUBE	
6	90206739	1	SOLENOID VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
7	84717520	1	HOSE ASSY	
8	90205776	1	ADAPTER	
9	90028482	2	HOSE CLAMP	
10	90207365	1	HOSE	
11	91043144	1	TUBE ASSY	
12	88661365	1	HEX CAP, 1/2 TUBE	
13	77133447	1	HOSE ASSY	
14	88662105	1	ELBOW - 90, (swivel nut)	
15	83661316	1	CONNECTOR	
16		Ref	PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
17	84717797	1	HOSE ASSY	
18	90205793	2	CLAMP ASSY	
19	88661364	2	HEX CAP, 3/8 TUBE	
20	84717900	1	HOSE ASSY	
21		Ref	SERIES - PARALLEL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	77133167	1	HOSE ASSY	
23		Ref	REAR DRIVE MOTOR (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
24	84717526	2	HOSE ASSY	
25	88591204	2	O-RING	
26	88662064	2	ELBOW - 90, (includes item 25)	
27	84717923	1	HOSE ASSY	
28	88201035	1	HEX HD CAPSCREW, 3/8-16X1, GR5	
29	91043147	2	SUPPORT CLAMP	
30	88521006	1	HEX LOCKNUT, 3/8-16	
31	84717489	1	HOSE ASSY	
32	91043145	1	DRAIN MANIFOLD	
33	88662225	1	SWIVEL NUT BRANCH TEE	
34	84717518	1	HOSE ASSY	
35	84717521	1	HOSE ASSY	
36	88201031	4	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
37	88551011	4	LOCKWASHER, 3/8	
38	88561109	4	FLATWASHER, 3/8	
39	91033050	1	OIL COOLER ASSY	
40	84521056	1	DRAIN VALVE	
41	86923006	1	ADAPTER	
42	88662107	1	ELBOW - 90, (swivel nut)	
43	88662224	1	SWIVEL NUT RUNTEE	
44	84717466	1	HOSE ASSY	
45	88662005	1	CONNECTOR (includes item 46)	
46	88591204	1	O-RING	

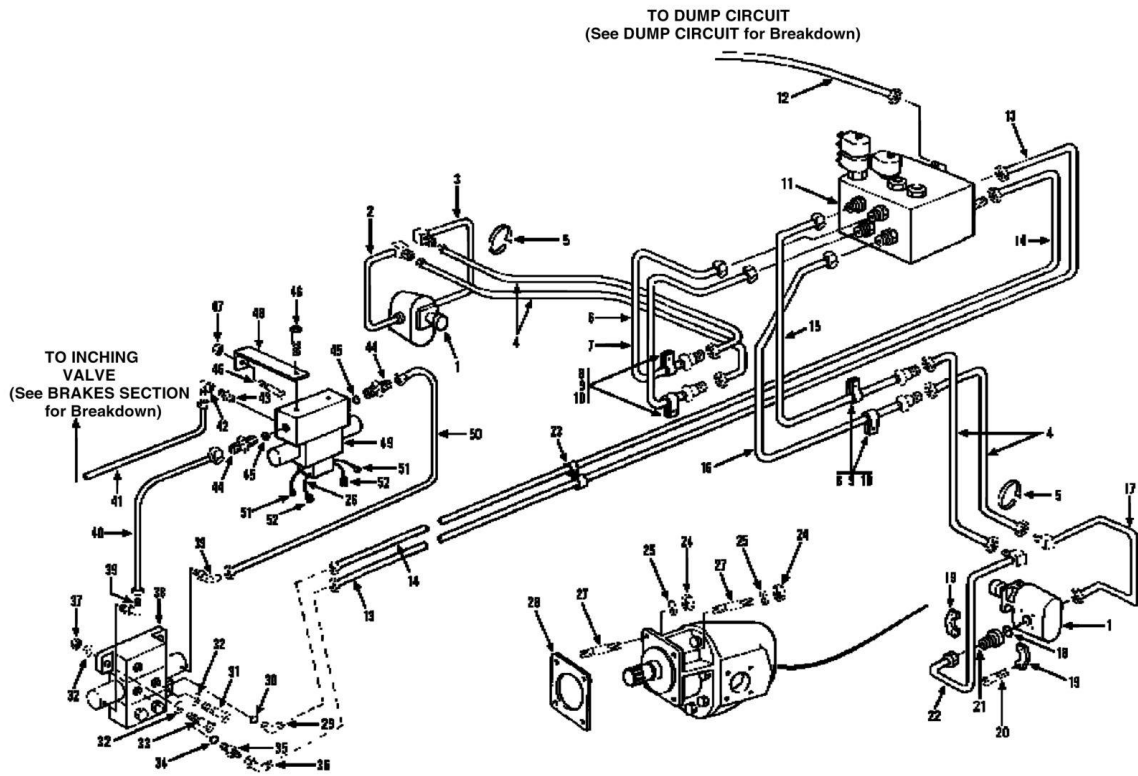
## SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47		Ref	DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
48	88662239	1	SWIVEL NUT RUN TEE	
49	84717341	1	HOSE ASSY	
50	88662064	1	ELBOW - 90, (includes item 51)	
51	88591204	1	O-RING	
52		Ref	INCHING VALVE (See BRAKES SECTION for Breakdown)	
53		Ref	ORBITROL (See CONTROLS SECTION for Breakdown)	
54	88662006	1	CONNECTOR (includes item 55)	
55	88591205	1	O-RING	



# SECTION 8 - HYDRAULIC CIRCUITS

## FIGURE 8-3. REAR DRIVE (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-3. REAR DRIVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	REAR DRIVE MOTOR ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91043113	1	TUBE ASSY	
3	91043116	1	TUBE ASSY	
4	90207290	4	HOSE ASSY	
5	90027187	AR	NYLON TY-RAP	
6	91043308	1	TUBE ASSY	
7	91043309	1	TUBE ASSY	
8	90202343	4	TUBE CLAMP	
9	88201033	4	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
10	88561109	4	FLAT WASHER, 3/8	
11		Ref	SERIES PARALLEL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
12	84717900	1	HOSE ASSY	
13	91043312	1	TUBE ASSY	
14	91043311	1	TUBE ASSY	
15	91043307	1	TUBE ASSY	
16	91043310	1	TUBE ASSY	
17	91043115	1	TUBE ASSY	
18	90028225	4	O-RING	
19	84711342	8	FLANGE HALF	
20	88201067	16	HEX HD CAPSCREW, 1/2-13X1-1/2, GR5	
21	90207372	4	ADAPTER	
22	91043114	1	TUBE ASSY	
23	90200482	1	TUBE CLAMP	
24	88501008	8	HEX NUT, 1/2-13	
25	90027471	8	HARD WASHER	
26		Ref	WIRE, 14 GA BLACK, 40IN LONG	
27	91033481	8	STUD	
28	85681076	2	GASKET	
29	88662069	1	ELBOW - 90, (includes item 30)	
30	88591209	1	O-RING	
31	88201070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5	
32	88561111	6	FLAT WASHER, 1/2	
33	88201068	2	HEX HD CAPSCREW, 1/2-13X1-3/4, GR5	
34	88591209	1	O-RING	
35	88662010	1	CONNECTOR (includes item 34)	
36	88662110	1	ELBOW - 90, (swivel nut)	
37	88501008	3	HEX NUT, 1/2-13	
38		Ref	FOWARD-REVERSE VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
39	90027906	2	ELBOW - 90	
40	84717464	1	HOSE ASSY	
41	77133342	1	HOSE ASSY	
42	88662105	1	ELBOW - 90, (swivel nut)	
43	83661316	1	CONNECTOR	
44	88662003	2	CONNECTOR (includes item 45)	
45	88591202	2	O-RING	
46	88201005	4	HEX HD CAPSCREW, 1/4-20X1, GR5	
47	88501004	4	HEX NUT, 1/4-20	

## SECTION 8 - HYDRAULIC CIRCUITS

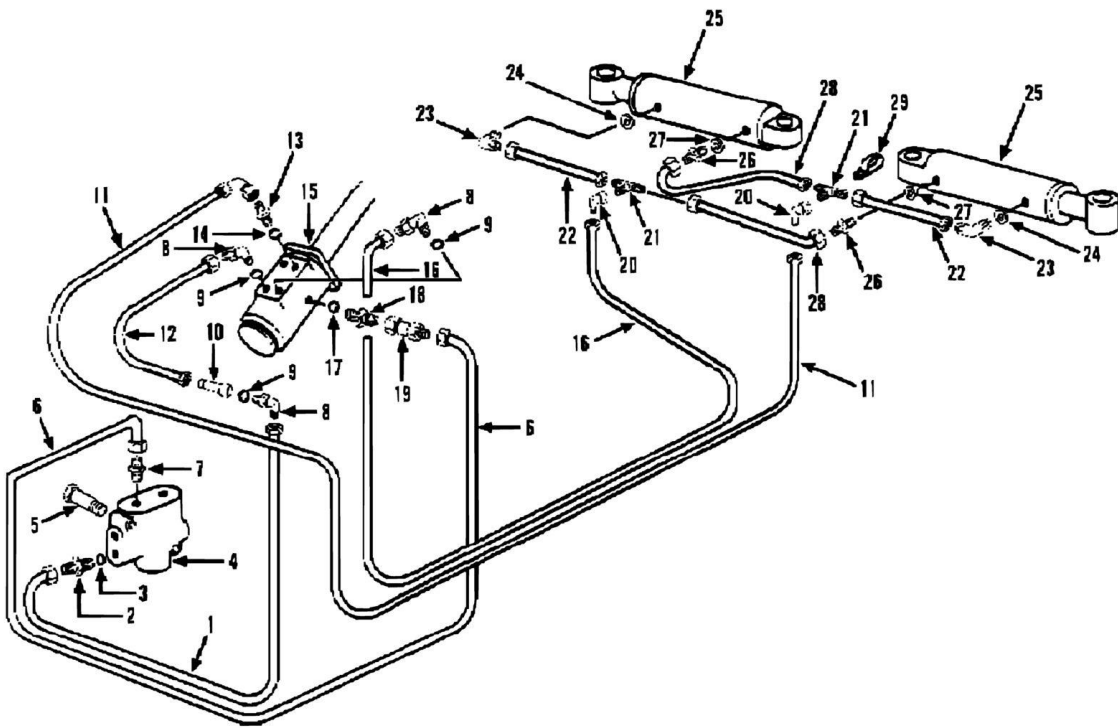
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48	91031086	2	MOUNTING BRACKET	
49		Ref	DIRECTIONAL CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
50	90027485	1	HOSE ASSY	
51	86983191	2	TERMINAL, 1/4 SCREW SIZE	
52	90028959	2	FEMALE TERMINAL	





# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-4. STEERING (SN 0155299S to Present)



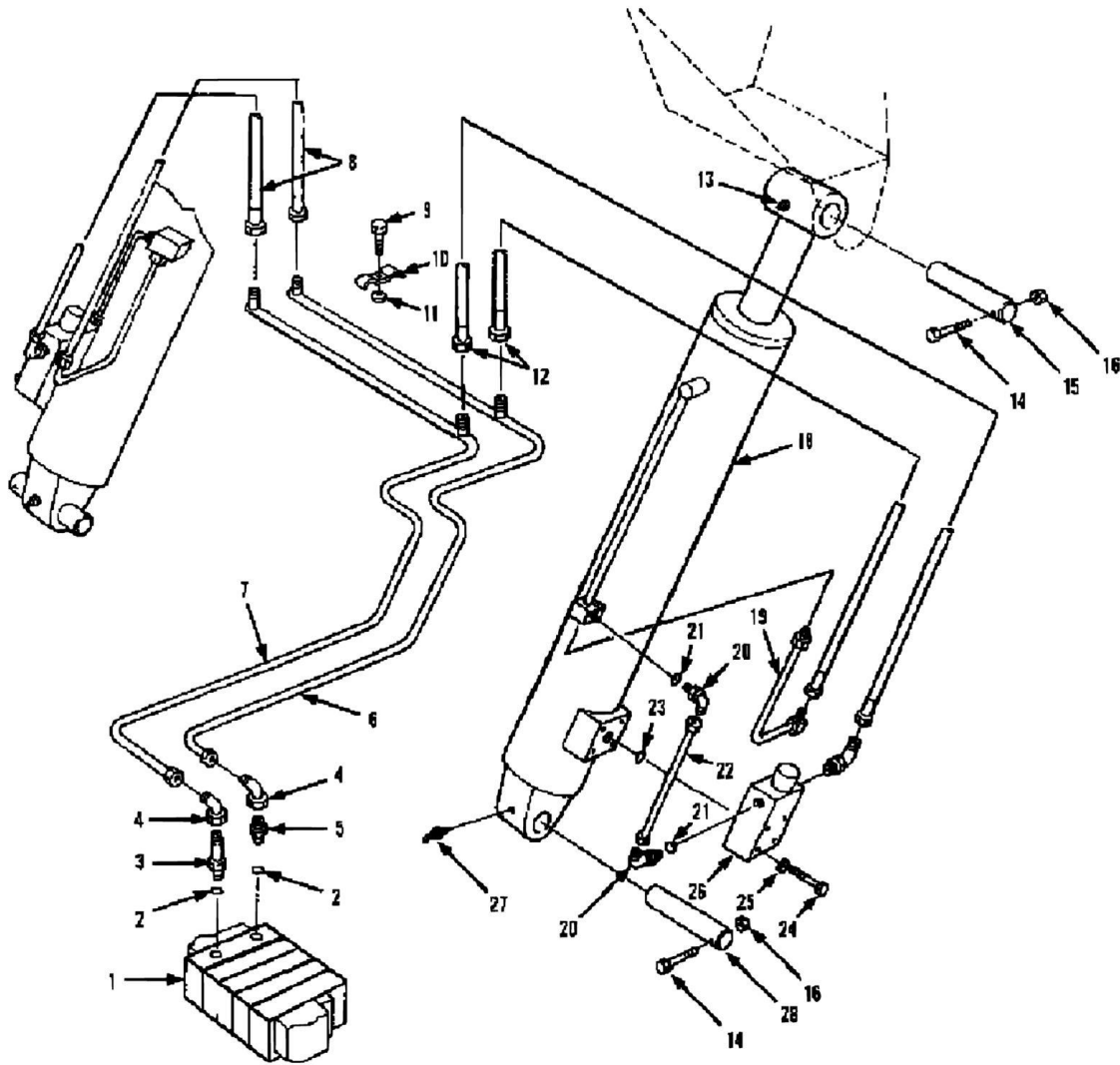
## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-4. STEERING (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717550	1	HOSE ASSY	
2	88662007	1	CONNECTOR (includes item 3)	
3	88591206	1	O-RING	
4		Ref	PRIORITY FLOW CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	88201028	2	HEX HD CAPSCREW, 5/16-18X3, GR5	
6	84717547	1	HOSE ASSY	
7	83661316	1	CONNECTOR	
8	88662065	3	ELBOW - 90, (includes item 9)	
9	88591205	3	O-RING	
10	90202926	1	CHECK VALVE	
11	84717548	1	HOSE ASSY	
12	90206003	1	TUBE ASSY	
13	88662006	1	CONNECTOR (includes item 14)	
14	88591205	1	O-RING	
15	90601762	Ref	ORBITROL (See CONTROLS SECTION for Breakdown)	
16	84717882	1	HOSE ASSY	
17	88591204	1	O-RING	
18	88662035	1	CONNECTOR (includes item 17)	
19	86561131	1	REDUCER	
20	88662106	2	ELBOW - 90, (swivel nut)	
21	88661306	2	UNION TEE	
22	84717525	2	HOSE ASSY	
23	88662064	2	ELBOW - 90, (includes item 24)	
24	88591204	2	O-RING	
25		Ref	STEERING CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
26	88662005	2	CONNECTOR (includes item 27)	
27	88591204	2	O-RING	
28	84717546	2	HOSE ASSY	
29	85841150	1	HOSE CLAMP	

# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-5. LIFT CYLINDER (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-5. LIFT CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591207	2	O-RING	
3	88662038	1	CONNECTOR (includes item 2)	
4	88662108	2	ELBOW - 90, (swivel nut)	
5	88662008	1	CONNECTOR (includes item 2)	
6	91043095	1	TUBE ASSY	
7	91043096	1	TUBE ASSY	
8	84716448	2	HOSE ASSY	
9	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
10	90200483	2	TUBE CLAMP	
11	88501006	2	HEX NUT, 3/8-16	
12	84717799	2	HOSE ASSY	
13	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
14	88201104	4	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
15	90206892	2	PIN	
16	88501010	4	HEX NUT, 5/8-11	
18		Ref	LIFT CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
19	91043070	2	TUBE ASSY	
20	88662062	4	ELBOW - 90, (includes item 21)	
21	88591202	4	O-RING	
22	91043069	2	TUBE ASSY	
23	88591102	2	O-RING	
24	88201071	8	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5	
25	88551013	8	LOCKWASHER, 1/2	
26	91043232	2	COUNTERBALANCE VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
27	88671027	2	LUBE FITTING, 90, 1/4-28	
28	90402875	2	PIN	



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-6. CROWD CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201035	4	HEX HD CAPSCREW, 3/8-16X1, GR5	
2	88551011	4	LOCKWASHER, 3/8	
3	91046053	2	PIN	
4		Ref	EXTENSION CROWD CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	88591205	2	O-RING	
6	88662006	2	CONNECTOR (includes item 5)	
7	84717495	2	HOSE ASSY	
8		Ref	PUSH BEEM AND CABLES (See BOOMS SECTION for Breakdown)	
9	90403249	2	HOSE TAKE-UP WELDMENT	
10	90200313	2	SPRING	
11	90207041	2	SPRING RETAINER	
12	88501008	2	HEX NUT, 1/2-13	
13	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
14	90027180	2	BULKHEAD FITTING, 90	
15	88662106	2	ELBOW - 90, (swivel nut)	
16	91053413	2	CUSHION CLAMP	
17	84717500	1	HOSE ASSY	
18	84717501	1	HOSE ASSY	
19	88662020	1	CONNECTOR (includes item 20)	
20	88591207	1	O-RING	
21	88662067	1	ELBOW - 90, (includes o-ring)	
22	88591207	1	O-RING	
23	77133440	1	HOSE ASSY	
24	90205792	1	CUSHION CLAMP	
25		Ref	SOLENOID VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
26	88662062	2	ELBOW - 90, (includes item 27)	
27	88591202	2	O-RING	
28	91043112	1	TUBE ASSY	
29		Ref	CROWD CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	91043110	1	TUBE ASSY	
31	90027906	2	ELBOW - 90	
32		Ref	SOLENOID VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
33	88662067	1	ELBOW - 9, (includes item 34)	
34	88591207	1	O-RING	
35	91043232	1	COUNTERBALNCE VALVE ASSY	
36	88591106	1	O-RING	
37	88201072	4	HEX HD CAPSCREW, 1/2-13X2-3/4, GR5	
38	88561111	4	FLATWASHER, 1/2	
39	88662242	1	SWIVEL NUT RUN TEE	
40	91043160	1	TUBE ASSY	
41	91043111	1	TUBE ASSY	
42	90200482	1	TUBE CLAMP	
43	91041060	1	MOUNTING PLATE	
44	88201035	1	HEX HD CAPSCREW, 3/8-16X1, GR5	
45	88551011	1	LOCKWASHER, 3/8	
46	88661308	1	UNION TEE, 3/4 TUBE	

## SECTION 8 - HYDRAULIC CIRCUITS

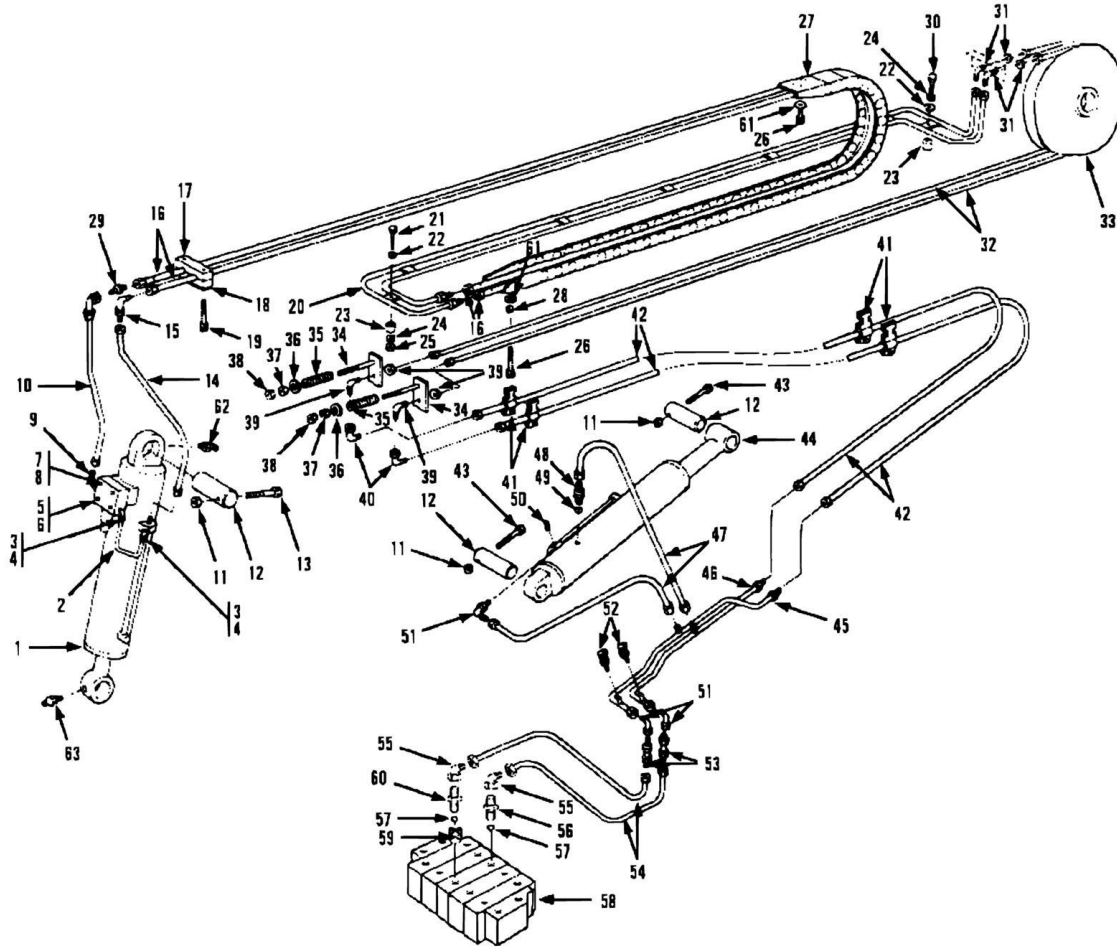
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	84717608	2	HOSE ASSY	
48	90205792	2	CUSHION CLAMP	
49	88662108	2	ELBOW - 90, (swivel nut)	
50	88662038	1	CONNECTOR (includes item 51)	
51	88591207	2	O-RING	
52	88662008	1	CONNECTOR (includes item 51)	
53		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
54	90028935	2	RETAINING RING	
55	90207352	1	PIN	





# SECTION 8 - HYDRAULIC CIRCUITS

## FIGURE 8-7. TILT CYLINDER (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-7. TILT CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	TILT CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91043174	1	TUBE ASSY	
3	88662062	2	ELBOW -90, (includes item 4)	
4	88591202	2	O-RING	
5	91043232	1	COUNTERBALANCE VALVE	
6	88591106	1	O-RING	
7	88201071	4	HEX HD CAPSCREW, 1/2-13X2-1/2, GR5 (lubricate and torque to 68-78 ft lbs)	
8	88551013	4	LOCKWASHER, 1/2	
9	91043157	1	ELBOW -90	
10	84717588	1	HOSE ASSY	
11	88521010	3	HEX LOCKNUT, 5/8-11	
12	90206892	3	PIN	
13	83201044	1	HEX HD CAPSCREW	
14	84717487	1	HOSE ASSY	
15	88661206	1	UNION ELBOW, 90, 1/2 TUBE	
16	84717486	2	HOSE ASSY	
17	77133136	1	CLAMP SET	
18	77133137	1	COVER PLATE	
19	88201023	1	HEX HD CAPSCREW, 5/16-18X1-3/4, GR5	
20	91043098	1	TUBE ASSY	
21	88201038	2	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5	
22	88561109	4	FLATWASHER, 3/8	
23	91041226	4	SPACER	
24	88551011	4	LOCKWASHER, 3/8	
25	88501006	2	HEX NUT, 3/8-16	
26	88201003	8	HEX HD CAPSCREW, 1/4-20X3/4, GR5 (lubricate and torque to 9-12 ft lbs)	
27	91043093	1	HOSE CARRIER	
28	88551009	4	LOCKWASHER, 1/4	
29	88661065	4	UNION, 1/2 TUBE	
30	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
31	90027180	2	BULKHEAD ELBOW, 90, 1/2 TUBE	
32	84717494	2	HOSE ASSY	
33		Ref	PUSH BEAM AND CABLES (See BOOMS SECTION for Breakdown)	
34	90403249	2	HOSE TAKE-UP WELDMENT	
35	90200313	2	SPRING	
36	90207041	2	SPRING RETAINER	
37	88501008	2	HEX NUT, 1/2-13	
38	88501108	2	HEAVY HEX JAM NUT, 1/2-13	
39	90027180	2	BULKHEAD FITTING, 90	
40	88662106	2	ELBOW, 90, (swivel nut)	
41	91053413	12	CUSHION CLAMP	
42	84717503	2	HOSE ASSY	
43	88201104	2	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
44		Ref	COMPENSATING CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
45	90207387	1	TUBE ASSY	
46	90207386	1	TUBE ASSY	

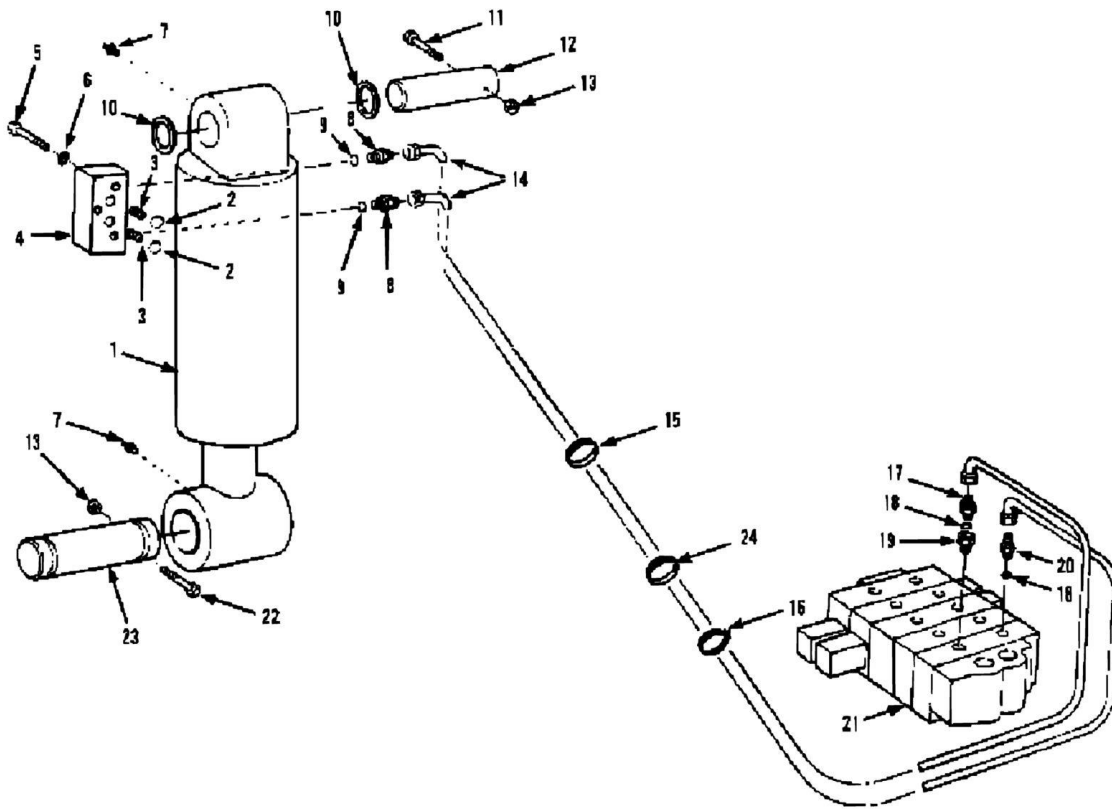
## SECTION 8 - HYDRAULIC CIRCUITS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
47	90022043	2	HOSE ASSY	
48	88662021	1	CONNECTOR (includes item 49)	
49	88591205	1	O-RING	
50	88711280	1	SOCKET HD PIPE PLUG, 1/8-27	
51	88662107	3	ELBOW - 90, (swivel nut)	
52	91033032	2	MINI-CHECK COUPLING	
53	90029939	2	BULKHEAD UNION	
54	90022043	2	HOSE ASSY	
55	88662107	2	ELBOW - 90, (swivel nut)	
56	88662022	1	CONNECTOR (includes item 57)	
57	88591207	2	O-RING	
58		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
59	86923006	1	REDUCER EXPANDER FITTING	
60	88662008	1	CONNECTOR (includes item 57)	
61	88561107	8	FLATWASHER, 1/4	
62	88671027	1	LUBE FITTING, 45, 1/4-28	
63	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	



# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-8. SWAY CYLINDER (SN 0155299S to Present)



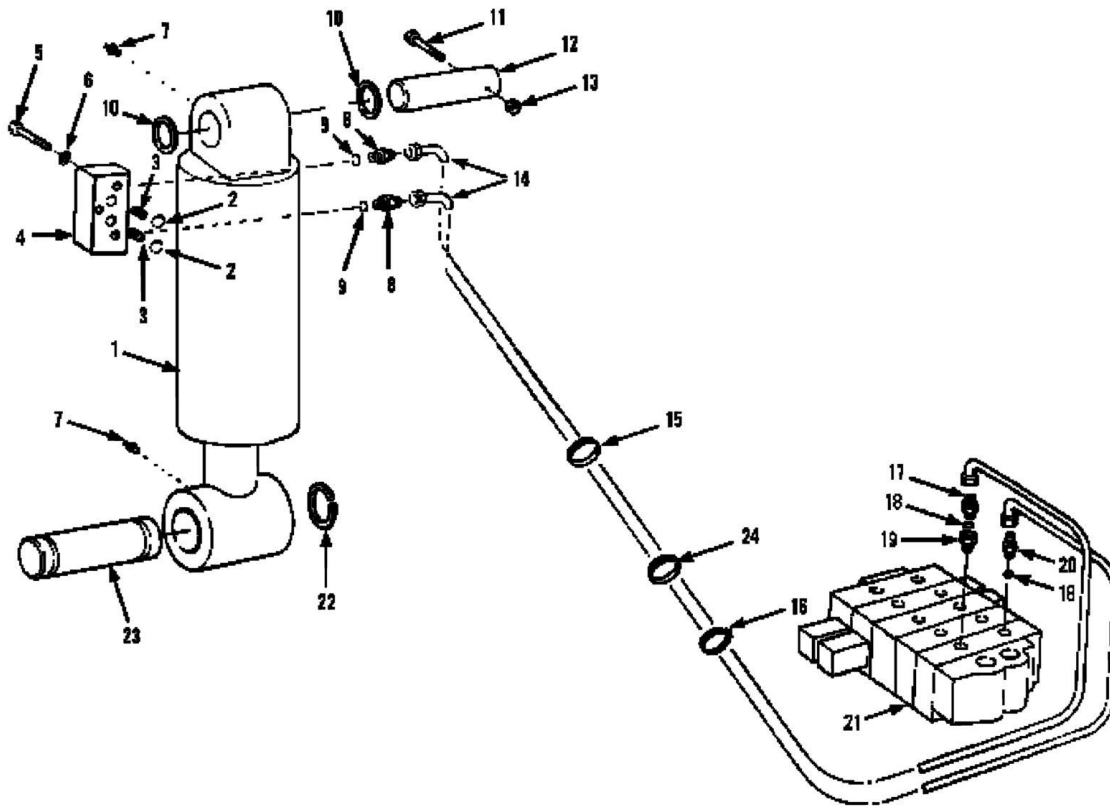
## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-8. SWAY CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	SWAY CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591012	2	O-RING	
3	91041387	2	ORIFICE PLUG	
4		Ref	DUAL P.O. CHECK VALVE (includes item 2) (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	88201041	3	HEX HD CAPSCREW, 3/8-16X2-1/2, GR5	
6	88551011	3	LOCK WASHER, 3/8	
7	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
8	88662006	2	CONNECTOR (includes item 9)	
9	88591205	2	O-RING	
10	90207727	AR	SHIM (20 gauge)	
10	90207728	AR	SHIM (16 gauge)	
10	90207729	AR	SHIM (10 gauge)	
10	90207730	AR	SHIM (1/4in thick)	
11	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
12	90402876	1	PIN	
13	88501010	2	HEX NUT, 5/8-11	
14	91033224	2	HOSE ASSY	
15	91043227	1	GROMMET	
16	90027187	AR	NYLON HOSE TIE	
17	88662008	1	CONNECTOR (includes item 18)	
18	88591207	2	O-RING	
19	83651133	1	REDUCER	
20	88662020	1	CONNECTOR (includes item 18)	
21		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	88201106	1	HEX HD CAPSCREW, 5/8-11X4-1/2, GR5	
23	90206847	1	PIN	
24	91043227	1	GROMMET	

# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-9. SWAY CYLINDER (SN 0155299S to Present)





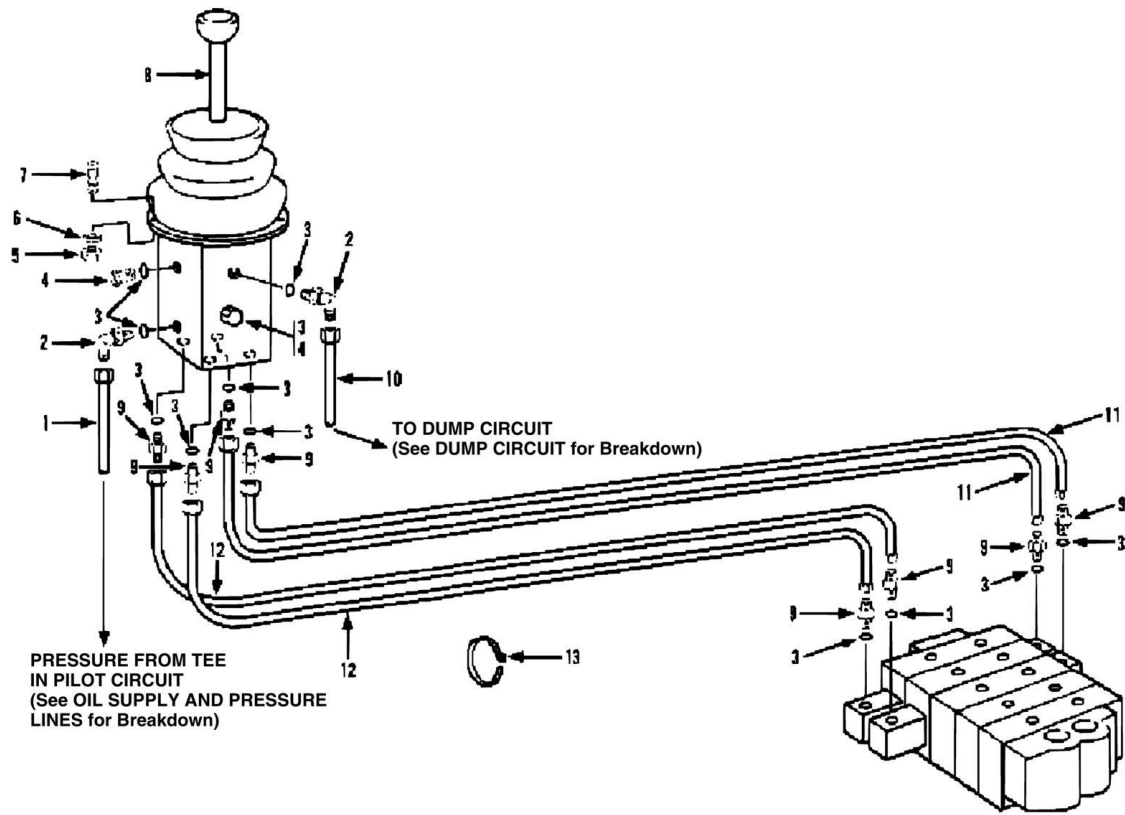
## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-9. SWAY CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	SWAY CYLINDER (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591012	2	O-RING	
3	91041387	2	ORIFICE PLUG	
4		Ref	DUAL P.O. CHECK VALVE (includes item 2) (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	88201041	3	HEX HD CAPSCREW, 3/8-16x2-1/2, GR5	
6	88551011	3	LOCKWASHER, 3/8	
7	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
8	88662006	2	CONNECTOR (includes item 9)	
9	88591205	2	O-RING	
10	90207727	AR	SHIM (20 gauge)	
10	90207728	AR	SHIM (16 gauge)	
10	90207729	AR	SHIM (10 gauge)	
10	90207730	AR	SHIM (1/4in thick)	
11	88201104	1	HEX HD CAPSCREW, 5/8-11X3-3/4, GR5	
12	90402876	1	PIN	
13	88501010	2	HEX NUT, 5/8-11	
14	91033224	2	HOSE ASSY	
15	91043227	1	GROMMET	
16	90027187	AR	NYLON HOSE TIE	
17	88662008	1	CONNECTOR (includes item 18)	
18	88591207	2	O-RING	
19	83651133	1	REDUCER	
20	88662020	1	CONNECTOR (includes item 18)	
21		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22	90028935	1	RETAINING RING	
23	90207352	1	PIN	
24	91043227	1	GROMMET	

# SECTION 8 - HYDRAULIC CIRCUITS

## FIGURE 8-10. JOYSTICK (SN 0155299S to Present)



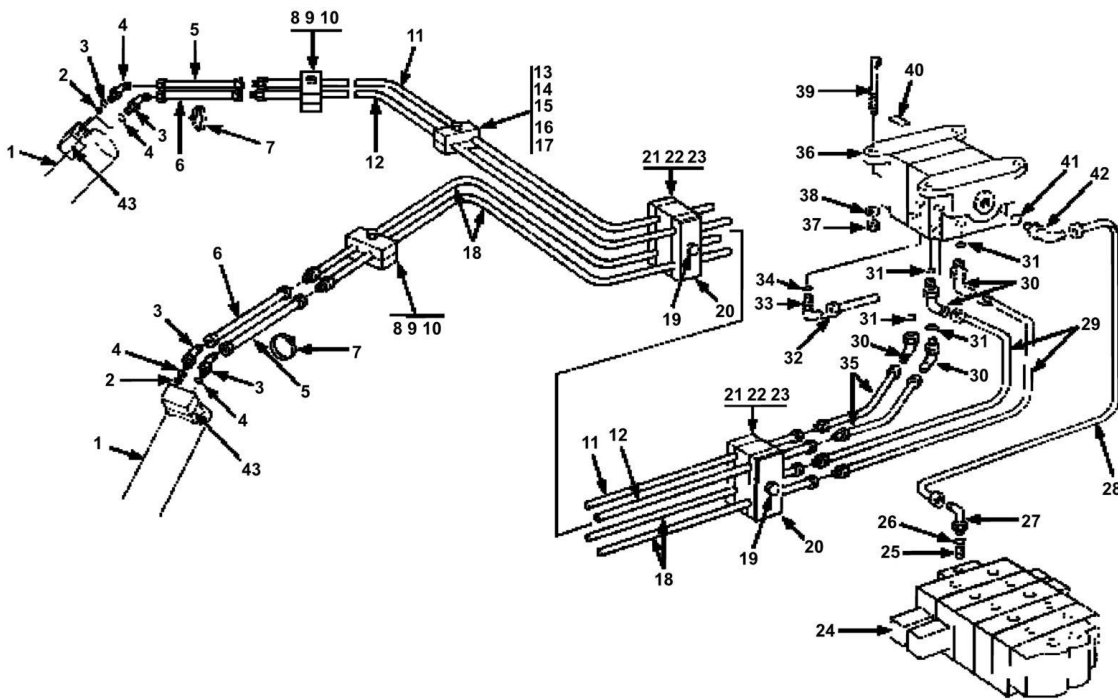
## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-10. JOYSTICK (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717490	1	HOSE ASSY	
2	88662064	2	ELBOW - 90, (includes item 3)	
3	88591204	12	O-RING	
4	88662174	2	HEX HD PLUG (includes item 3)	
5	88501004	4	HEX NUT, 1/4-20	
6	88551009	4	LOCKWASHER, 1/4	
7	88201006	4	HEX HD CAPSCREW, 1/4-20X1-1/4, GR5	
8		Ref	HYDRAULIC CONTROLLER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
9	88662005	8	CONNECTOR (includes item 3)	
10	77133167	1	HOSE ASSY	
11	84717458	2	HOSE ASSY	
12	84717519	2	HOSE ASSY	
13	90027187	7	NYLON TY-RAP	
14		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

# SECTION 8 - HYDRAULIC CIRCUITS

## FIGURE 8-11. OUTRIGGER CYLINDER (SN 0155299S to Present)



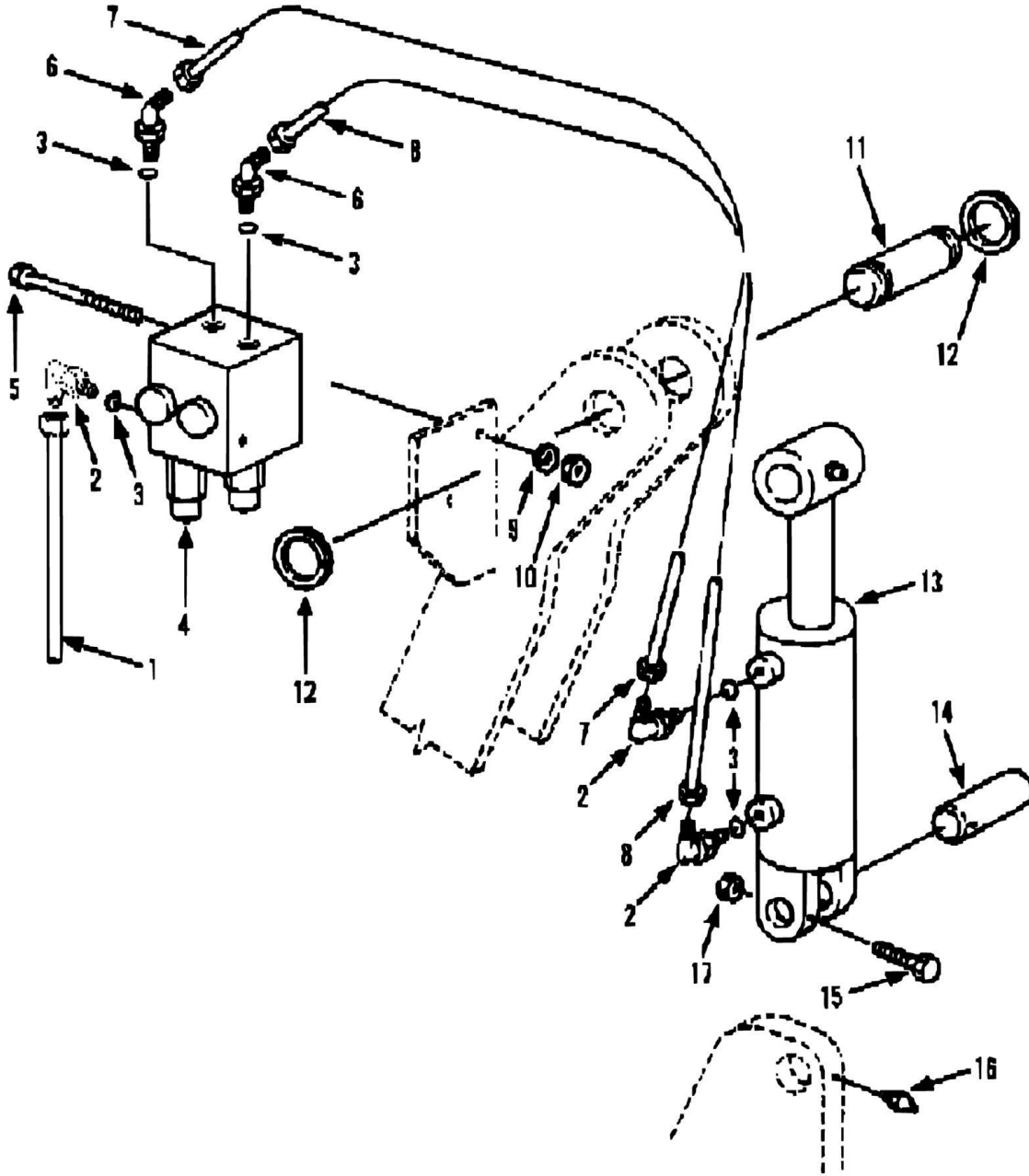
## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-11. OUTRIGGER CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	OUTRIGGER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	91033201	2	ORIFICE CHECK	
3	88662085	4	ELBOW - 45, (includes item 4)	
4	88591205	4	O-RING	
5	84717527	2	HOSE ASSY	
6	84717528	2	HOSE ASSY	
7	90027187	4	NYLON CLAMP	
8	77133168	2	CLAMP SET	
9	77133140	2	COVER PLATE	
10	77133177	2	HEX HD CAPSCREW	
11	91033141	1	TUBE ASSY	
12	91033198	1	TUBE ASSY	
13	77133499	2	HEX HD CAPSCREW	
14	77133498	1	COVER PLATE	
15	91033138	2	CLAMP	
16	91033199	1	SAFETY PLATE	
17	91033200	2	STACKING BOLT	
18	91033140	2	TUBE ASSY	
19	77133177	2	HEX HD CAPSCREW	
20	77133140	2	COVER PLATE	
21	77133168	4	CLAMP SET	
22	77133390	2	SAFETY CLIP	
23	77133389	2	STACK BOLT	
24		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
25	88711284	1	SOCKET HD PIPE PLUG, 3/4	
26	88591209	1	O-RING	
27	88662061	1	ELBOW - 90, (includes item 26)	
28	84717474	1	HOSE ASSY	
29	84717479	2	HOSE ASSY	
30	88662085	4	ELBOW - 45, (includes item 31)	
31	88591205	4	O-RING	
32	84717473	1	HOSE ASSY	
33	88662060	1	ELBOW - 90, (includes item 34)	
34	88591207	1	O-RING	
35	84717477	2	HOSE ASSY	
36		Ref	OUTRIGGER VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
37	88501006	4	HEX NUT, 3/8-16	
38	88551011	4	LOCKWASHER, 3/8	
39	88201037	4	LEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
40	91023006	1	STABILIZER DECAL	
41	88591207	1	O-RING	
42	88662067	1	ELBOW - 90, (includes item 41)	
43		Ref	DUAL P.O. CHECK VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	

# SECTION 8 - HYDRAULIC CIRCUITS

FIGURE 8-12. STABILIZER CYLINDER (SN 0155299S to Present)



## SECTION 8 - HYDRAULIC CIRCUITS

**FIGURE 8-12. STABILIZER CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	84717923	1	HOSE ASSY	
2	88662065	3	ELBOW - 90, (includes item 3)	
3	88591205	5	O-RING	
4	91113003	1	STABILIZER VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
5	83201073	2	HEX HD CAPSCREW P 1-6Z, 3/8- 16X4-1/2, GR5	
6	88662085	2	ELBOW - 45, (includes item 3)	
7	84717847	1	HOSE ASSY	
8	84717848	1	HOSE ASSY	
9	88551011	2	LOCKWASHER, 3/8	
10	88501006	2	HEX NUT, 3/8-16	
11	91041227	1	PIN	
12	88581140	2	RETAINING RING	
13	91043303	1	STABILIZER CYLINDER ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
14	91041561	1	PIN	
15	83201134	1	HEX HD CAPSCREW, 3/8-16X3-1/4, GR8	
16	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
17	88521208	1	HEX LOCKNUT, 3/8-16	

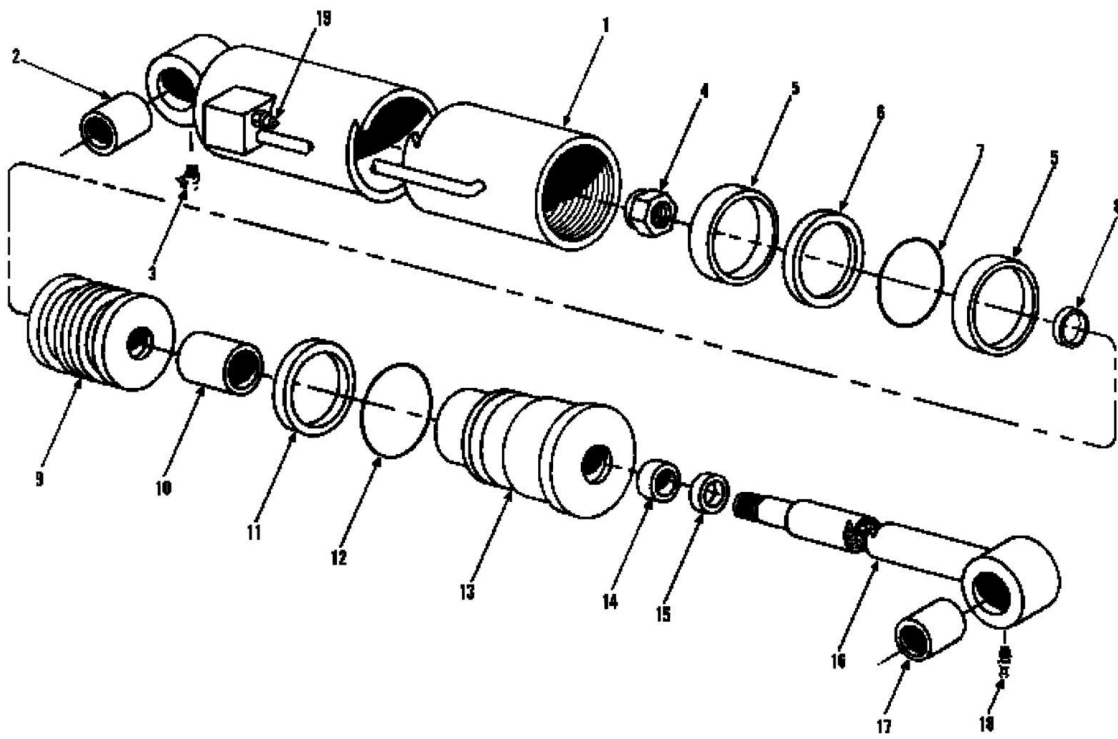




**SECTION 9 - HYDRAULIC COMPONENTS**

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-1. (91043302) LIFT CYLINDER (SN 0155299S to Present)



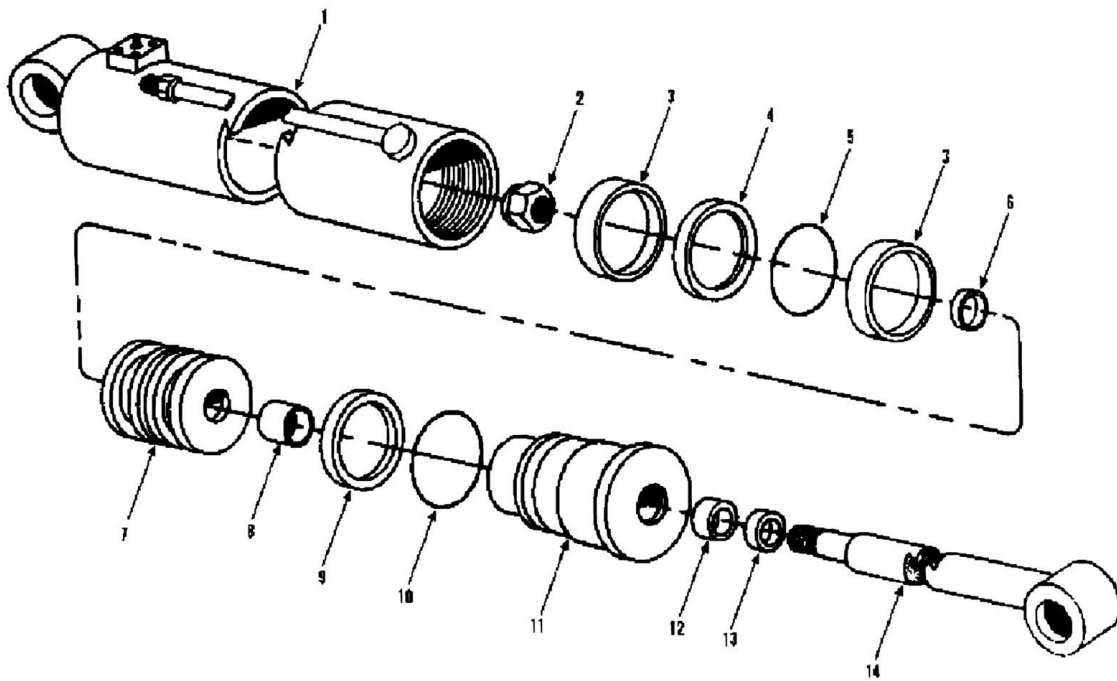
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-1. (91043302) LIFT CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043302	2	LIFT CYLINDER ASSY (includes all items)	
	91034278	1	SEAL KIT (includes items 5-8, 11, 12, 14 & 15)	
1	91044318	1	TUBE ASSY	
2	90205414	1	BUSHING	
3	88671027	1	LUBE FITTING, 90, 1/4-28	
4	91034280	1	LOCKNUT (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	91044319	1	STOP TUBE	
11	Kit	1	BACK-UP RING	
12	Kit	1	O-RING	
13	91034282	1	GLAND	
14	Kit	1	SEAL	
15	Kit	1	WIPER	
16	91044369	1	ROD ASSY	
17	91031372	1	BUSHING	
18	88671033	1	LUBE FITTING, STRAIGHT, 1/4-28	
19		Ref	COUNTERBALANCE VALVE (See COUNTERBALANCE VALVE for Breakdown)	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-2. CROWD CYLINDER (SN 0155299S to Present)



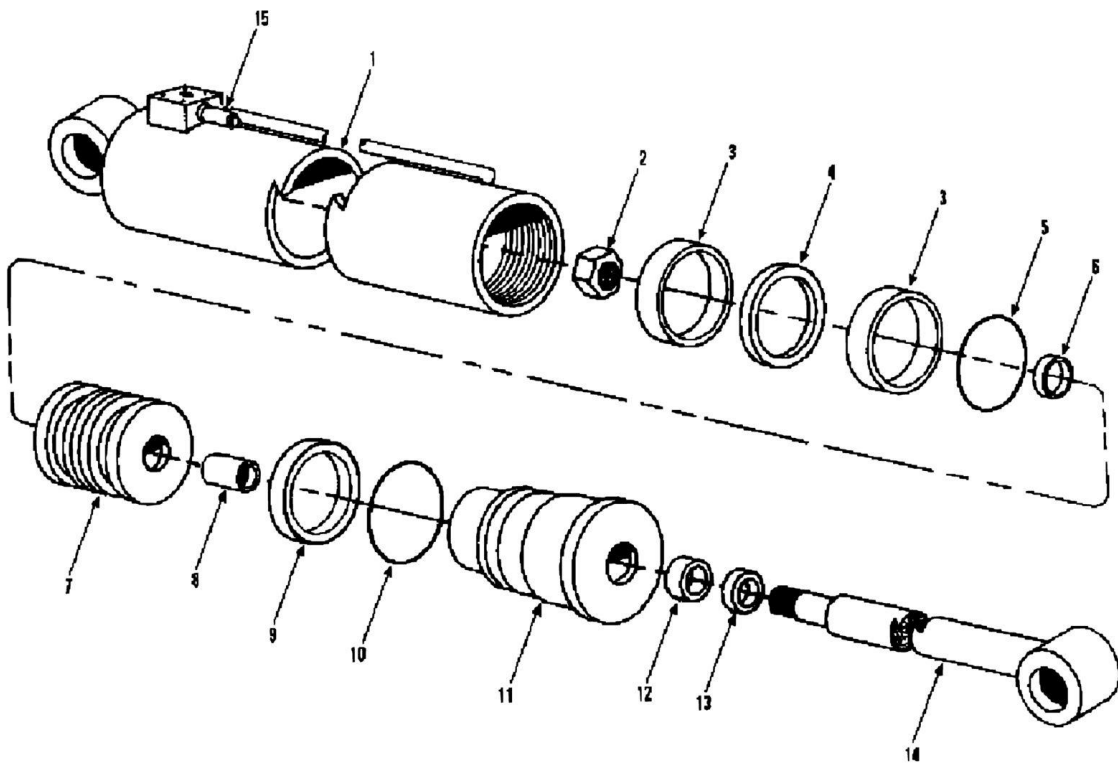
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-2. CROWD CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043300	1	CROWD CYLINDER ASSY (includes all items)	
	91034290	1	SEAL KIT (includes items 3, 4, 5, 6, 9, 10, 12 & 13)	
1	91044326	1	TUBE ASSY	
2	91034286	1	LOCKNUT (torque to 590 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	SEAL	
5	Kit	1	O-RING	
6	Kit	1	O-RING	
7	91034291	1	PISTON	
8	91044327	1	STOP TUBE	
9	Kit	1	BACK-UP RING	
10	Kit	1	O-RING	
11	91034293	1	GLAND	
12	Kit	1	SEAL	
13	Kit	1	WIPER	
14	91044328	1	ROD ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-3. (91043306) CROWD EXTENSION CYLINDER (SN 0155299S to Present)



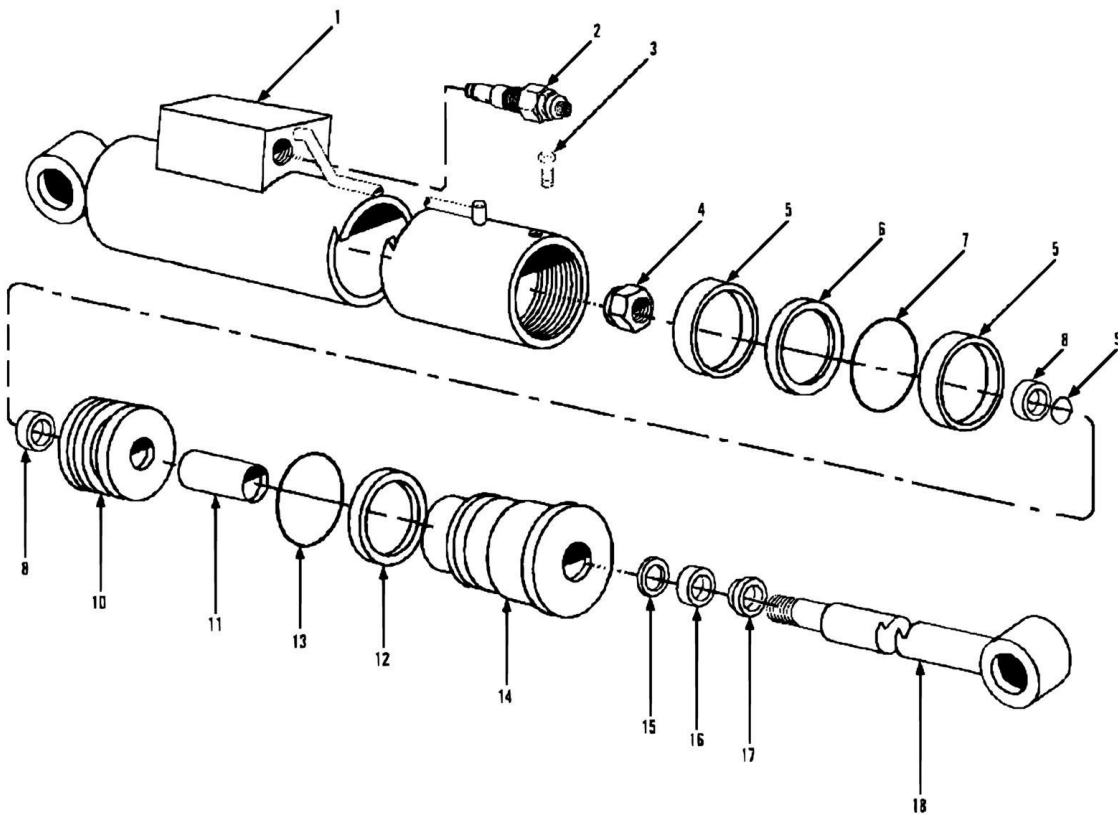
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-3. (91043306) CROWD EXTENSION CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043306	1	CROWD EXTENSION CYLINDER ASSY (includes all items)	
	91044320	1	SEAL KIT (includes items 3, 4, 5, 6, 8, 9, 11 & 12)	
1	91044321	1	TUBE ASSY	
2	91034303	1	LOCK NUT (torque to 235 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	SEAL	
5	Kit	1	O-RING	
6	Kit	1	O-RING	
7	91044322	1	PISTON	
8	91044323	1	STOP TUBE	
9	Kit	1	BACK-UP RING	
10		Ref	O-RING	
11	91044324	1	GLAND	
12	Kit	1	SEAL	
13		Ref	WIPER	
14	91044325	1	ROD ASSY	
15	91033430	1	COUNTER BALANCE VALVE	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-4. (91043482) CROWD EXTENSION CYLINDER





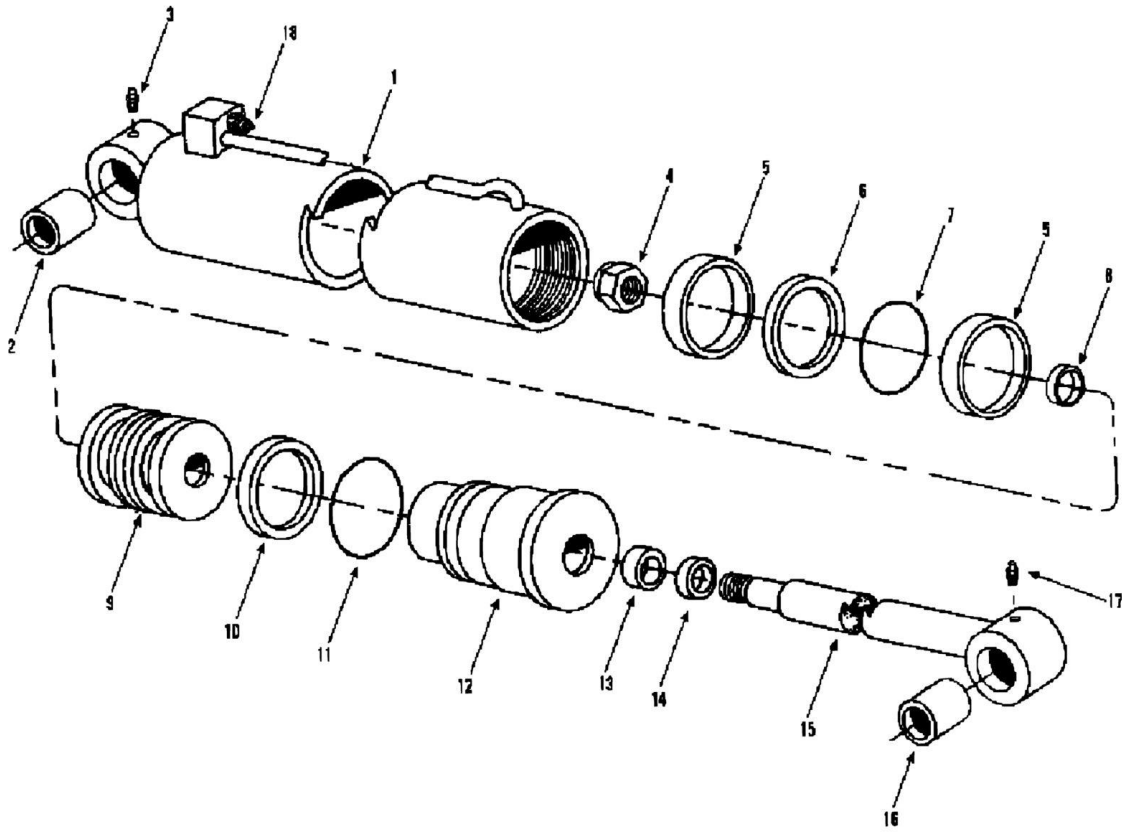
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-4. (91043482) CROWD EXTENSION CYLINDER**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043482	1	CROWD EXTENSION CYLINDER ASSY (includes all items)	
	91044508	1	SEAL KIT (includes items 5 thru 9, 11, 12, 13, 15, 16, & 17)	
1	91084347	1	COUNTER BALANCE VALVE	
2	91044543	1	CASE ASSY	
3	91144017	1	CAPSCREW, 8X32X.375	
4	91204460	1	LOCKNUT, 7/8-14, GR8	
5	Kit	2	WEAR RING	
6	Kit	1	PISTON SEAL	
7	Kit	1	O-RING	
8	Kit	1	BACK-UP RING	
9	Kit	1	O-RING	
10	91044544	1	PISTON	
11	Kit	1	SPACER	
12	Kit	1	BACK-UP RING	
13	Kit	1	O-RING	
14	91084351	1	CYLINDER HEAD	
15	Kit	1	STEP SEAL	
16	Kit	1	U-CUP	
17	Kit	1	CANNED WIPER	
18	91044545	1	SHAFT ASSY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-5. (91043301) TILT CYLINDER (SN 0155299S to Present)



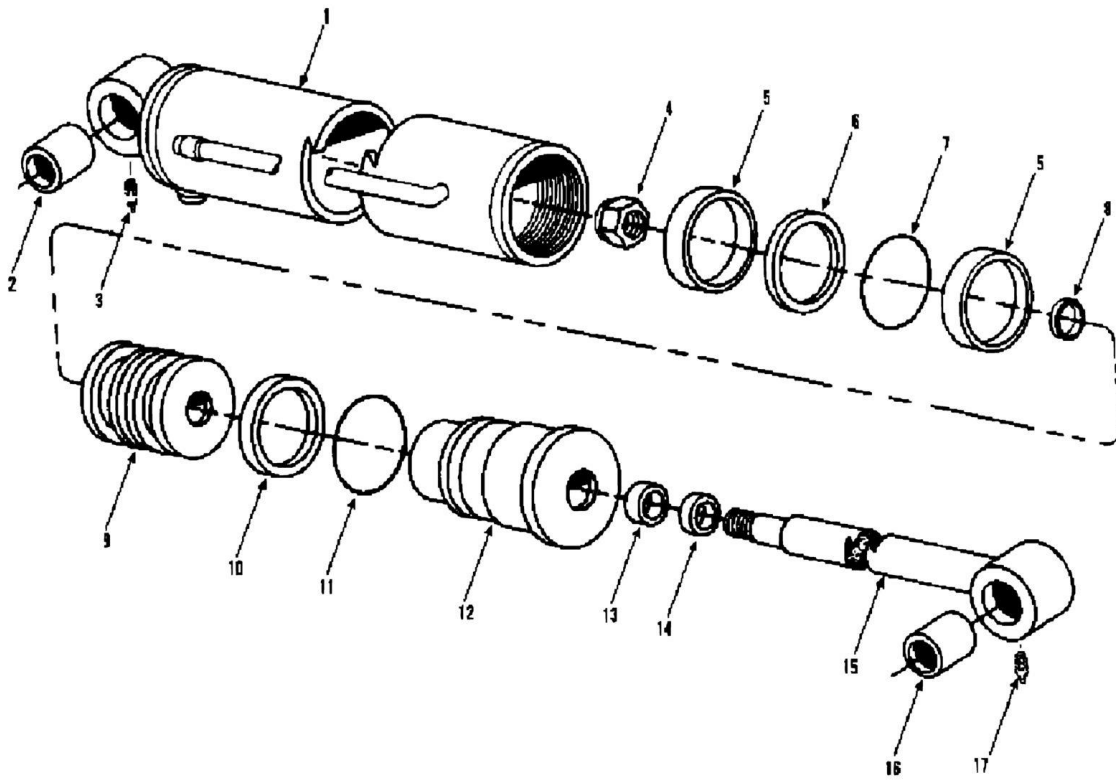
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-5. (91043301) TILT CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043301	1	TILT CYLINDER CYLINDER ASSY (includes all items)	
	91034278	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)	
1	91044329	1	TUBE ASSY (includes item 2)	
2	91084176	1	BUSHING	
3	88671018	1	LUBE FITTING, 45, 1/8	
4	91034280	1	LOCK NUT (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACK-UP RING	
11	Kit	1	O-RING	
12	91034282	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91034296	1	ROD ASSY (includes item 16)	
16	91084176	2	BUSHING	
17	88671001	1	LUBE FITTING, STRAIGHT 1/8	
18	91033430	1	COUNTERBALANCE VALVE	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-6. COMPENSATING CYLINDER (SN 0155299S to Present)



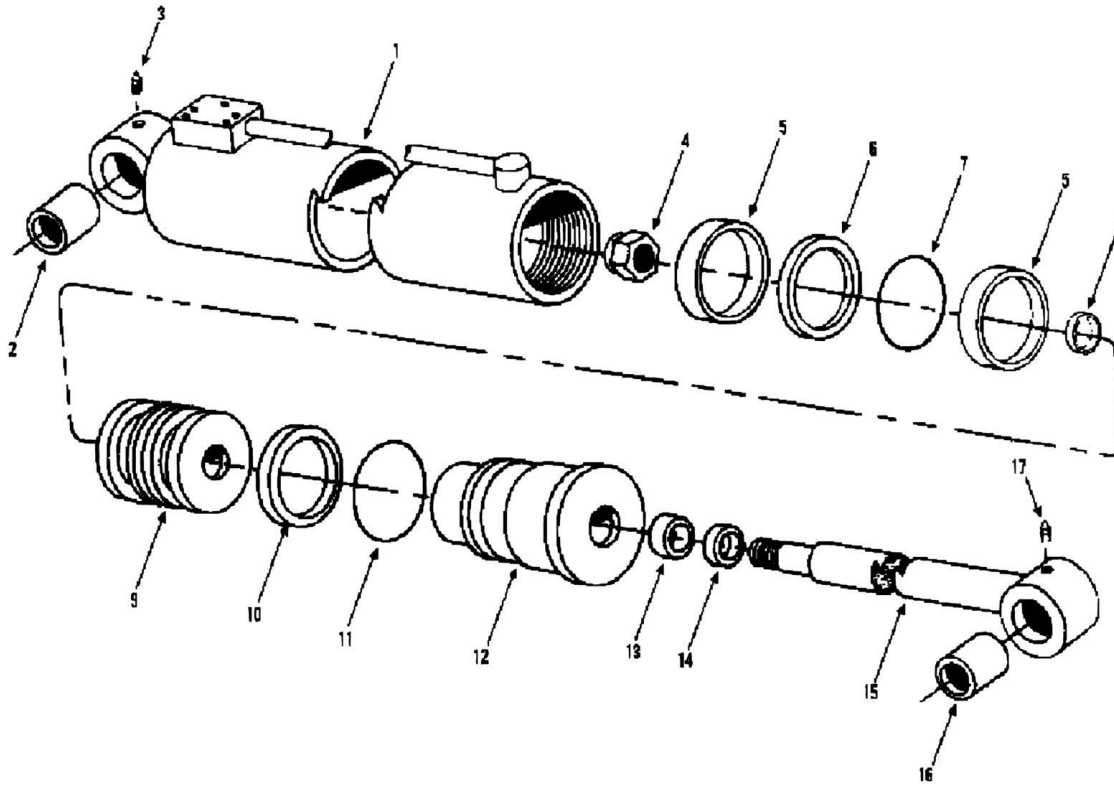
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-6. COMPENSATING CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043304	1	COMPENSATING CYLINDER ASSY (includes all items)	
	91034278	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)	
1	91044313	1	TUBE ASSY (includes item 2)	
2	91084176	2	BUSHING	
3	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
4	91034280	1	LOCK NUT (torque to 1100 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034281	1	PISTON	
10	Kit	1	BACK-UP RING	
11	Kit	1	O-RING	
12	91044314	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91044315	1	ROD ASSY (includes item 16)	
16	91084176	2	BUSHING	
17	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-7. SWAY CYLINDER (SN 0155299S to Present)



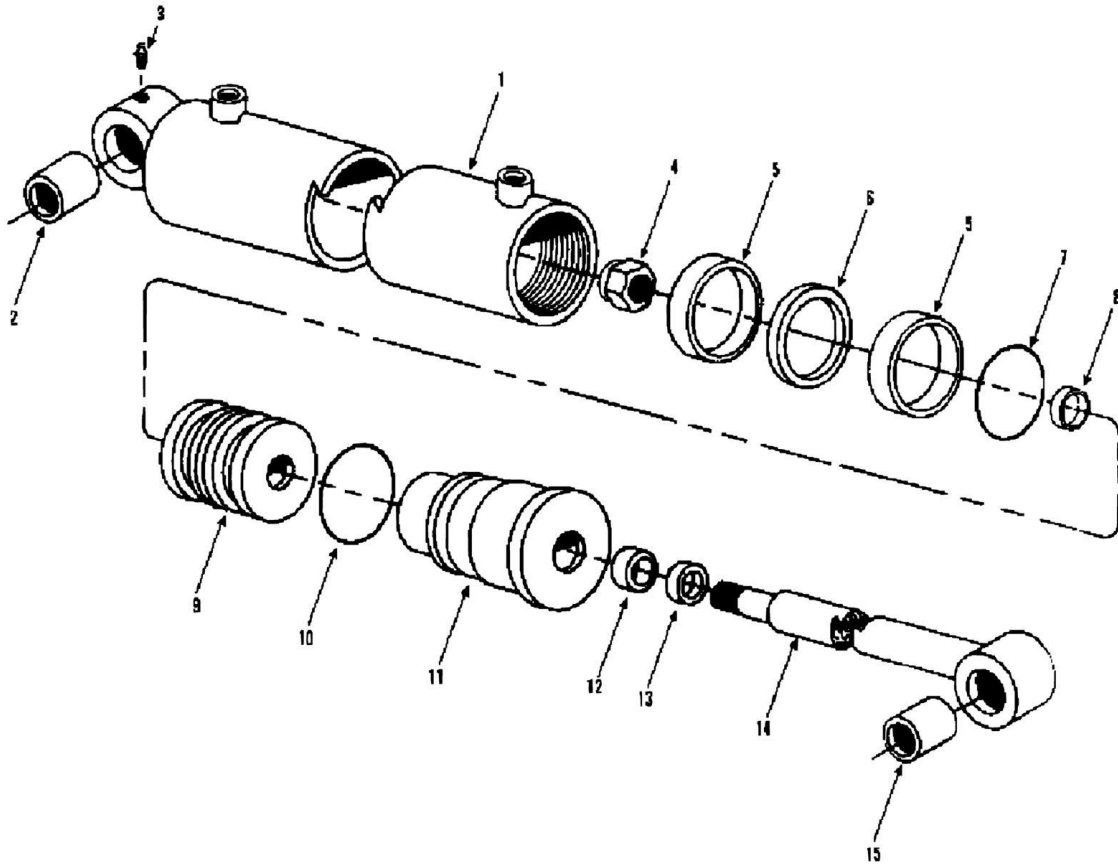
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-7. SWAY CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043367	1	SWAY CYLINDER ASSY (includes all items)	
	91034297	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13, & 14)	
1	91044298	1	TUBE ASSY (includes item 2)	
2	91084176	1	BUSHING	
3	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
4	91034286	1	LOCK NUT (torque to 590 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034291	1	PISTON	
10	Kit	1	BACK-UP RING	
11	Kit	1	O-RING	
12	91034299	1	GLAND	
13	Kit	1	SEAL	
14	Kit	1	WIPER	
15	91034300	1	ROD ASSY (includes item 16)	
16	91084176	2	BUSHING	
17	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-8. STEERING CYLINDER (SN 0155299S to Present)





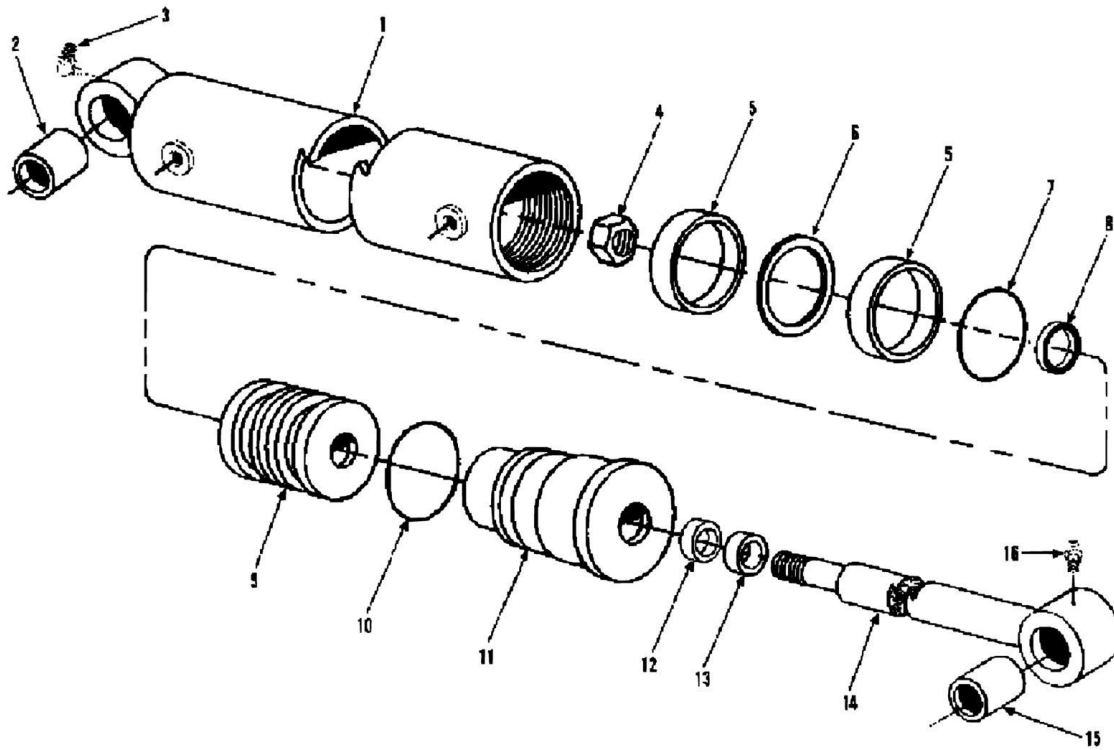
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-8. STEERING CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043316	2	STEERING CYLINDER ASSY (includes all items)	
	91034301	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 12, & 13)	
1	91034302	1	TUBE ASSY	
2	91084194	1	BUSHING	
3	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
4	91034303	1	LOCK NUT (torque to 235 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034304	1	PISTON	
10	Kit	1	O-RING	
11	91044305	1	GLAND	
12	Kit	1	SEAL	
13	Kit	1	WIPER	
14	91044368	1	ROD ASSY	
15	91084182	1	BUSHING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-9. (91033478) STEERING CYLINDER (SN 0155382S to Present)



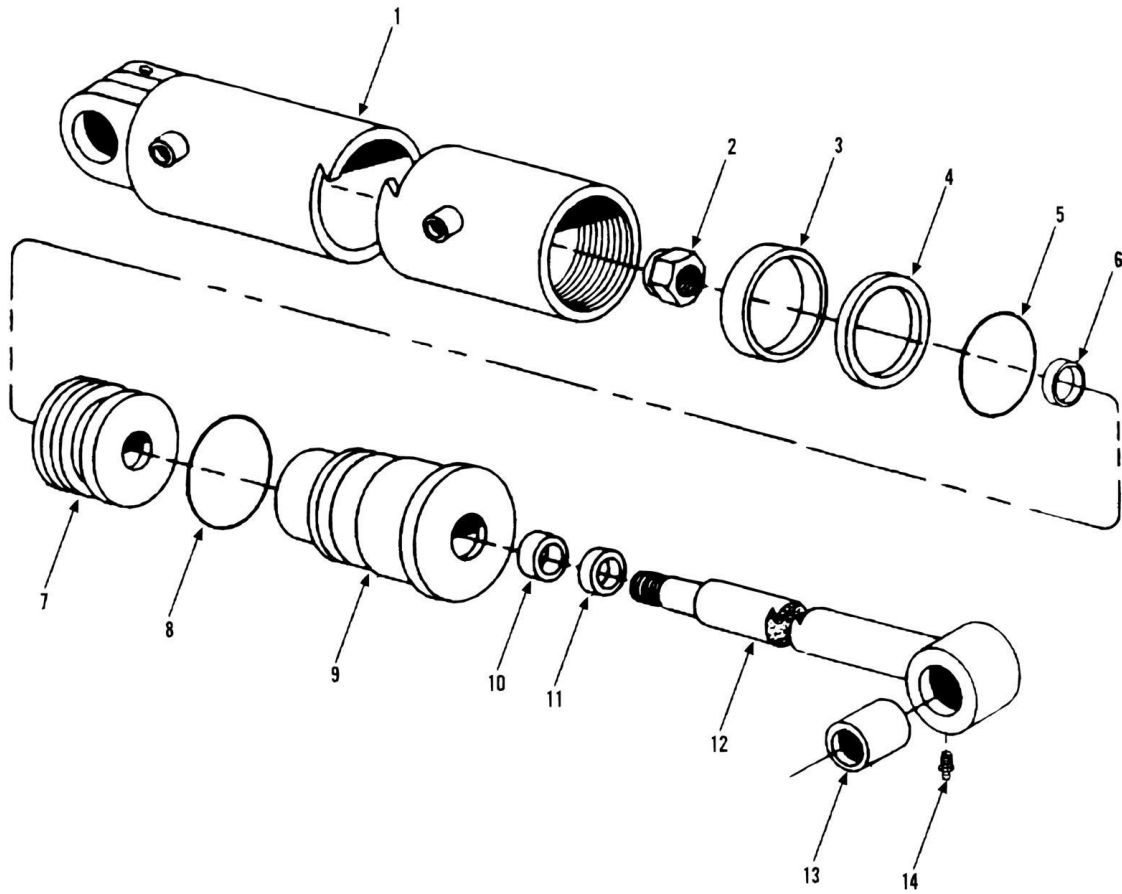
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-9. (91033478) STEERING CYLINDER (SN 0155382S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033478	2	STEERING CYLINDER ASSY (includes all items)	
	91034301	1	SEAL KIT (includes items 5, 6, 7, 8, 10, 12, & 13)	
1		Ref	TUBE ASSY	
2	91084194	1	BUSHING	
3	88671022	1	LUBE FITTING, 90	
4	91034303	1	LOCK NUT (torque to 235 ft lbs)	
5	Kit	2	WEAR RING	
6	Kit	1	SEAL	
7	Kit	1	O-RING	
8	Kit	1	O-RING	
9	91034304	1	PISTON	
10	Kit	1	O-RING	
11	91044305	1	GLAND	
12	Kit	1	SEAL	
13	Kit	1	WIPER	
14	91044368	1	ROD ASSY	
15	91043246	1	BUSHING	
16	88671001	1	LUBE FITTING, STRAIGHT	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-10. STABILIZER CYLINDER (SN 0155299S to Present)



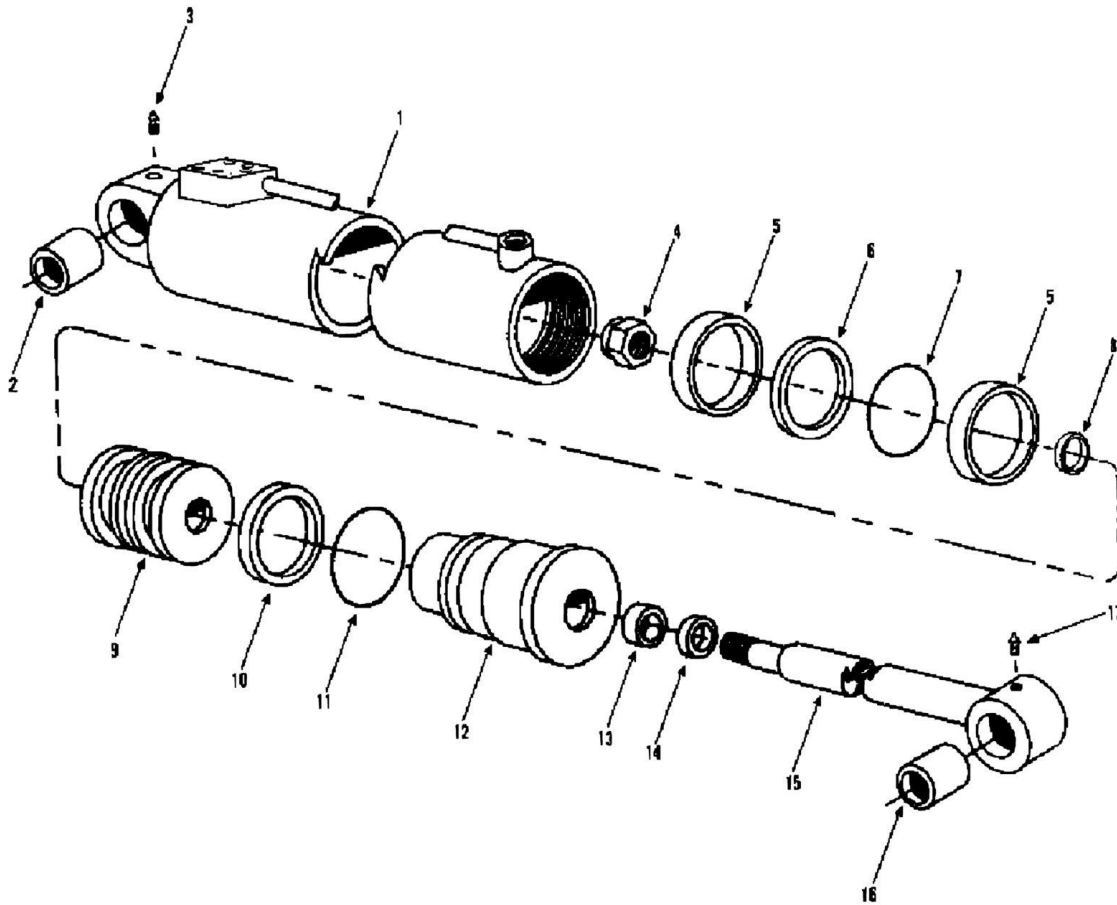
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-10. STABILIZER CYLINDER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043303	1	STABLIZER CYLINDER ASSY (includes all items)	
	91044330	1	SEAL KIT (includes items 3, 4, 5, 6, 8, 10 & 11)	
1	91044334	1	TUBE ASSY	
2	91034286	1	LOCK NUT (torque to 590 ft lbs)	
3	Kit	2	WEAR RING	
4	Kit	1	SEAL	
5	Kit	1	O-RING	
6	Kit	1	O-RING	
7	91044331	1	PISTON	
8	Kit	1	O-RING	
9	91044332	1	GLAND	
10	Kit	1	SEAL	
11	Kit	1	WIPER	
12	91044333	1	ROD ASSY	
13	91084353	1	BUSHING	
14	88671033	1	LUBE FITTING, STRAIGHT 1/4-28	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-11. OUTRIGGER CYLINDER (SN 0155299S to Present)



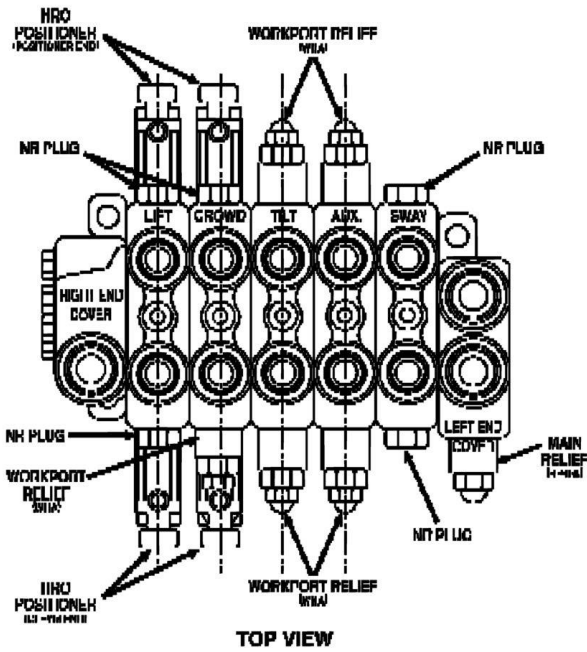
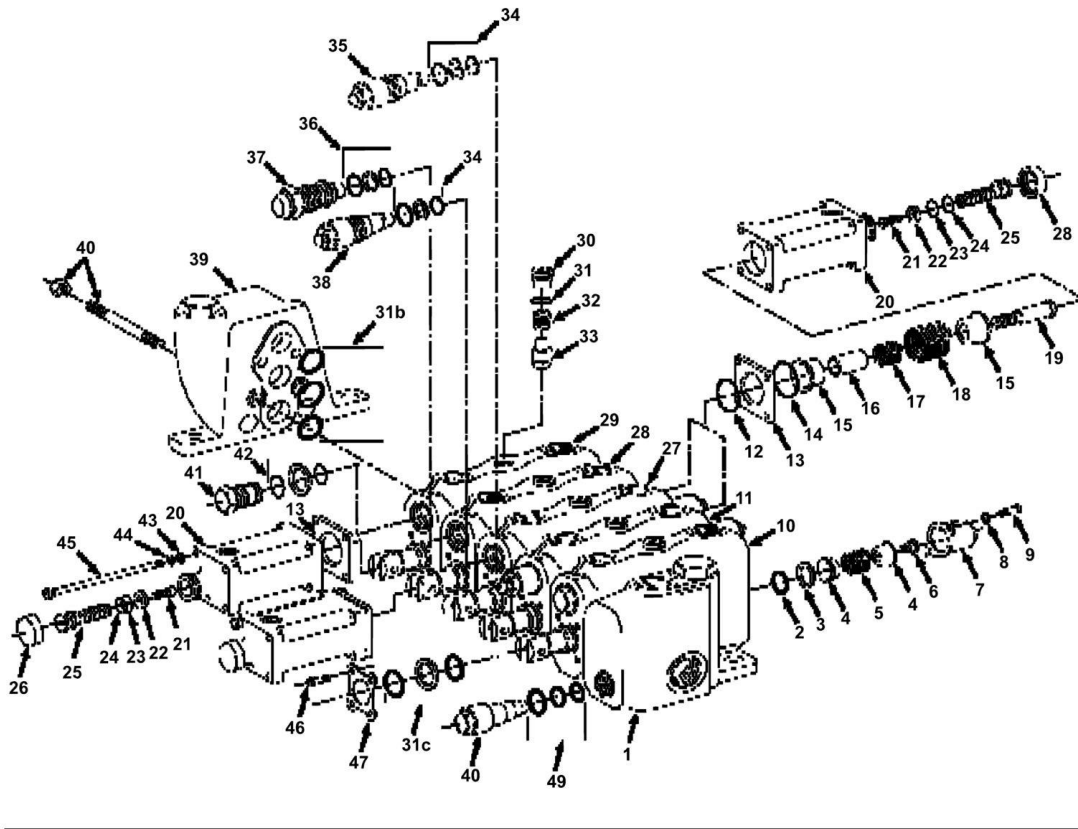
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-11. OUTRIGGER CYLINDER (SN 0155299S to Present)**

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

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-12. (91043065) MAIN CONTROL VALVE ASSEMBLY (SN 0155299S to Present)





## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-12. (91043065) MAIN CONTROL VALVE ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043065	1	MAIN CONTROL VALVE ASSY (includes all items)	
	90206417	AR	SEAL KIT (includes items 31, 31b & 31c)	
	91044123	AR	SECTION SEAL KIT (includes items 31b)	
	91034159	AR	SPOOL SEAL KIT (includes items 31c)	
	90206419	AR	RETAINER PLATE ASSY (includes items 46 & 47)	
	91044509	AR	HRO POSITIONER SEAL KIT (includes items 12, 14, 23 & 24)	
	91044526	AR	NR PLUG KIT (includes items 41 & 42)	
	91044527	AR	NR PLUG SEAL KIT (items 42)	
	90206427	3	NEUTRAL POSITIONER KIT (includes items 2 thru 9)	
	91044510	2	HRO POSITIONER KIT, SPOOL POSITIONER END (includes items 12 thru 26)	
	91044534	2	HRO POSITIONER KIT, CLEVIS END (includes items 13, 20 thru 26,43, 44 & 45)	
	91044530	AR	WH TYPE PORT RELIEF VALVE SEAL KIT (includes items 36)	
	91044533	AR	WHA PORT RELIEF VALVE SEAL KIT (includes items 34)	
	91034236	AR	MAIN RELIEF VALVE SEAL KIT (includes items 49)	
1	91044114	1	COVER PLATE ASSY (left end) (includes item 48 & 49)	
2	Kit	3	O-RING	
3	Kit	3	WASHER	
4	Kit	3	SPRING COLLAR	
5	Kit	3	SPRING	
6	Kit	3	SPOOL COLLAR	
7	Kit	3	BONNET	
8	Kit	6	LOCKWASHER	
9	Kit	6	SCREW	
10	90206421	1	SWAY SECTION	
11	91044117	1	AUXILIARY SECTION	
12	Kit	4	O-RING	
13	91044516	4	SEAL PLATE	
14	Kit		O-RING	
15	91044521	2	STOP COLLAR	
16	91044520	2	STOP SLEEVE	
17	91044519	2	SPRING	
18	91044518	2	SPRING	
19	91044517	2	POSITIONER SPUD	
20	91044515	4	BONNET	
21	91044513	4	SCREW, COUNTERSUNK	
22	91044514	4	TRAVEL STOP	
23	Kit	4	O-RING	
24	Kit	4	BACK-UP RING	
25	91044512	2	SCREW	
26	91044511	4	BOOT	
27	91044119	1	TILT SECTION	
28	91044121	1	CROWD SECTION	
29	91044122	1	LIFT SECTION	
30	91044535	5	LOAD CHECK PLUG	
31	Kit	5	O-RING	
32		Ref	SPRING	
33		Ref	POPPET	
34	Kit	AR	WHA RELIEF SEALS	

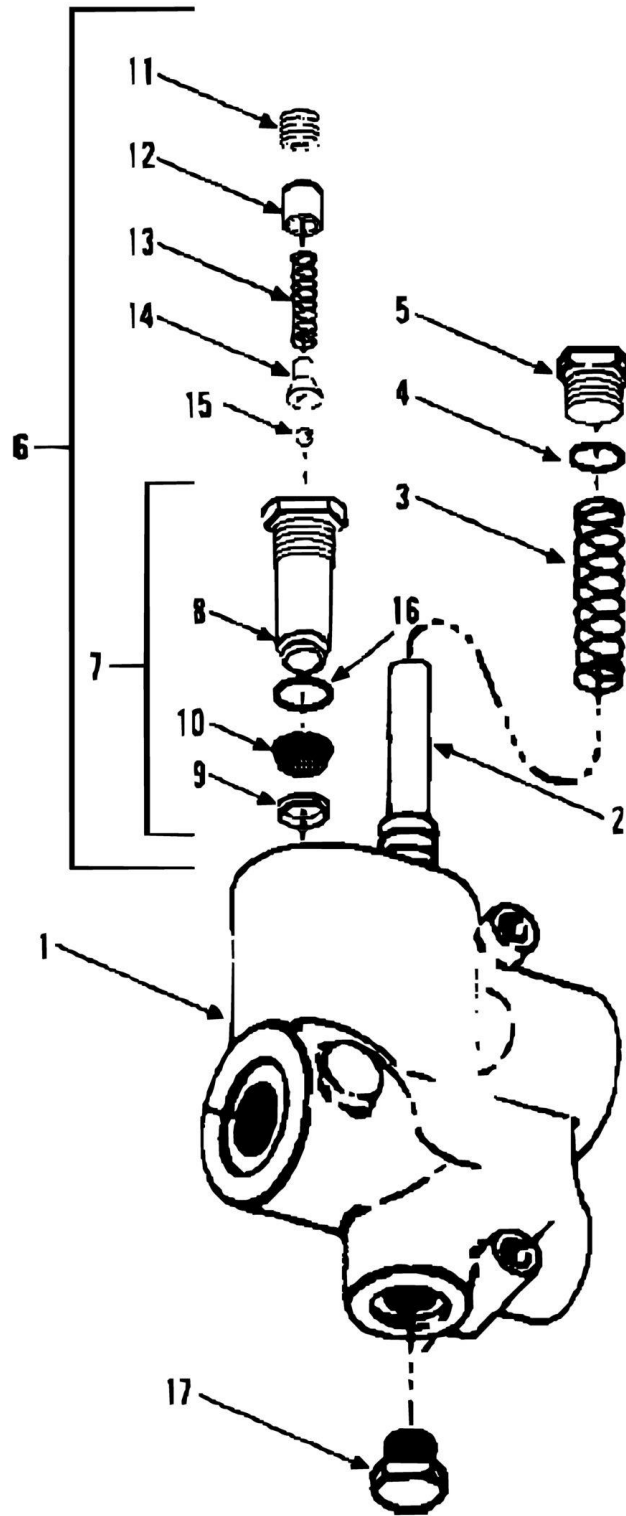
## SECTION 9 - HYDRAULIC COMPONENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
35	91044531	2	WHA RELIEF (1500 p.s.i.)	
36	Kit	AR	WH RELIEF SEALS	
37	91044529	1	WH RELIEF (2650 p.s.i.)	
38	91044532	2	WHA RELIEF (3250 p.s.i.)	
39	91044124	1	COVER PLATE ASSY (right end)	
40	91044125	1	STUD ASSY (includes four studs and four nuts)(lubricate and torque to 23-27 ft lbs)	
41	91044526	5	NR PLUG	
42	Kit	AR	NR PLUG SEALS	
43	91084232	16	BEARING PLATE	
44	91084231	16	LOCKWASHER	
45	91044522	16	HEX HD CAPSCREW, 1/4-20 x 3 1/2	
46		Ref	CAPSCREW	
47		Ref	RETAINER PLATE	
48	90208136	1	MAIN RELIEF VALVE ASSY	
49	91034236	1	MAIN RELIEF SEALS	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	



# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-13. PRIORITY FLOW CONTROL VALVE (SN 0155299S to Present)



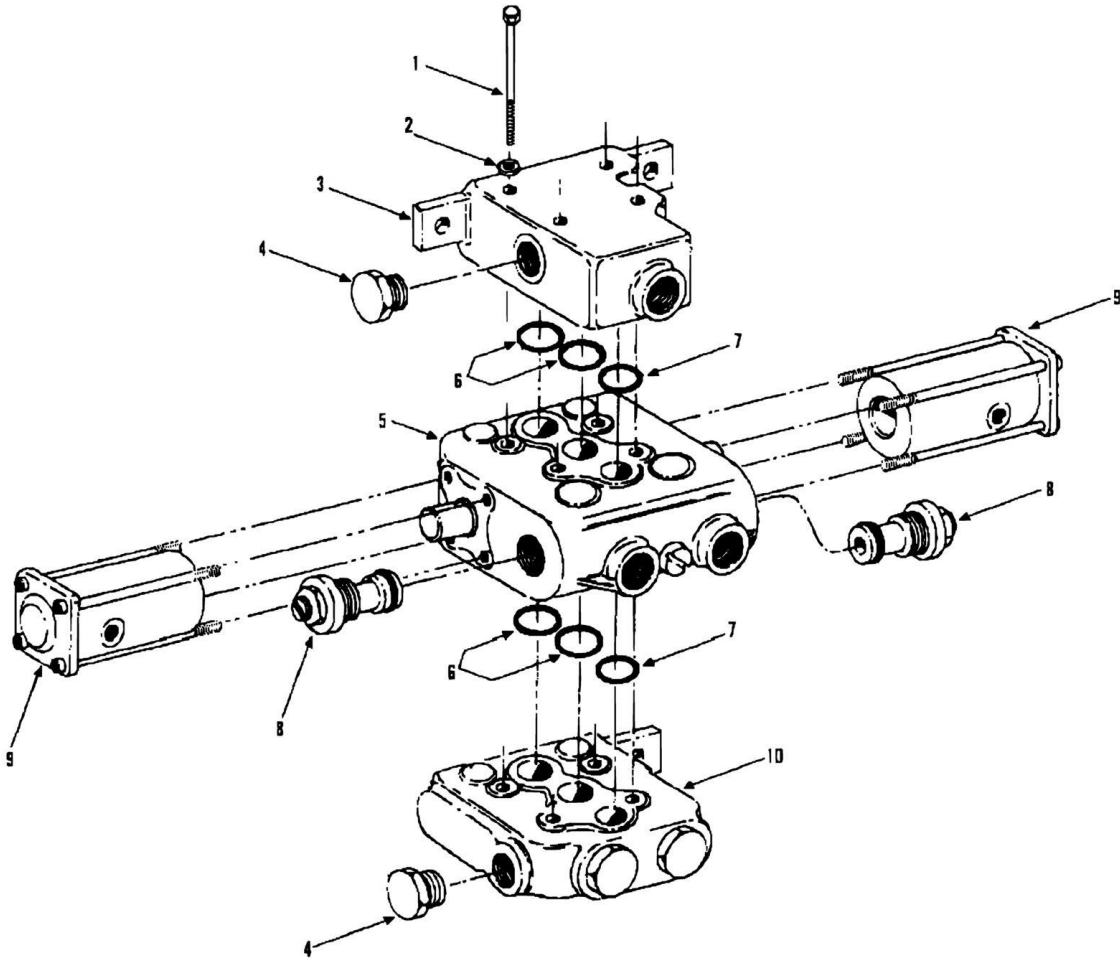
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-13. PRIORITY FLOW CONTROL VALVE (SN 0155299S to Present)**

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

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-14. FORWARD-REVERSE CONTROL VALVE (SN 0155299S to Present)



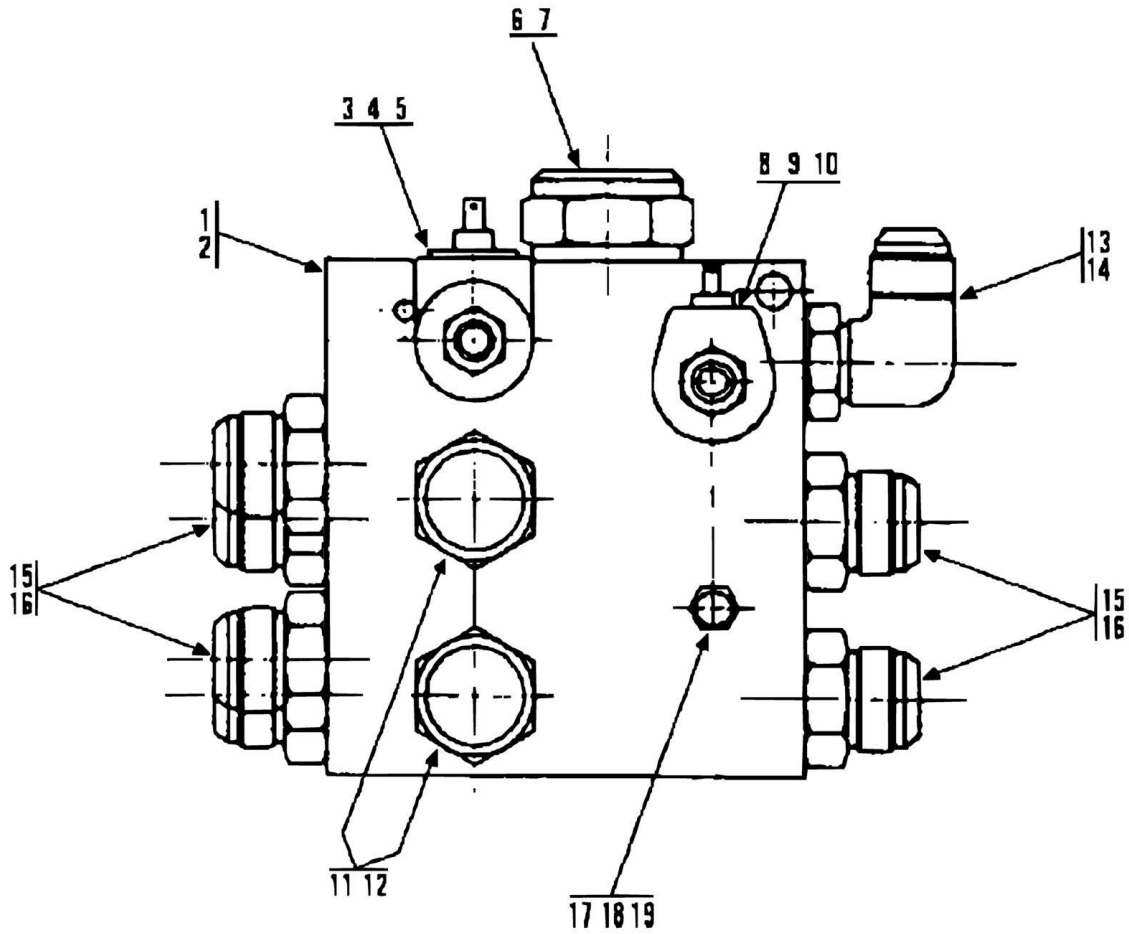
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-14. FORWARD-REVERSE CONTROL VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206737	1	FORWARD-REVERSE CONTROL VALVE ASSY (includes all items)	
1	90026155	4	HEX HD CAPSCREW, 3/8-16X5	
2	88551011	4	LOCKWASHER, 3/8	
3	90208137	1	OUTLET SECTION	
4	90027918	2	PLUG	
5	90208191	1	WORK SECTION	
6	90206423	4	O-RING	
7	90206422	2	O-RING	
8	90206415	2	PORT RELIEF CARTRIDGE (includes two back up rings and one o-ring; 3000 psi)	
9	90208140	2	REMOTE HYDRAULIC ACTUATOR	
10	90208141	1	INLET SECTION	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-15. SERIES-PARALLEL VALVE (SN 0155299S to Present)





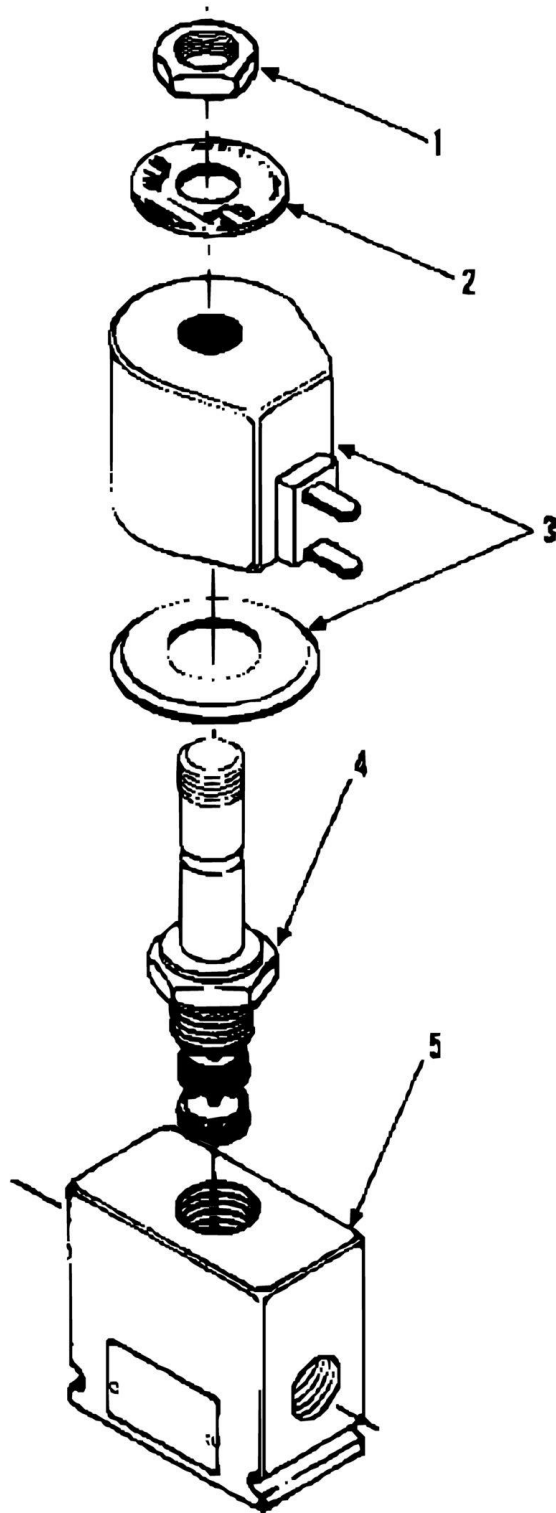
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-15. SERIES-PARALLEL VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045097	1	SERIES - PARALLEL VALVE ASSY (includes items 1 thru 16)	
1	91043264	1	SERIES - PARALLEL CONTROL VALVE ASSY (includes items 2 thru 12)	
2		Ref	VALVE BODY	
3	91044341	1	SOLENOID VALVE ASSY, FOUR-WAY, (includes item 5)	
4	77384264	AR	SEAL KIT	
5	91044012	2	SOLENOID COIL	
6	91044342	1	DIFFERENTIAL PRESSURE SENSING VALVE	
7	91044343	AR	SEAL KIT	
8	77363121	1	SOLENOID VALVE ASSY, TWO-WAY (includes item 10)	
9	91044002	AR	SEAL KIT	
10	91044012	1	SOLENOID COIL	
11	91044344	2	DIFFERENTIAL PRESSURE SENSING VALVE	
12	91044345	AR	SEAL KIT	
13	88662067	1	ELBOW, 90, (includes item 14)	
14	88591207	1	O-RING	
15	88662010	6	CONNECTOR (includes item 16)	
16	88591209	6	O-RING	
17	83201048	2	HEX HD CAPSCREW, 3/8-16X5-1/4, GR5	
18	88561109	2	FLATWASHER, 3/8	
19	88501006	2	HEX NUT, 3/8-16	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. SOLENOID VALVE (SN 0155299S to Present)



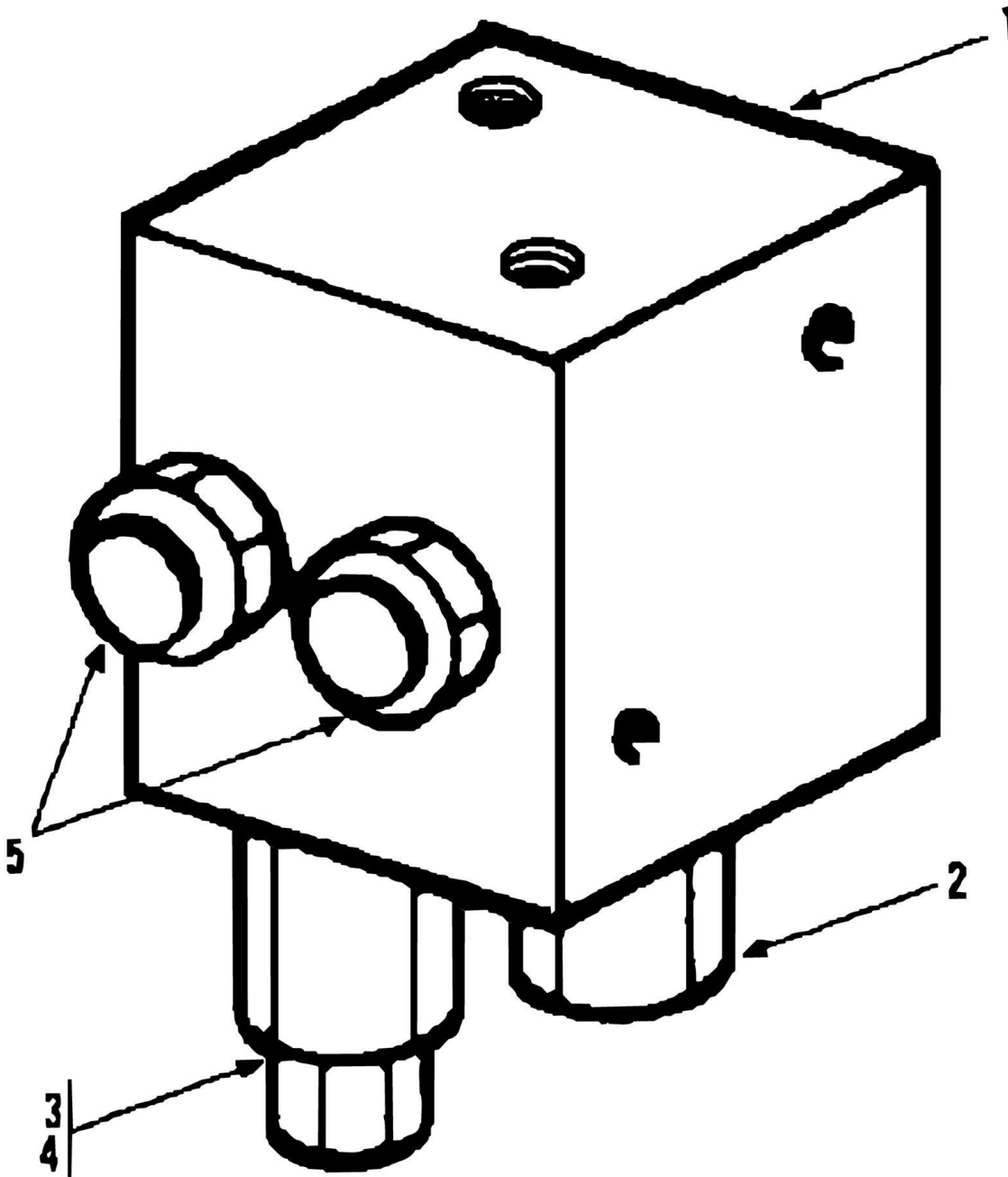
## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-16. SOLENOID VALVE (SN 0155299S to Present)

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

**SECTION 9 - HYDRAULIC COMPONENTS**

**FIGURE 9-17. STABILIZER VALVE (SN 0155299S to Present)**



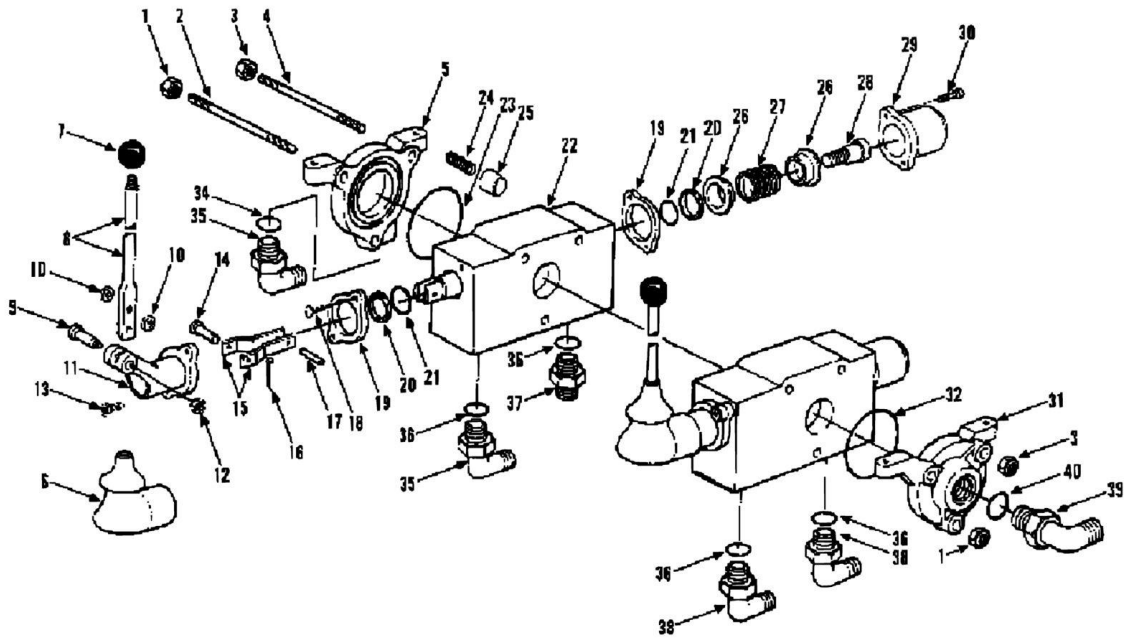
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-17. STABILIZER VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91113003	1	STABILIZER VALVE ASSY (includes items 1 thru 5)	
	91044002	AR	SEAL KIT	
		Ref	VALVE BODY	
2	91044346	1	RELIEF VALVE ASSY	
3	91044347	1	SOLENOID VALVE ASSY (includes item 4)	
4	91044012	1	SOLENOID COIL	
5	91044348	4	CHECK VALVE ASSY	
		Ref	NOTE: SEAL KIT IS APPLICABLE TO ITEMS 2, 3 & 5. USE AS REQUIRED	

# SECTION 9 - HYDRAULIC COMPONENTS

## FIGURE 9-18. OUTRIGGER CONTROL VALVE



## SECTION 9 - HYDRAULIC COMPONENTS

### FIGURE 9-18. OUTRIGGER CONTROL VALVE

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

## SECTION 9 - HYDRAULIC COMPONENTS

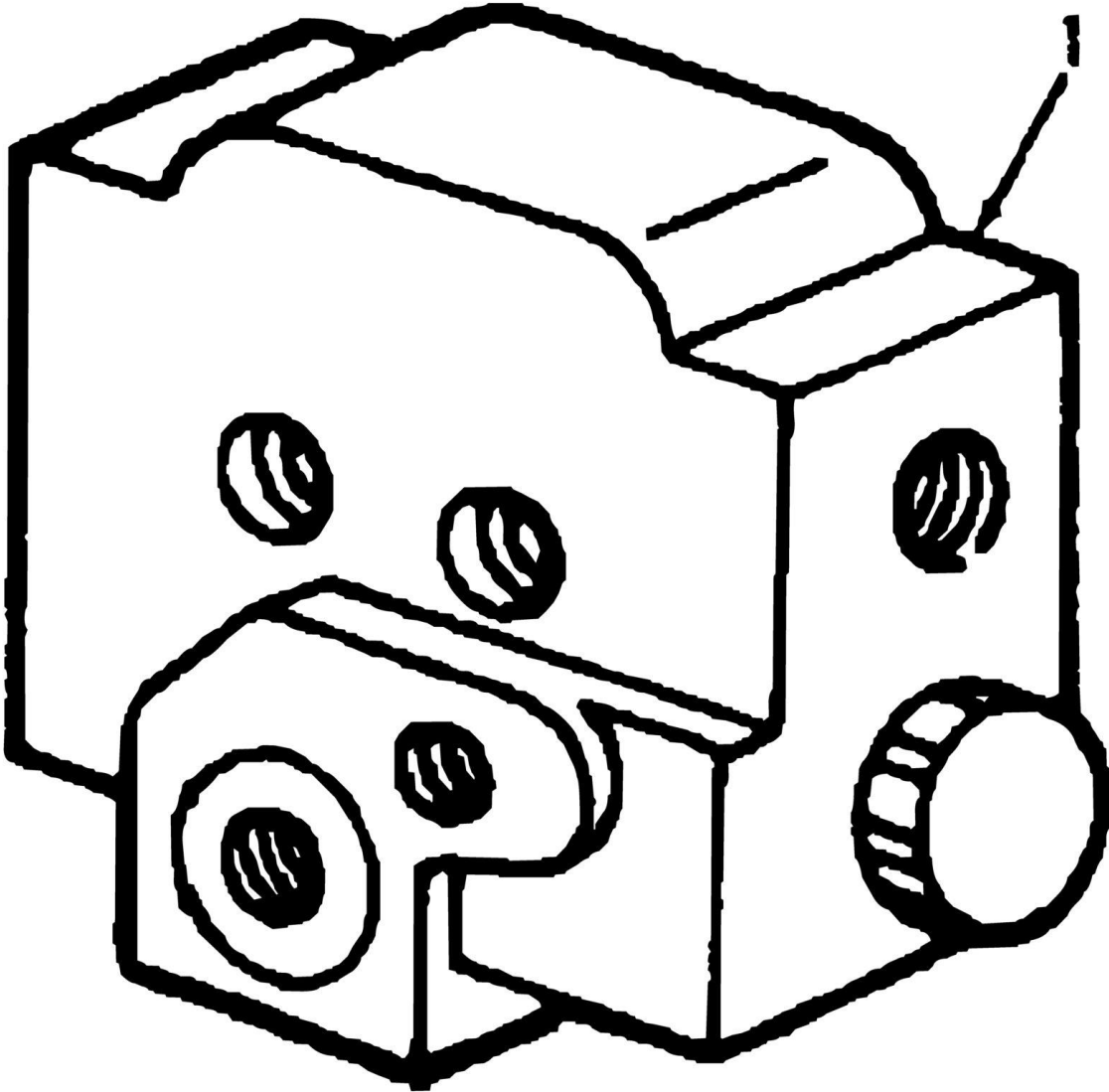
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	NOTE: WHEN REPLACING A SPOOL SECTION, REMOVE SCREWS (18) AND REPLACE WITH SCREWS (13) TO SECURE THE HANDLE BRACKET	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT.	





## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-19. ACCUMULATOR CHARGE VALVE (SN 0155299S to Present)



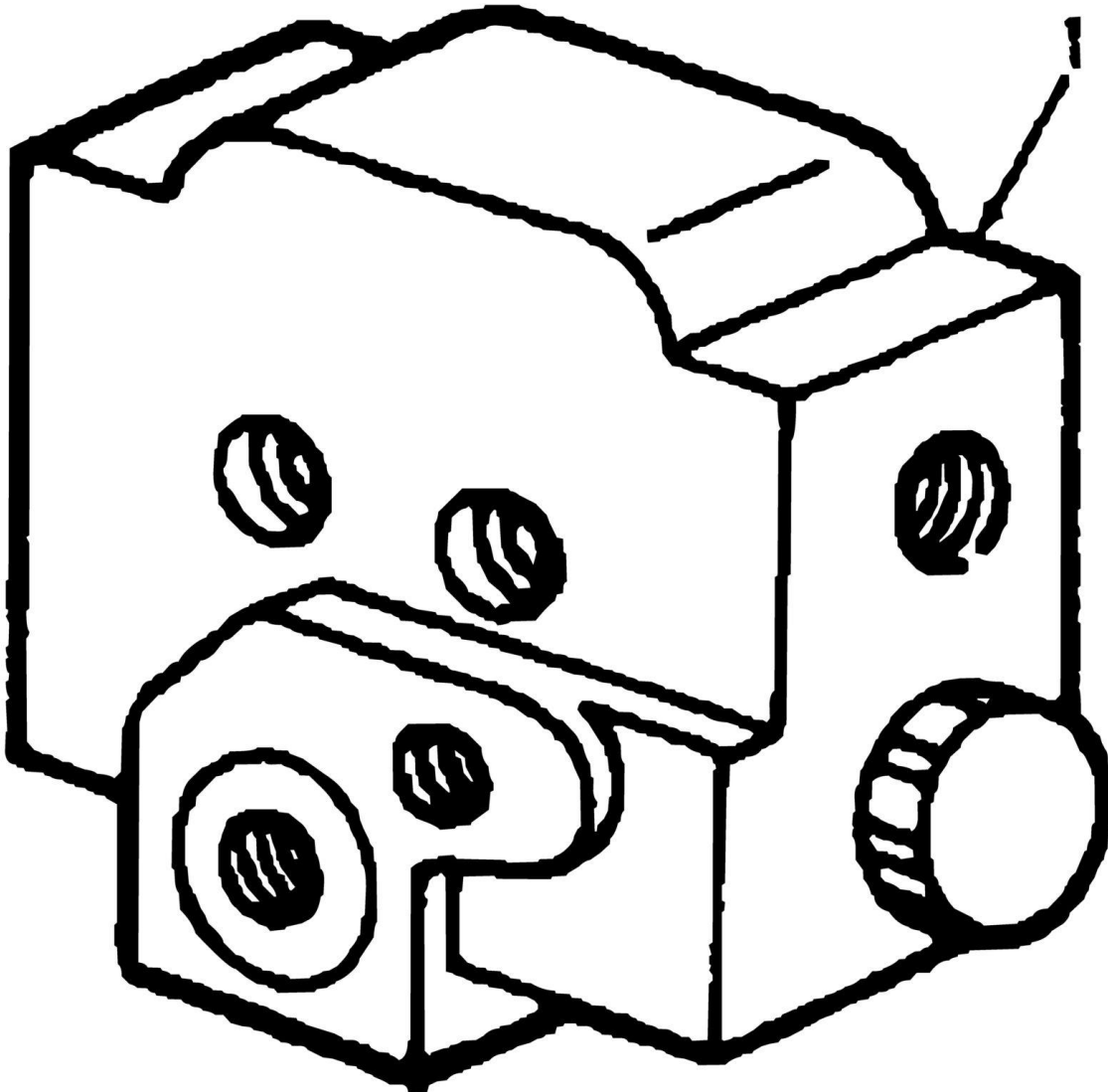
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-19. ACCUMULATOR CHARGE VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043296	1	ACCUMULATOR CHARGE VALVE ASSY (no service parts available)	

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. ACCUMULATOR CHARGE VALVE (SN 0155309S to Present)



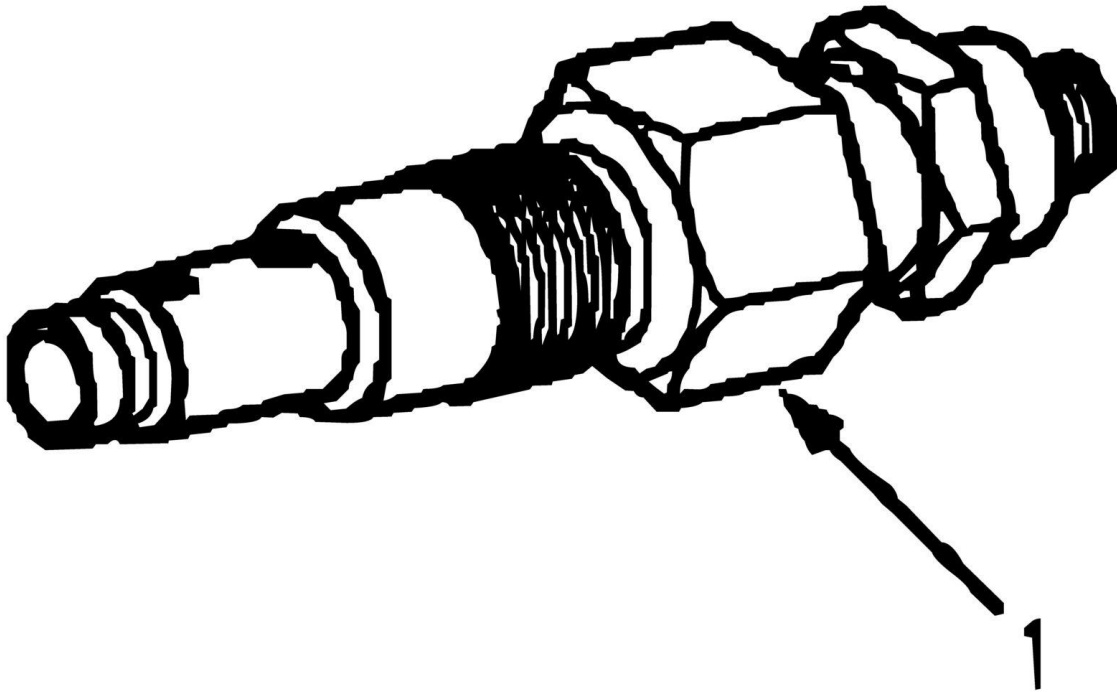
## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-20. ACCUMULATOR CHARGE VALVE (SN 0155309S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083239	1	ACCUMULATOR CHARGE VALVE ASSY (no service parts available)	

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-21. (91034308) COUNTERBALANCE VALVE (SN 0155299S to Present)



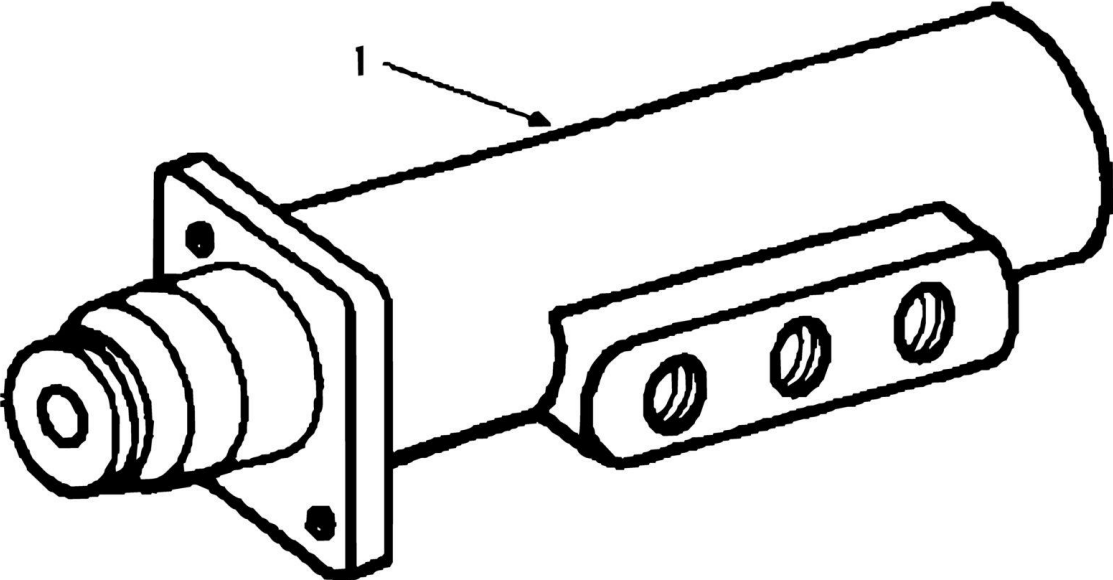
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-21. (91034308) COUNTERBALANCE VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91034308	1	COUNTER BALANCE VALVE	
	91044524	1	COUNTER BALANCE VALVE SEAL KIT	

**SECTION 9 - HYDRAULIC COMPONENTS**

**FIGURE 9-22. BRAKE VALVE (SN 0155309S to Present)**





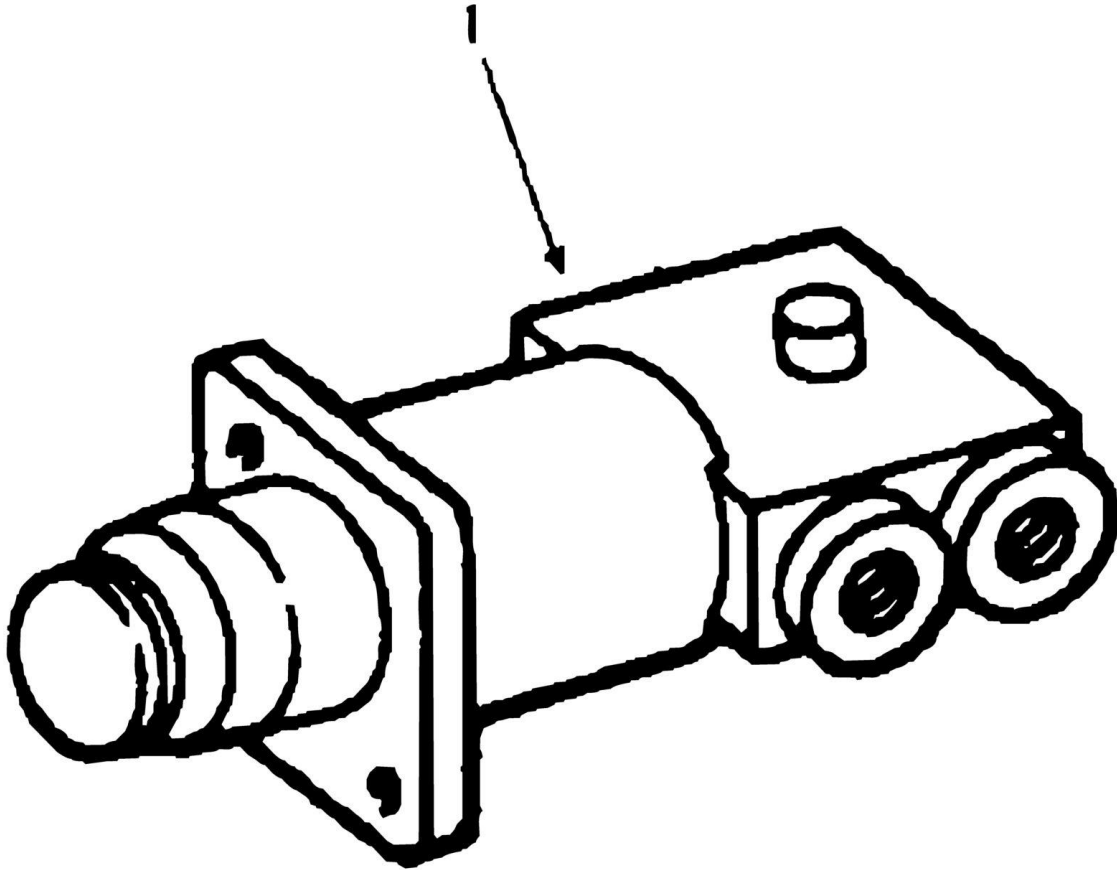
## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-22. BRAKE VALVE (SN 0155309S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91083154	1	BRAKE VALVE ASSY	
1	91064057	Ref	REPAIR KIT	

## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-23. BRAKE VALVE (SN 0155299S to Present)



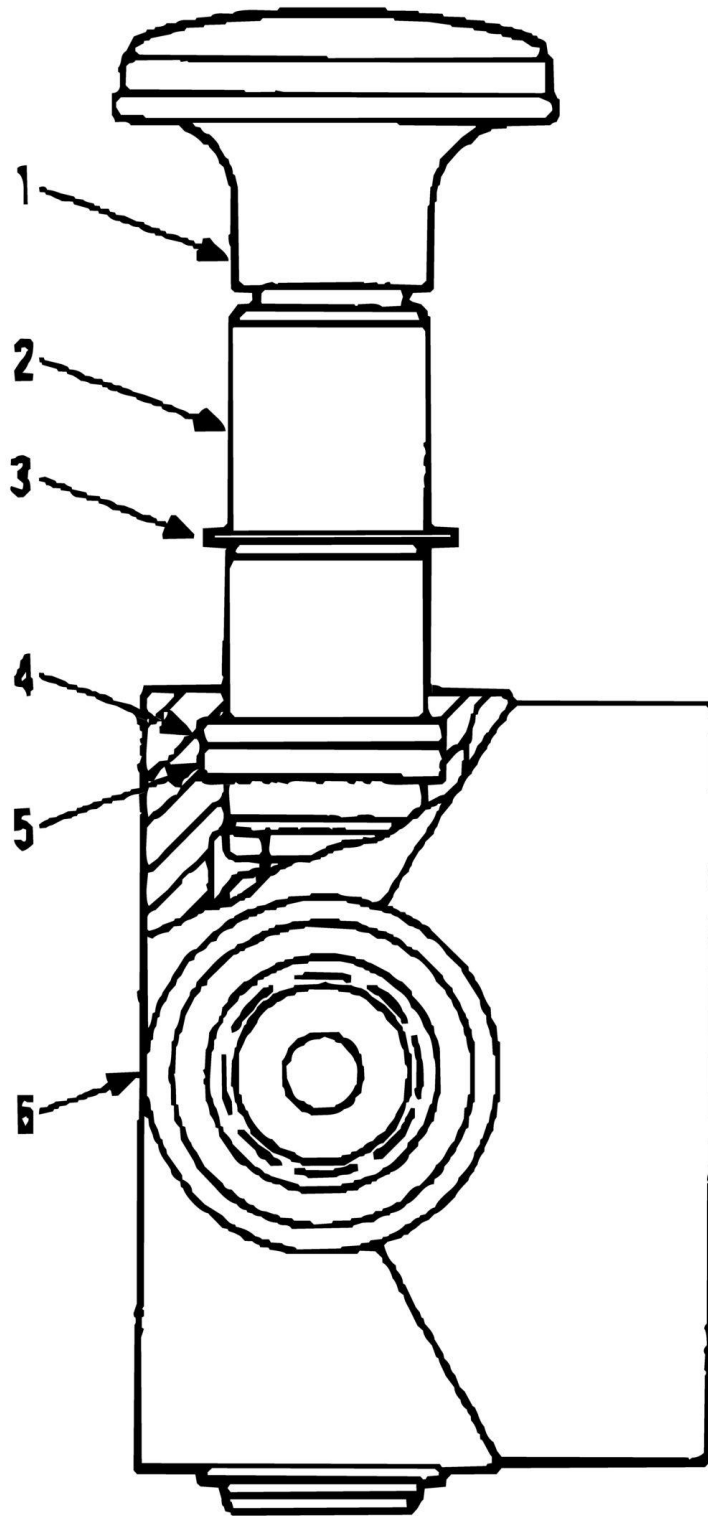
## SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-23. BRAKE VALVE (SN 0155299S to Present)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043076	1	BRAKE VALVE ASSY (no service parts available)	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-24. PARKING BRAKE VALVE (SN 0155299S to Present)



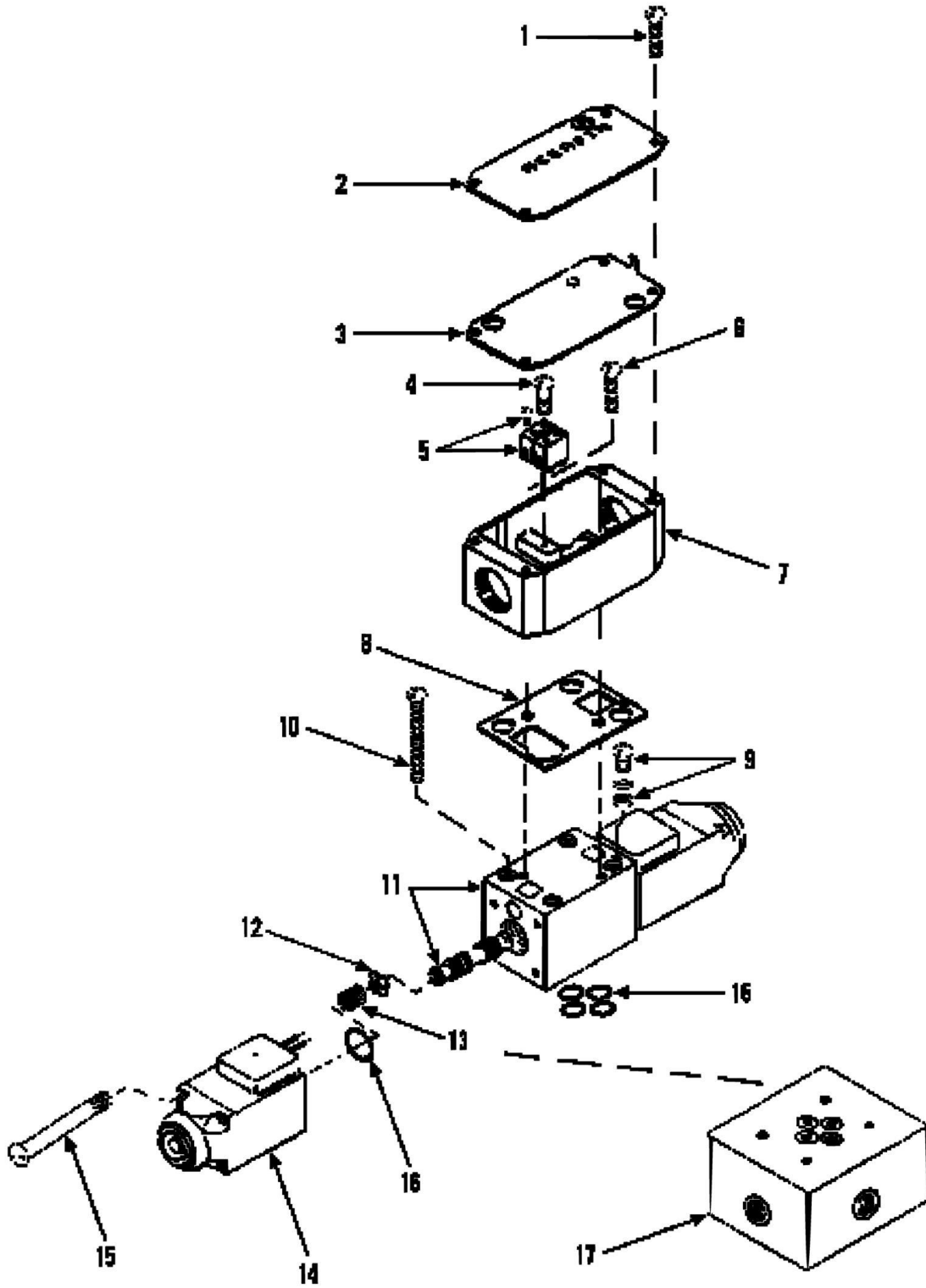
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-24. PARKING BRAKE VALVE (SN 0155299S to Present)**

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

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-25. DIRECTIONAL CONTROL VALVE (SN 0155299S to Present)



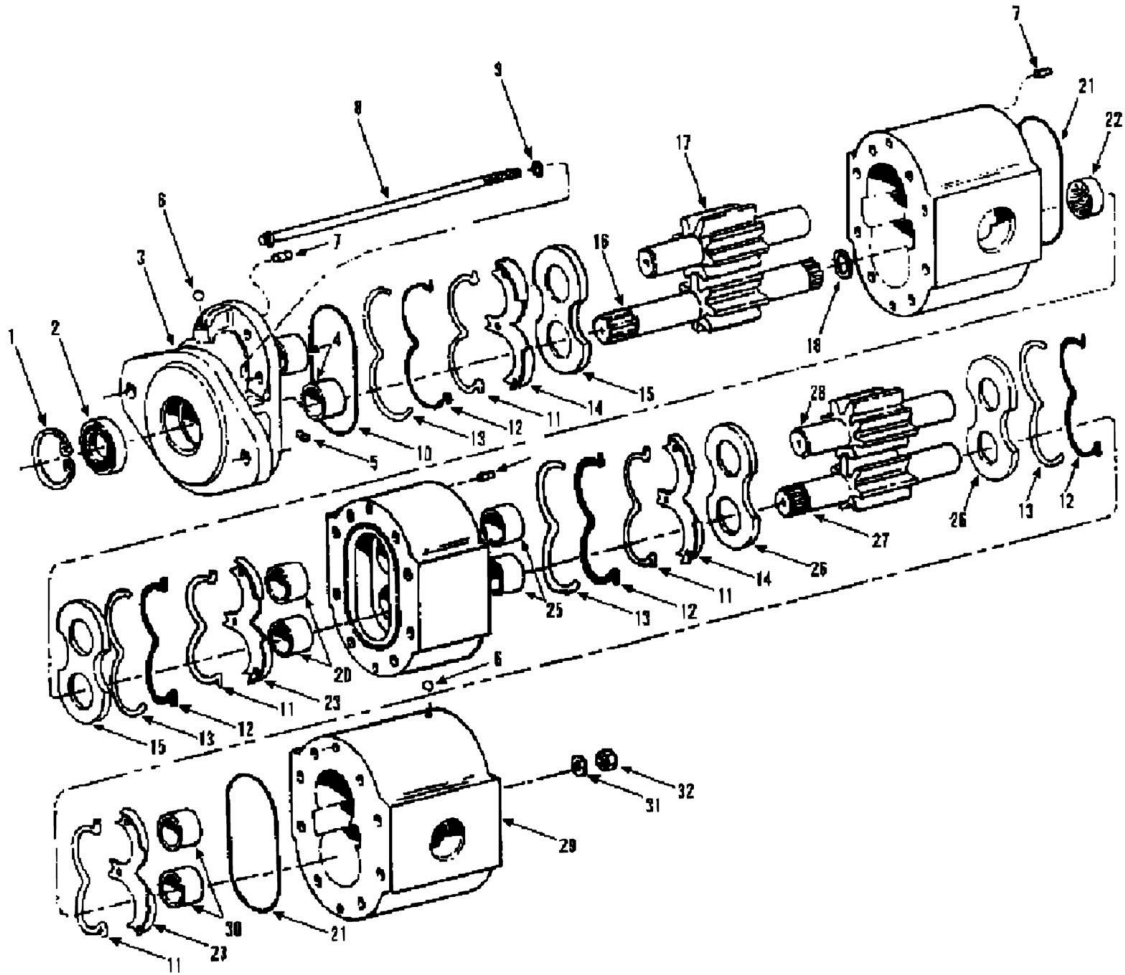
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-25. DIRECTIONAL CONTROL VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033097	1	DIRECTIONAL CONTROL VALVE ASSY (includes all items)	
1		Ref	SCREW	
2		Ref	NAME PLATE	
3	91034011	1	GASKET	
4		Ref	SCREW	
5	91034012	2	TERMINAL BLOCK	
6		Ref	SCREW	
7		Ref	TERMINAL BOX	
8	91034013	1	GASKET	
9		Ref	GROUND	
10		Ref	MOUNTING BOLT	
11		Ref	SPOOL AND HOUSING	
12	91034014	2	SPACER	
13	91034015	2	SPRING	
14	91034016	2	SOLENOID	
15		Ref	SCREW	
16	91034017	1	O-RING KIT	
17		Ref	MANIFOLD	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-26. MAIN HYDRAULIC PUMP (SN 0155299S to Present)





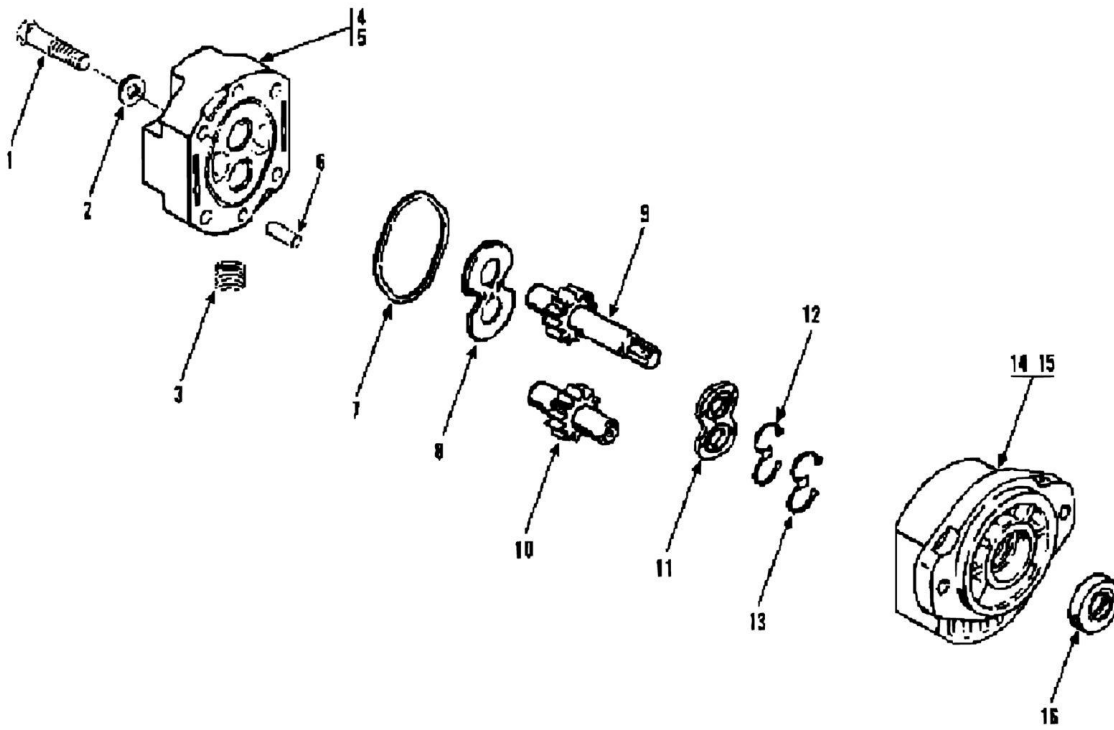
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-26. MAIN HYDRAULIC PUMP (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043175	1	MAIN HYDRAULIC PUMP ASSY (includes all items)	
1	90202372	1	SNAP RING	
2	90202371	1	SEAL	
3	91044211	1	FLANGE ASSY (includes item 4)	
4	91044212	2	BUSHING	
5	91044213	1	PLUG	
6	90202435	2	BALL	
7	91022376	6	DOWEL	
8	91044214	8	STUD	
9	90202383	8	O-RING	
10	90202379	1	O-RING	
11	90202404	4	BACK UP RING	
12	90202403	4	O-RING	
13	90202405	4	RETAINER RING	
14	90202407	2	BOTTOM ISOLATION	
15	90202399	2	PRESSURE PLATE	
16	91044215	1	FRONT DRIVE GEAR	
17	91044216	1	FRONT IDLER GEAR	
18	90202402	1	SNAP RING	
19	91044217	1	FRONT GEAR BODY ASSY (includes item 20)	
20	91044212	2	BUSHING	
21	90202396	2	O-RING	
22	91044218	1	SPLINE COUPLING	
23	90202406	2	TOP ISOLATION PLATE	
24	90202419	1	BEARING PLATE ASSY (includes item 25)	
25	91044219	1	BEARING PLATE ASSY (includes item 25)	
26	91044220	2	PRESSURE PLATE	
27	90202416	1	REAR DRIVE GEAR	
28	90202415	1	REAR IDLER GEAR	
29	91044221	1	REAR GEAR BODY ASSY (includes item 30)	
30	91044219	2	BUSHING	
31	91044222	8	FLATWASHER	
32	91044223	8	HEX NUT	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-27. PILOT PUMP (SN 0155299S to Present)



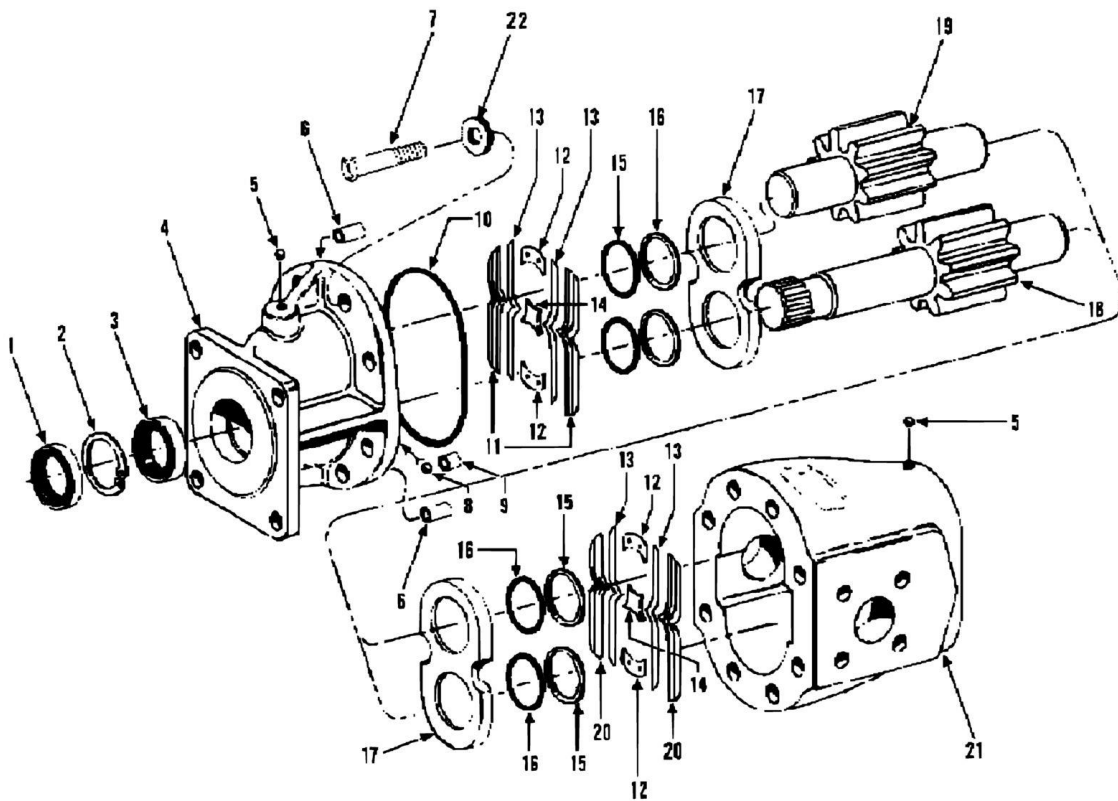
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-27. PILOT PUMP (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043259	1	PILOT PUMP ASSY (includes all items)	
	91044354	1	MAJOR KIT (includes items, 7, 8, 11, 12, 13 & 16)	
	91034019	1	SEAL KIT (includes items 7, 12, 13 & 16)	
1	88201038	4	HEX HD CAPSCREW, 3/8-16X1-3/4, GR5 (lubricate and torque to 34-38 ft lbs)	
2	91034058	4	WASHER	
3	91034059	1	PIPE PLUG	
4	91044355	1	REAR COVER ASSY (includes item 5)	
5		Ref	SLEEVE	
6	91034062	2	DOWEL PIN	
7	Kit	1	GASKET	
8	91034063	1	THRUST PLATE (install with bronze side facing gear)	
9	91044356	1	DRIVE GEAR	
10	91044357	1	DRIVEN GEAR	
11	Kit	1	WEAR PLATE	
12	Kit	1	SPACER	
13	Kit	1	LOADING SEAL	
14	91044358	1	BODY ASSY (includes item 15)	
15		Ref	SLEEVE BUSHING	
16	91044359	1	SHAFT SEAL	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-28. REAR DRIVE MOTOR (SN 0155299S to Present)



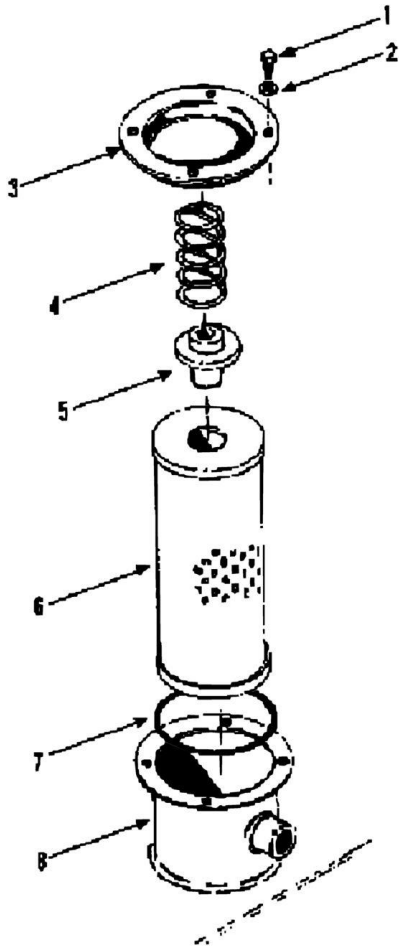
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-28. REAR DRIVE MOTOR (SN 0155299S to Present)**

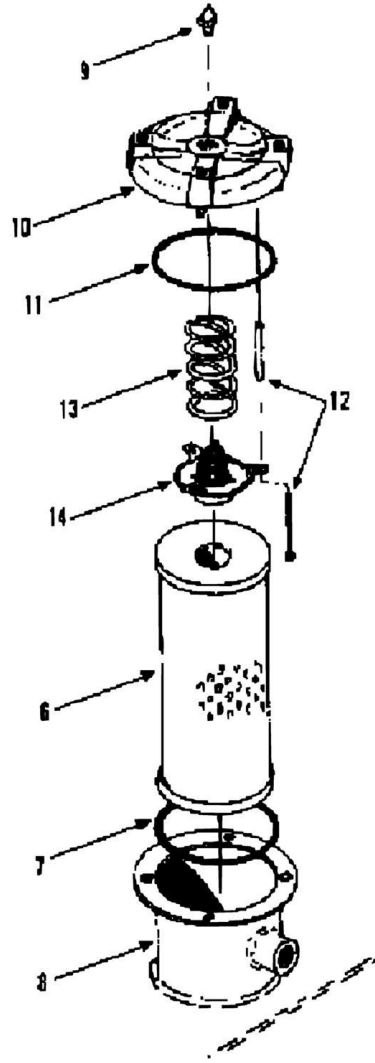
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90206748	2	REAR DRIVE MOTOR ASSY (includes all items)	
1	90202371	1	OUTER SHAFT SEAL	
2	90202372	1	SNAP RING	
3	90205716	1	INNER SHAFT SEAL	
4	90208193	1	FLANGE (includes bushings)	
5	90202435	2	BALL	
6	90202376	2	DOWEL	
7	90027736	8	HEX HD CAPSCREW	
8	90202377	2	CHECK BALL	
9	90202378	2	BALL CHECK RETAINER	
10	90202379	1	O-RING	
11	90202390	2	TOP ISOLATION PLATE	
12	90202391	4	END SEPARATOR	
13	90202393	4	SEALING STRIP	
14	90202392	2	CENTER SEPARATOR	
15	90208194	4	O-RING	
16	90208195	4	BACK-UP RING	
17	90202382	2	PRESSURE SWITCH	
18	90208196	1	DRIVE GEAR	
19	90208197	1	IDLER GEAR	
20	90202389	2	BOTTOM ISOLATION PLATE	
21	90208198	1	BODY (includes bushings)	
22	91044222	8	SPECIAL WASHER	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-29. OIL RESERVOIR FILTER (SN 0155299S to Present)



UNIT WITH INDICATOR



UNIT WITH POP-UP INDICATOR

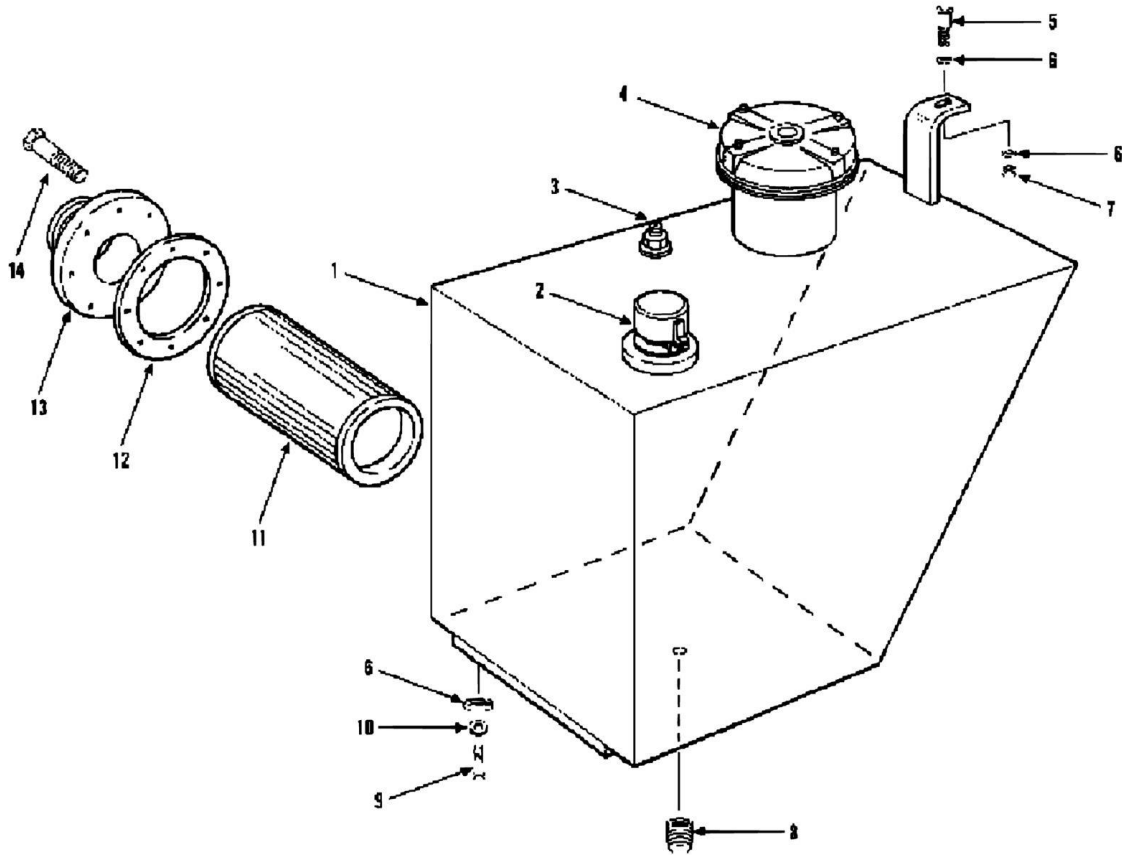
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-29. OIL RESERVOIR FILTER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88201018	4	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
2	88551010	4	LOCKWASHER, 5/16	
3	90208200	1	CAP	
4	90208201	1	SPRING	
5	90208202	1	BYPASS VALVE	
6	91033318	1	ELEMENT	
7	90023246	1	O-RING	
8		Ref	BODY	
9	91034009	1	POP-UP INDICATOR	
10	91034007	1	CAP ASSY (includes items 11 & 12)	
11	91034329	1	O-RING	
12	91034330	4	BOLT	
13	91034010	1	SPRING	
14	91034008	1	BYPASS VALVE	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-30. HYDRAULIC OIL RESERVOIR (SN 0155299S to Present)





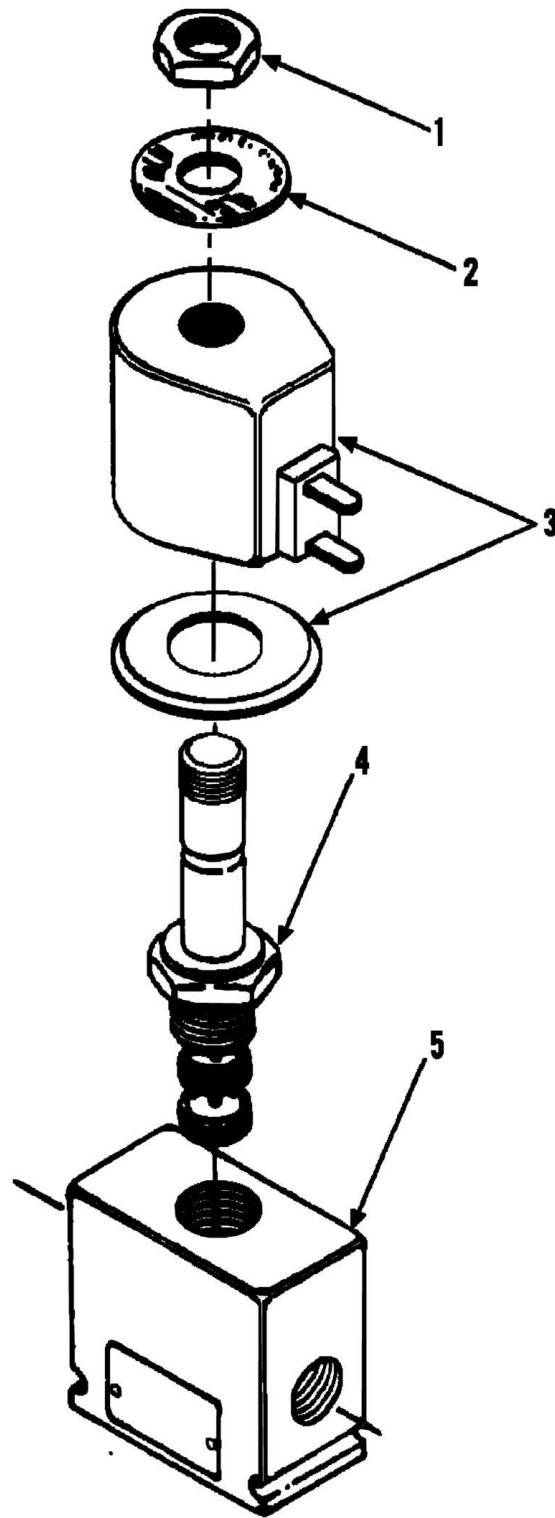
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-30. HYDRAULIC OIL RESERVOIR (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91036002	1	HYDRAULIC OIL TANK	
2	90205222	1	FILLER-BREATHING ASSY (includes gasket and mounting hardware)	
3	90403419	1	STAND PIPE WELDMENT	
4		Ref	OIL RESERVOIR FILTER (See OIL RESERVOIR FILTER for Breakdown)	
5	88201070	1	HEX HD CAPSCREW, 1/2-13X2-1/4, GR5	
6	88561111	4	FLATWASHER, 1/2	
7	88521208	1	HEX LOCKNUT, 1/2-13	
8	88711255	1	SQUARE HD PIPE PLUG, 1IN	
9	88201066	2	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
10	88551013	2	LOCKWASHER, 1/2	
11	90410295	1	SUCTION FILTER	
12	90410294	1	GASKET	
13	91036003	1	FLANGE WELDMENT	
14	88201035	8	HEX HD CAPSCREW, 3/8-16X1, GR5	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-31. SOLENOID VALVE (SN 0155299S to Present)



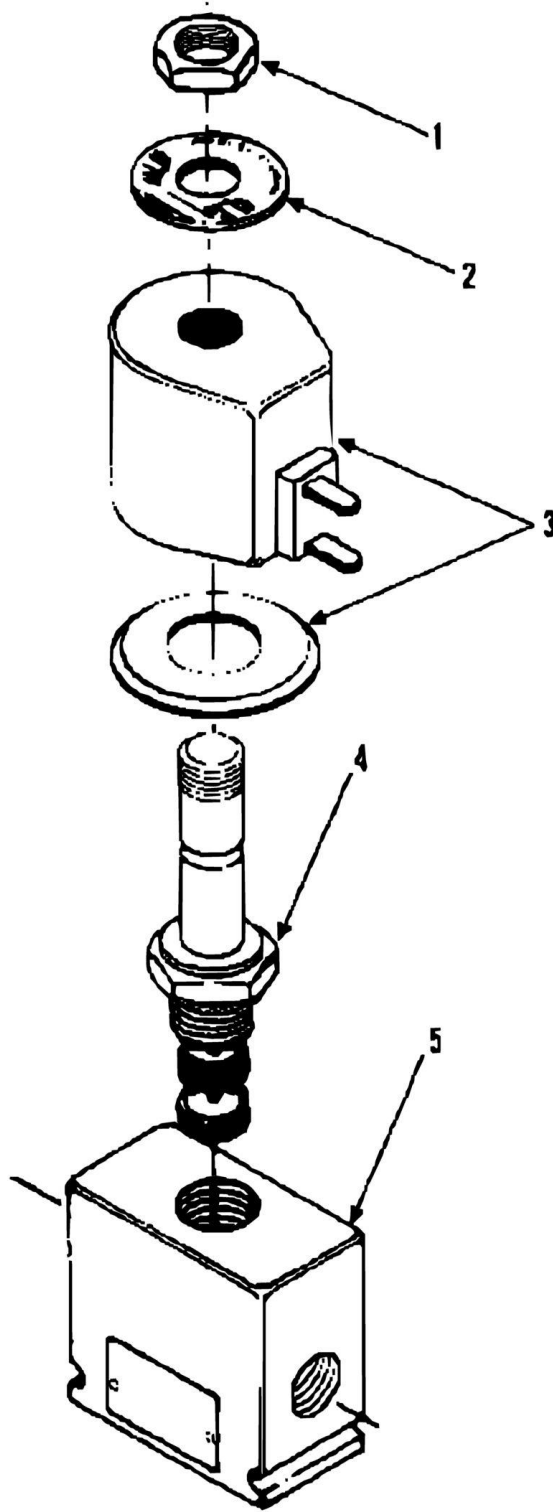
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-31. SOLENOID VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043108	1	SOLENOID VALVE ASSY, TWO WAY, NORMALLY OPEN (includes all items)	
	91044002	1	SEAL KIT	
1	91044003	1	NUT	
2		Ref	NAME PLATE	
3	77384267	1	SOLENOID COIL ASSY	
4	91044004	1	VALVE ASSY	
5	77383338	1	VALVE BODY	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-32. SOLENOID VALVE (SN 0155299S to Present)



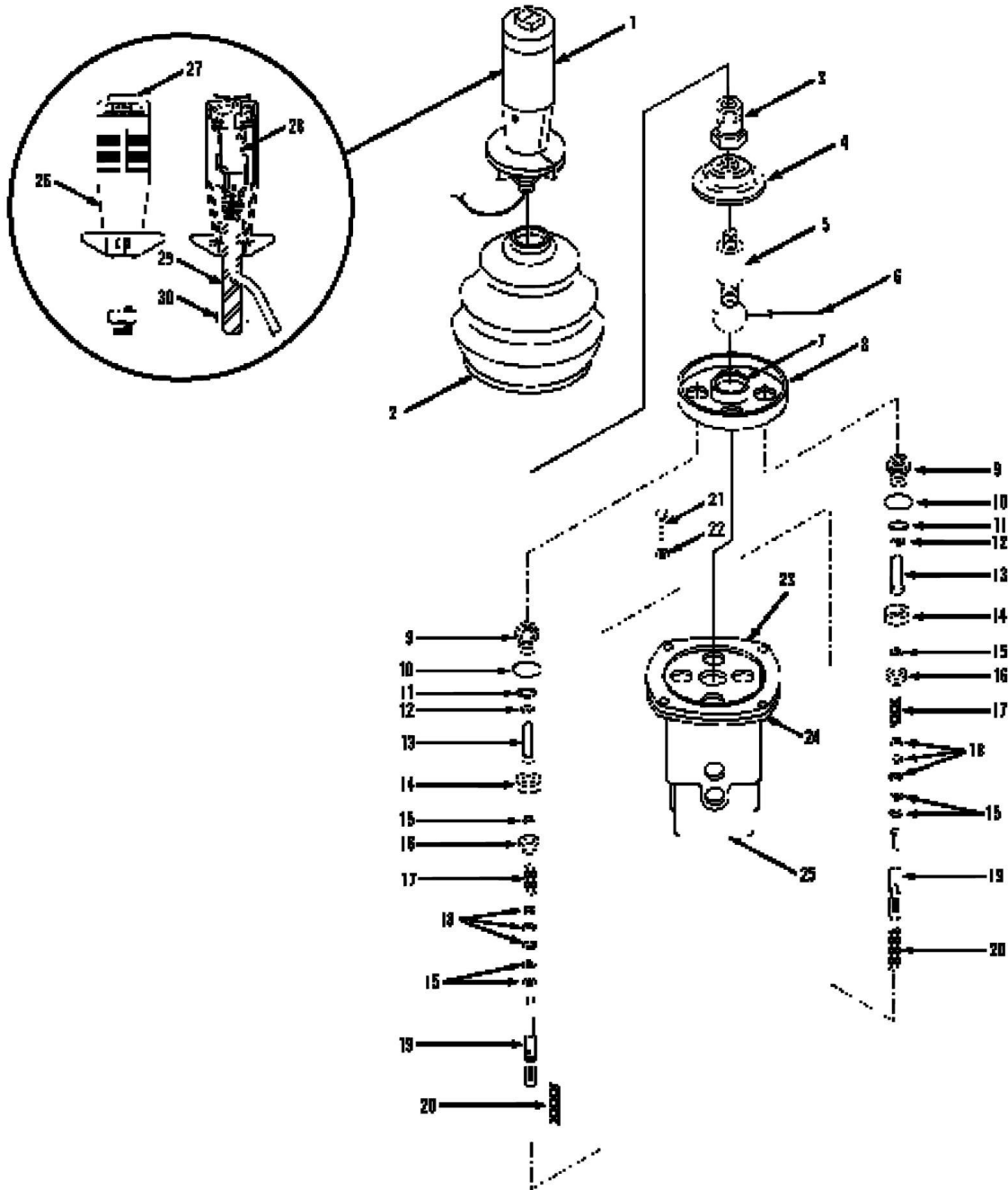
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-32. SOLENOID VALVE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043107	1	SOLENOID VALVE ASSY, TWO -WAY, NORMALLY CLOSED (includes all items)	
	91044005	1	SEAL KIT	
1	90208066	1	NUT	
2		Ref	NAME PLATE	
3	77384267	1	SOLENOID COIL ASSY	
4	91044006	1	VALVE ASSY	
5	91044007	1	VALVE BODY	
		Ref	NOTE: ONLY PART NUMBERED PARTS ARE AVAILABLE FOR SERVICE REPLACEMENT	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-33. (91033482) JOYSTICK ASSEMBLY (SN 0155384S to Present)



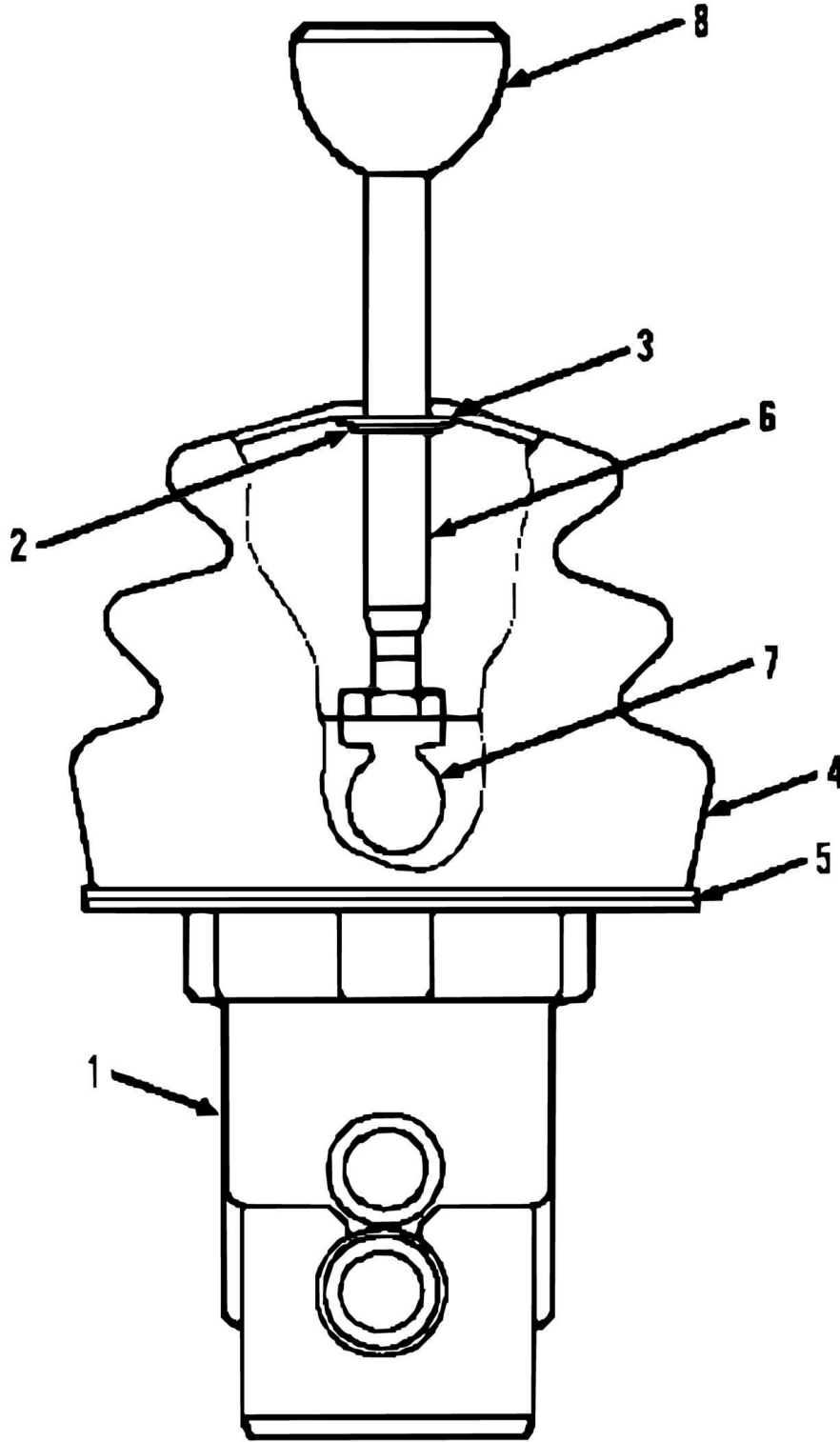
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-33. (91033482) JOYSTICK ASSEMBLY (SN 0155384S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033482	1	JOYSTICK ASSY (includes all items)	
	91034344	4	SPOOL ASSY (includes items 15, 16, 17, 18, 19 & 20)	
	99007524	AR	PLUNGER SEAL KIT (includes items 10 & 11)	
1	91034343	NLA	HANDLE ASSY, NO LONGER AVAILABLE (for service order P/N 91034378 handle assy which has serviceable component parts, items 26 thru 30)	
1	91034378	1	HANDLE ASSY (includes items 26 thru 30)	
2	91034346	1	BOOT	
3	91034347	1	HANDLE ADAPTER	
4	91034348	1	CAM PLATE	
5	91034349	1	PIVOT BALL	
6	91034350	1	PIVOT PIN	
7	91034351	1	PIVOT BALL RACE	
8	91034352	1	BOOT PLATE	
9	91034353	4	PLUNGER GUIDE	
10	91034354	4	O-RING	
11	91034355	4	U-CUP SEAL	
12	91034356	4	RETAINING RING	
13	91034357	4	PLUNGER PIN	
14	91034358	4	RACE	
15	91034359	12	RETAINING RING	
16	91034360	4	SPRING RETAINER	
17	91034361	4	SPRING	
18	91034362	AR	SHIM (.010 thick)	
18	91034363	AR	SHIM (.020 thick)	
18	91034364	AR	SHIM (.060 thick)	
19	91034365	4	SPOOL	
20	91034366	4	SPRING	
21	91034367	4	HEX HD CAPSCREW, 1/4-20X.75	
22	91034368	4	LOCKWASHER	
23	91034369	1	TOP MOUNTING PLATE	
24	91034370	1	BOTTOM MOUNTING PLATE	
25	91034371	1	HOUSING	
26	91034379	1	GRIP ASSY (includes item 27)	
27	91034380	1	BOOT (rocker assy)	
28	91034381	2	MICRO SWITCH	
29	91034382	1	HANDLE ROD	
30	91034383	1	HEX JAM NUT, 1/2-13	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-34. HYDRAULIC CONTROLLER (SN 0155299S to Present)





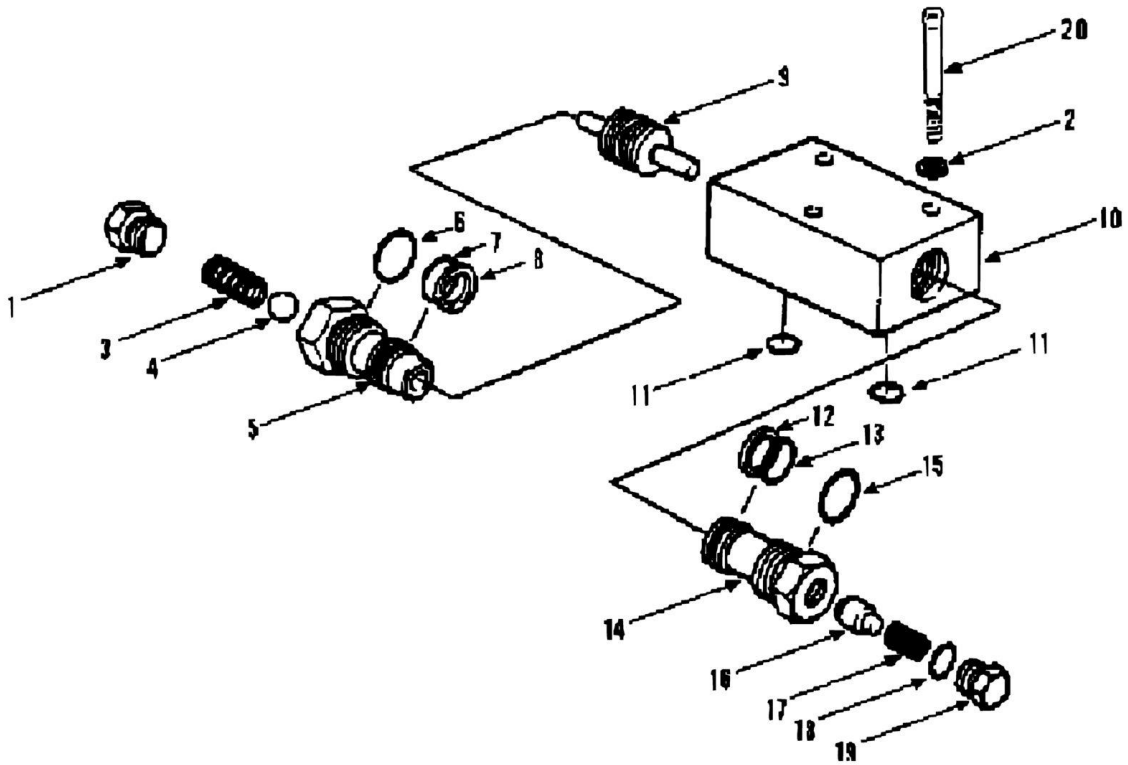
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-34. HYDRAULIC CONTROLLER (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043064	1	HYDRAULIC CONTROLLER ASSY (includes all items)	
	99007524	4	PLUNGER SEAL KIT (includes one each of the following; u-cup, o-ring seal, retainer and o-ring)	
1	91044131	1	HYDRAULIC CONTROLLER	
2	91044132	1	RETAINING RING	
3	91044133	1	WASHER	
4	91044134	1	BOOT	
5	91044135	1	RETAINER	
6	91044136	1	HANDLE ASSY (includes knob, handle rod and hex jam nut)(lubricate and tighten jam nut to 12-15 ft lbs)	
7	91044474	1	BALL ASSY (includes ball pivot race, ball pivot, cam plate, handle adapter and top mounting plate)	
8	91044525	1	KNOB	

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-35. DUAL P.O. CHECK VALVE (SN 0155299S to Present)



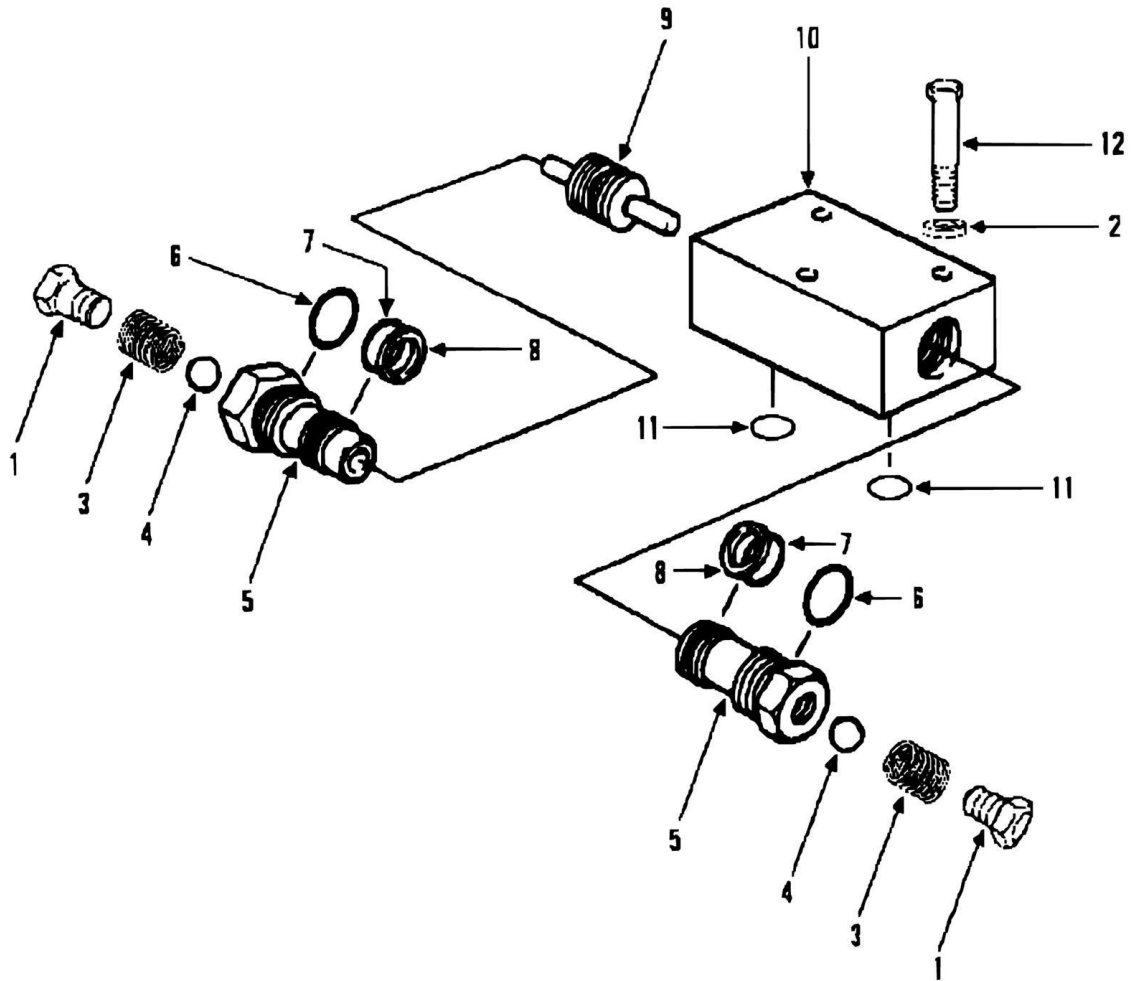
## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-35. DUAL P.O. CHECK VALVE (SN 0155299S to Present)**

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

# SECTION 9 - HYDRAULIC COMPONENTS

FIGURE 9-36. DUAL P.O. CHECK VALVE (SN 0155299S to Present)



## SECTION 9 - HYDRAULIC COMPONENTS

**FIGURE 9-36. DUAL P.O. CHECK VALVE (SN 0155299S to Present)**

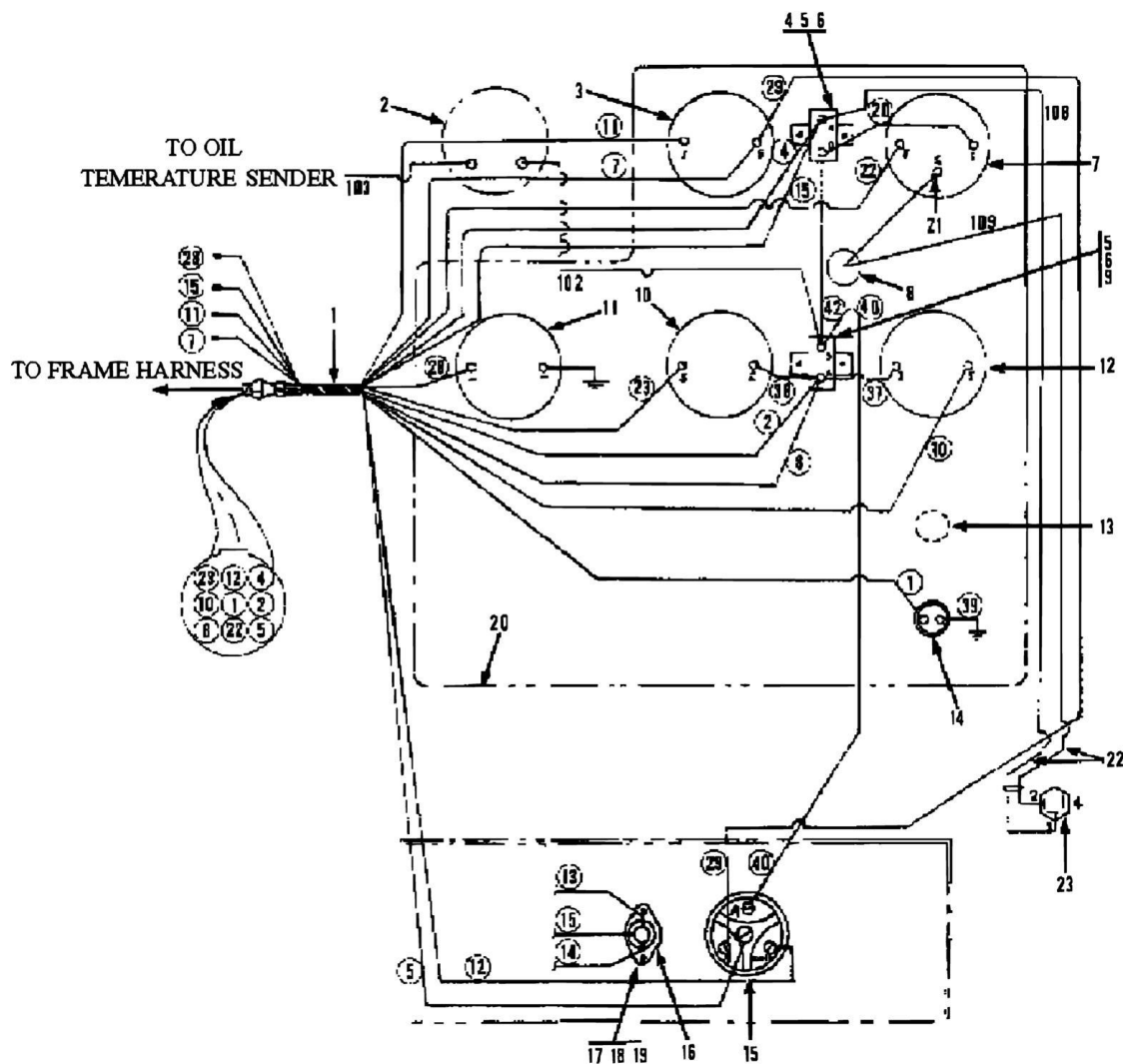
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91053354	2	DUAL P.O. CHECK VALVE ASSY (includes all items except items 2 & 12)	
1	91034272	1	PLUG	
2	88551011	3	LOCKWASHER, 3/8	
3	91034110	1	SPRING	
4	91034111	1	BALL	
5	91034112	1	CARTRIDGE BODY	
6	91034113	1	O-RING	
7	91034114	1	O-RING	
8	91034115	1	BACK-UP RING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



**SECTION 10 - ELECTRICAL**

# SECTION 10 - ELECTRICAL

## FIGURE 10-1. INSTRUMENT PANEL AND WIRING HARNESS (SN 0155299S to Present)





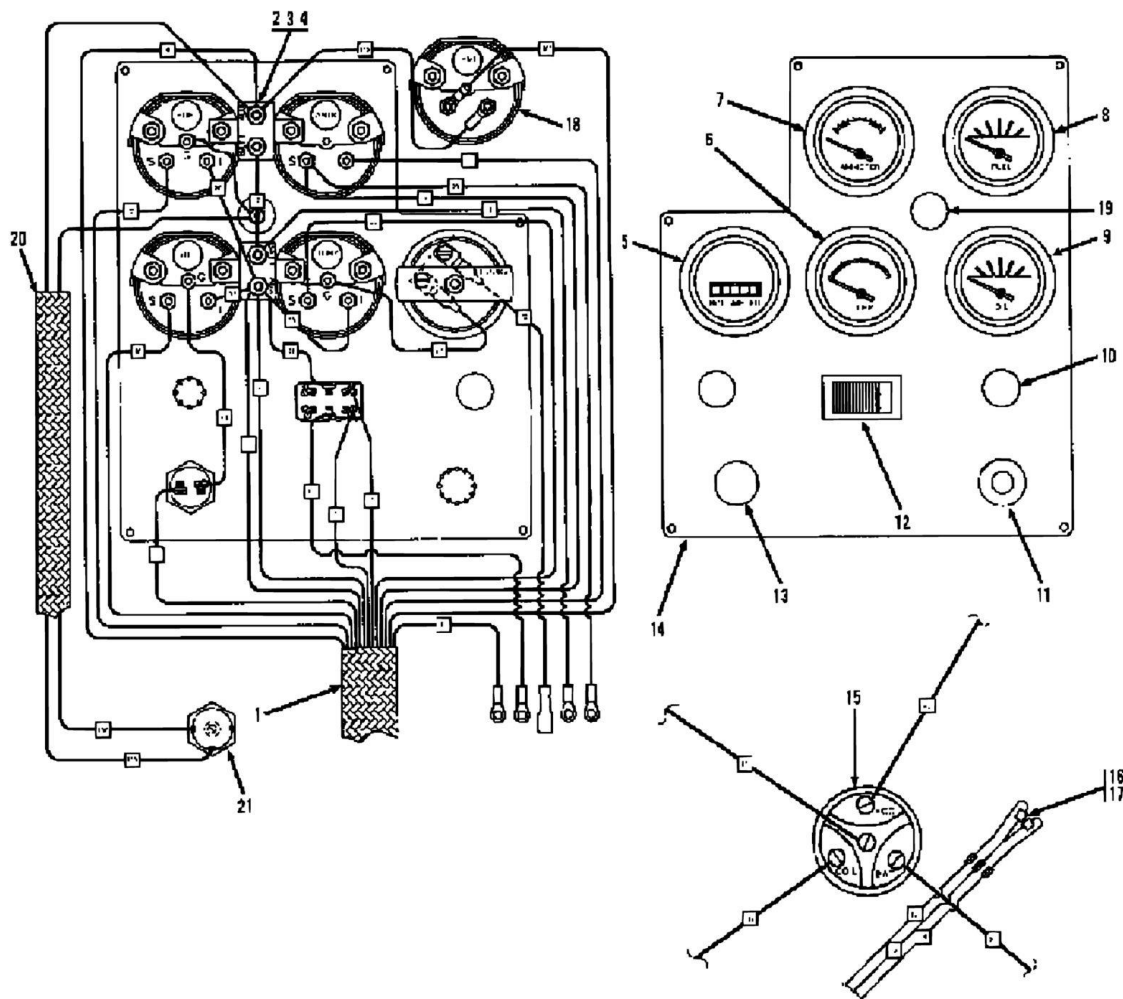
## SECTION 10 - ELECTRICAL

**FIGURE 10-1. INSTRUMENT PANEL AND WIRING HARNESS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035068	1	INSTRUMENT PANEL ASSY (includes all items except items 2,8,15 thru 19, 22, 23)	
1	91033112	1	DASH WIRING HARNESS	
2	91033282	1	TRANSMISSION TEMPERATURE GAUGE	
3	90205685	1	AMMETER	
4	91033111	1	CIRCUIT BREAKER, 10 AMP	
5	88501613	4	HEX NUT, #10-32	
6	88554917	4	LOCKWASHER, #10	
7	90205686	1	FUEL GAUGE	
8	91033084	1	BRAKE WARNING LIGHT	
9	90200506	1	CIRCUIT BREAKER, 30 AMP	
10	90205687	1	WATER TEMPERATURE GAUGE	
11	90205688	1	HOURMETER	
12	90205690	1	OIL PRESSURE GAUGE	
13	86661083	1	PLUG BUTTON	
14	90200434	1	HORN BUTTON	
15	91033317	1	IGNITION/START SWITCH	
16	91053378	1	DIODE ASSY	
17	88301052	2	ROUND HD MACHINE SCREW, #6-32x 3/8	
18	88551005	2	LOCKWASHER, #6	
19	88501608	2	HEX NUT, #6-32	
20	91031102	1	INSTRUMENT PANEL	
21	83483075	1	EYELET TERMINAL	
22	91045033	1	BRAKE LIGHT HARNESS	
23	91043077	1	PRESSURE SWITCH	

# SECTION 10 - ELECTRICAL

FIGURE 10-2. INSTRUMENT PANEL AND WIRING HARNESS (SN 0155382S to Present)



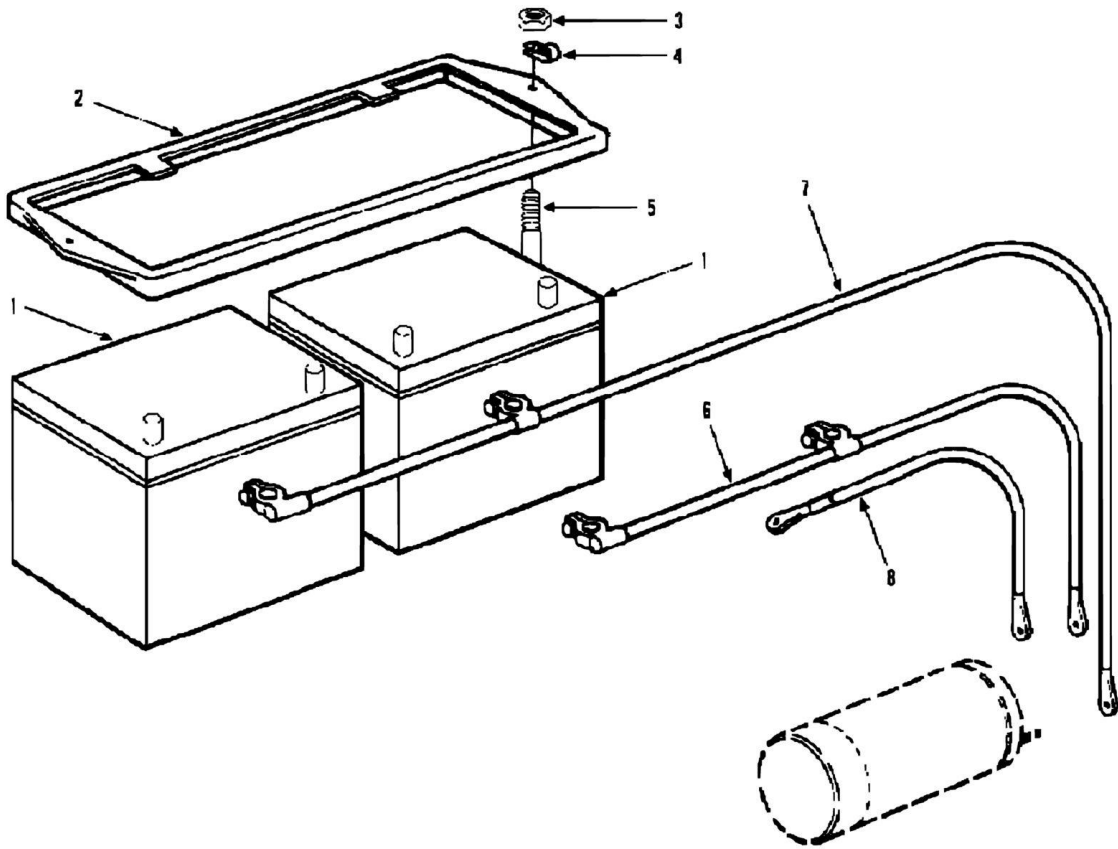
## SECTION 10 - ELECTRICAL

**FIGURE 10-2. INSTRUMENT PANEL AND WIRING HARNESS (SN 0155382S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035068	1	INSTRUMENT PANEL ASSY (includes all items except items 15 thru 21)	
1	91033112	1	INSTRUMENT PANEL HARNESS	
2	91033111	2	CIRCUIT BREAKER	
3	88554917	4	LOCKWASHER, #10X.062X.047	
4	88501613	4	HEX NUT, #10-32	
5	90205688	1	HOURMETER	
6	90205687	1	WATER TEMP. GAUGE	
7	90205685	1	AMMETER	
8	90205686	1	FUEL GAUGE	
9	91033247	1	OIL PRESSURE GAUGE	
10	91083221	1	PLUG BUTTON, 5/8 HOLE	
11	90200434	1	BUTTON SWITCH	
12	91083259	1	ROCKER SWITCH	
13	85211041	1	PLUG BUTTON, 3/4 HOLE	
14	91041632	1	INSTRUMENT PANEL	
15	91033317	1	IGNITION - START SWITCH	
16	91033383	1	DIODE ASSY	
17	90027187	1	TY-RAP	
18	91033282	1	TRANSMISSION TEMP. GAUGE	
19	91033084	1	BRAKE WARNING LIGHT	
20	91045033	1	BRAKE LIGHT HARNESS	
21	91033416	1	PRESSURE SWITCH	

# SECTION 10 - ELECTRICAL

FIGURE 10-3. BATTERIES AND CABLES (SN 0155299S to Present)



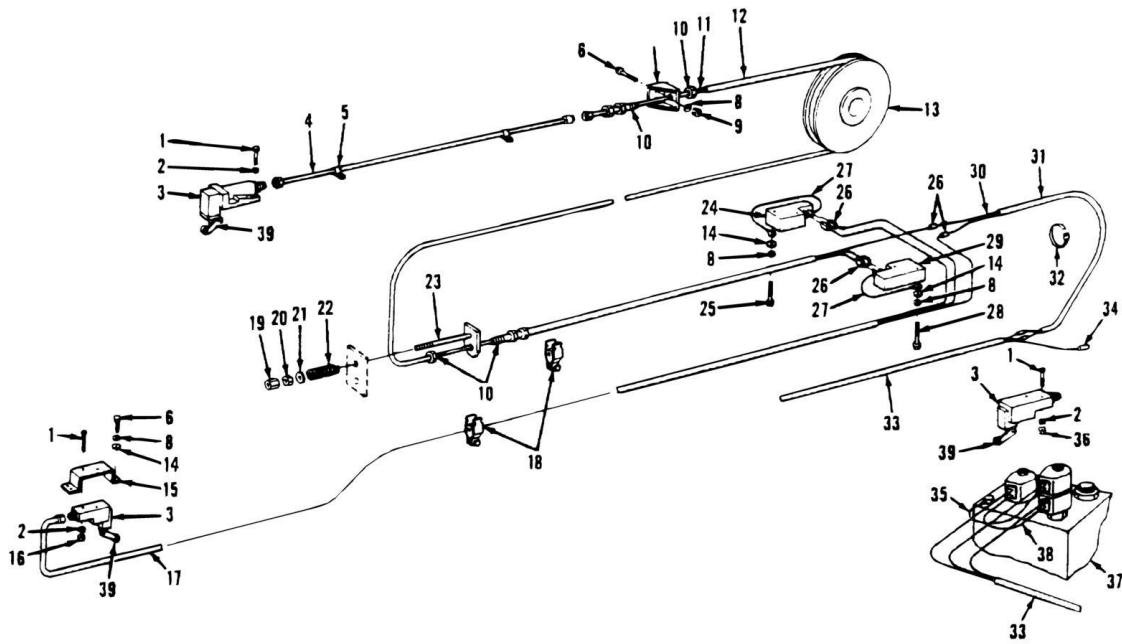
## SECTION 10 - ELECTRICAL

**FIGURE 10-3. BATTERIES AND CABLES (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	80973021	2	BATTERY (12volt, 1000 amps), TOP STUD, 3/8-16 UNC THREAD, BCI GROUP 31	
2	90403432	1	BATTERY HOLD DOWN	
3	77143006	2	LOCK NUT	
4	85841094	1	SUPPORT CLAMP	
5	90200382	2	HOLD DOWN STUD	
6	91033042	1	NEGATIVE BATTERY CABLE	
7	91033086	1	POSITIVE BATTERY CABLE	
8	90200811	1	GROUND CABLE	

# SECTION 10 - ELECTRICAL

## FIGURE 10-4. BOOM SECTION WIRING (SN 0155299S to Present)



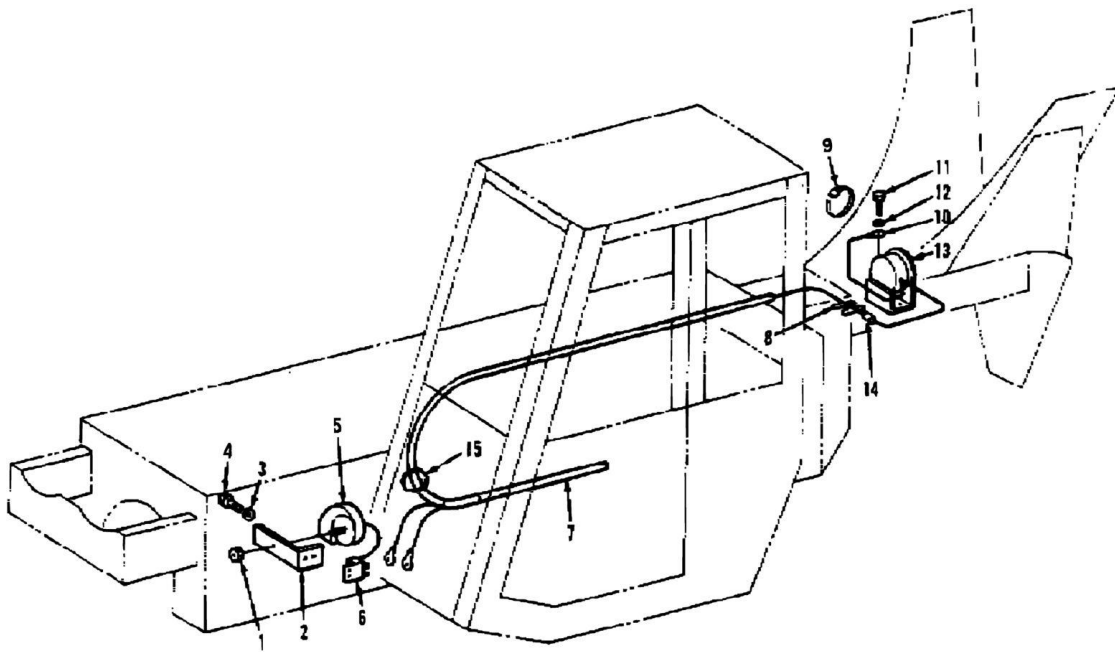
## SECTION 10 - ELECTRICAL

**FIGURE 10-4. BOOM SECTION WIRING (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88301099	6	ROUND HD MACHINE SCREW, #10-24X1-3/4	
2	88551007	6	LOCKWASHER, #10	
3	91044546	3	SWITCH	
4	91043118	1	WIRING HARNESS ASSEMBLY	
5	85941016	2	SUPPORT CLAMP	
6	88201004	6	HEX HD CAPSCREW, 1/4-20X7/8, GR5	
7	91046001	1	HOSE SUPPORT	
8	88551009	10	LOCKWASHER, 1/4	
9	88501004	2	HEX NUT, 1/4-20	
10	91043161	2	NYLON TUBE FITTING, 3/4X1/2	
11	91043119	1	WIRING HARNESS ASSEMBLY	
12		Ref	NYLON TUBE, 3/4 O.D.	
13		Ref	PUSH BEAM CABLES, (See BOOMS SECTION for Breakdown)	
14	88561107	8	FLATWASHER, 1/4	
15	91046002	1	SWITCH COVER	
16	88501612	2	HEX NUT, #10-24	
17	91043117	1	WIRING HARNESS ASSEMBLY	
18	91043120	6	CUSHION CLAMP	
19	88501008	1	HEAVY HEX JAM NUT, 1/2-13	
20	88501008	1	HEX NUT, 1/2-13	
21	90207041	1	SPRING RETAINER	
22	90200313	1	SPRING	
23	91046007	1	HOSE TAKE-UP WELDMENT	
24		Ref	SOLENOID VALVE ASSEMBLY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
25	88201010	2	HEX HD CAPSCREW, 1/4-20X2-1/4, GR5	
26	90028959	6	FEMALE TERMINAL	
27	91041014	2	JUMPER WIRE	
28	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
29		Ref	SOLENOID VALVE ASSEMBLY, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
30	91043122	1	WIRING HARNESS ASSEMBLY	
31		Ref	SPLIT WIRE LOOM, 1/2 I.D.	
32	86683122	1	TY-RAP	
33	91033079	1	WIRING HARNESS ASSEMBLY	
34	90028960	1	MALE TERMINAL	
35	91041554	1	JUMPER WIRE	
36	91043199	2	SQUARE NUT, #10-24	
37		Ref	SERIES PARALLEL CONTROL VALVE, (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
38	91045035	1	JUMPER WIRE	
39	91044475	3	LEVER/ROLLER ASSEMBLY	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

# SECTION 10 - ELECTRICAL

FIGURE 10-5. MISCELLANEOUS ELECTRICAL COMPONENTS (SN 0155299S to Present)





## SECTION 10 - ELECTRICAL

**FIGURE 10-5. MISCELLANEOUS ELECTRICAL COMPONENTS (SN 0155299S to Present)**

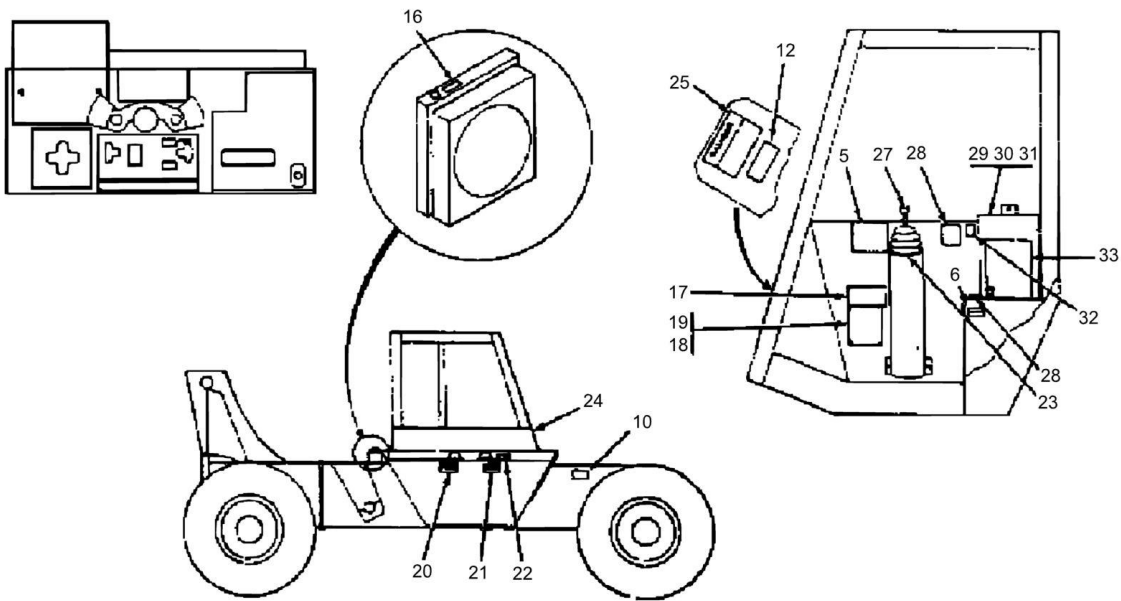
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	24921395	1	HORN NUT	
2	24921394	1	HORN BRACKET	
3	88551009	2	LOCKWASHER, 1/4	
4	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
5	24921393	1	HORN	
6	86661084	1	HORN RELAY	
7		Ref	WIRE HARNESS ASSY (See ENGINE AND ATTACHING PARTS SECTION AND BOOM SECTION WIRING for Breakdown)	
8	83683181	2	TY-RAP BASE	
9	90027187	2	TY-RAP	
10	86883260	1	RING TERMINAL	
11	88201018	2	HEX HD CAPSCREW, 5/16-18X3/4, GR5	
12	88551010	2	LOCKWASHER, 5/16	
13	77223003	1	TRAVEL ALARM	
14	86683480	1	BUTT CONNECTOR	
15	91043228	1	GROMMET	



**SECTION 11 - MISCELLANEOUS**

# SECTION 11 - MISCELLANEOUS

## FIGURE 11-1. FRAME DECALS (SN 0155299S to Present)



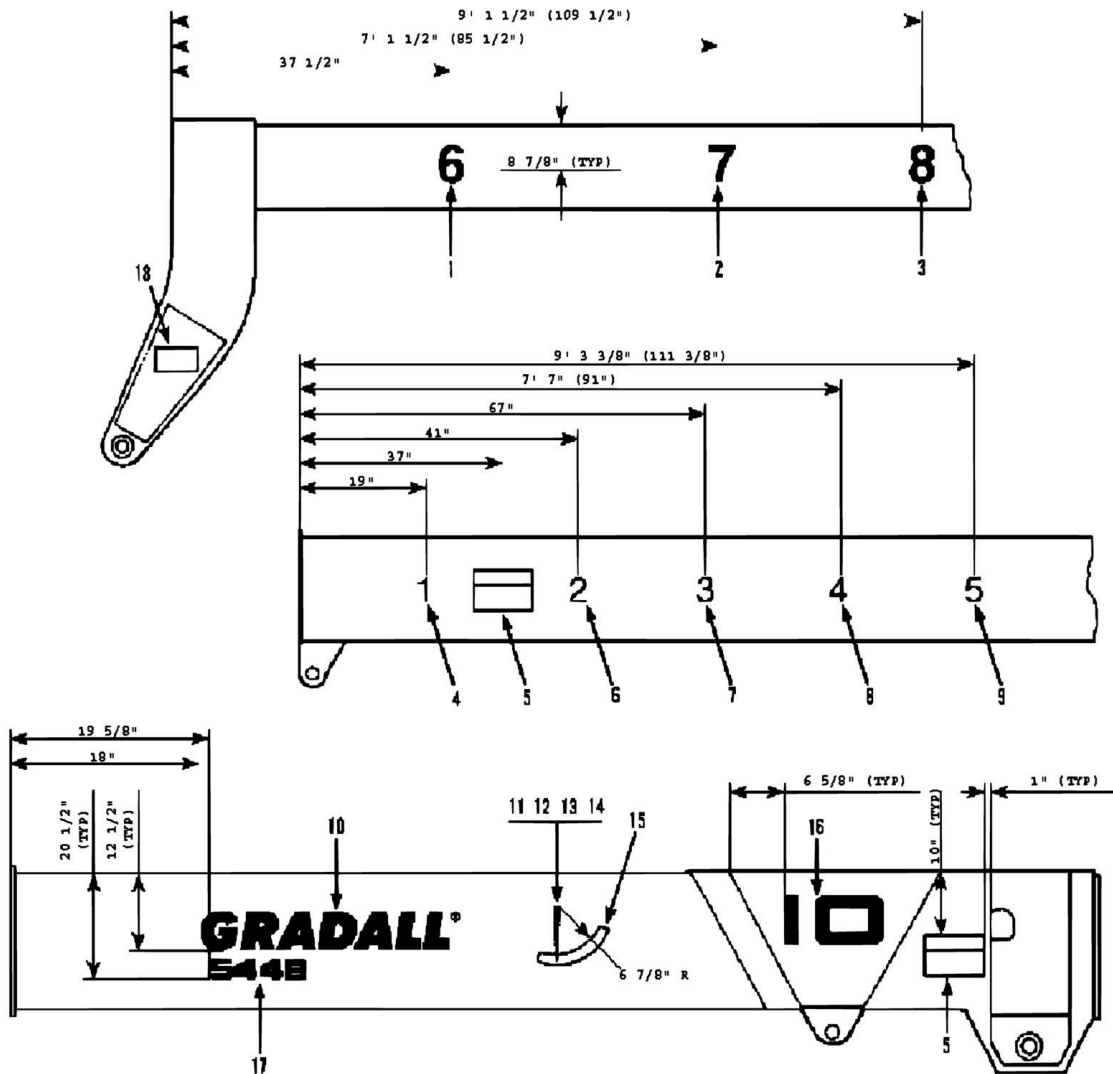
## SECTION 11 - MISCELLANEOUS

**FIGURE 11-1. FRAME DECALS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90207488	1	MOUNTING PLATE	
2	88302128	2	ROUND HD MACHINE SCREW, 1/4-20X1	
3	91043033	1	LIFT CAPACITY DECAL	
4	91003040	1	FORWARD-REVERSE DECAL	
5	91063047	1	WARNING DECAL	
6	77333027	1	MADE IN U.S.A. DECAL	
7	91003039	1	SHIFT DECAL	
8	91033362	1	CAUTION DECAL	
9	91043171	1	SWING FORK DECAL, LEFT (used on machines with swing forks)	
10	77023007	1	BATTERY INSTRUCTION STICKER	
11	91033089	1	HORN DECAL	
12	91043215	1	WARNING DECAL	
13	91043172	1	SWING FORK DECAL, RIGHT (used on machines with swing forks)	
14	91033024	1	HUB LOCKOUT DECAL	
15	91033090	1	WINCH DECAL (used on machines with winch and truss boom)	
16	91033011	1	HANDS WARNING DECAL	
17	91003030	1	PATENT DECAL	
18	91043184	1	SERIAL NUMBER AND ATTACHMENT PLATE	
19	88343901	4	DRIVE SCREW, #10x1/2	
20	91003052	1	WARNING DECAL	
21	91003051	1	WARNING DECAL	
22	77023006	1	HYDRAULIC OIL DECAL	
23	90206194	1	TRIM, 17IN LONG	
24	83641675	1	GRADALL DECAL, WHITE	
24	77333011	1	GRADALL DECAL, BLACK	
25	83601011	1	DANGER DECAL	
26	91043129	1	PARKING BRAKE DECAL	
27	91003044	1	BOOM OPERATING DECAL	
28	91043169	1	SWING FORK LOAD CHART	
29	91033102	1	MANUAL HOLDER	
30	88301193	4	ROUND HD MACHINE SCREW, #10-32X1/2	
31	88554900	4	INTERNAL TOOTH WASHER, #10	
32	91043173	1	SWING FORK CAUTION DECAL (used on machines with swing forks)	
33	91043141	1	SERVICE DECAL	

# SECTION 11 - MISCELLANEOUS

FIGURE 11-2. BOOM DECALS (SN 0155299S to Present)



## SECTION 11 - MISCELLANEOUS

**FIGURE 11-2. BOOM DECALS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	91043331	1	"6" DECAL, WHITE (standard)	
1	91043332	1	"6" DECAL, BLACK (optional)	
2	91043333	1	"7" DECAL, WHITE (standard)	
2	91043334	1	"7" DECAL, BLACK (optional)	
3	91043335	1	"8" DECAL, WHITE (standard)	
3	91043336	1	"8" DECAL, BLACK (optional)	
4	91003016	1	"1" DECAL, WHITE (standard)	
4	91043134	1	"1" DECAL, BLACK (optional)	
5	77023009	2	HOLE WARNING DECAL	
6	91003018	1	"2" DECAL, WHITE (standard)	
6	91043135	1	"2" DECAL, BLACK (optional)	
7	91123042	1	"3" DECAL, WHITE (standard)	
7	91123043	1	"3" DECAL, BLACK (optional)	
8	91003020	1	"4" DECAL, WHITE (standard)	
8	91043136	1	"4" DECAL, BLACK (OPTIONAL)	
9	91123044	1	"5" DECAL, WHITE (standard)	
9	91123045	1	"5" DECAL, BLACK (optional)	
10	91123037	1	GRADALL DECAL, WHITE (standard)	
10	91123038	1	GRADALL DECAL, BLACK (optional)	
11	90200445	1	PENDULUM	
12	90200688	1	BEARING	
13	90206491	1	SHOULDER BOLT, 1/4-20	
14	88561108	1	SAE WASHER, 5/16	
15	91003031	1	BOOM ANGLE DECAL, WHITE (standard)	
16	91043034	2	"10" DECAL, WHITE (standard)	
16	91043035	2	"10" DECAL, BLACK (optional)	
17	91043329	1	"544B" DECAL, WHITE (standard)	
17	91043330	1	"544B" DECAL, BLACK (optional)	
18	91033023	1	QUICK SWITCH WARNING DECAL	

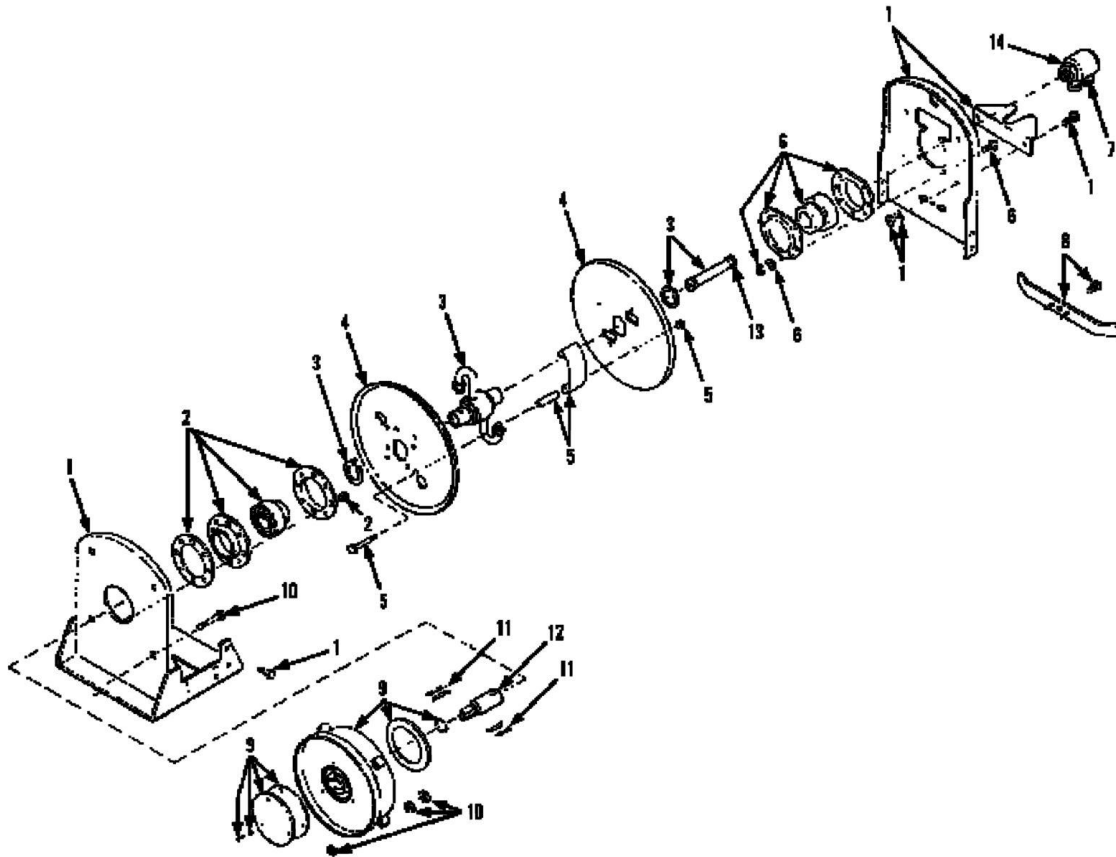




**SECTION 12 - OPTIONAL EQUIPMENT**

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-1. DUAL HOSE REEL ASSEMBLY (SN 0155299S to Present)



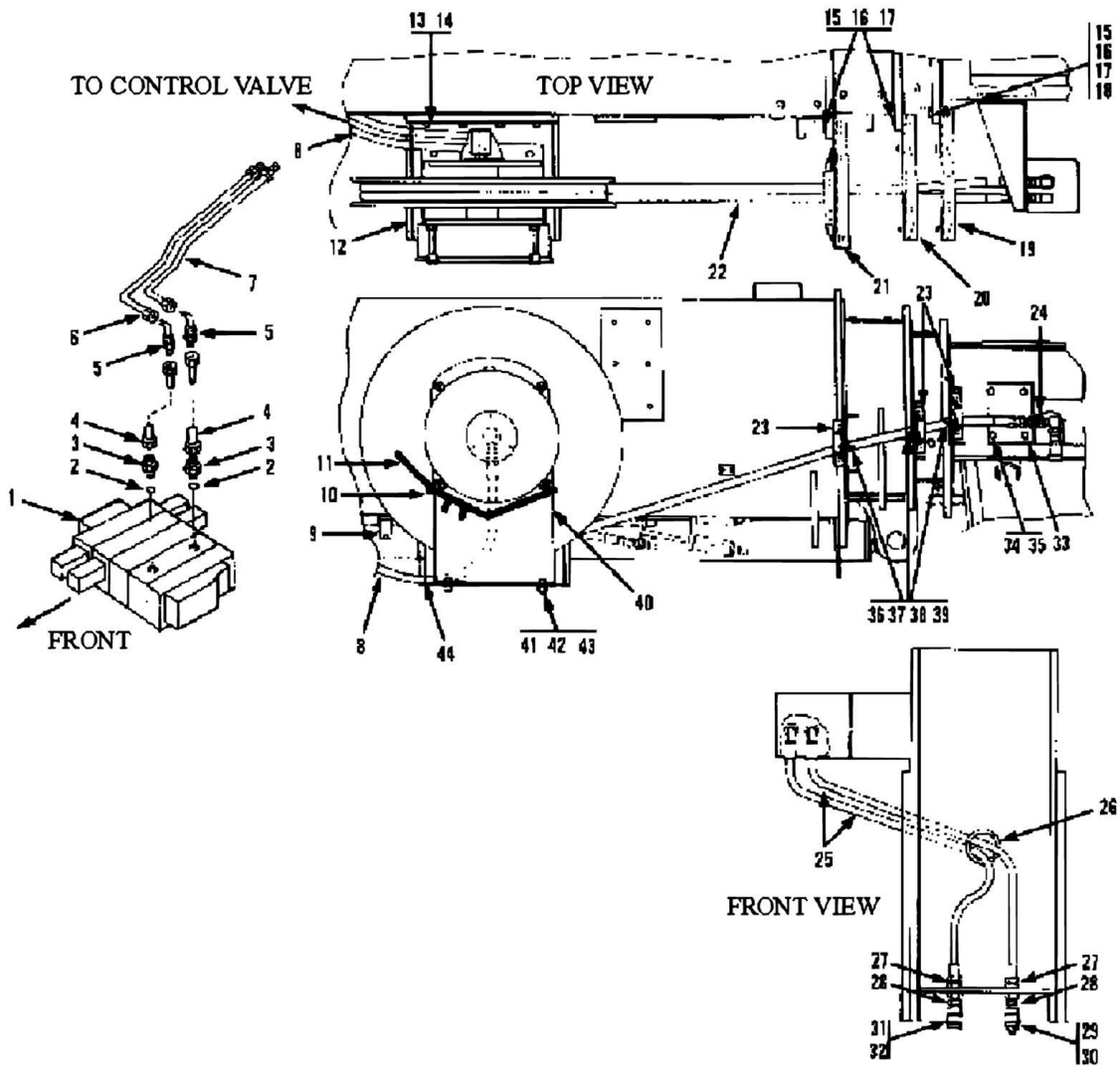
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-1. DUAL HOSE REEL ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043106	1	DUAL HOSE REEL ASSY (includes all items)	
	91044225	1	SEAL KIT (includes items 13, 14)	
1	91044226	1	FRAME ASSY	
2	91044227	1	BEARING KIT, SPRING END	
3	91044228	1	SHAFT KIT	
4	91044229	1	DISC KIT	
5	91044230	1	WRAPPER KIT	
6	91044231	1	BEARING KIT, SWIVEL END	
7	91044232	1	SWIVEL KIT	
8	91044233	1	TENSION WRENCH KIT	
9	91044234	1	SPRING MOTOR KIT	
10	91044235	1	SPRING MOUNTING KIT	
11	91044236	1	PAWL KIT	
12	91044237	1	STUB SHAFT	
13		Ref	O-RING (included in seal kit)	
14		Ref	SEAL ASSY (included in seal kit)	

# SECTION 12 - OPTIONAL EQUIPMENT

## FIGURE 12-2. DUAL HOSE REEL AND HYDRAULIC SYSTEM (SN 0155299S to Present)



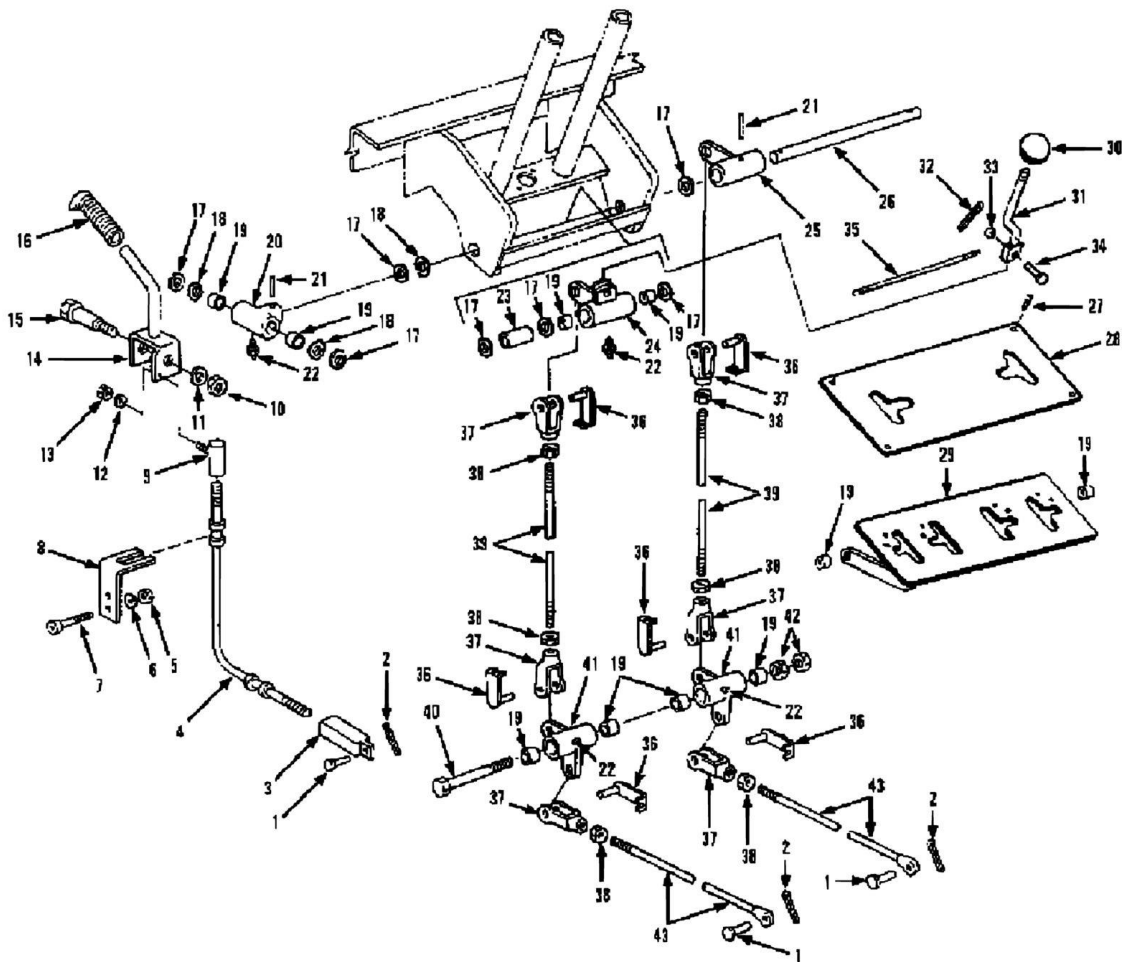
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-2. DUAL HOSE REEL AND HYDRAULIC SYSTEM (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1		Ref	MAIN CONTROL VALVE ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
2	88591207	2	O-RING	
3	88662022	2	CONNECTOR (includes item 2)	
4	90022043	2	HOSE ASSY	
5	90029938	2	BULKHEAD ELBOW, 90	
6	91043196	1	TUBE ASSY FRONT VIEW	
7	90207393	1	TUBE ASSY	
8	84717505	2	HOSE ASSY	
9	90207464	12	CUSHION CLAMP	
10	90027187	2	NYLON TIE	
11		Ref	SPRING TENSIONING SPANNER WRENCH (supplied with hose reel)	
12	91046054	1	REEL BRACKET WELDMENT	
13	88201064	8	HEX HD CAPSCREW, 1/2-13X7/8, GR5	
14	88551013	8	LOCKWASHER, 1/2	
15	88201069	6	HEX HD CAPSCREW, 1/2-13X2, GR5	
16	88551013	6	LOCKWASHER, 1/2	
17	88501008	6	HEX NUT, 1/2-13	
18	88561006	1	FLATWASHER, 1/2	
19	91041243	1	ROLLER SUPPORT	
20	91041244	1	ROLLER SUPPORT	
21	91041245	1	ROLLER SUPPORT	
22	91043159	1	HOSE ASSY	
23	91043121	3	ROLLER ASSY	
24	90029939	2	BULKHEAD UNION	
25	84717925	2	HOSE ASSY	
26	91041565	1	GROMMET, 16-1/4IN LONG	
27	91043321	2	BULKHEAD UNION	
28	88712304	2	REDUCING BUSHING, 1/2X3/8	
29	90204244	1	HYDRAULIC COUPLER, MALE	
30	91043126	1	DUST CAP	
31	90204245	1	HYDRAULIC COUPLER, FEMALE	
32	91043125	1	DUST CAP	
33	91046059	1	SUPPORT WELDMENT	
34	88201033	4	HEX HD CAPSCREW, 3/8-16X3/4, GR5	
35	88551011	4	LOCKWASHER, 3/8	
36	88201036	6	HEX HD CAPSCREW, 3/8-16X1-1/4, GR5	
37	88561004	6	FLATWASHER, 3/8	
38	88551011	6	LOCKWASHER, 3/8	
39	88501006	6	HEX NUT, 3/8-16	
40		Ref	DUAL HOSE REEL ASSY (See DUAL HOSE REEL ASSEMBLY for Breakdown)	
41	88201066	4	HEX HD CAPSCREW, 1/2-13X1-1/4, GR5	
42	88551013	4	LOCKWASHER, 1/2	
43	88501008	4	HEX NUT, 1/2-13	
44		Ref	FLEX GUARD, 5IN	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-3. SWAY, AUXILIARY AND TILT CONTROLS (SN 0155299S to Present)



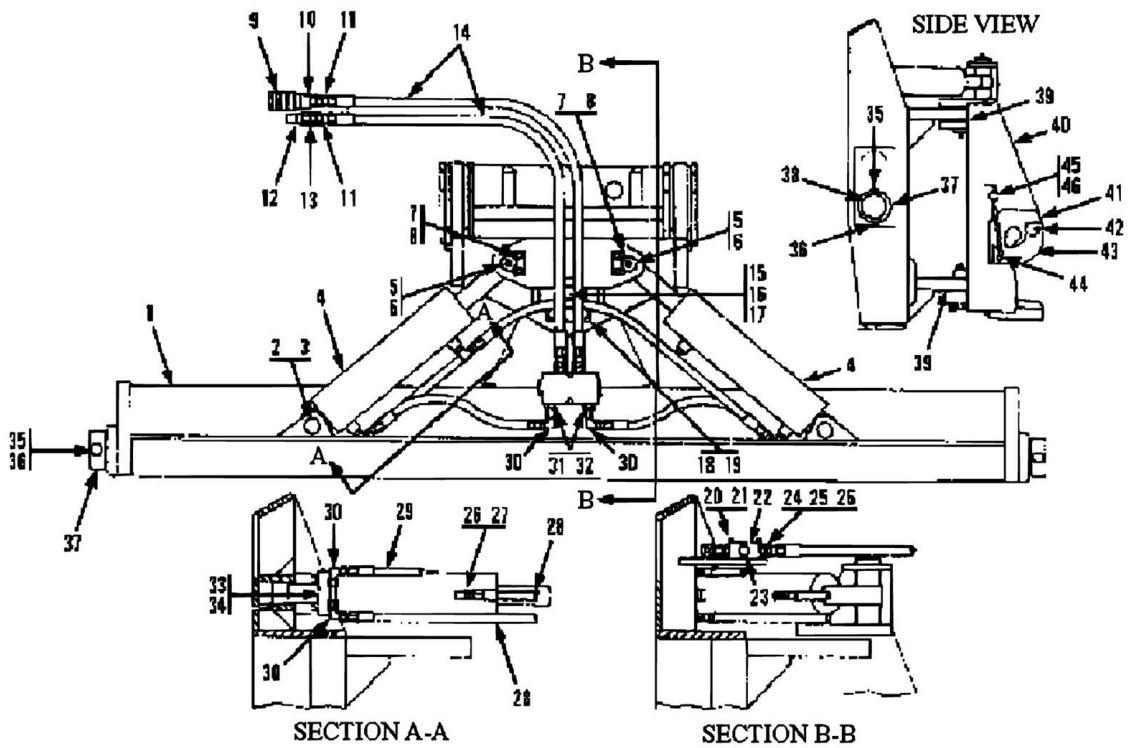
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-3. SWAY, AUXILIARY AND TILT CONTROLS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90021552	3	CLEVIS PIN	
2	88631301	3	COTTER PIN, 1/16X1/2	
3	91041236	1	CABLE END	
4	90206861	1	CABLE ASSY	
5	88521204	2	HEX LOCKNUT, 3/8-16	
6	88501006	2	HEX NUT, 3/8-16	
7	88261030	2	SOCKET BUTTON HD CAPSCREW, 3/8-16X1-1/4	
8	91031013	1	CABLE BRACKET	
9	86683117	1	BALL JOINT	
10	88501008	1	HEX NUT, 1/2-13	
11	88551013	1	LOCKWASHER, 1/2	
12	88551010	1	LOCKWASHER, 5/16	
13	88501305	1	HEX NUT, 5/16-24	
14	90403406	1	HANDLE WELDMENT	
15	90203502	1	SHOULDER BOLT	
16	90200774	1	HANDLE GRIP	
17	88561113	10	FLATWASHER, 5/8	
18	90028662	6	WAVE BEND WASHER	
19	90200290	10	NEEDLE BEARING	
20	90206859	1	HOUSING WELDMENT	
21	88631479	2	ROLL PIN, 3/16X1-1/4	
22	88671008	4	LUBE FITTING, STRAIGHT, 1/4-28	
23	91031189	1	SPACER	
24	90205983	1	BELL CRANK	
25	90205541	1	BELL CRANK	
26	90205571	1	SHAFT	
27	90020489	4	PAN HEAD SCREW, #2	
28	90206045	1	CONTROL PANEL	
29	90402904	1	CONTROL PANEL	
30	90200299	1	KNOB	
31	90205981	1	HANDLE, R.H.	
32	88631309	1	COTTER PIN, 3/32X3/4	
33	90200688	1	BEARING	
34	90021557	1	CLEVIS PIN	
35	90200559	1	SPRING	
36	90027987	6	SPRING CLEVIS	
37	88821004	6	ADJUSTABLE YOKE END, 3/8-24	
38	88501406	6	HEX JAM NUT, 3/8-24	
39	90202361	2	ROD	
40	88201328	1	HEX HD CAPSCREW, 5/8-11X6-1/2, GR5	
41	90205533	2	BELL CRANK	
42	88501010	2	HEX NUT, 5/8-11	
43	91046051	2	CONTROL ROD	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-4. 100, SWING FORK ASSEMBLY (SN 0155299S to Present)





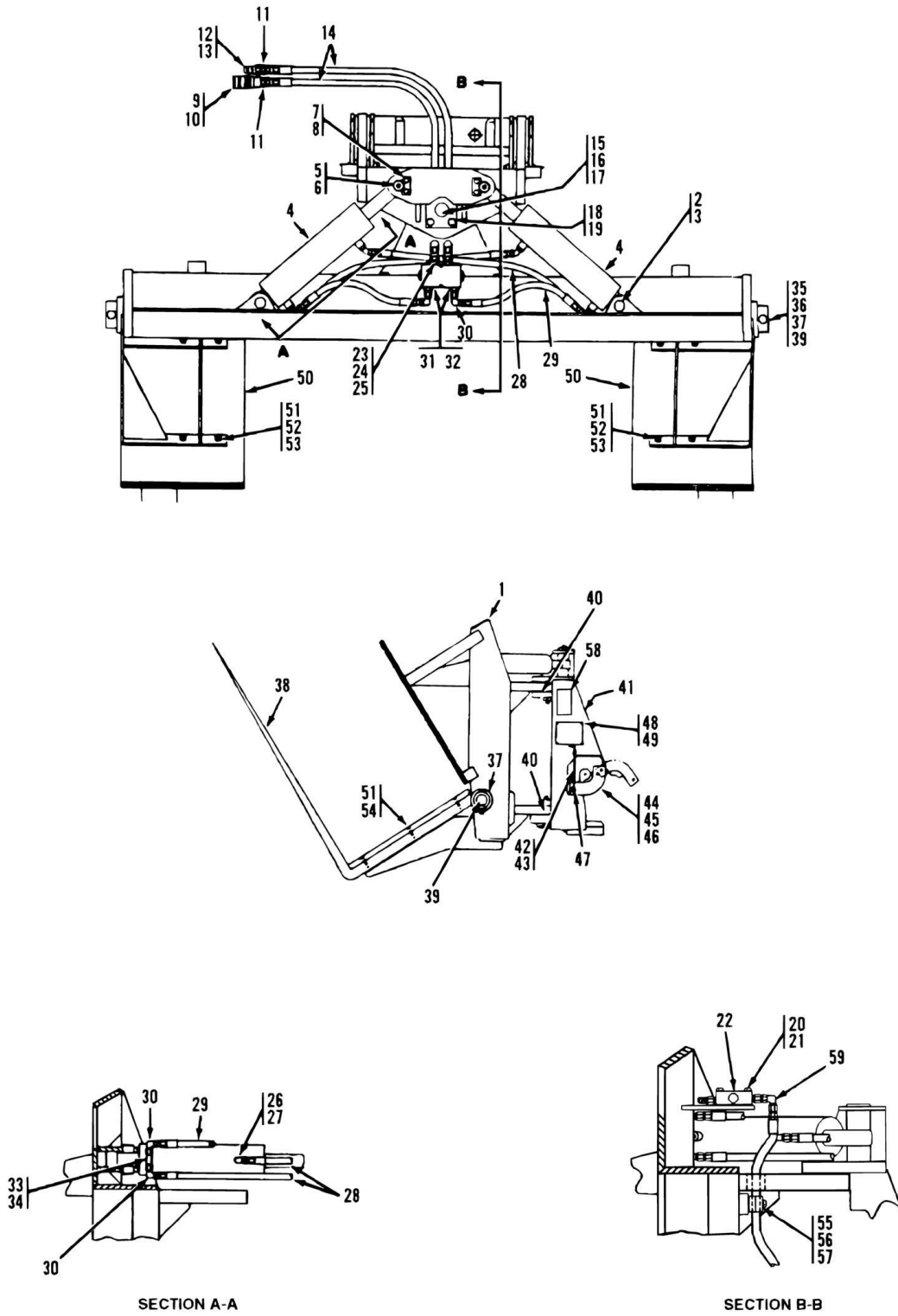
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-4. 100, SWING FORK ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045030	1	100, SWING FORK ASSY (includes all items)	
1	91046061	1	SWING FORK CARRIAGE WELDMENT	
2	91041326	2	PIVOT PIN	
3	88581136	4	EXTERNAL RETAINING RING	
4		Ref	HYDRAULIC CYLINDER ASSY (See HYDRAULLIC CYLINDER ASSEMBLY (JARP) or Hydraulic Cylinder Assembly (Iowa) for Breakdown)	
5	91041324	2	PIVOT PIN	
6	88671008	2	LUBE FITTING, STRAIGHT, 1/4-28	
7	91041322	2	LOCKING PLATE	
8	83201024	4	HEX HD CAPSCREW	
9	91043125	1	DUST CAP	
10	90204245	1	HYDRAULIC COUPLER, FEMALE	
11	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE	
12	91043126	1	DUST CAP	
13	90204244	1	HYDRAULIC COUPLER, MALE	
14	84716392	2	HOSE ASSY	
15	91041325	2	PIVOT PIN	
16	91041327	2	BUSHING	
17	88671022	2	LUBE FITTING, 90, 1/8	
18	91041323	2	LOCKING PLATE	
19	83201026	4	HEX HD CAPSCREW	
20	88201008	2	HEX HD CAPSCREW, 1/4-20X1-3/4, GR5	
21	88561002	2	FLATWASHER, 1/4	
22	91043186	1	DOUBLE PILOT CHECK VALVE	
23	91041361	2	FITTING	
24	91041362	2	ORIFICE FITTING	
25	88591205	2	O-RING	
26	88662084	2	ELBOW, 45, (includes item 27)	
27	88591204	2	O-RING	
28	90204097	2	HOSE ASSY	
29	77133201	2	HOSE ASSY	
30	88662105	6	ELBOW, 90, (swivel nut)	
31	88662018	2	CONNECTOR (includes item 32)	
32	88591205	2	O-RING	
33	88662152	2	BRANCH TEE (includes item 34)	
34	88591204	2	O-RING	
35	88201105	4	HEX HD CAPSCREW, 5/8-11X4, GR5	
36	88521310	4	HEX LOCKNUT, 5/8-11	
37	90200003	4	COLLAR	
38	90551013	1	FORK PIN	
39	91041356	6	SPACER	
40	91046062	1	PIVOT WELDMENT	
41	88221054	4	SOCKET SET SCREW (cup point) 1/4-20	
42	91041355	2	PIN	
43	91046069	1	SUPPORT BRACKET, L.H.	
43	91046078	1	SUPPORT BRACKET, R.H.	
44	91043221	2	DETENT PIN	
45	91033038	1	CHAIN, 24IN	
46	91033039	2	CHAIN CONNECTION	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-5. 100, DRYWALL SWING FORK ASSEMBLY (SN 0155299S to Present)



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-5. 100, DRYWALL SWING FORK ASSEMBLY (SN 0155299S to Present)**

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

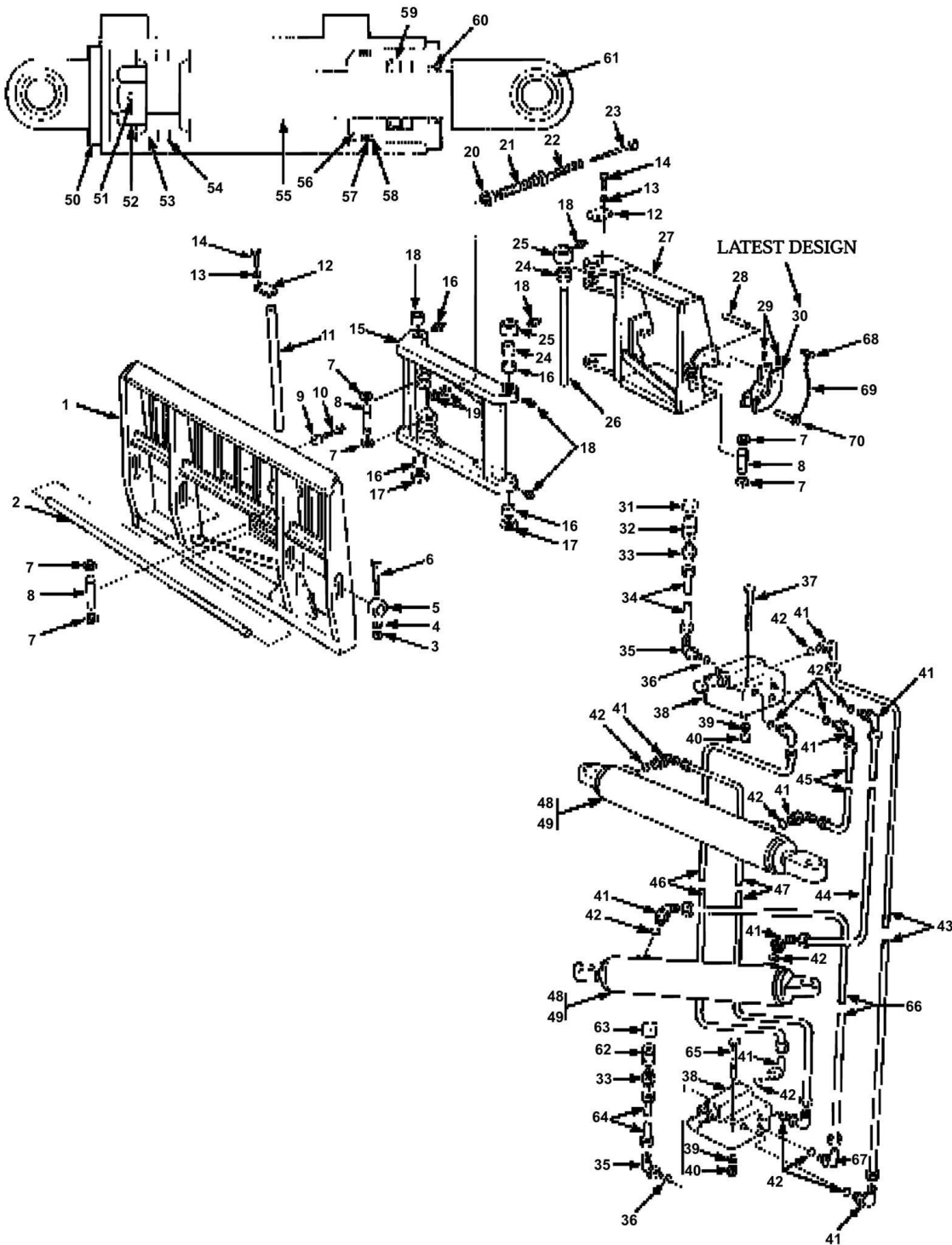
## SECTION 12 - OPTIONAL EQUIPMENT

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



# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-6. 180, SWING FRAME ASSEMBLY (SN 0155299S to Present)



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-6. 180, SWING FRAME ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90553004	1	SWING FRAME ASSY, 180, (includes all items)	
1	91044238	1	FORK BASE WELDMENT	
2	90551013	1	FORK PIN	
3	88501008	2	HEX NUT, 1/2-13	
4	88551013	2	LOCKWASHER, 1/2	
5	90200003	2	COLLAR	
6	88201074	2	HEX HD CAPSCREW, 1/2-13X3-1/4, GR5	
7	91044239	8	SNAP RING	
8	91044240	4	PIN	
9	88501112	1	HEAVY HEX JAM NUT, 3/4-10	
10	88201111	1	HEX HD CAPSCREW, 3/4-10X2, GR5	
11	91044241	1	SHAFT	
12	91044242	2	PIN RETAINER	
13	88551015	4	LOCKWASHER, 5/8	
14	88201094	4	HEX HD CAPSCREW, 5/8-11X1-1/4, GR5	
15	91044243	1	INTERMEDIATE LINK ASSY (includes item 16)	
16	91044244	4	BRONZE BUSHING	
17	91044245	AR	SHIM	
18	88671001	6	LUBE FITTING, STRAIGHT, 1/8	
19	88501006	2	HEX NUT, 3/8-16	
20	88501116	1	HEAVY HEX JAM NUT, 1-8	
21	91044246	1	PLUNGER BODY	
22	91044247	1	COMPRESSION SPRING	
23	91044248	1	PLUNGER WELDMENT	
24	91044249	2	THRUST BEARING	
25	91044250	2	LUBRICATION COLLAR	
26	91044251	1	SHAFT	
27	91044252	1	FIXED FRAME	
28	91041355	2	PIN	
29	88221054	4	SOCKET SET SCREW (cup point) 1/4-20	
30	91046069	1	SUPPORT BRACKET, L.H.	
30	91046078	1	SUPPORT BRACKET, R.H.	
31	91043126	1	DUST CAP, FEMALE	
32	90204245	1	QUICK DISCONNECT HYDRAULIC FITTING, FEMALE, 1/2 NPT	
33	88661013	2	STRAIGHT FITTING	
34	91044256	1	HOSE ASSY W/ SPRING GUARD	
35	88662065	2	ELBOW, 90, (includes item 36)	
36	88591205	2	O-RING	
37	90020115	2	HEX HD CAPSCREW, 5/16-18X4-1/2	
38		Ref	SWING VALVE ASSY (See SWING VALVE ASSEMBLY for Breakdown)	
39	88551010	4	LOCKWASHER, 5/16	
40	88501005	4	HEX NUT, 5/16-18	
41	88662064	11	ELBOW, 90, (includes item 42)	
42	88591204	12	O-RING	
43	91044257	1	HOSE ASSY W/SPRING GUARD	
44	91044258	1	HOSE ASSY W/SPRING GUARD	
45	91044259	1	HOSE ASSY W/SPRING GUARD	
46	91044260	1	HOSE ASSY W/SPRING GUARD	
47	91044261	1	HOSE ASSY W/SPRING GUARD	

## SECTION 12 - OPTIONAL EQUIPMENT

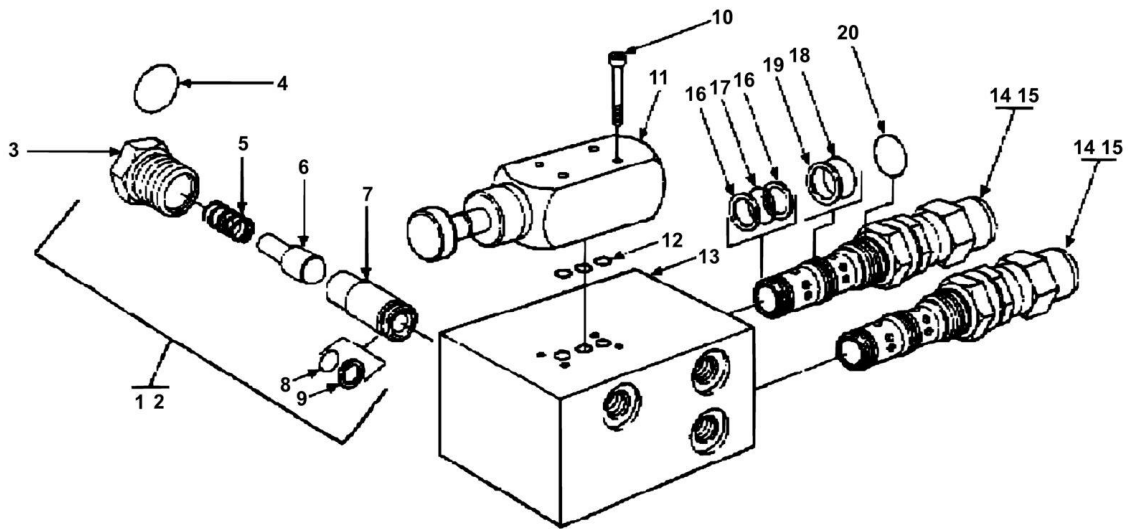
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48	91044262	2	HYDRAULIC CYLINDER ASSY (includes items 49 thru 60)	
49	91044263	AR	HYDRAULIC REPAIR KIT (includes items 54, 57, 58, 59 & 60)	
50	91044264	1	TUBE ASSY	
51	91044265	1	ROLL PIN	
52	88501316	1	HEX NUT, 1-14	
53	91044266	1	PISTON	
54	Kit	2	PISTON SEAL	
55	91044267	1	ROD ASSY	
56	91044268	1	GLAND	
57	Kit	1	O-RING	
58	Kit	1	BACK-UP RING	
59	Kit	1	ROD SEAL	
60	Kit	1	ROD WIPER	
61	90400910	4	SPHERICAL BEARING	
62	91043125	1	DUST CAP, MALE	
63	91044244	1	QUICK DISCONNECT HYDRAULIC FITTING, MALE, 1/2 NPT	
64	91044269	1	HOSE ASSY W/ SPRING GUARD	
65	88201029	2	HEX HD CAPSCREW, 5/16-18X3-1/4, GR5	
66	91044270	1	HOSE ASSY W/ SPRING GUARD	
67	86971355	1	ELBOW, 90, LONG (includes item 42)	
68	91033039	2	CHAIN CONNECTION	
69	91033038	1	CHAIN, 24IN	
70	91043221	2	DETENT PIN	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	





# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-7. (90553007 AND 90553016) SWING VALVE ASSEMBLY



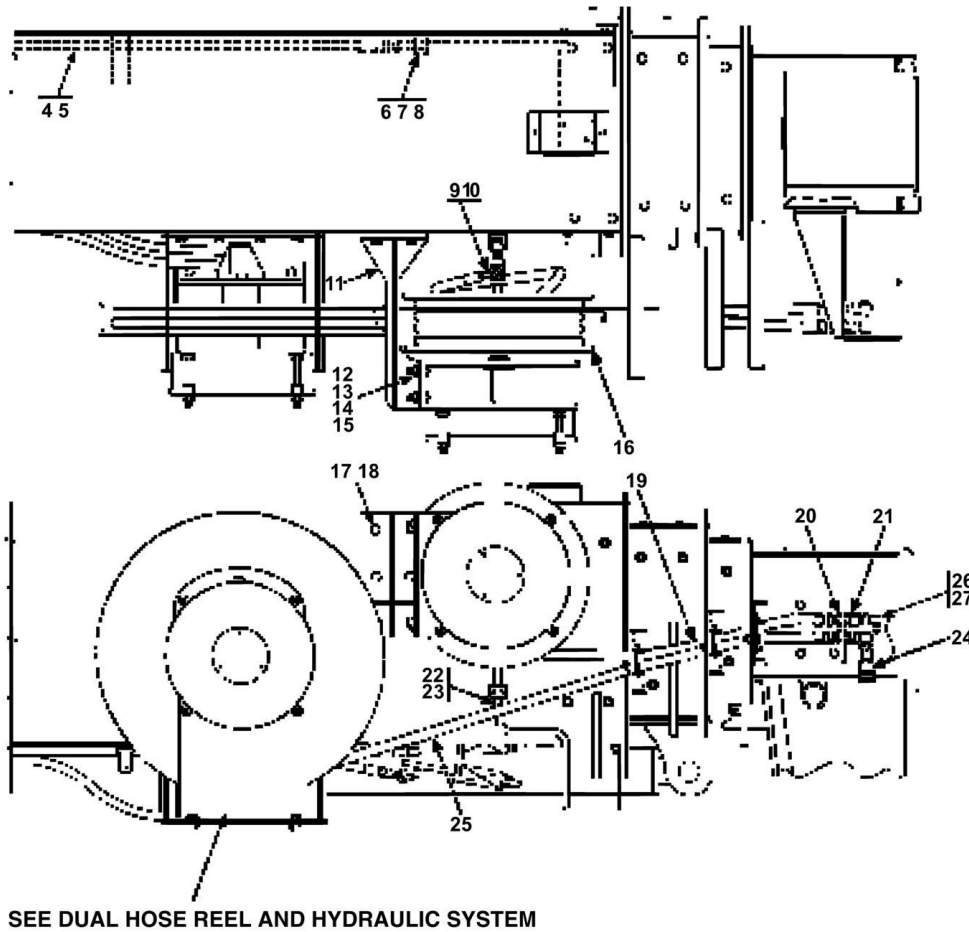
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-7. (90553007 AND 90553016) SWING VALVE ASSEMBLY**

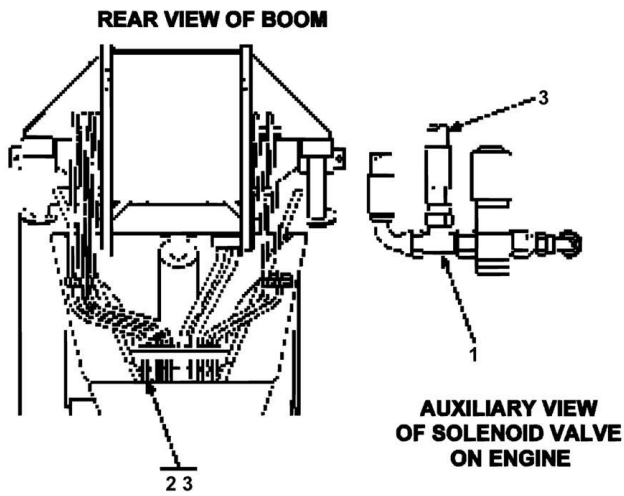
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90553007	2	SWING VALVE ASSY (includes all items except seal kits)	
	90553016	2	SWING VALVE ASSY (includes all items except seal kits)	
	91044303	1	SWING VALVE SEAL KIT (includes quantity of (1) Seal Kit item 2, quantity of (3) O-Rings item 12, quantity of (2) Seal Kits item15)	
1	91044284	1	CHECK VALVE ASSY (includes items 3 thru 9)	
2	91044002	AR	CHECK VALVE SEAL KIT (includes items 4, 8 & 9)	
3		Ref	RETAINER	
4	Kit	1	O-RING	
5		Ref	SPRING	
6		Ref	BALL AND SPRING GUIDE ASSY	
7		Ref	CAGE	
8	Kit	1	O-RING	
9	Kit	1	BACK-UP WASHER	
10	88211034	4	SOCKET HD CAPSCREW, #10-24X1-1/2, GR8	
11	91044285	1	GAGE ISOLATOR VALVE (use with 90553007 only)	
11	90553014	1	GAGE ISOLATOR VALVE (use with 90553016 only)	
12	Kit	3	O-RING	
13		Ref	VALVE BODY	
14	91044301	2	COUNTERBALANCE VALVE ASSY (includes item 16 thru 20)	
15	91044302	AR	COUNTERBALBANCE VALVE SEAL KIT (includes items 16 thru 20)	
16	Kit	2	BACK-UP WASHER	
17	Kit	1	O-RING	
18	Kit	1	O-RING	
19	Kit	1	BACK-UP WASHER	
20	Kit	1	O-RING	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-8. SINGLE HOSE REEL AND HYDRAULIC SYSTEM (SN 0155299S to Present)



SEE DUAL HOSE REEL AND HYDRAULIC SYSTEM



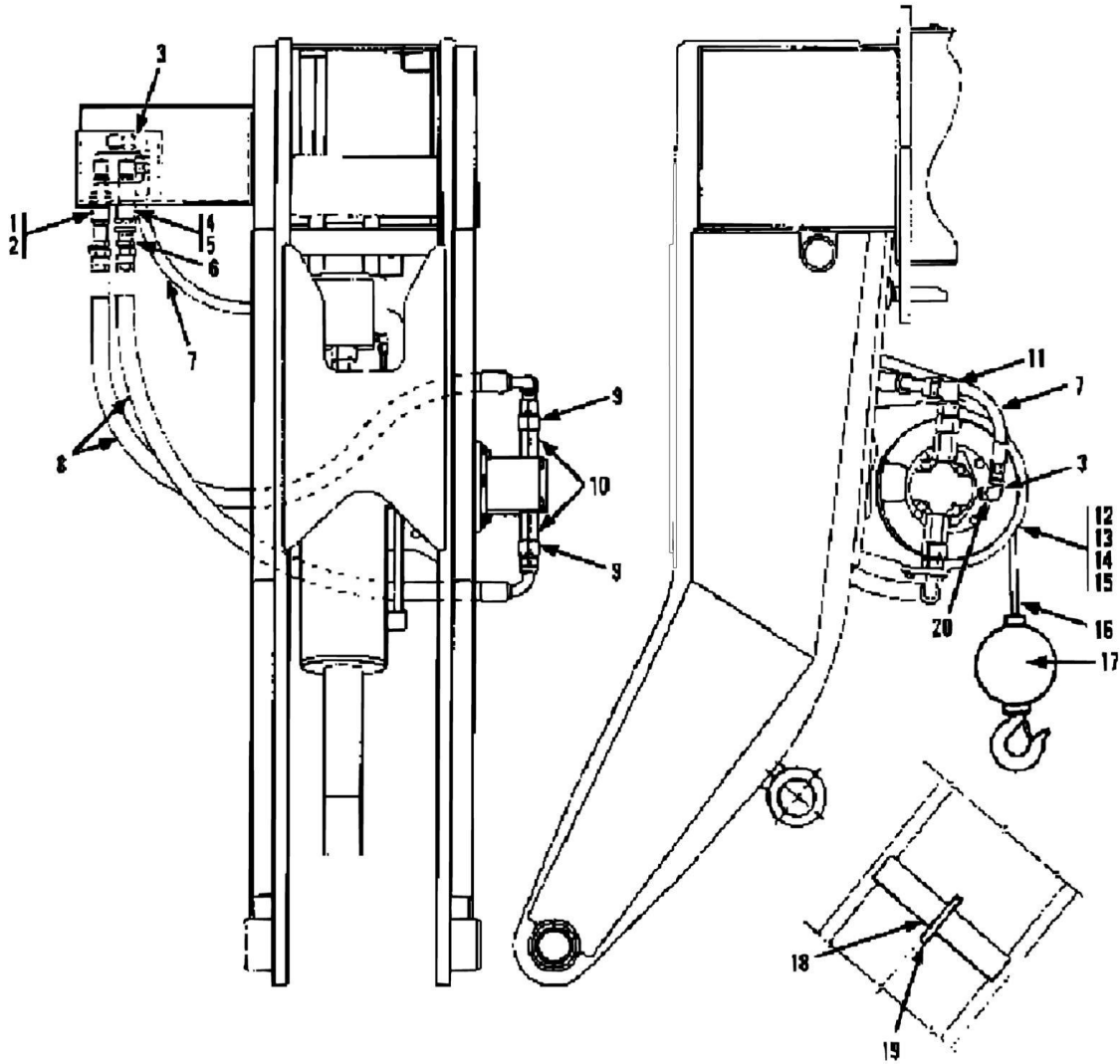
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-8. SINGLE HOSE REEL AND HYDRAULIC SYSTEM (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	88662240	1	SWIVEL NUT RUN TEE, 1/2 TUBE	
2	88661065	1	UNION, 1/2 TUBE	
3	84716377	1	HOSE ASSY	
4	84717530	1	HOSE ASSY	
5	90207464	8	HYDRA-ZORB CLAMP	
6	77133497	2	CLAMP SET	
7	77133498	2	COVER PLATE	
8	77133499	4	HEX HD CAPSCREW	
9	88661013	2	MALE CONNECTOR, 1/2X1/2 TUBE	
10	88662120	1	ELBOW, 45, (swivel nut)	
11	91046060	1	SINGLE REEL BRACKET	
12	88201037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
13	88561004	4	FLATWASHER, 3/8	
14	88551011	4	LOCKWASHER, 3/8	
15	88501006	4	HEX NUT, 3/8-16	
16		Ref	SINGLE HOSE REEL ASSY (See SINGLE HOSE REEL ASSEMBLY for Breakdown)	
17	88201064	6	HEX HD CAPSCREW, 1/2-13X7/8, GR5	
18	88551013	6	LOCKWASHER, 1/2	
19	84717531	1	HOSE ASSY	
20	90029939	2	BULKHEAD UNION, 5/8 TUBE	
21	90029935	1	REDUCER, 5/8 TUBE TO 1/2 TUBE	
22	90205120	1	HOSE ASSY	
23	91043322	1	DRAIN TUBE ASSY	
24	84717925	2	HOSE ASSY	
25	91043159	1	HOSE ASSY	
26	88662106	2	ELBOW, 90, (swivel nut)	
27	77133256	1	HOSE ASSY	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-9. WINCH AND HYDRAULIC SYSTEM (SN 0155299S to Present)



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-9. WINCH AND HYDRAULIC SYSTEM (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
1	90204244	1	MALE HYDRAULIC COUPLER	
2	91043126	1	DUST CAP	
3	88662106	3	ELBOW, 90, (swivel nut)	
4	90204245	1	FEMALE HYDRAULIC COUPLER	
5	91043125	1	DUST PLUG	
6	88661017	2	MALE CONNECTOR, 1/2X3/4 TUBE	
7	77133256	1	HOSE ASSY	
8	84716404	2	HOSE ASSY	
9	91033159	2	TUBE END REDUCER, 1 TO 3/4	
10	91033161	2	FLOW REGULATOR	
11	88662108	1	ELBOW, 90, (swivel nut)	
12		Ref	WINCH ASSY (See WINCH ASSEMBLIES for Breakdown)	
13	88201069	4	HEX HD CAPSCREW, 1/2-13X2, GR5	
14	88551013	4	LOCKWASHER, 1/2	
15	88501008	4	HEX NUT, 1/2-13	
16	90207882	1	CABLE	
17	90201443	1	HOOK AND BALL	
18	91031077	1	BAR	
19	91021009	1	RING	
20	88661011	1	MALE CONNECTOR, 1/4X1/2 TUBE	





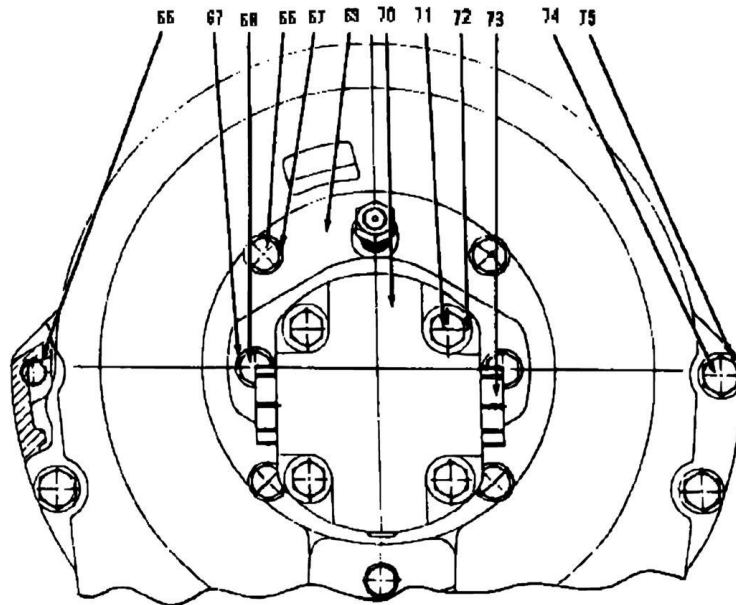
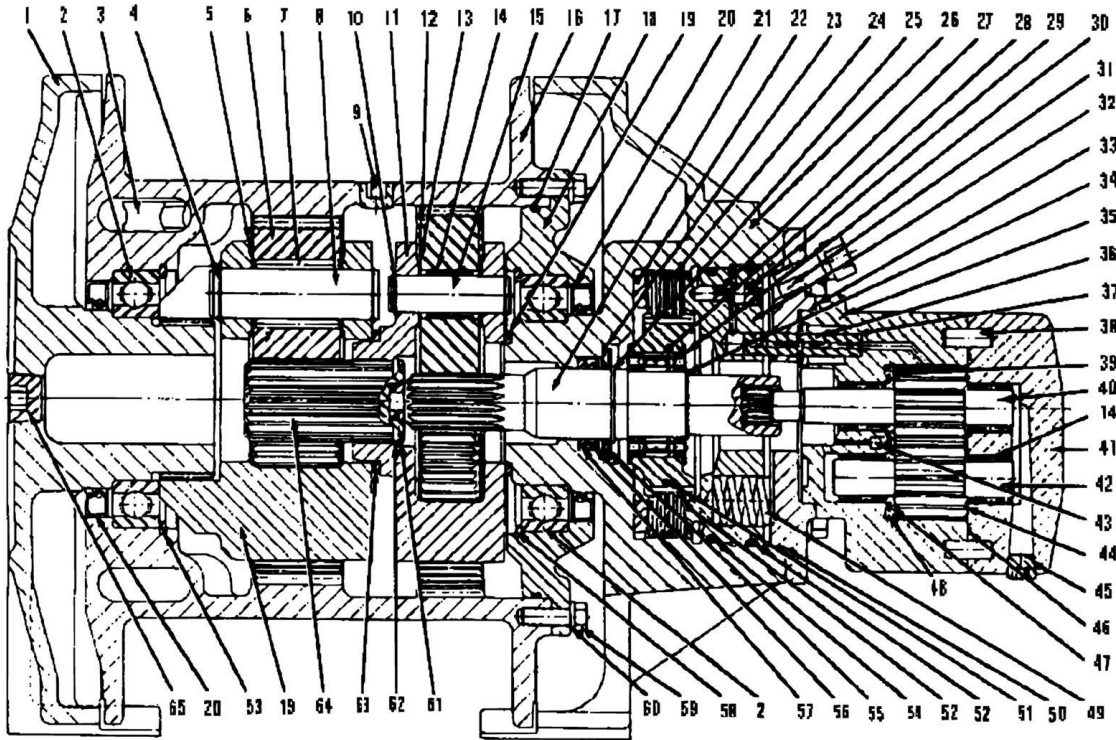
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-10. (91043165) SINGLE HOSE REEL ASSEMBLY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043165	1	SINGLE HOSE REEL ASSY (includes all items)	
	91044287	1	FRAME ASSY (includes items 1 2, 3, 4, 5, 8, 9, 11 & 12)	
	91044476	1	HOLDING DOG AND RACHET KIT (optional) (includes items 13 thru 18)	
1	91044477	1	BASE PLATE	
2	91044478	1	FRAME, DRUM END	
3	91044479	1	FRAME, SPRING END	
4	91044294	1	BEARING, FLANGETTE	
5	91044293	1	BEARING, FLANGETTE	
6	91044480	1	SHAFT	
7	91044481	2	RETAINING RING	
8	91044482	1	RETAINING RING	
9	91044483	4	BOLT	
10	91044484	7	NUT	
11	91044485	4	BOLT	
12	91044486	8	LOCKWASHER	
13	91044487	1	SPRING	
14	91044488	1	HOLDING DOG	
15	91044292	1	GASKET	
16	91044489	2	BOLT	
17	91044490	2	LOCKWASHER	
18	91044491	1	SHAFT ASSY	
19	91044291	1	SPRING MOTOR KIT (standard)	
19	91044492	1	SPRING MOTOR KIT (opt reverse)	
20	91044289	2	PAWL SPRING	
21	91044290	2	PAWL	
22	91044288	1	GASKET	
23	91044493	1	HUB COVER	
24	88551006	3	LOCKWASHER, #8	
25	91044494	3	ROUND HD MACHINE SCREW	
26	88201075	4	HEX HD CAPSCREW, 1/2-13X3-1/2, GR5	
27	91044495	8	LOCKWASHER	
28	91044496	4	BOLT	
29	91044497	1	RATCHET PLATE	
30	91044498	4	SPACER	
31	91044499	4	NUT	
32	91044500	1	DRUM DISC	
33	91044501	1	DRUM DISC	
34	91044502	4	DRUM CORE SEGMENT	
35	88551009	4	LOCKWASHER, 1/4	
36	88201001	4	HEX HD CAPSCREW, 1/4-20X1/2, GR5	
37	91044503	2	REDUCER	
38	91044504	1	REDUCER	
39	91044505	1	TEE	
40	91044296	1	SWIVEL JOINT	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-11. (91033196) WINCH ASSY (SN 0155299S to Present)



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-11. (91033196) WINCH ASSY (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91033196	1	WINCH ASSY (includes all items)	
	91034161	1	SEAL KIT (includes items 20, 33, 37, 46, 47, 48, 52, 54 & 57)	
	91034162	1	HYDRAULIC MOTOR SEAL KIT (includes items 46, 47 & 48)	
	91034163	1	FINAL PLANET HUB ASSY (includes items 4, 5, 6, 7, 8 & 64)	
	91034164	1	PRIMARY PLANET HUB ASSY (includes items 10 thru 14, 15, 19, 61, 62 & 63)	
1	91034187	1	END HOUSING	
2	91034196	2	BALL BEARING	
3	91034193	1	WEDGE	
4	91034194	6	CIRCLIP	
5	91034201	6	THRUSTWASHER	
6	91034177	3	FINAL PLANET GEAR	
7	91034204	60	NEEDLE ROLLER	
8	91034176	3	FINAL PLANET PIN	
9		Ref	HEX SOCKET PIPE PLUG	
10	91034198	6	CIRCLIP	
11	91034180	1	PRIMARY PLANET HUB	
12	91034178	3	PRIMARY PLANET GEAR	
13	91034200	6	THRUSTWASHER	
14	91034199	7	NEEDLE BEARING	
15	91034166	3	PRIMARY PLANET PIN	
16	91034172	1	CABLE DRUM	
17		Ref	O-RING	
18	91034173	1	BEARING FLANGE	
19	91034179	2	NYLON SPACER	
20	Kit	2	OIL SEAL	
21	91034190	1	PRIMARY SUN GEAR	
22	91034168	1	BRAKE SPACER	
23	91034206	2	THRUSTWASHER	
24	91034197	5	DIVIDER PLATE	
25	91034208	1	CIRCLIP	
26	91034186	1	BRAKE HOUSING	
27	91034185	1	ORIFICE PLUG	
28	91034202	1	SPRAG CLUTCH	
29		Ref	HEX SOCKET PIPE PLUG	
30	91034169	2	SPRAG CLUTCH ALIGNER	
31	91034192	1	SAFETY VALVE	
32	91034184	1	PISTON	
33	Kit	1	O-RING	
34	91034203	1	CIRCLIP	
35	91034191	1	MOTOR BODY	
36	91034181	1	CONNECTING TUBE	
37	Kit	2	O-RING	
38	91034213	2	DOWEL PIN	
39	91034211	1	WEAR PLATE	
40	91034216	1	DRIVE GEAR	
41	91034212	1	COVER	
42	91034217	1	DRIVEN GEAR	
43	91034215	2	DOWEL PIN	
44	91034210	1	THRUST PLATE	

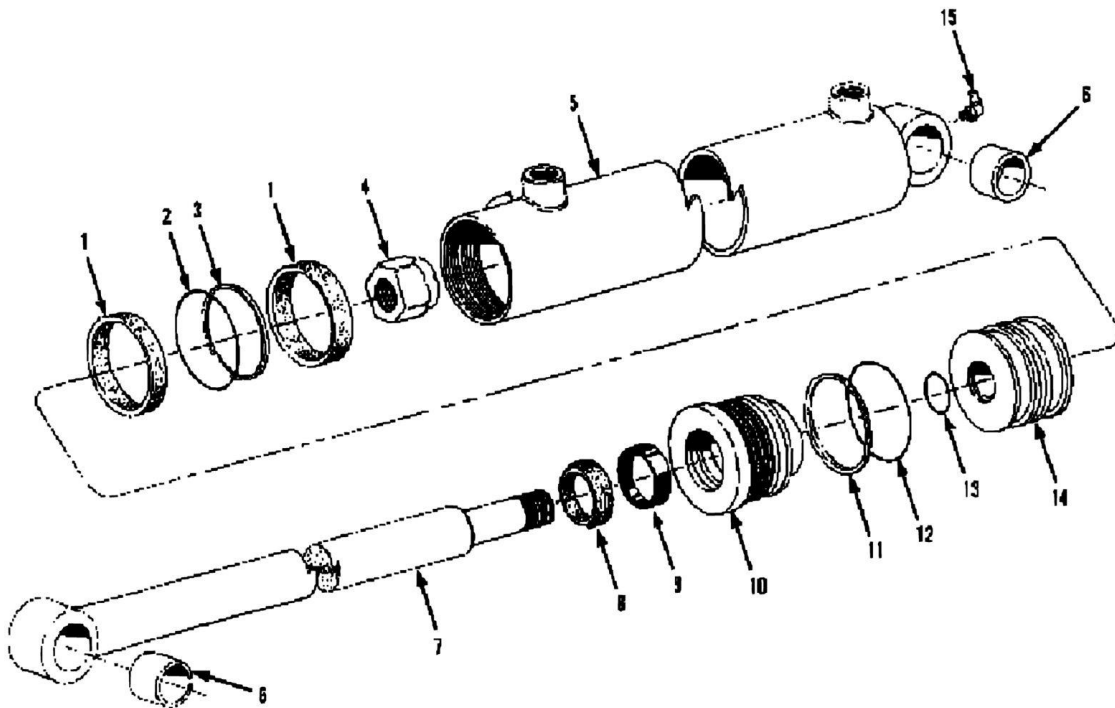
## SECTION 12 - OPTIONAL EQUIPMENT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
45		Ref	HEX SOCKET PIPE PLUG	
46	Kit	1	SQUARE CUT SEAL RING	
47	Kit	1	RUBBER SPACER	
48	Kit	1	NYLATRON	
49	91034171	6	BRAKE SPRING	
50		Ref	O-RING	
51	91034170	1	BRAKE HUB	
52	Kit	1	O-RING	
53	91034165	4	BRAKE PLATE	
54	Kit	1	O-RING	
55	91034207	1	THRUST BEARING	
56		Ref	OIL SEAL	
57	91034182	1	BACKUP WASHER	
58	91034195	2	CIRCLIP	
59	88201019	6	HEX HD CAPSCREW, 5/16-18X7/8, GR5	
60	88551010	6	LOCKWASHER, 5/16	
61	91034167	1	PRIMARY SUN GEAR STOPPER	
62	91034205	1	CIRCLIP	
63	91034174	1	FINAL SUN GEAR	
64	91034175	1	FINAL PLANET HUB	
65		Ref	HEX SOCKET PIPE PLUG	
66	91034188	2	TIE BAR	
67	88551011	6	LOCKWASHER, 3/8	
68	88201035	6	HEX HD CAPSCREW, 3/8-16X1, GR5	
69	91034183	1	MOTOR ADAPTER	
70	91034189	1	HYDRAULIC MOTOR ASSY (includes items 14, 35, 38 thru 47, 71 & 72)	
71	91034209	4	HEX HD CAPSCREW	
72	91034214	4	WASHER	
73		Ref	CAPLUG	
74	88221051	8	HEX HD CAPSCREW, 7/16-14X1-1/4, GR5	
75	88551012	8	LOCKWASHER, 7/16	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	



# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-12. (90801313) HYDRAULLIC CYLINDER ASSEMBLY (JARP) (SN 0155299S to Present)



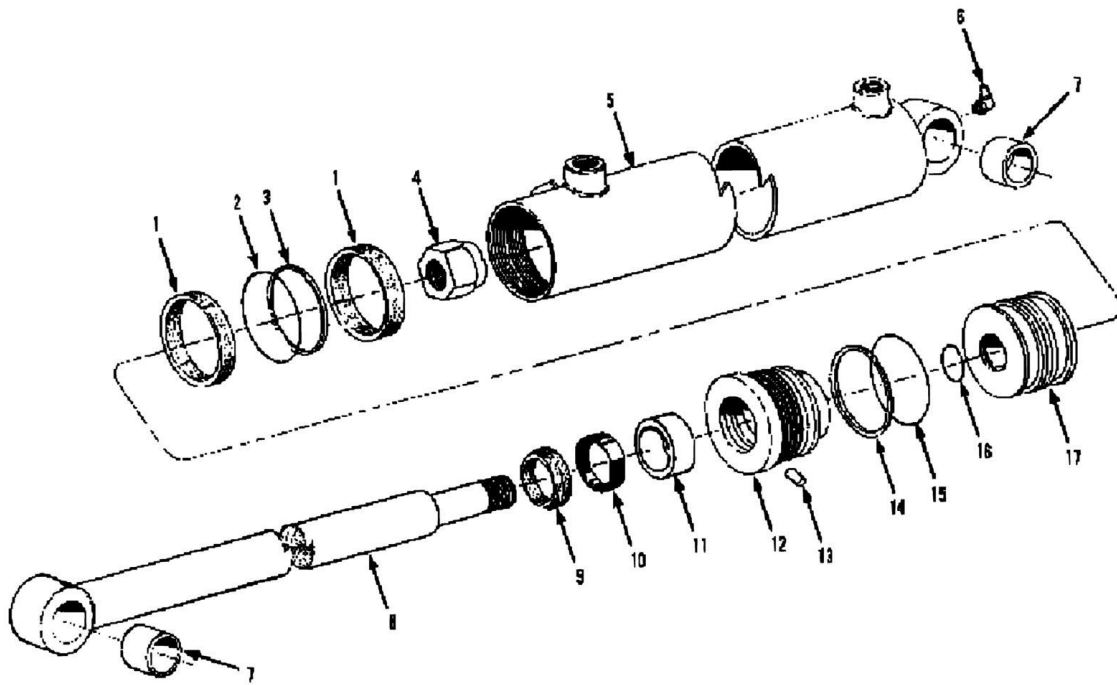
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-12. (90801313) HYDRAULLIC CYLINDER ASSEMBLY (JARP) (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90801313	2	HYDRAULIC CYLINDER ASSY (includes all items)	
	90202551	1	SEAL KIT (includes items 1, 2, 3, 8, 9, 11, 12 & 13)	
1	90022257	2	WEAR RING	
2	90023145	1	O-RING	
3	90022237	1	PISTON SEAL	
4	90022230	1	SELF-LOCKING NUT	
5	90207821	1	BARREL	
6	90205450	2	BUSHING	
7	90207822	1	PISTON ROD	
8	90022277	1	WIPER RING	
9	90022247	1	ROD SEAL	
10	90402099	1	ROD BEARING	
11	90024232	1	BACK-UP RING	
12	90023232	1	O-RING	
13	90023117	1	O-RING	
14	90402098	1	PISTON	
15	90022218	1	LUBE FITTING	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-13. (91033291) HYDRAULIC CYLINDER ASSEMBLY (IOWA) (SN 0155299S to Present)





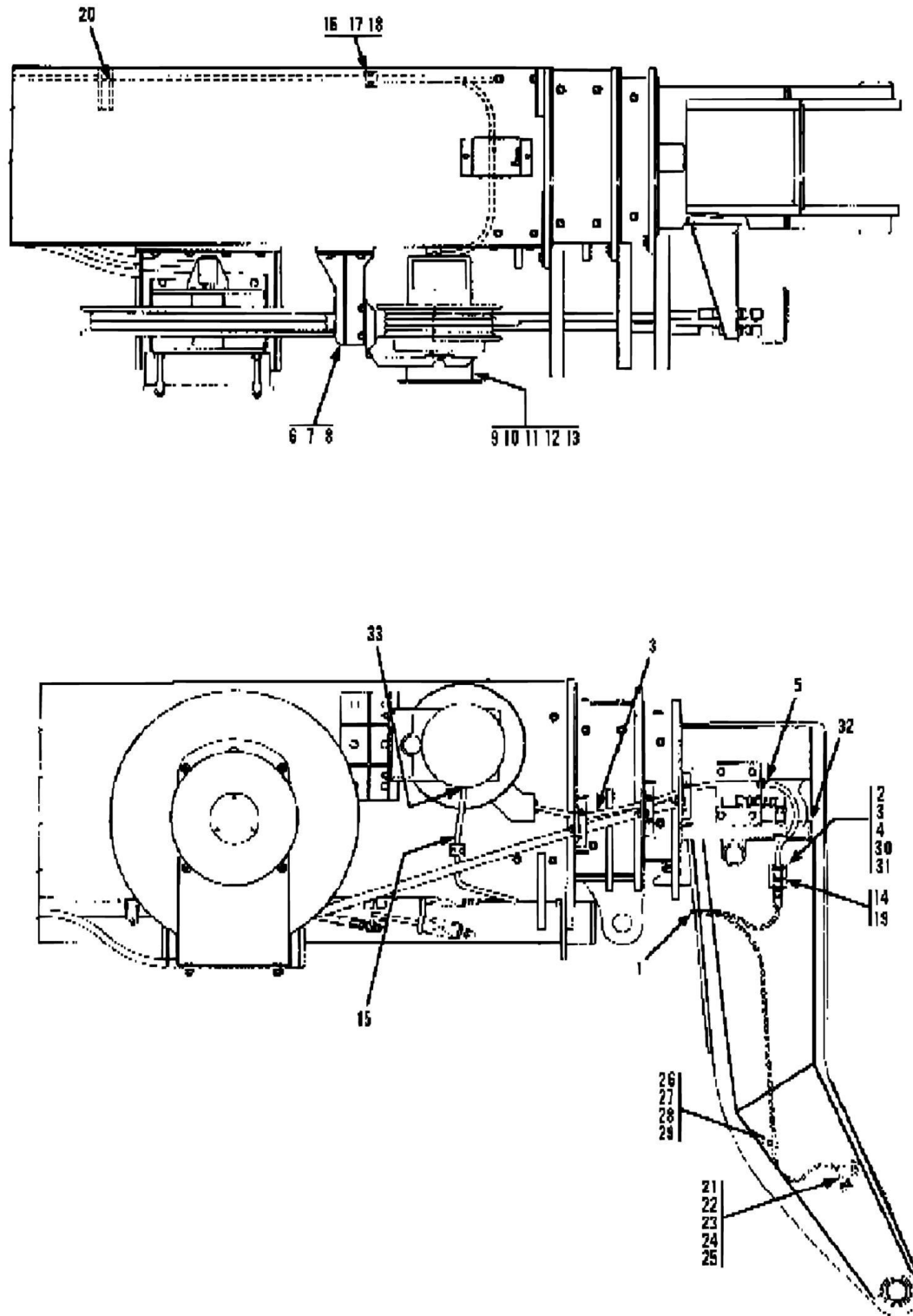
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-13. (91033291) HYDRAULIC CYLINDER ASSEMBLY (IOWA) (SN 0155299S to Present)**

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

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-14. ELECTRICS FOR AUXILIARY HYDRAULICS (SN 0155299S to Present)



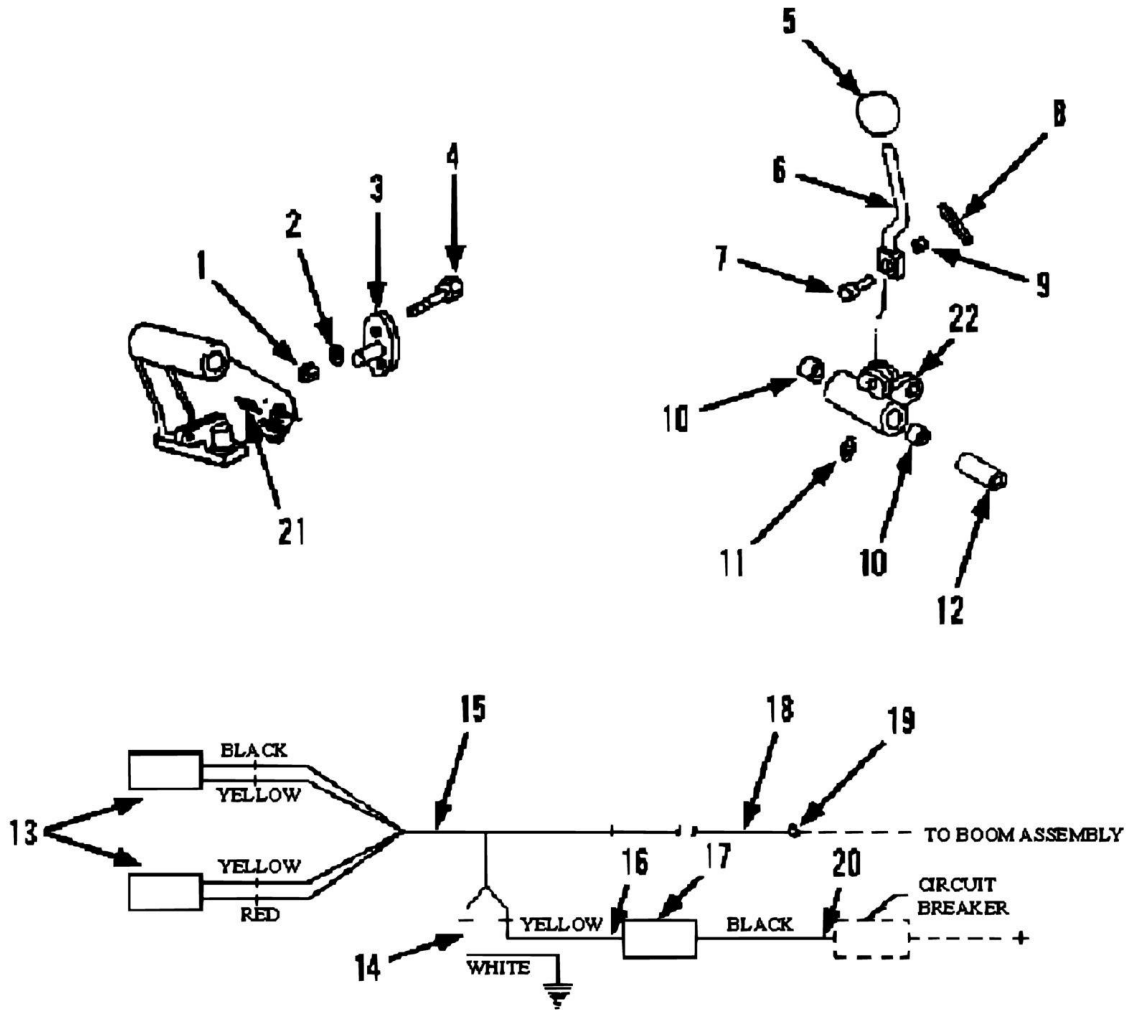
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-14. ELECTRICS FOR AUXILIARY HYDRAULICS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045067	Ref	ELECTRICS FOR AUXILIARY HYDRAULICS (includes items 1 thru 33)	
1	90207470	1	HEAD WIRING HARNESS	
2	90028955	1	CONNECTOR BODY	
3	90028957	6	MALE PIN CONNECTOR	
4	90028978	1	CABLE CLAMP	
5	90204263	1	CABLE CLAMP	
6	91046093	1	ELECTRIC REEL BRACKET	
7	88201064	6	HEX HD CAPSCREW, 1/2-13X7/8, GR5	
8	88551013	6	LOCKWASHER, 1/2	
9	91043265	1	ELECTRIC CABLE REEL	
10	88201037	4	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
11	88561004	4	FLATWASHER, 3/8	
12	88551011	4	LOCKWASHER, 3/8	
13	88501006	4	HEX NUT, 3/8-16	
14	91061115	1	HARNESS HANGER	
15	91043263	1	BOOM HARNESS	
16	91033138	2	CLAMP SET	
17	77133498	2	COVER PLATE	
18	77133499	4	HEX HD CAPSCREW, 1/4-20X1-5/16	
19	88321048	4	SELF TAPPING SCREW, 1/4-20X5/8	
20	86683122	8	TIE WRAP	
21	90207661	Ref	ELECTRICAL SOCKET	
22	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
23	88551009	2	LOCKWASHER, 1/4	
24	88501004	2	HEX NUT, 1/4-20	
25	90207711	2	MOUNTING EAR	
26	77133271	1	BASE PLATE	
27	77133270	1	CLAMP SET	
28	88201005	1	HEX HD CAPSCREW, 1/4-20X1, GR5	
29	88561002	1	FLATWASHER, 1/4	
30	88321008	4	SELF TAPPING SCREW, #4-40X5/16	
31	88561102	4	FLATWASHER, #4	
32	90206200	17 in	TRIM LOCK	
33	91043278	1	CABLE CLAMP	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-15. (91035082) CHASSIS AUXILIARY ELECTRICS (SN 0155299S to Present)



ELECTRIC SCHEMATIC

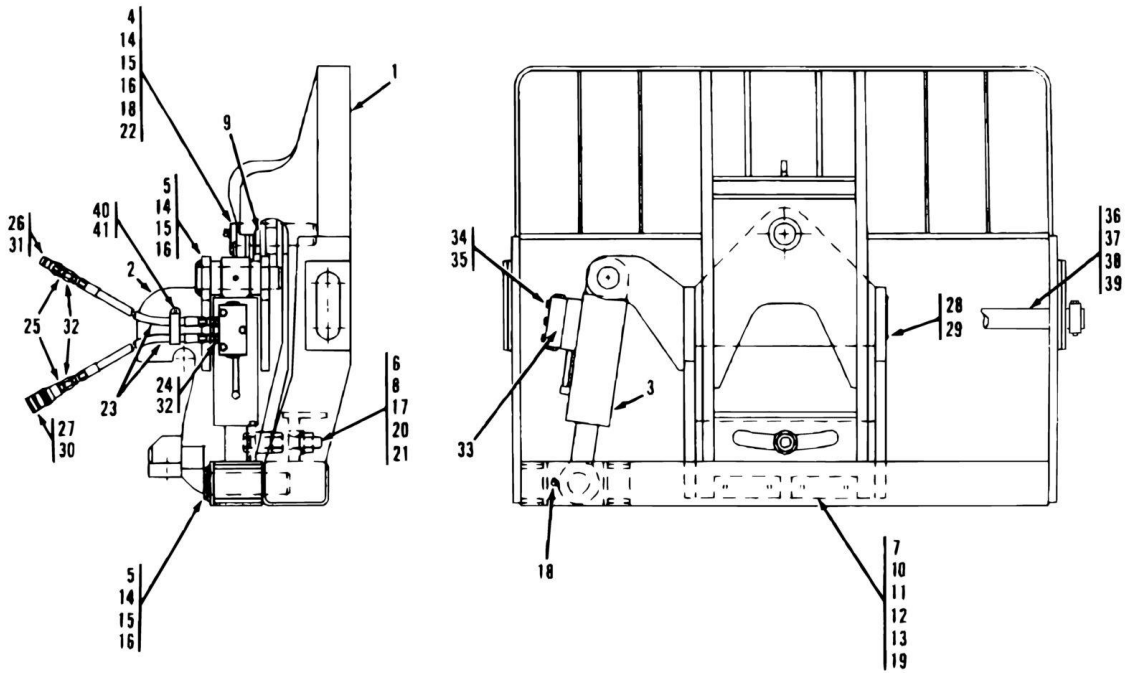
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-15. (91035082) CHASSIS AUXILIARY ELECTRICS (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035082	Ref	AUXILIARY ELECTRICS - CHASSIS (includes all items)	
1	88501004	2	HEX NUT, 1/4-20	
2	88551009	2	LOCKWASHER, 1/4	
3	90207661	1	SIX CONTACT SOCKET	
4	88201003	2	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
5	90200299	1	KNOB	
6	90206128	1	HANDLE	
7	90021557	1	CLEVIS PIN	
8	88631309	1	COTTER PIN, 3/32X3/4	
9	90200688	1	BEARING	
10	90200290	2	BEARING	
11	88671008	1	LUBE FITTING, STRAIGHT, 1/4-28	
12	90206222	1	SPACER	
13	90207634	2	SWITCH ASSY	
14	90207716	1	JUMPER WIRE	
15	90403360	1	AUXILIARY DASH HARNESS	
16	90207645	1	JUMPER WIRE	
17	90206347	1	CIRCUIT BREAKER	
18	90403396	1	AUXILIARY WIRE HARNESS	
19	90027187	4	PLASTIC TIE	
20	90200351	1	JUMPER WIRE	
21	90207711	1	MOUNTING EAR	
22	90205983	1	BELL CRANK	

# SECTION 12 - OPTIONAL EQUIPMENT

## FIGURE 12-16. (91085058) 48IN SLOPE PILER CARRIAGE



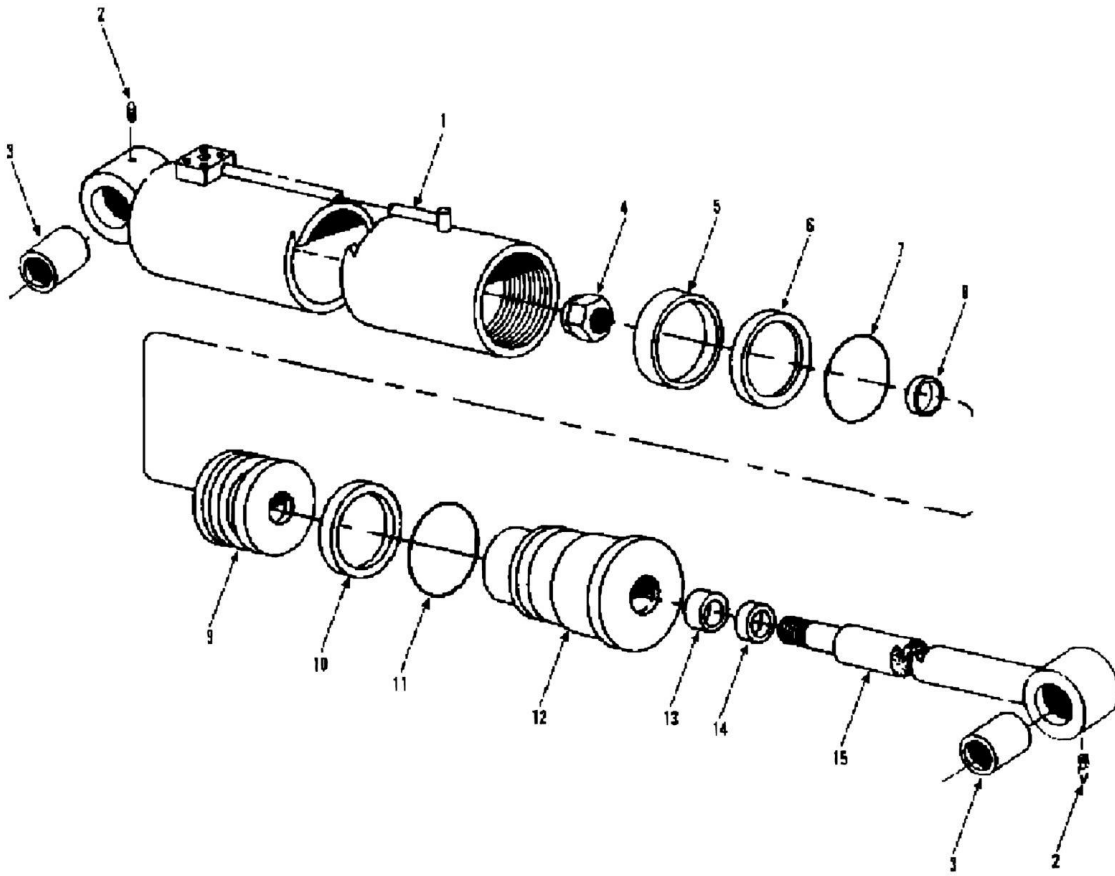
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-16. (91085058) 48IN SLOPE PILER CARRIAGE**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91085058	Ref	48IN SLOPE PILER CARRIAGE, (includes all items)	
	91043426	1	CAPACITY DECAL, (not shown)	
1	91086121	1	CARRIAGE WELDMENT	
2	91086122	1	ADAPTER WELDMENT	
3		Ref	SWAY CYLINDER, (See SWAY CYLINDER for Breakdown)	
4	91083248	1	BUSHING	
5	3423263	2	PIN	
6	90204007	1	TUBE	
7	91033186	2	BEARING PAD	
8	91081577	1	TAP BOLT	
9	91081594	1	THRUST WASHER	
10	90205870	AR	SHIM	
11	91031236	2	SPACER	
12	88201535	4	HEX HD CAPSCREW, 3/8-24X1-1/4, GR5	
13	88201534	4	HEX HD CAPSCREW, 3/8-24X1, GR5	
14	91081313	3	KEEPER PLATE	
15	88201065	6	HEX HD CAPSCREW, 1/2-13X1, GR5	
16	88551013	6	LOCKWASHER, 1/2	
17	88521016	1	HEX LOCKNUT, 1-8	
18	88671022	2	LUBE FITTING, 90, 1/8	
19	88561109	4	FLAT WASHER, 3/8	
20	88501016	1	HEX NUT, 1-8	
21	05101441	1	WASHER, 1-1/16	
22	91081622	1	PIN	
23	84716434	2	HOSE ASSY	
24	83661316	2	CONNECTOR	
25	88661010	2	CONNECTOR (Prior to SN 2005283-01)	
25	88662018	2	CONNECTOR, (SN 2005283-01 to Present)	
26	91163138	1	MALE QUICK DISCONNECT (Prior to SN 2005283-01)	
26	91403414	1	MALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
27	91163139	1	FEMALE QUICK DISCONNECT (Prior to SN 2005283-01)	
27	91403413	1	FEMALE QUICK DISCONNECT, (SN 2005283-01 to Present)	
28	88341022	4	DRIVE SCREW, #10X3/8	
29	90153001	1	SERIAL NUMBER PLATE	
30	91043125	1	DUST PLUG	
31	91043126	1	DUST CAP	
32	88662105	2	ELBOW, 90, (swivel nut)	
33		Ref	DUAL P.O. CHECK VALVE, (See DUAL P.O. CHECK VALVE for Breakdown)	
34	88201040	3	HEX HD CAPSCREW, 3/8-16X2-1/4, GR5	
35	88551011	3	LOCKWASHER, 3/8	
36	90451058	1	FORK PIN	
37	90200003	2	COLLAR	
38	88201105	2	HEX HD CAPSCREW, 5/8-11X4, GR5	
39	88521310	2	LOCKNUT, 5/8-11	
40	84521062	1	SUPPORT CLAMP	
41	77143015	1	WHIZ-LOK NUT, 3/8-16	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-17. (91083286) SWAY CYLINDER (SN 0155299S through 0155481)





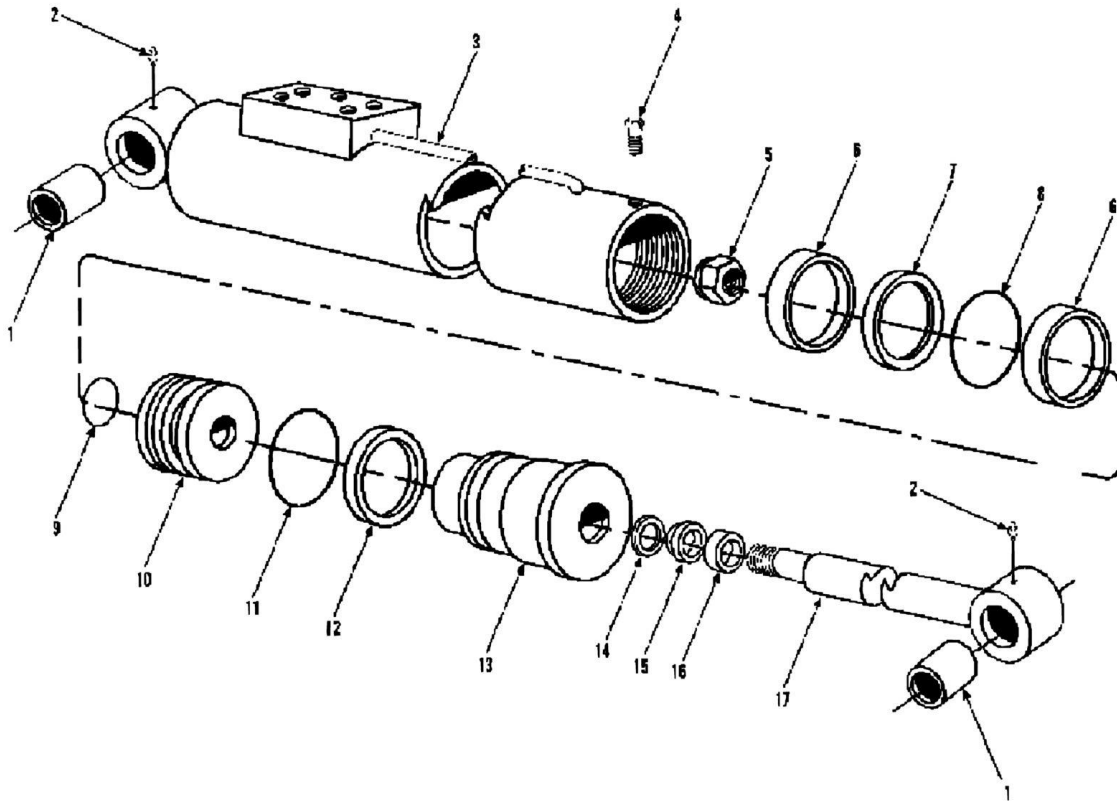
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-17. (91083286) SWAY CYLINDER (SN 0155299S through 0155481)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083286	1	SWAY CYLINDER ASSY (includes all items)	
	91084189	Ref	SEAL KIT (includes items 5, 6, 7, 8, 10, 11, 13 & 14)	
1	91084185	1	TUBE ASSY	
2	88671033	2	LUBE FITTING - STRAIGHT, 1/4-28	
3	91084176	2	BUSHING	
4	91084184	1	NUT	
5	91084219	1	WEAR RING	
6	91084220	1	SEAL	
7	91084221	1	O-RING	
8	91084222	1	O-RING	
9	91084186	1	PISTON	
10	91084223	1	BACK-UP RING	
11	91084224	1	O-RING	
12	91084188	1	GLand	
13	91084225	1	SEAL	
14	91084226	1	WIPER	
15	91084187	1	ROD ASSY	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-18. (91083471) SWAY CYLINDER (SN 0155482 to Present)



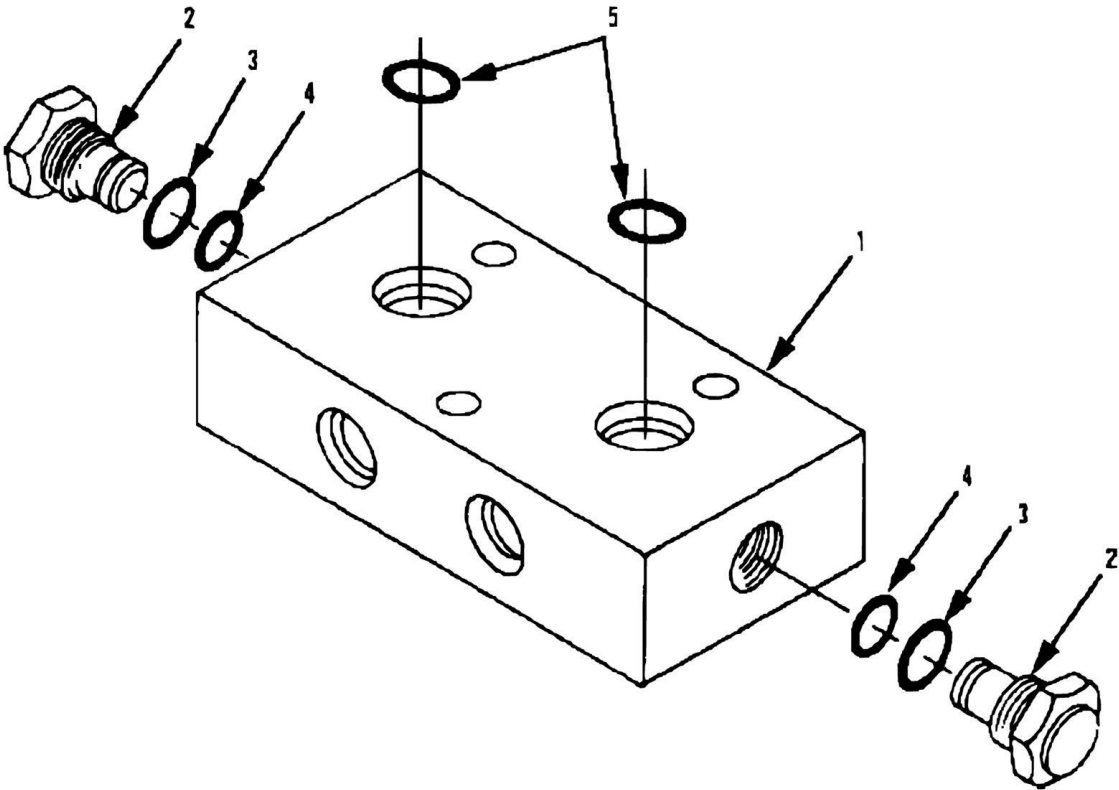
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-18. (91083471) SWAY CYLINDER (SN 0155482 to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91083471	1	SWAY CYLINDER ASSY (includes all items)	
	91084308	Ref	SEAL KIT (includes items 6 thru 9, 11, 12 & 14 thru 16)	
1	91064016	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	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	

SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-19. (91083262) DUAL P.O. CHECK VALVE



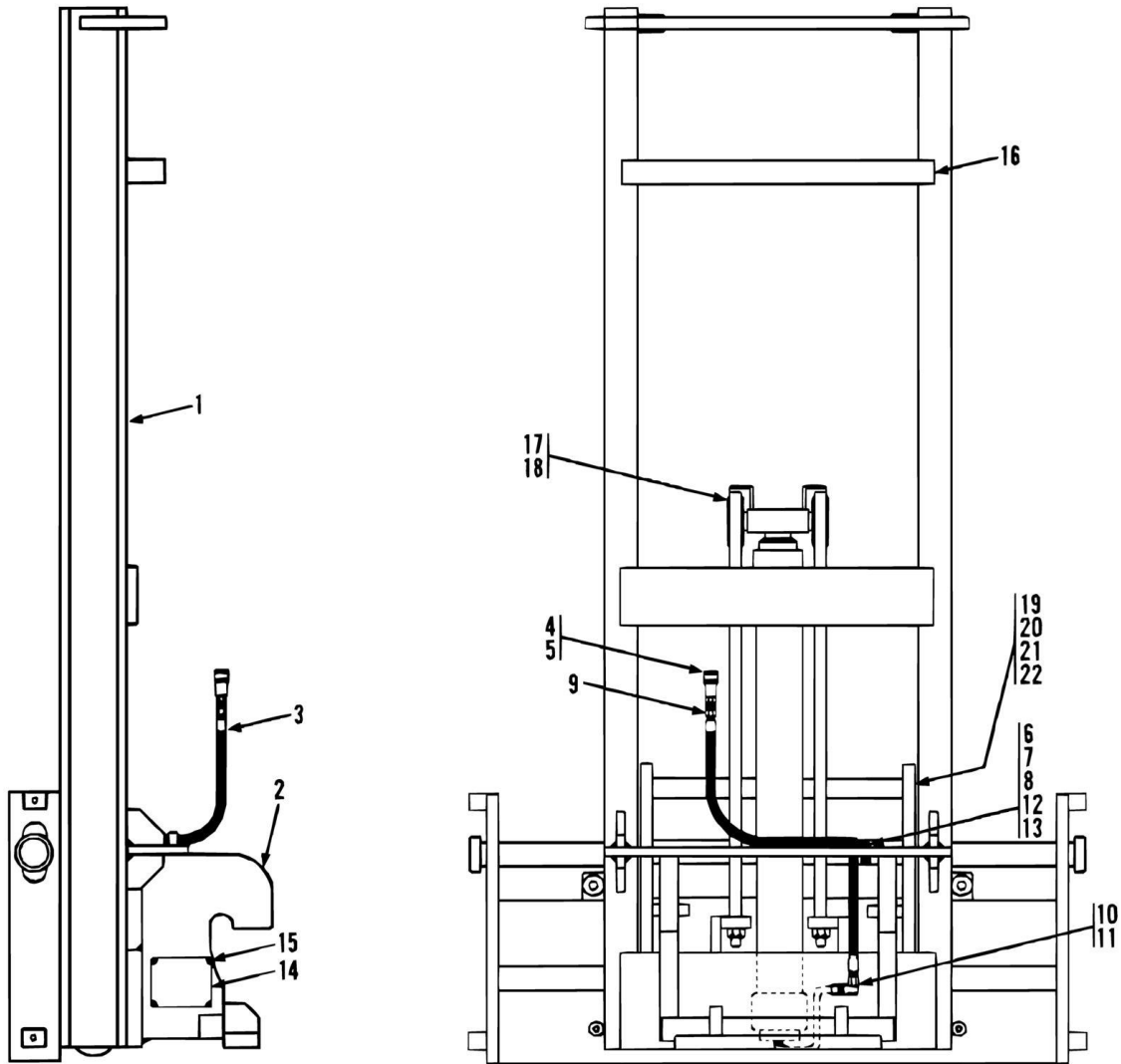
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-19. (91083262) DUAL P.O. CHECK VALVE**

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

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-20. (90455035) AND (90455037) 6 FT VERTICAL MAST



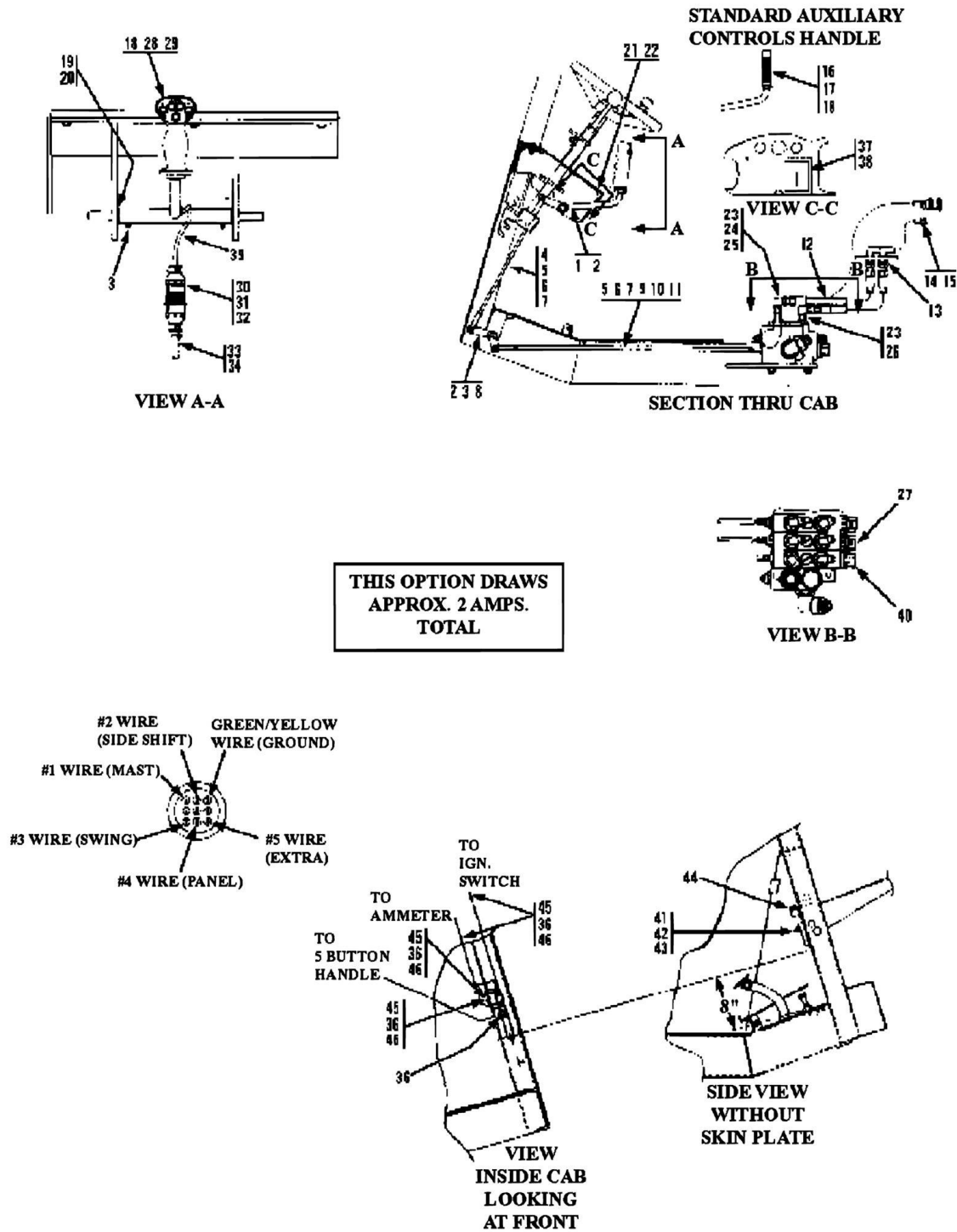
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-20. (90455035) AND (90455037) 6 FT VERTICAL MAST**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	90455035	1	6 FT MAST ASSY, (48in carriage), (includes all items)	
	90455037	1	6 FT MAST ASSY, (66in carriage), (includes all items)	
	91043339	1	544B CAPACITY CHART (located in cab)	
1	90453031	1	CARRIAGE WELDMENT - 48IN	
1	90453032	1	CARRIAGE WELDMENT - 66IN	
2	90456002	1	ADAPTER WELDMENT	
3	84717640	1	HOSE ASSY	
4	91163138	1	MALE HYDRAULIC COUPLING, (Prior to SN 2005283-01)	
4	91403414	1	MALE HYDRAULIC COUPLING, (SN 2005283-01 to Present)	
5	91043126	1	DUST CAP	
6	24431386	2	CLAMP	
7	88201037	2	HEX HD CAPSCREW, 3/8-16X1-1/2, GR5	
8	88561004	2	FLAT WASHER, 3/8	
9	88661013	1	MALE CONNECTOR, 1/2X1/2 TUBE, (Prior to SN 2005283-01)	
9	88662006	1	CONNECTOR, (includes 8859-1205 o-ring), (SN 2005283-01 to Present)	
10	88661016	1	MALE CONNECTOR, 5/8X1/2 TUBE	
11	88661180	1	FEMALE ELBOW, 90, 1/2X1/2 TUBE	
12	88501006	2	HEX NUT, 3/8-16	
13	88551011	2	LOCKWASHER, 3/8	
14	90153001	1	SERIAL NUMBER PLATE	
15	88341022	4	DRIVE SCREW, #10X3/8	
16	90451039	1	STOP TUBE	
17	91034372	2	RETAINING RING	
18	91034373	2	CHAIN ROLLER	
19	91034374	6	LOAD ROLLER, (inside carriage frame)	
20	91034375	AR	SHIM	
21	91034376	4	SIDE THRUST ROLLER, (small outside roller)	
22	91034377	2	SCREW	

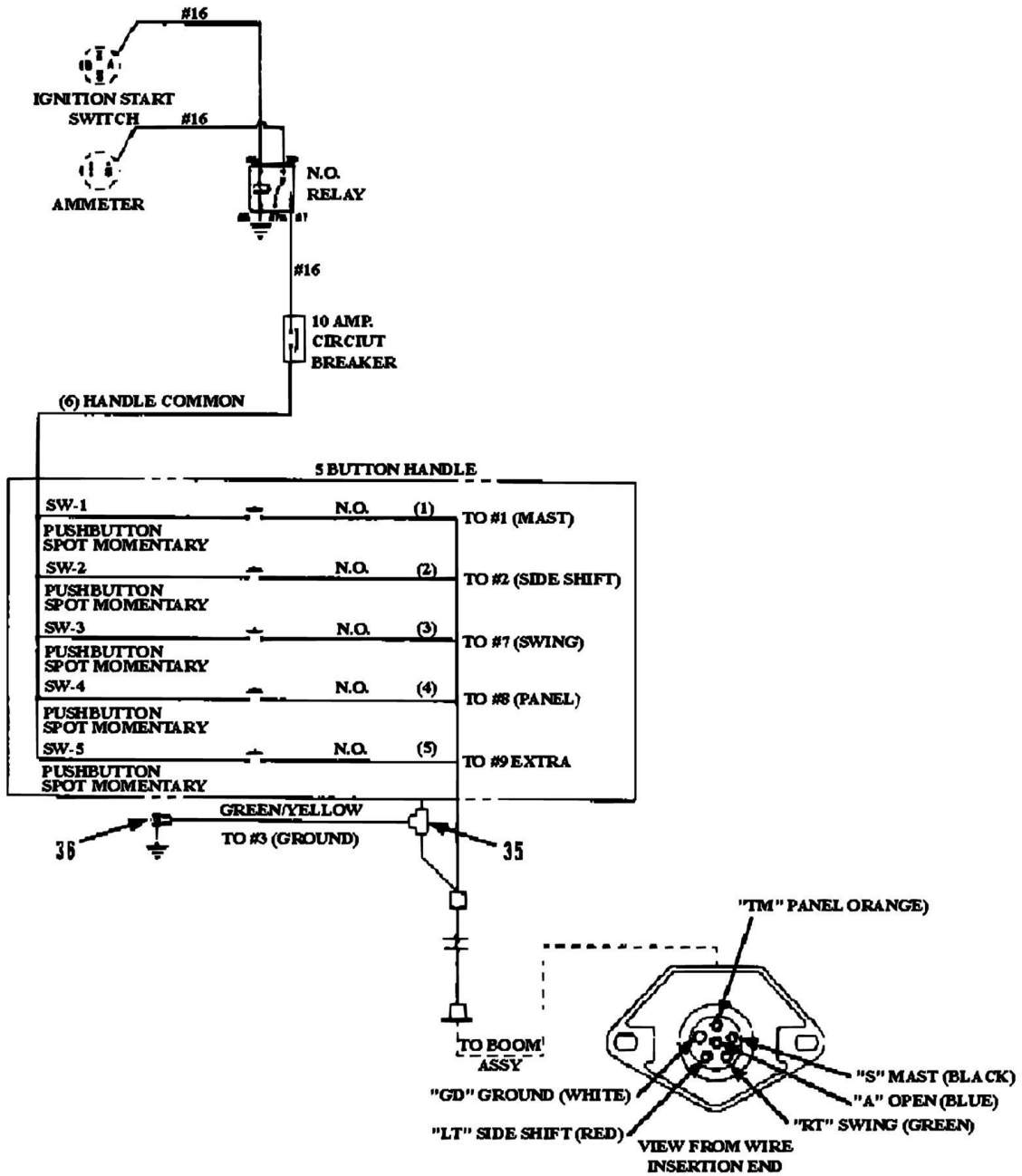
# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-21. (91035220) AUXILIARY CONTROLS ASSEMBLY





# SECTION 12 - OPTIONAL EQUIPMENT



## SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-21. (91035220) AUXILIARY CONTROLS ASSEMBLY

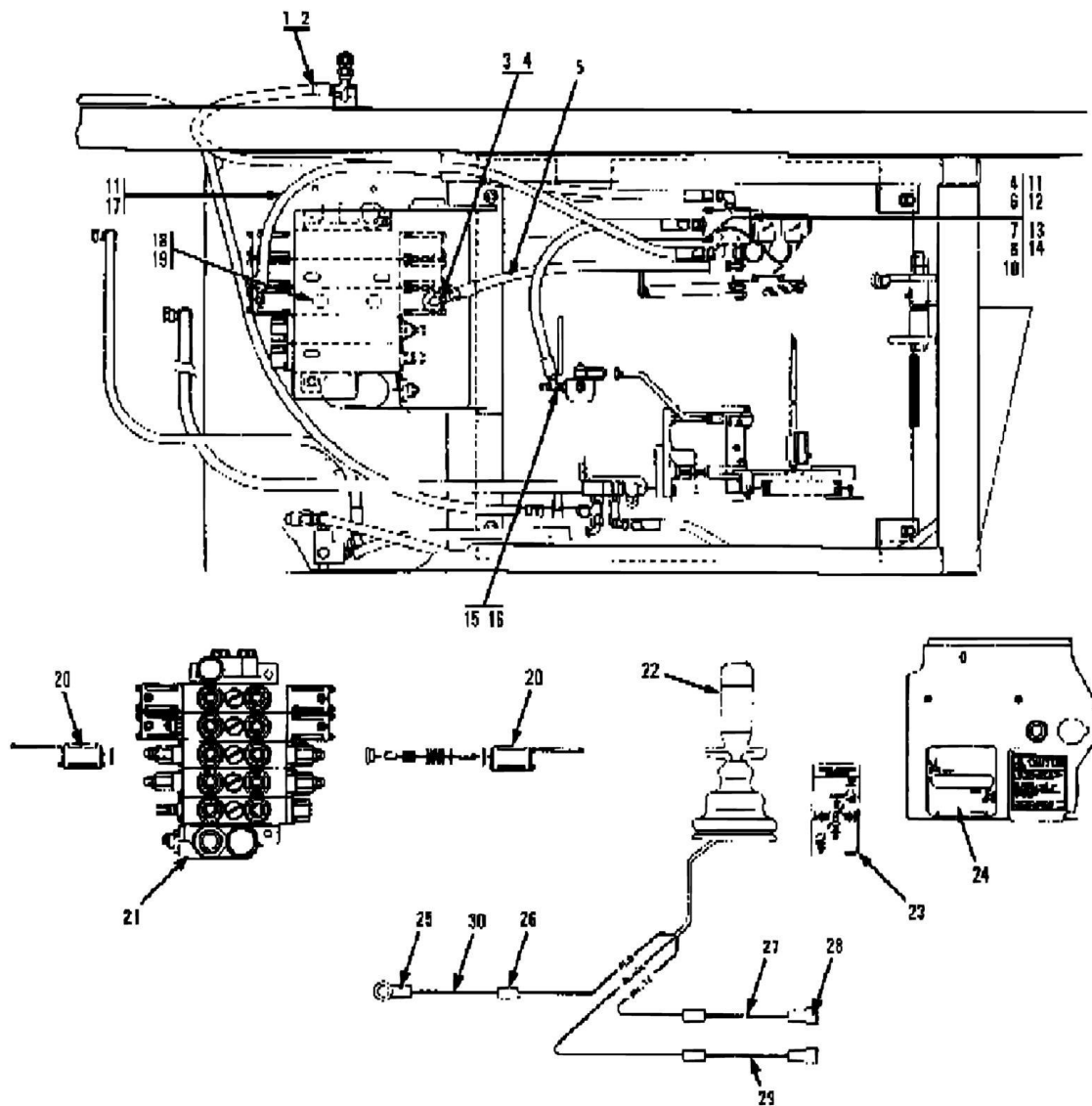
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035220	Ref	AUXILIARY CONTROLS ASSY (includes items 1 thru 21, 23, 24, 25, 26 & 38)	
	91035221	Ref	AUXILIARY FIELD INSTALLATION (includes items 1 thru 27 & item 40)	
	91035222	Ref	AUXILIARY ELECTRIC INST. (includes items 28 thru 37, item 39, & items 41 thru 46)	
1	91036107	1	AUXILIARY HANDLE WELDMENT	
2	90200290	4	BEARING	
3	88671008	3	LUBE FITTING, STRAIGHT, 1/4-28	
4	90202361	1	LINKAGE ROD	
5	88821004	3	ADJUSTABLE YOKE END	
6	90027987	3	SPRING CLEVIS	
7	88501406	3	HEX JAM NUT, 3/8-24	
8	90205533	1	BELLCRANK	
9	91046051	1	LINKAGE ROD	
10	90021552	1	CLEVIS PIN	
11	88631301	1	COTTER PIN, 1/16X1/2	
12	90022043	2	HOSE ASSY	
13	90029938	2	90, BULKHEAD ELBOW	
14	90207393	1	TUBE ASSY	
15	91043196	1	TUBE ASSY	
16	91031465	1	HANDLE INSERT	
17	90200774	1	HANDLE GRIP	
18	88501112	1	HEAVY HEX JAM NUT, 3/4-10	
19	88561113	4	FLATWASHER, 3/4	
20	90028662	2	WAVE BEND WASHER	
21	91031464	1	COVER PANEL	
22	88321015	Ref	SELF TAPPING SCREW, #6-32X1/2	
23	88662107	2	ELBOW, 90, (swivel nut)	
24	86923006	1	ADAPTER, 3/4X5/8	
25	88662008	1	CONNECTOR (includes o-ring)	
25	88591207	1	O-RING	
26	88662022	1	CONNECTOR (includes o-ring)	
26	88591207	1	O-RING	
27	91033239	1	CONVERSION KIT	
28	91033387	1	FIVE BUTTON HANDLE	
29	91033425	1	GROMMET	
30	90028956	1	CONNECTOR BODY	
31	90028958	6	TERMINAL	
32	90028978	1	CABLE CLAMP	
33	90403396	1	AUXILIARY WIRING HARNESS	
34	90027187	4	TY-RAP	
35	90028968	1	CONNECTOR	
36	91033391	6	INSULATED RING TERMINAL	
37	91033394	1	AUXILIARY CONTROL DECAL	
38	91033417	1	AUXILIARY CONTROL DECAL	
39		Ref	LOOM, 5/16IN I.D.	
40	91033168	1	MAIN CONTROL VALVE	
41	86883071	1	10 AMP CIRCUIT BREAKER	
42	77363191	1	CIRCUIT BREAKER BRACKET	

## SECTION 12 - OPTIONAL EQUIPMENT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	88321039	2	PAN HD SELF TAPPING SCREW, #10-32X1/2	
44	77383410	1	RELAY	
45		Ref	WIRE, BLACK, 16 GAUGE	
46	77163102	4	INSULATED FEMALE SPADE	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 12 - OPTIONAL EQUIPMENT

## FIGURE 12-22. (91035266) TILT ON JOYSTICK



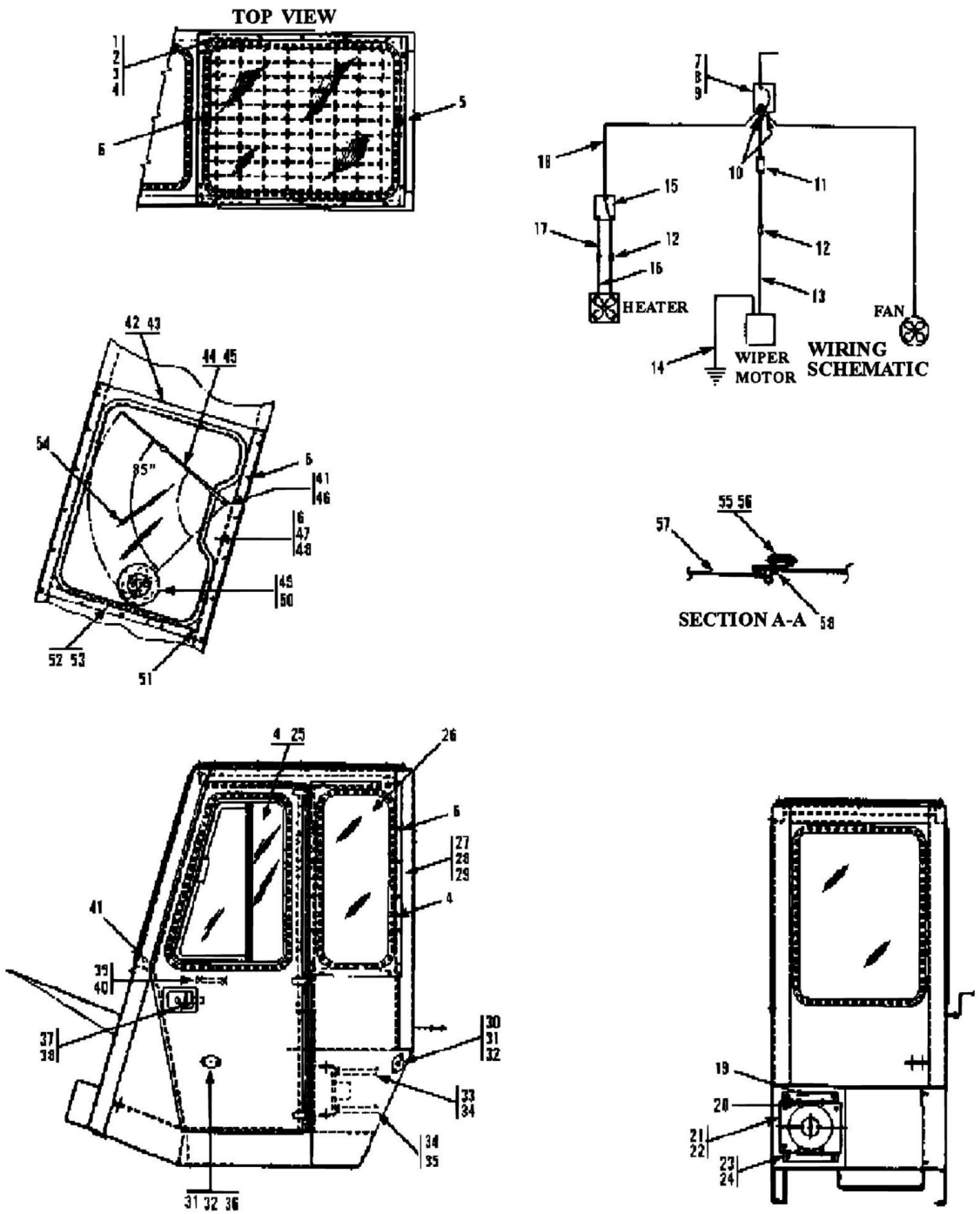
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-22. (91035266) TILT ON JOYSTICK**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035266	Ref	TILT ON JOYSTICK (includes all items)	
1	88661306	1	UNION TEE, 1/2 TUBE	
2	84718323	1	HOSE ASSY	
3	88662035	1	CONNECTOR (includes o-ring)	
3	88591204	1	O-RING	
4	88662105	2	ELBOW, 90, (swivel nut)	
5	77133196	1	HOSE ASSY	
6	91303038	1	FOUR-WAY SOLENOID VALVE	
7	88201009	2	HEX HD CAPSCREW, 1/4-20X2, GR5	
8	88561107	2	FLATWASHER, 1/4	
9	88551009	2	LOCKWASHER, 1/4	
10	88501004	2	HEX NUT, 1/2-20	
11	88662005	2	CONNECTOR (includes o-ring)	
11	88591204	2	O-RING	
12	88662064	2	ELBOW, 90, (includes o-ring)	
12	88591204	2	O-RING	
13	91085071	1	ORIFICE FITTING	
14	90207719	2	JUMPER WIRE	
15	88662239	1	SWIVEL NUT RUN TEE, 3/8 TUBE	
16	77133447	1	HOSE ASSY	
17	84717956	1	HOSE ASSY	
18	90133488	2	ORIFICE PLATE	
19	91033487	2	CHECK VALVE PLATE	
20	91033483	1	ACTUATOR ASSY KIT	
21		Ref	MAIN CONTROL VALVE (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
22		Ref	JOYSTICK ASSY (See HYDRAULIC COMPONENTS SECTION for Breakdown)	
23	91303041	1	BOOM CONTROL DECAL	
24	91043431	1	SWAY COVER PLATE	
25	86983188	1	EYELET, #10X16-14	
26	86683480	3	BUTT CONNECTOR, 16-14	
27	Bulk	31 in	14 GAUGE WIRE, WHITE	
28	77163102	2	FEMALE BLADE, 16-14	
29	Bulk	31 in	14 GAUGE WIRE, BLACK	
30	Bulk	62 in	14 GAUGE WIRE, RED	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE.	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-23. (91035261) CAB ENCLOSURE



## SECTION 12 - OPTIONAL EQUIPMENT

### FIGURE 12-23. (91035261) CAB ENCLOSURE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035261	Ref	CAB ENCLOSURE (includes all items)	
1	91036119	1	TOP WINDOW FRAME	
2	Bulk	11 ft	WEATHER STRIP	
3		Ref	TOP WINDOW, SAFETY GLASS, 7/32IN THICK, 24-7/8X31-7/8	
4	Bulk	24 ft	WEATHER STRIP	
5	90027315	13	SELF-TAPPING SCREW	
6	90027319	35	SELF-TAPPING SCREW	
7	90200506	1	CIRCUIT BREAKER, 30 AMP	
8	88501613	2	HEX NUT, 10-32	
9	88554917	2	LOCKWASHER, #10	
10	86983188	2	TERMINAL	
11	90203376	1	FUSE HOLDER	
12	86683480	3	CRIMP ON CONNECTOR	
13	91031486	1	JUMPER WIRE	
14	91081599	1	JUMPER WIRE	
15	77383744	1	HEATER SWITCH	
16	90206134	2	JUMPER WIRE	
17	91031494	2	JUMPER WIRE	
18	91031490	1	JUMPER WIRE	
19	91031521	2	HEATER MOUNTING BRACKET	
20	88201005	4	HEX HD CAPSCREW, 1/4-20X1, GR5	
21	91043429	1	HEATER	
22	91003053	1	HEATER DECAL	
23	77143004	4	WHIZ LOK SCREW, 5/16-18X1-1/4	
24	77143006	4	WHIZ LOK NUT, 5/16-18	
25		Ref	SLIDING DOOR WINDOW	
26		Ref	LEFT SIDE WINDOW 7/32IN THICK (contact Gradall Parts)	
27	91031507	1	LEFT SIDE WINDOW FRAME	
28	14403190	AR	VULKEM CAULK	
29	Bulk	7 ft	WEATHER STRIP	
30	90205888	1	PLUNGER SOCKET	
31	88301309	4	FLAT HD MACHINE SCREW, 1/4-20X3/4	
32	88521304	4	HEX LOCKNUT, 1/4-20	
33	90206169	1	HEATER HOSE	
34	86683193	4	HOSE CLAMP	
35	90206170	1	HEATER HOSE	
36	90205886	1	DOOR HOLD PLUNGER	
37	90203627	1	HANDLE	
38	88201031	1	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
39	90203840	1	PULL HANDLE	
40	88321039	2	SELF-TAPPING SCREW	
41	90027214	2	BUTTON GROMMET	
42	91031530	1	FRONT WINDOW FRAME	
43	14403190	AR	VULKEM CAULK	
44	91033464	1	WIPER ARM	
45	91033465	1	WIPER BLADE	
46	90206023	1	WIPER MOTOR	
47	88201003	1	HEX HD CAPSCREW, 1/4-20X3/4, GR5	
48	88501004	1	HEX NUT, 1/4-20	
49	90200680	1	DEFROSTER FAN	

## SECTION 12 - OPTIONAL EQUIPMENT

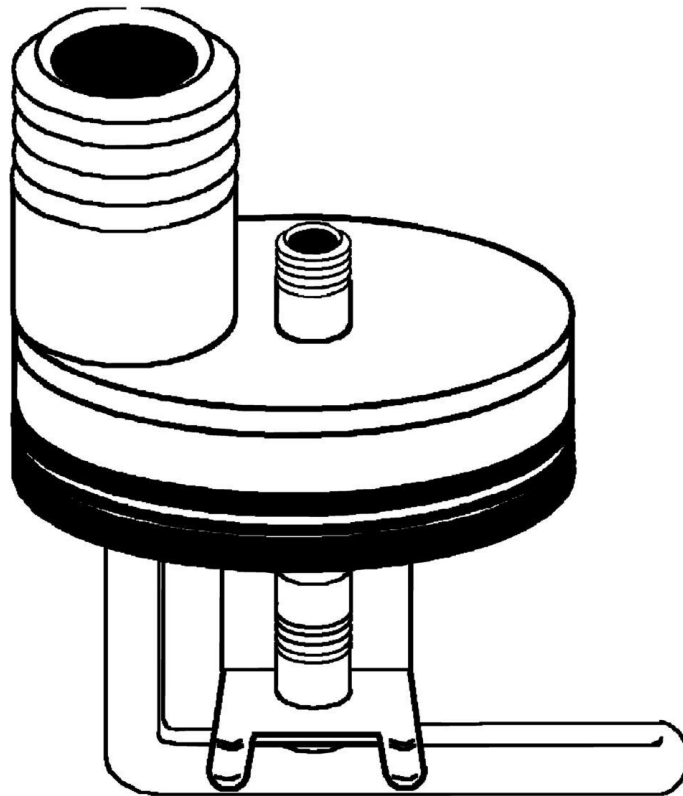
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
50	88321015	4	SELF-TAPPING SCREW	
51	91083376	1	EMERGENCY EXIT DECAL (locate on corner post next to emergency release cord)	
52	Bulk	10 ft	CHANNEL MOULDING	
53	Bulk	10 ft	RELEASE FILLER STRIP	
54		Ref	FRONT WINDOW, SAFETY GLASS, 7/32FT THICK (contact Gradall Parts)	
55	88201039	4	HEX HD CAPSCREW, 3/8-16X2, GR5	
56	88501006	4	HEX NUT, 3/8-16	
57	90801238	1	DOOR	
58	90403082	1	DOOR POST	
		Ref	NOTE: ONLY ITEMS WITH PART NUMBERS ARE AVAILABLE FOR SERVICE	





## SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-24. (91043353) ENGINE BLOCK HEATER



REPLACES FROST PLUG ON RIGHT SIDE OF ENGINE.

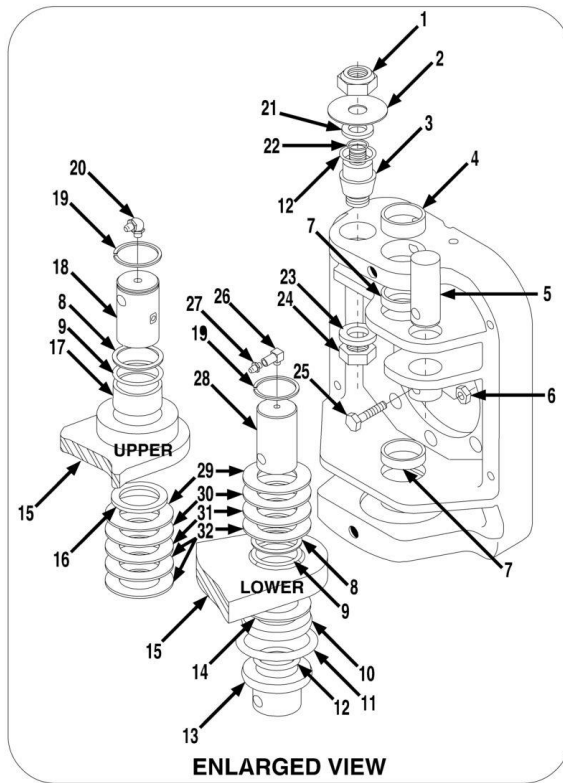
## SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-24. (91043353) ENGINE BLOCK HEATER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91043353	1	BLOCK HEATER	

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-25. (91045129) STEER AXLE ADVANTAGE KIT FOR SERVICE ONLY

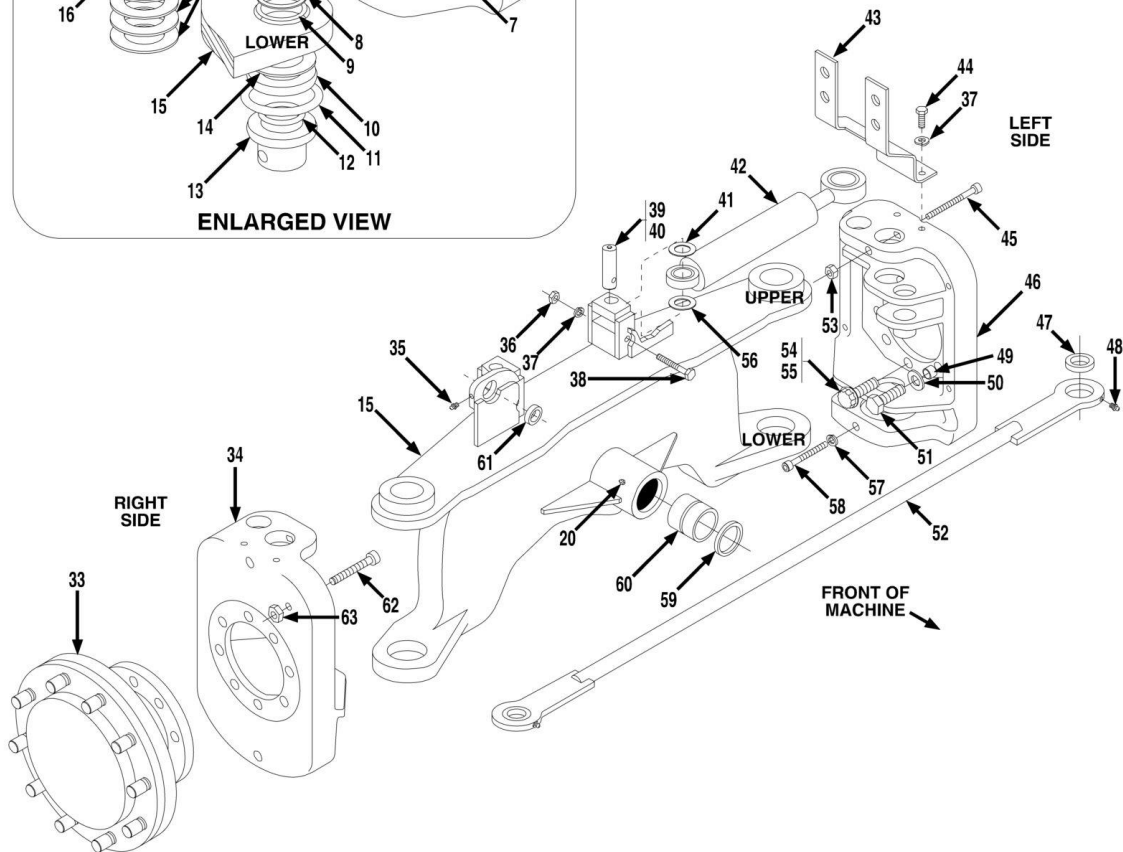


**NOTE #1:** CUSTOMER TO USE EXISTING WHEEL HUBS & HARDWARE, DRIVE MOTORS, DRIVE MOTOR TUBE ASSEMBLIES, AND DRAIN LINE HOSES OR ORDER SEPARATELY IF REPLACEMENT IS REQUIRED.

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

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

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



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-25. (91045129) STEER AXLE ADVANTAGE KIT FOR SERVICE ONLY**

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

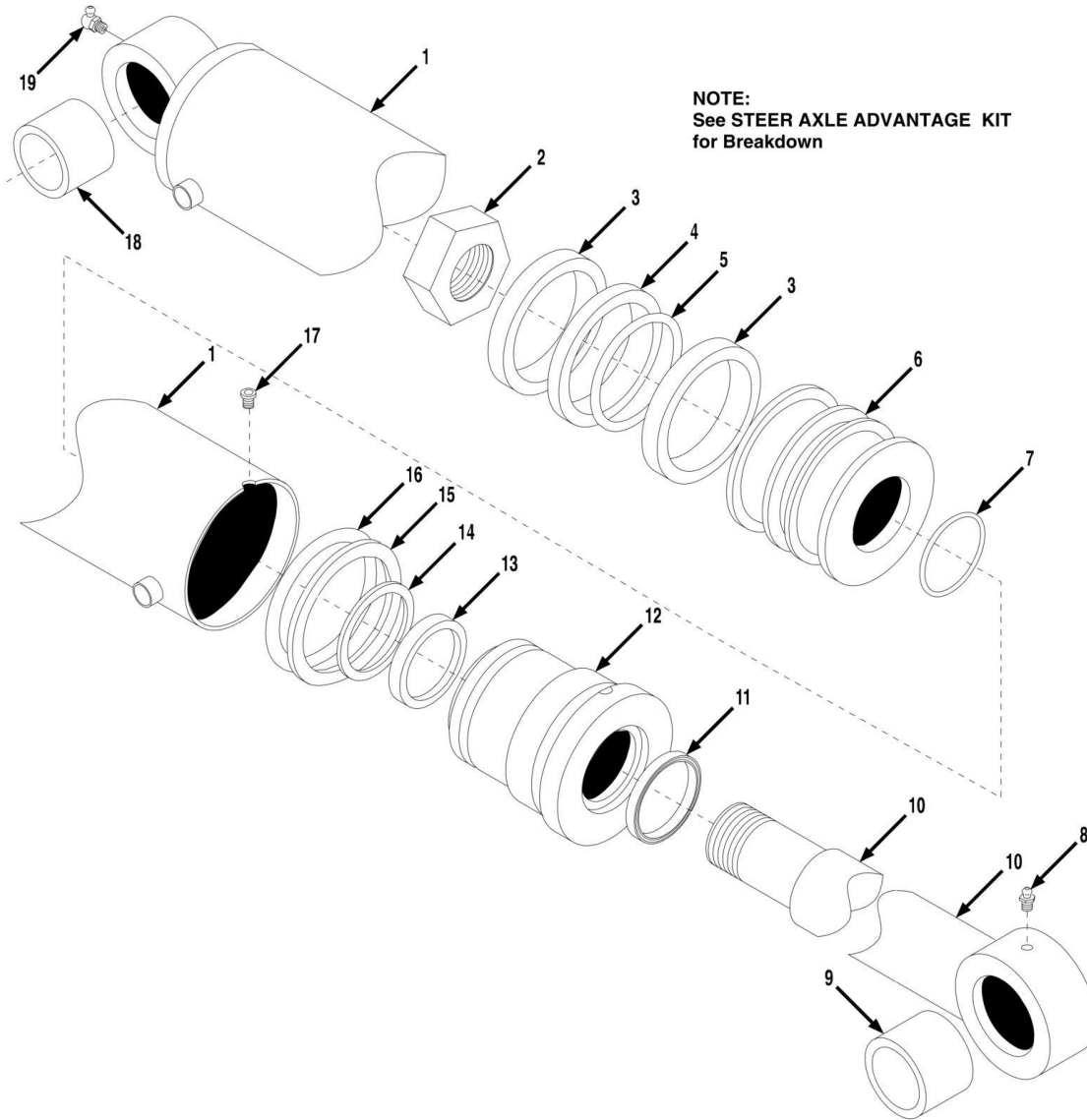
## SECTION 12 - OPTIONAL EQUIPMENT

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



# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-26. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY) FOR SERVICE ONLY





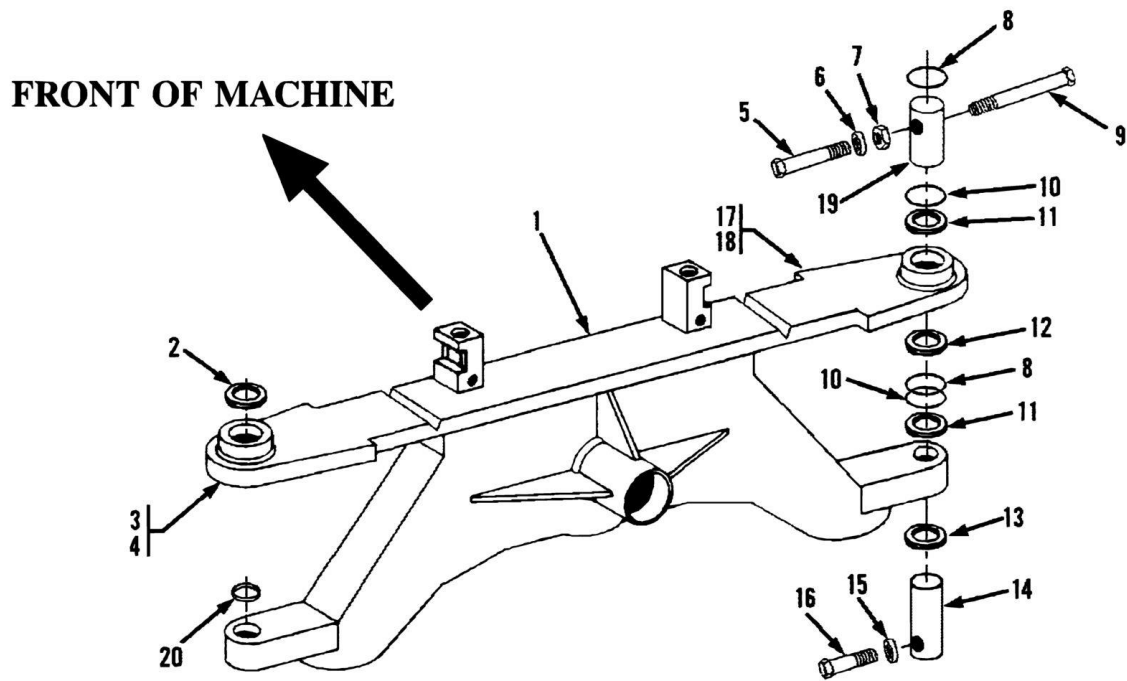
## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-26. (91033499) STEERING CYLINDER STEER AXLE ADVANTAGE KIT (ONLY) FOR SERVICE ONLY**

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

# SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-27. (91145136) REAR AXLE REWORK KIT FOR SERVICE ONLY



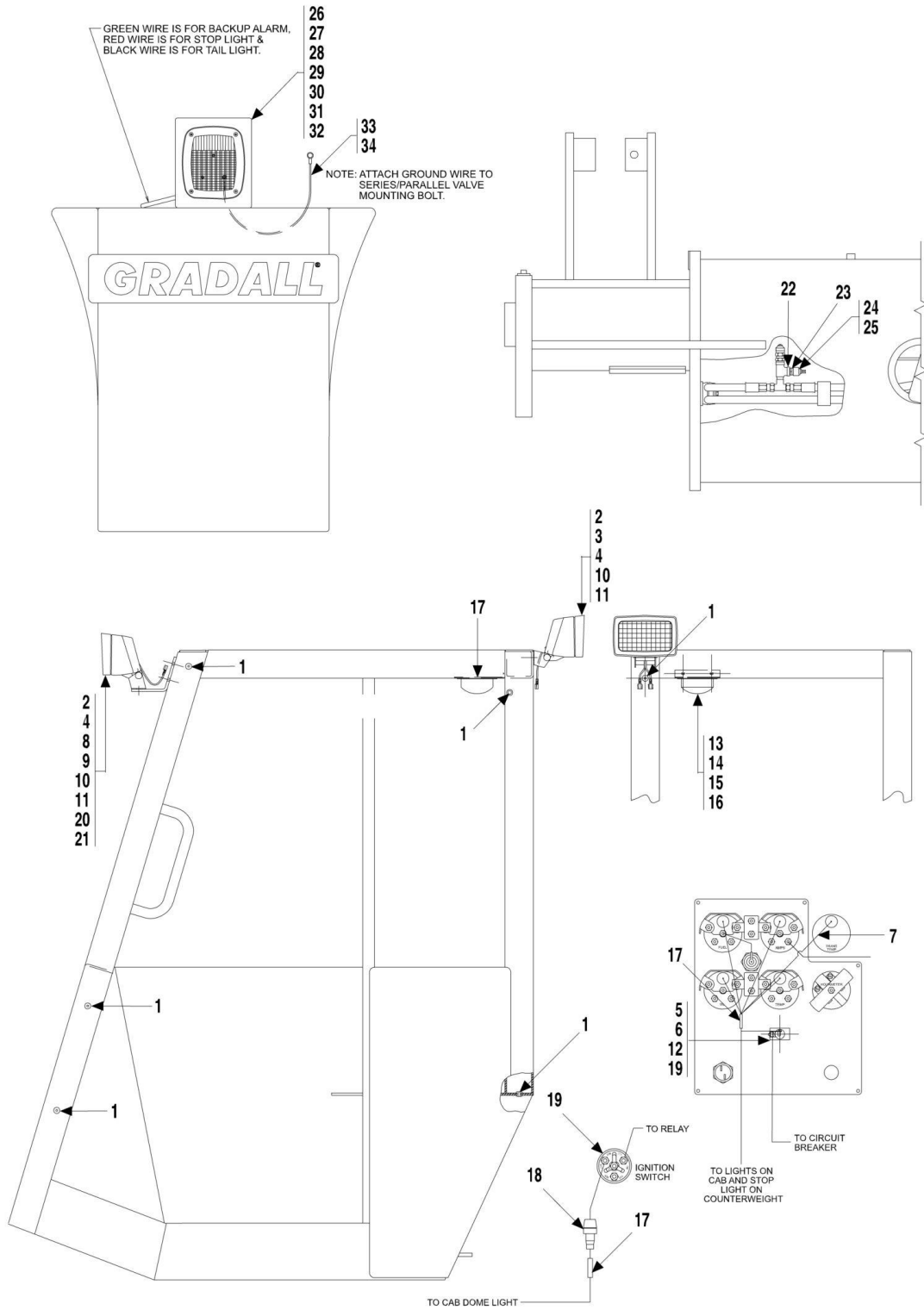
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**FIGURE 12-27. (91145136) REAR AXLE REWORK KIT FOR SERVICE ONLY**

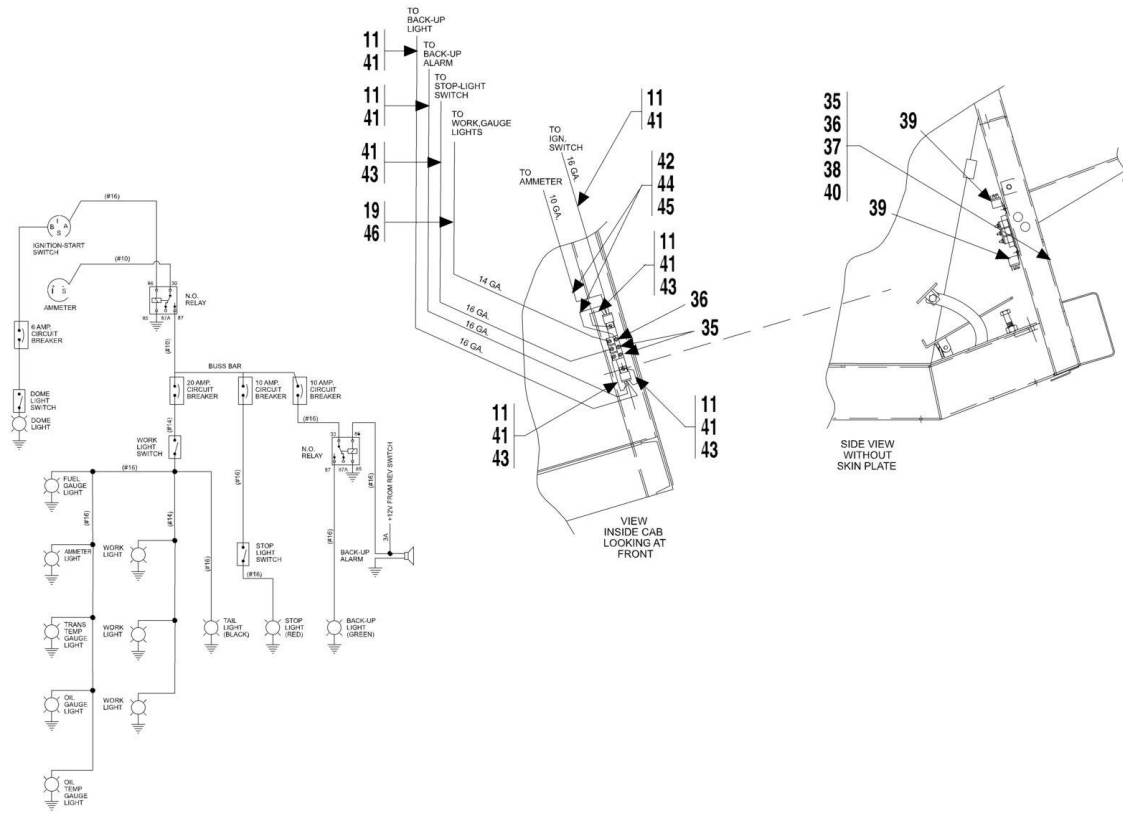
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91145136	1	REAR AXLE REWORK KIT (includes all items)	
1		Ref	REAR AXLE WELDMENT	
2	91123028	2	BUSHING	
3	91145134	1	LUG REWORK ASSY (includes items 2 & 4)	
4	91146111	1	LUG WELD	
5	88211117	2	SOCKET HEAD CAPSCREW, 1/2-13x4-1/2, GR8	
6	88551109	2	LOCKWASHER, 1/2	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

# SECTION 12 - OPTIONAL EQUIPMENT

## FIGURE 12-28. (91035253) WORK LIGHT PACKAGE (SN 0155299S to Present)



# SECTION 12 - OPTIONAL EQUIPMENT



## SECTION 12 - OPTIONAL EQUIPMENT

FIGURE 12-28. (91035253) WORK LIGHT PACKAGE (SN 0155299S to Present)

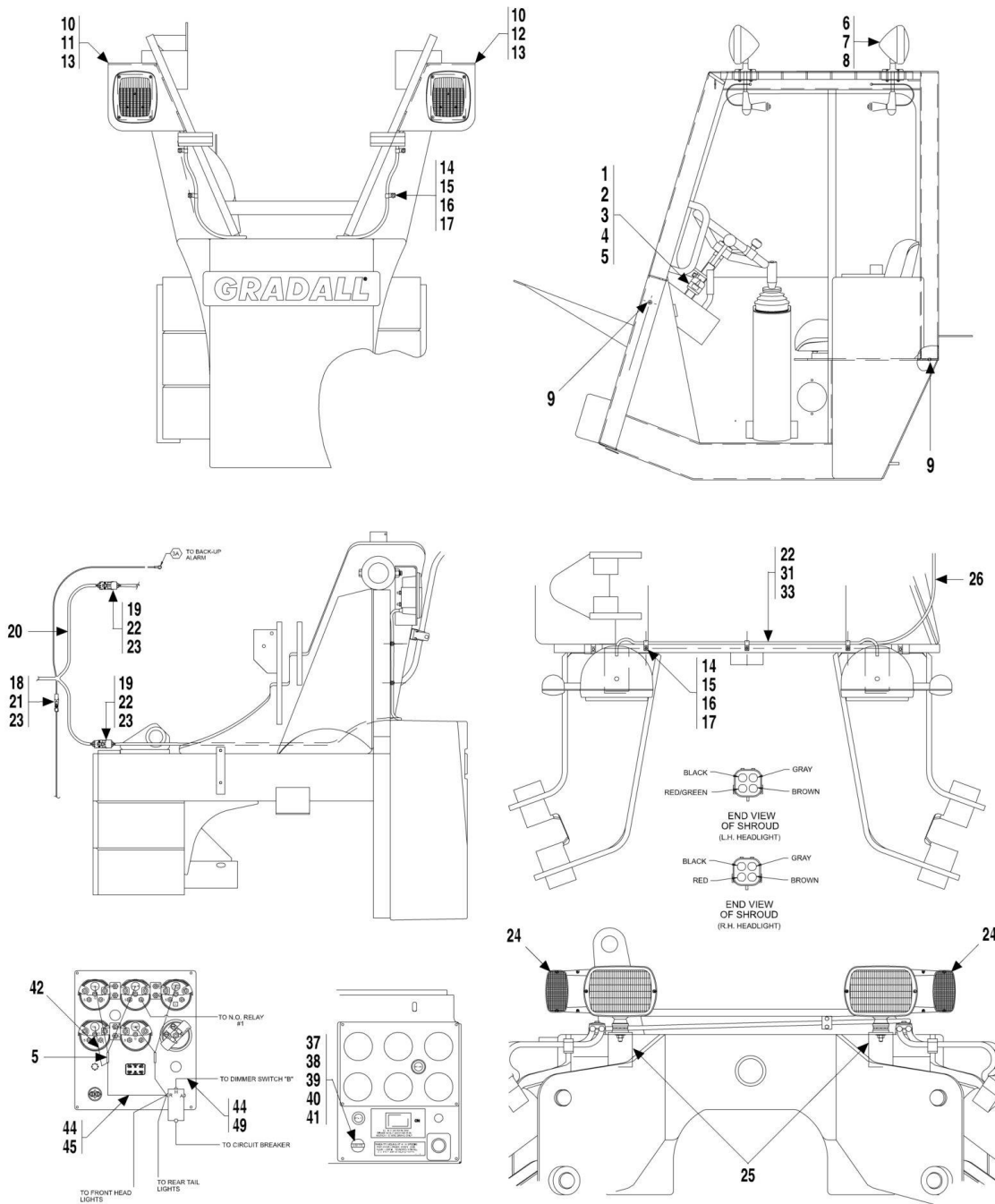
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91035253	1	WORK LIGHT PACKAGE, (includes all items)	
1	90027214	7	BUTTON GROMMET	
2	91125110	3	HALOGEN WORKLIGHT KIT, (includes the following two items)	
2	80963050	1	UTILITY FLOOD LIGHT	
	90028960	2	MALE TERMINAL	
3	88201031	1	HEX HD CAPSCREW, 3/8-16X1/2, GR5	
4	88551011	3	LOCKWASHER, 3/8	
5	91003055	1	LIGHTS DECAL	
6	77383467	1	LIGHT SWITCH	
7	91033360	5	GAUGE LIGHTING KIT	
8	91031528	2	MOUNTING BRACKET	
9	88201035	2	HEX HD CAPSCREW, 3/8-16X1, GR5	
10	91121150	3	JUMPER WIRE	
11	77163102	9	SLIP-ON ELECTRICAL CONNECTION	
12	77383470	1	BOOT	
13	91011009	1	MOUNTING BRACKET	
14	90029955	1	RUBBER GROMMET	
15	88321022	2	SELF TAPPING SCREW, #8-32X3/8	
16	24861167	1	INTERIOR LIGHT	
17	86683480	3	BUTT CONNECTOR	
18	90203376	1	IN-LINE FUSE, 6 AMP	
19	86983188	4	EYELET	
20	88501006	2	HEX NUT, 3/8-16	
21	90027319	4	DR AND TAP SCREW, 1/4-20X1	
22	88712232	1	STREET TEE, 1/4	
23	88711380	1	REDUCING BUSHING, 1/4X1/8	
24	83663097	1	STOP LIGHT SWITCH	
25	83483075	2	EYELET	
26	91121145	1	TAIL LIGHT HOUSING	
27	91121146	1	TAIL LIGHT BRACKET	
28	91365045	1	TAIL LIGHT ASSEMBLY, (includes the following seven items)	
28	91123065	1	TAIL LIGHT	
28	86661147	38 in	WIRE, 16 GAUGE, (black)	
28	86661149	38 in	WIRE, 16 GAUGE, (green)	
28	86661152	38 in	WIRE, 16 GAUGE, (red)	
28	86683480	3	BUTT CONNECTOR	
28	82033996	45 in	WIRE LOOM	
28	86683122	2	TIE WRAP	
29	88201108	1	HEX HD CAPSCREW, 3/4-10X1-1/4, GR5	
30	88561115	1	FLAT WASHER, 3/4	
31	88551016	1	LOCKWASHER, 3/4	
32	77163105	3	BULLET RECEPTACLE	
33	86983191	1	EYELET	
34	86883260	1	EYELET	
35	86883071	2	CIRCUIT BREAKER, 10 AMP	
36	86983041	1	CIRCUIT BREAKER, 20 AMP	
37	77363191	1	CIRCUIT BREAKER BRACKET	
38	86981178	1	BUSS BAR	
39	77383410	2	RELAY	
40	88321039	2	SELF TAPPING SCREW,#10-32X1/2	

## SECTION 12 - OPTIONAL EQUIPMENT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
41	86661147	AR	WIRE, 16 GAUGE, (black)	
42	86661174	AR	WIRE, 10 GAUGE, (black)	
43	91033391	5	INSULATED RING TERMINAL	
44	91033463	2	INSULATED FEMALE SPADE	
45	86983190	2	INSULATED RING TERMINAL	
46	86661156	AR	WIRE, 14 GAUGE, (black)	

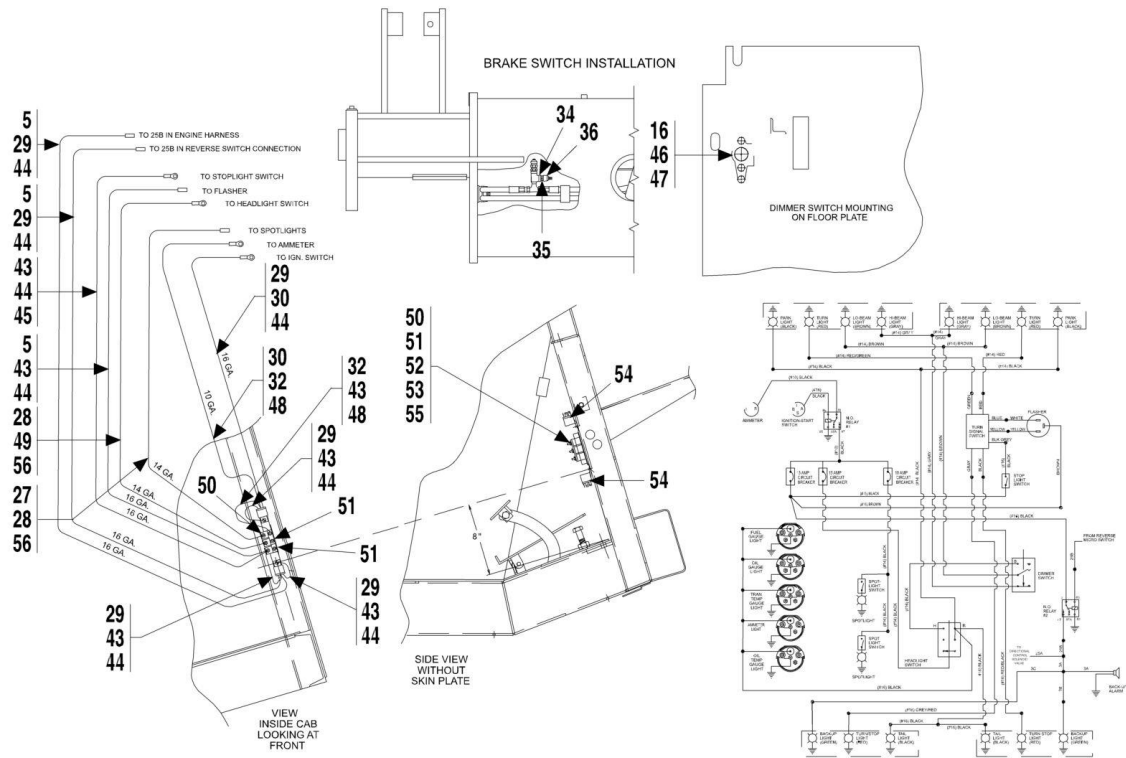
# SECTION 12 - OPTIONAL EQUIPMENT

## FIGURE 12-29. (91045154) DELUXE LIGHT PACKAGE (SN 0155299S to Present)





# SECTION 12 - OPTIONAL EQUIPMENT



## SECTION 12 - OPTIONAL EQUIPMENT

**FIGURE 12-29. (91045154) DELUXE LIGHT PACKAGE (SN 0155299S to Present)**

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	91045154	1	DELUXE LIGHT PACKAGE, (includes all items)	
1	90200999	1	TURN SIGNAL SWITCH	
2	80983168	1	FLASHER SWITCH	
3	91013026	1	PIG TAIL CONNECTOR	
4	86983193	6	BULLET CONNECTOR	
5	86683480	8	BUTT CONNECTOR	
6	24601671	2	SPOTLIGHT	
7	91041727	2	MOUNTING PLATE	
8	88301380	8	FLAT HD MACHINE SCREW, #10-32 x 2	
9	90027214	2	BUTTON GROMMET	
10	91365045	2	TAIL LIGHT ASSEMBLY, (includes the following seven items)	
10	91123065	1	TAIL LIGHT	
10	86661147	38 in	WIRE, 16 GAUGE, (black)	
10	86661149	38 in	WIRE, 16 GAUGE, (green)	
10	86661152	38 in	WIRE, 16 GAUGE, (red)	
10	86683480	3	BUTT CONNECTOR	
10	82033996	45 in	WIRE LOOM	
10	86683122	2	TIE WRAP	
11	91041729	1	L.H. REAR LIGHT BRACKET	
12	91041730	1	R.H. REAR LIGHT BRACKET	
13	91121146	2	TAIL LIGHT BRACKET	
14	83661336	7	WELD STUD, 1/4-20X5/8	
15	86621230	7	SUPPORT CLAMP	
16	88551009	10	LOCKWASHER, 1/4	
17	88501004	7	HEX NUT, 1/4-20	
18	80963055	1	W. PACK CONNECTOR, (tower)	
19	80963060	2	W. PACK CONNECTOR, (shroud)	
20	91083400	1	REAR WIRING HARNESS	
21	80963068	1	W. PACK CONNECTOR, (female pin)	
22	80963069	14	W. PACK CONNECTOR, (male pin)	
23	80963066	7	W. PACK CONNECTOR, (cable seal)	
24	91083398	1	HEAD/TURN/PARK/LAMP KIT	
25	91041728	2	HEAD LIGHT MOUNTING BRACKET	
26	91083399	1	FRONT WIRING HARNESS	
27	83483078	1	CRIMP ON CONNECTOR	
28	86983188	2	INSULATED RING TERMINAL	
29	77163102	6	INSULATED FEMALE SPADE	
30	86983190	2	INSULATED RING TERMINAL	
31	80963062	2	W. PACK CONNECTOR, (shroud)	
32	91033463	2	INSULATED FEMALE SPADE	
33	80963067	8	W. PACK CONNECTOR, (cable seal)	
34	88712232	1	STREET TEE, 1/4	
35	88711380	1	REDUCING BUSHING, 1/4X1/8	
36	83663097	1	STOPLIGHT SWITCH	
37	86683127	1	HEADLAMP SWITCH	
38	88561110	2	FLATWASHER, 7/16	
39	88301191	1	ROUND HD MACHINE SCREW, #10-32X3/8	
40	88551007	1	LOCKWASHER, #10	
41	88501613	1	HEX NUT, #10-32	
42	91033360	5	GAUGE LIGHTING KIT	

## SECTION 12 - OPTIONAL EQUIPMENT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
43	91033391	6	INSULATED RING TERMINAL	
44	86661147	AR	WIRE, 16 GAUGE, (black)	
45	83483075	3	INSULATED RING TERMINAL	
46	86683136	1	DIMMER SWITCH	
47	88201002	3	HEX HD CAPSCREW, 1/4-20X5/8, GR5	
48	86661174	AR	WIRE, 10 GAUGE, (black)	
49	86983187	3	INSULATED RING TERMINAL	
50	86883071	1	CIRCUIT BREAKER, 10 AMP	
51	91033462	2	CIRCUIT BREAKER, 15 AMP	
52	77363191	1	CIRCUIT BREAKER BRACKET	
53	86981178	1	BUSS BAR	
54	77383410	2	RELAY	
55	88321039	2	SELF TAPPING SCREW, #10-32X1/2	
56	86661156	AR	WIRE, 14 GAUGE, (black)	



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An Oshkosh Corporation Company

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

☎ (717) 485-5161

📠 (717) 485-6417

## JLG Worldwide Locations

JLG Industries (Australia)  
P.O. Box 5119  
11 Bolwarra Road  
Port Macquarie  
N.S.W. 2444  
Australia  
☎ +61 2 65 811111  
📠 +61 2 65 813058

JLG Latino Americana Ltda.  
Rua Eng. Carlos Stevenson,  
80-Suite 71  
13092-310 Cam inas-SP  
Brazil  
☎ +55 19 3295 0407  
📠 +55 19 3295 1025

JLG Industries (UK) Ltd  
Bentley House  
Bentley Avenue  
Middleton  
Greater Manchester  
M24 2GP - England  
☎ +44 (0)161 654 1000  
📠 +44 (0)161 654 1001

JLG France SAS  
Z.I. de Baulieu  
47400 Fauillet  
France  
☎ +33 (0)5 53 88 31 70  
📠 +33 (0)5 53 88 31 79

JLG Deutschland GmbH  
Max-Planck-Str. 21  
D - 27721 Ritterhude - Ihlpohl  
Germany  
☎ +49 (0)421 69 350 20  
📠 +49 (0)421 69 350 45

JLG Equipment Services Ltd.  
Rm 1107 Landmark North  
39 Lung Sum Avenue  
Sheung Shui N. T.  
Hong Kong  
☎ (852) 2639 5783  
📠 (852) 2639 5797

JLG Industries (Italia) s.r.l.  
Via Po. 22  
20010 Pregnana Milanese - MI  
Italy  
☎ +39 029 359 5210  
📠 +39 029 359 5845

Oshkosh-JLG Singapore  
Technology Equipment Pte Ltd  
29 Tuas Ave 4,  
Jurong Industrial Estate  
Singapore, 639379  
☎ +65-6591 9030  
📠 +65-6591 9031

Oshkosh-JLG (Tianjin) Equipment  
Technology, Ltd  
Pudong Kerry Parkside  
Room 3705  
1155 Fang Dian Road  
Pudong, Shanghai 201204  
China  
☎ +0086 21 60311575  
📠 +0086 21 60311599

Plataformas Elevadoras  
JLG Iberica, S.L.  
Trapadella, 2  
P.I. Castellbisbal Sur  
08755 Castellbisbal, Barcelona  
Spain  
☎ +34 93 772 4700  
📠 +34 93 771 1762

JLG Sverige AB  
Enkopingsvagen 150  
Box 704  
SE - 176 27 Jarfalla  
Sweden  
☎ +46 (0)850 659 500  
📠 +46 (0)850 659 534

[www.jlg.com](http://www.jlg.com)