Illustrated Parts Manual

Model
45HA

P/N
3120626

March 15, 2012

ANSI

An Oshkosh Corporation Company

REVISION LOG

May 1988 - Original Issue Of Manual

January 1990 - Revised

January 1994 - Revised

August 1994 - Change 1

March 1995 - Change 2

July 1997 - Revised

March 15, 2001 - Revised (Edited 0010415 to Revision 19)

August 18, 2005 - Revised

June 10, 2009 - Revised

March 15, 2012 - Revised (Revision 1)

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SECTION 1 - FRAME

SECTION 1 - FRAME

FIGURE 1-1. FRAME AND STEERING INSTALLATION - 5FT-9IN/1.75M 2WD FRAME (WITH SINGLE ROD CYLINDER)

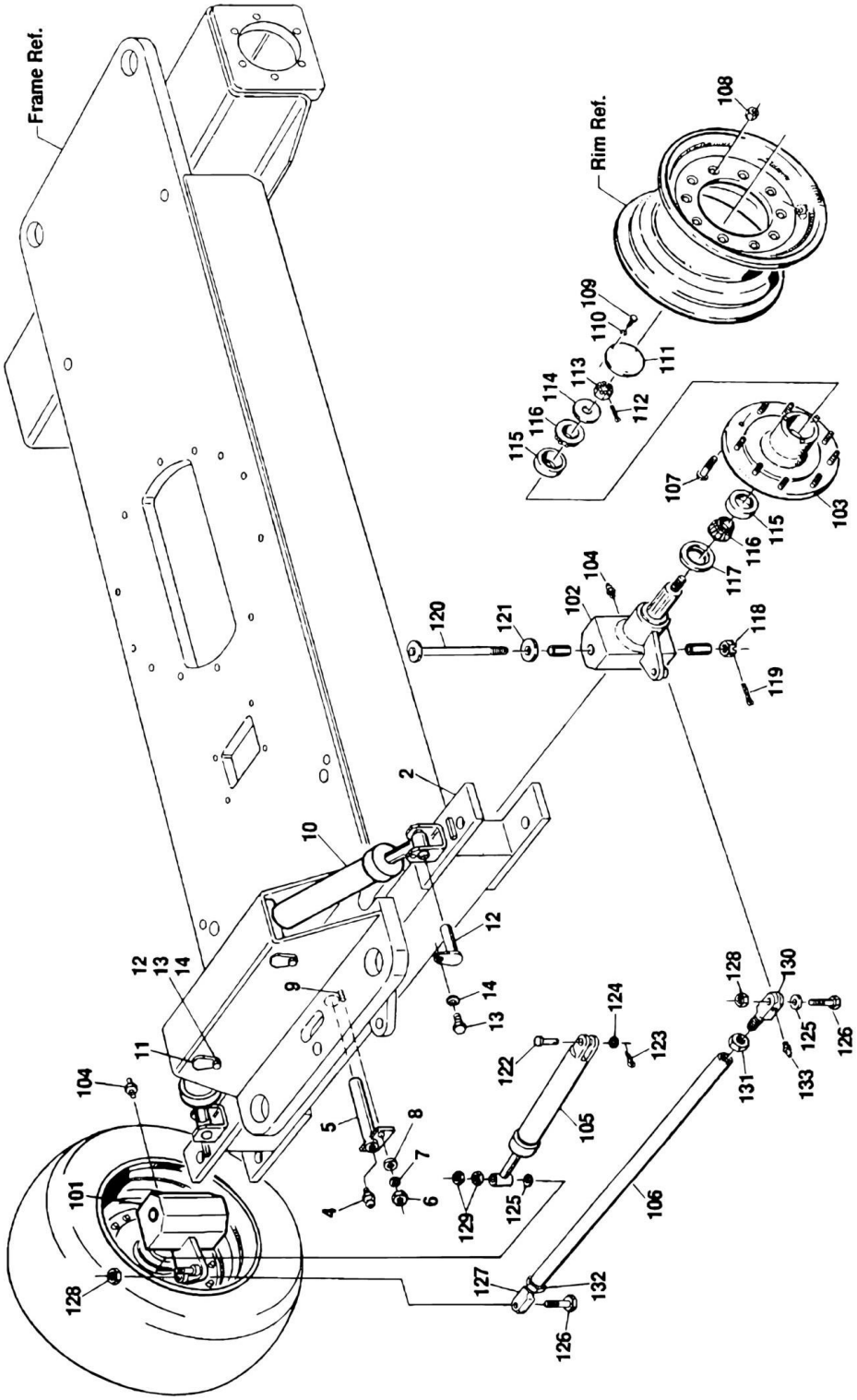


FIGURE 1-1. FRAME AND STEERING INSTALLATION - 5FT-9IN/1.75M 2WD FRAME (WITH SINGLE ROD CYLINDER)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FRAME OPTIONS**	
	2360288	1	Frame Fixed Axle (Standard Stability/Standard Platform)	
	2360283	1	Frame Oscillating Axle (Standard Stability/Standard Platform	
	2360322	1	Frame Fixed Axle (2 to 1 Stability/Low Mount Platform)	
	2360321	1	Oscillating Axle (2 to 1 Stability/Low Mount Platform)	
	0239196	Ref	**OSCILLATING AXLE INSTALLATION (OPTIONAL)**	B
2	4843094	1	Axle Weldment	
4	2160002	1	Fitting, Grease	
5	4842621	1	Pin, Pivot	
6	3311601	1	Nut 3/8in-16NC	
7	4761600	1	Lockwasher 3/8in	
8	4751600	1	Flatwasher 3/8in	
9	4300034	1	Stud (Welded on Part)	
10	1681785	2	Lockout Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
11	4842622	2	Pin (Top)	
12	4842794	2	Pin (Bottom)	
13	0641406	4	Bolt 1/4in-20NC x 3/4in	
14	4761400	4	Lockwasher 1/4in	
14	4751400	4	Flatwasher 1/4in	
		Ref	**STEERING INSTALLATION**	
	0239197	Ref	**ANSI Spec**	E
	0252114	Ref	**CSA Spec**	C
101		Ref	Spindle - Right Side Options:	
101	4130207	1	Spindle - Right Side ANSI Spec	
101	4130264	1	Spindle - Right Side CSA Spec	
101	0960839	2	Bushing, Bronze	
102		Ref	Spindle Left Side Options:	
102	4130210	1	Spindle Left Side ANSI Spec	
102	4130265	1	Spindle Left Side CSA Spec	
102	0960839	2	Bushing, Bronze	
103	2780153	2	Hub, Wheel (Includes Item 107)	
104	2160002	3	Fitting, Grease	
105	1682020	1	Steer Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
106	3840962	1	Tie-Rod	
107	0630137	18	Stud, Wheel (Part of Item 103)	
108	3300012	18	Nut, Wheel	
109	0721003	6	Bolt #10-24NC x 3/8in	
110	4761000	6	Lockwasher #10	
111	1120019	2	Cap, Hub	
112	3450608	2	Pin, Cotter 3/16in x 2in	
113	3322603	2	Nut, Slotted 1in-12NF	
114	4740001	2	Washer, Hardened	
115	0440112	2	Cup, Bearing	
116	0440113	2	Cone, Bearing	
117	3960373	2	Seal, Oil	
118	3323003	2	Nut, Slotted 1 1/4in-12NF	
119	3450609	2	Pin, Cotter 3/16in x 2 1/4in	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
120		Ref	Kingpin Options:	
120	3421340	2	Kingpin ANSI Spec	
120	3421965	2	Kingpin CSA Spec	
121	0440162	2	Washer, Thrust	
122	3431622	1	Pin, Clevis	
123	3450608	1	Pin, Cotter 3/16in x 2in	
124	4712600	1	Flatwasher 1in	
125	0440091	3	Washer, Thrust	
126	0642628	2	Bolt 1in-8NC x 3 1/2in	
127	0560805	1	Block, Tie-Rod (Right Side)	
128	3312602	2	Nut, Jam 1in-8NC	
129	3300175	1	Locknut	
130	0560804	1	Block, Tie-Rod (Left Side)	
131	3300229	1	Nut, Jam (Left Hand Thread)	
132	3323002	1	Nut, Jam 1 1/4in-12NF	
133	2160003	2	Fitting, Grease - 45	

FIGURE 1-2. FRAME AND STEERING INSTALLATION - 6FT-6IN/2M 2WD FRAME (WITH DOUBLE ROD CYLINDER)

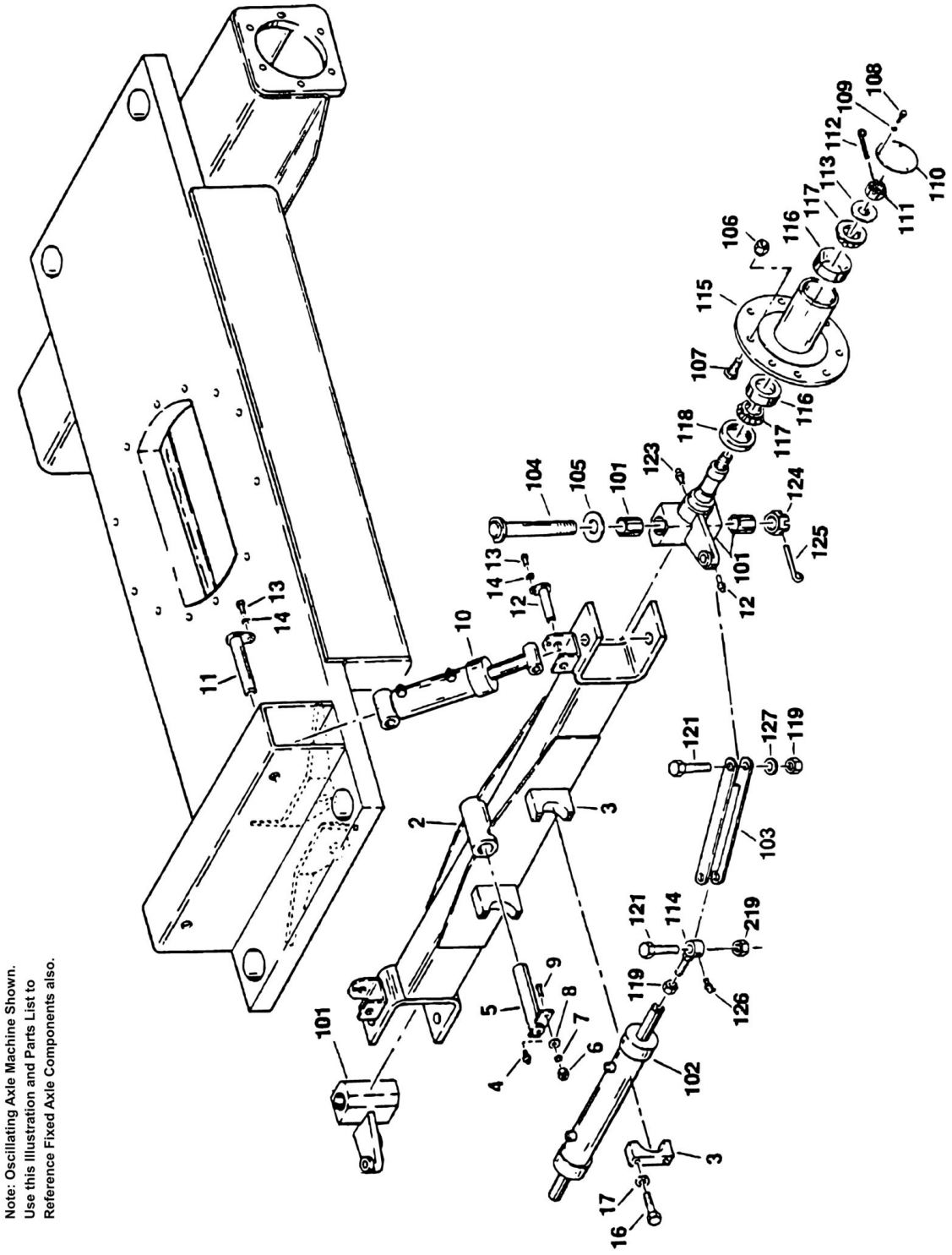


FIGURE 1-2. FRAME AND STEERING INSTALLATION - 6FT-6IN/2M 2WD FRAME (WITH DOUBLE ROD CYLINDER)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FRAME OPTIONS**	
	2360262	Ref	Frame Fixed Axle	
	2360274	Ref	Frame Oscillating Axle	
	0238747	Ref	**OSCILLATING AXLE INSTALLATION (OPTIONAL)**	A
2	4842982	1	Axle Weldment	
3	0238390	2	Mounting Block Assembly - Steer Cylinder	
4	2160002	1	Fitting, Grease	
5	4842621	1	Pin, Pivot (Axle)	
6	3311601	1	Nut 3/8in-16NC	
7	4761600	1	Lockwasher 3/8in	
8	4751600	1	Flatwasher 3/8in	
9	4300034	1	Stud (Welded on Part)	
10	1681785	2	Lockout Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
11	4842622	2	Pin (Top) (Lockout Cylinder)	
12	4842794	2	Pin (Bottom) (Lockout Cylinder)	
13	0641406	4	Bolt 1/4in-20NC x 3/4in	
14	4761400	4	Lockwasher 1/4in	
		Ref	**STEERING INSTALLATION**	
	0238395	Ref	**ANSI Spec**	7
	0252113	Ref	**CSA Spec**	3
101		Ref	Spindle Options:	
101	4130197	2	Spindle ANSI Spec	
101	4130263	2	Spindle CSA Spec	
101	0960839	2	Bushing, Bronze	
102		Ref	Steer Cylinder Assembly Options (See CYLINDER SECTION for Breakdown)	
102	1681814	1	Steer Cylinder Assembly **(Prior to SN 31941)**	
102	1683511	1	Steer Cylinder Assembly **(SN 31941 to Present)**	
103	4842860	2	Tie-Rod	
104		Ref	Kingpin Options:	
104	3421340	2	Kingpin ANSI Spec	
104	3421965	2	Kingpin CSA Spec	
105	0440162	2	Washer, Thrust	
106	3300012	18	Nut, Wheel 1/2in-20NF	
107	0630137	18	Bolt, Wheel (Part of Item 115)	
108	0721004	6	Bolt #10-24 x 1/2in	
109	4761000	6	Lockwasher #10	
110	1120019	2	Cap, Hub	
111	3322603	2	Nut, Slotted 1in-12NF	
112	3450608	2	Pin, Cotter 3/16in x 2in	
113	4740001	2	Washer, Hardened	
114	4842624	2	Block, Tie-Rod	
115	2780153		Hub, Wheel	
116	0440112	4	Cup, Bearing	
117	0440113	4	Cone, Bearing	
118	3960373	2	Seal, Oil	
119	3312205	6	Locknut 3/4in-10NC	
121	0642224	4	Bolt 3/4in-10NC x 3in	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
123	2160002	2	Fitting, Grease - Straight	
124	3323003	2	Nut, Slotted 1 1/4in-12NF	
125	3450609	2	Pin, Cotter 3/16in x 2 1/4in	
126	2160001	4	Fitting, Grease - 90	
127	4740156	2	Washer, Thrust	

FIGURE 1-3. FRAME AND STEERING INSTALLATION 6FT-6IN/2M 4WD FRAME

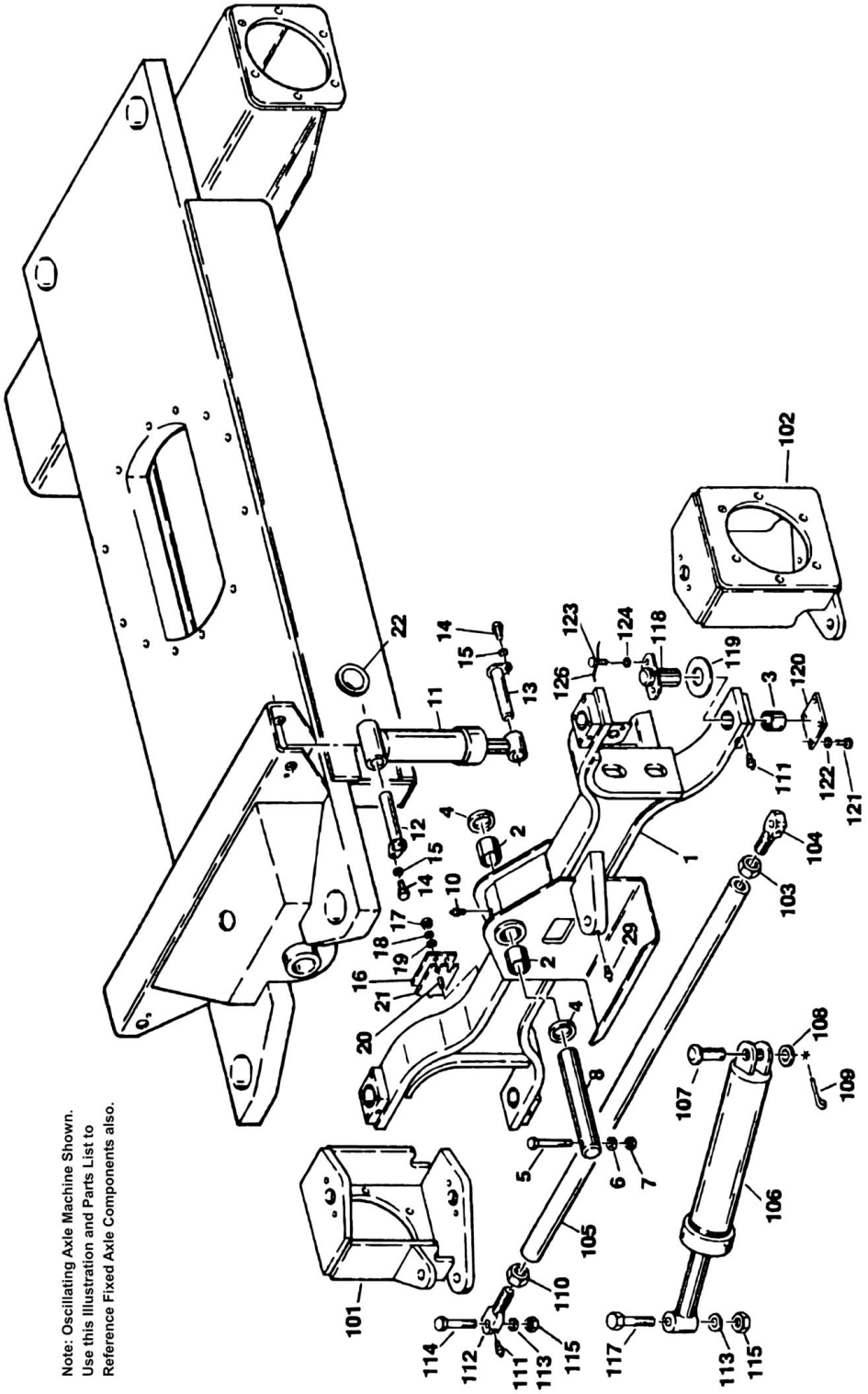


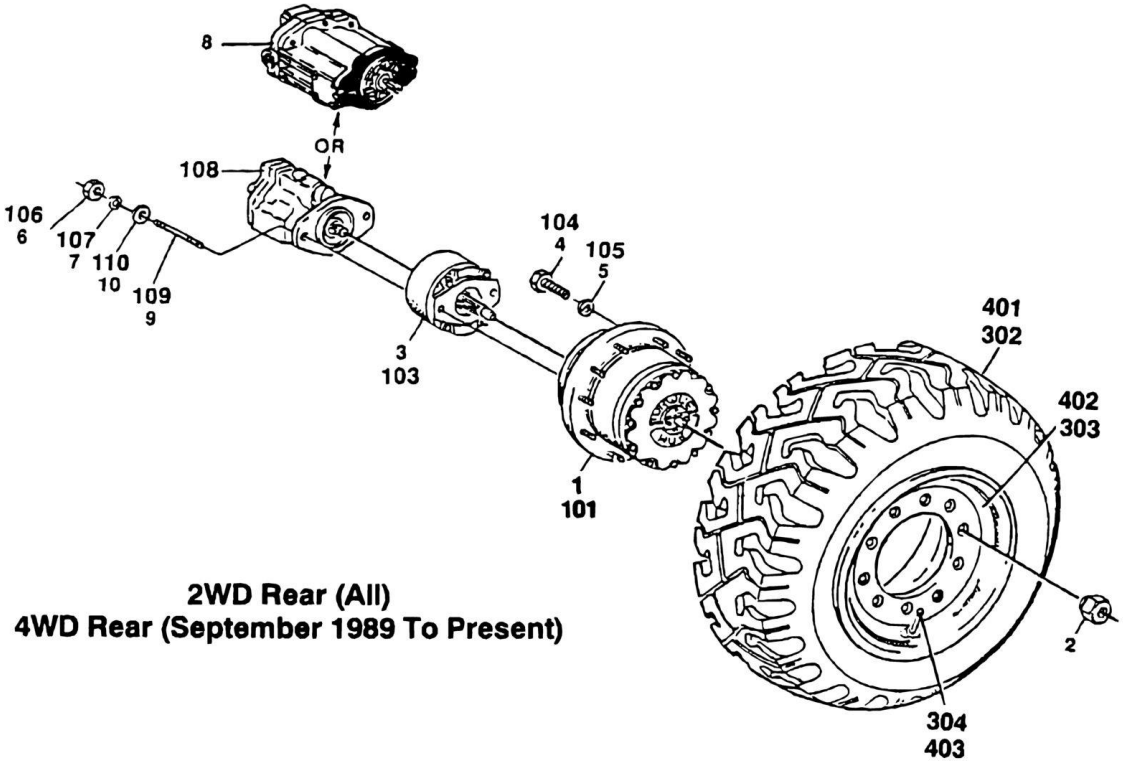
FIGURE 1-3. FRAME AND STEERING INSTALLATION 6FT-6IN/2M 4WD FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FRAME OPTIONS**	
	2360277	1	Frame Fixed Axle (Machines with 8.75in & 9.5in Tires)	
	2360392	1	Frame Fixed Axle (Machines with 12in Tires)	
	2360272	1	Frame Oscillating Axle (Machines with 8.75in & 9.5in Tires)	
	2360393	1	Frame Oscillating Axle (Machines with 12in Tires)	
	0238631	Ref	**OSCILLATING AXLE INSTALLATION (OPTIONAL)**	D
1	4842930	1	Axle Weldment	
2	0961003	2	Bushing, Bronze (Axle Pivot)	
3	0961029	4	Bushing, Bronze (Steer Pivot)	
4	4740158	2	Washer, Thrust	
5	0641630	1	Bolt 3/8in-16NC x 3 3/4in	
6	4751600	1	Flatwasher 3/8in	
7	3311605	1	Locknut 3/8in-16NC	
8	3421500	1	Pin, Pivot (Axle)	
10	2160002	1	Fitting, Grease - Straight	
11	1681785	2	Lockout Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
12	4842622	2	Pin, Attach (Top) (Lockout Cylinder)	
13	4842794	2	Pin, Attach (Bottom) (Lockout Cylinder)	
14	0641406	4	Bolt 1/4in-20NC x 3/4in	
15	4761400	4	Lockwasher 1/4in	
15	4751400	4	Flatwasher 1/4in	
16	4220115	2	Stop, Axle	
17	3311801	4	Nut 1/2in-13NC	
18	4761800	4	Lockwasher 1/2in	
19	4751800	4	Flatwasher 1/2in	
20	4300045	4	Stud (Welded on Part)	
21	4070690	AR	Shim	
22	0961127	2	Bushing, Snap	
		Ref	**STEERING INSTALLATION**	
	0238637	Ref	**ANSI Spec**	E
	0252271	Ref	**CSA Spec**	C
101	4130192	1	Spindle (Right Side)	
102	4130190	1	Spindle (Left Side)	
103	3300229	1	Nut, Jam (Left Hand Thread)	
104	0560714	1	Block, Tie-Rod (Left Side)	
105	3840861	1	Tie-Rod	
106	1681892	1	Steer Cylinder Assy (See CYLINDER SECTION for Breakdown)	
107	3431622	1	Pin, Clevis	
108	4712600	1	Flatwasher 1in Narrow	
109	3450606	1	Pin, Cotter 3/16in x 1 1/2in	
110	3323002	1	Nut, Jam 1 1/4in-12NF	
111	2160002	6	Fitting, Grease	
112	0560605	1	Block, Tie-Rod (Right Side)	
113	0440091	3	Washer, Thrust	
114	0642628	2	Bolt 1in-8NC x 3 1/2in	
115	3312602	3	Nut, Jam 1in-8NC	
117	0630369	1	Bolt, Special	
118		Ref	Kingpin Options:	
118	3421190	4	Kingpin ANSI Spec	

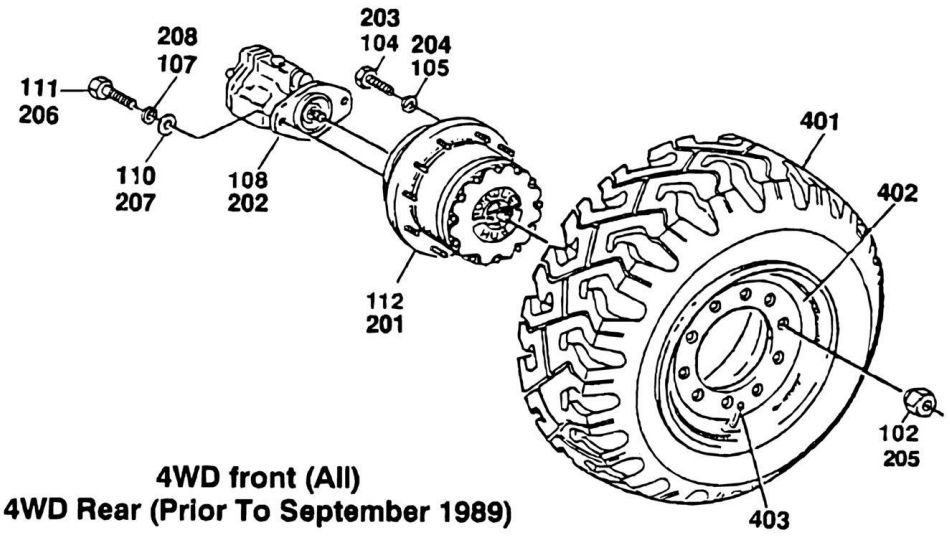
SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
118	3421887	4	Kingpin CSA Spec **(Prior to SN 26766)**	
118	3421190	4	Kingpin CSA Spec **(SN 26766 to Present)**	
119	0440161	2	Bearing, Thrust	
120		Ref	Plate, Cover Options:	
120	3530244	4	Plate, Cover (Prior to August 1992)	
120	3536410	4	Plate, Cover (August 1992 to Present)	
121	0641404	8	Bolt 1/4in-20NC x 1/2in (Prior to August 1992)	
121	4300106	8	Drivescrew (August 1992 to Present)	
122	4761400	8	Lockwasher 1/4in (Prior to August 1992 Only)	
123	0630083	8	Bolt, Special	
124	4761600	8	Lockwasher 3/8in	
126	4920096	4 ft/20cm	Wire, Safety	
	0100011	AR	Loctite #242	

FIGURE 1-4. TIRE AND WHEEL DRIVE INSTALLATIONS



2WD Rear (All)
4WD Rear (September 1989 To Present)



4WD front (All)
4WD Rear (Prior To September 1989)

FIGURE 1-4. TIRE AND WHEEL DRIVE INSTALLATIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**WHEEL DRIVE INSTALLATIONS (2WD)**	
	0238521	Ref	**Gas/Diesel Machines Built (Prior to October 1992)**	C
	0238521	Ref	**All Electric Machines Built (October 1992 to Present)**	C
	0253630	Ref	**Gas/Diesel Machines Built (October 1992 to Present) (Standard)**	-
	0270217	Ref	**Gas/Diesel Machines (Post Production Alternative) (Standard)**	1
	0256126	Ref	**Gas/Diesel Machines Built (October 1992 to Present) (15% Maximum Gradability)**	-
	0250218	Ref	**Gas/Diesel Machines (Post Production Alternative) (15% Maximum Gradability)**	1
1		Ref	Drive Hub Assembly Options (See DRIVE HUB ASSEMBLIES for Breakdown):	
1		Ref	Electric Machines:	
1	2780134 See Note	2	Electric Machines (Prior to March 1989) (W1B1 Stamped on ID Plate) (Note: When replacing complete hub recommend using 2780168 Hub Assembly.)	
1	2780168	2	Electric Machines (March 1989 to Present) (W1BF Stamped on ID Plate)	
1		Ref	Gas/Diesel Machines:	
1	2780134 See Note	2	Gas/Diesel Machines (Prior to March 1989) (W1B1 Stamped on ID Plate) (Note: When replacing complete hub recommend using 2780168 Hub Assembly.)	
1	2780168	2	Gas/Diesel Machines (March 1989 to October 1992) (W1BF Stamped on ID Plate)	
1	2780169	2	Gas/Diesel Machines (October 1992 to Present) (Standard)	
1	2780167	2	Gas/Diesel Machines (October 1992 to Present) (15% Max Gradability)	
2	3300012	18	Nut, Wheel	
3		Ref	Drive Brake Assembly Options:	
3	0920072	2	Drive Brake Assembly (Prior to January 1992) (Ausco) (See DRIVE BRAKE ASSEMBLY - AUSCO for Breakdown)	
3	0920084	2	Drive Brake Assembly (January 1992 to SN 33476) (Mico) (See DRIVE BRAKE ASSEMBLY - MICO for Breakdown)	
3	0920110	2	Drive Brake Assembly (Mico) (See DRIVE BRAKE ASSEMBLY - MICO for Breakdown) **(SN 33476 to Present)**	
3	0920119	2	Optional Brake (Mico) (May be used as alternative) (was p/n 0920117)	
3	7018612	1	Repair Kit - 0920117/0920119 Brake (Includes Case Seal, Piston Inner and Outer O-Rings and Back-up Rings, Stator Disc, Rotor Disc, Return Plate, Springs, Oil Seal, Bearing, 2 Retaining Rings and 2 Mounting Face Gaskets) (1 Per Assembly)	
3	7000731	2	Gasket, Mounting Face	
4	0642016	12	Bolt 5/8in-11NC x 2in	
5	4762000	12	Lockwasher 5/8in	
6	3311801	4	Nut 1/2in-13NC	
7	4761800	4	Lockwasher 1/2in	
8	1001096405	2	Drive Motor Assembly (See DRIVE MOTOR ASSEMBLY - 2WD for Breakdown) (was p/n 3160132)	
9	4300092	4	Stud 1/2in x 5 1/2in	
10	4751800	4	Flatwasher 1/2in	
	0250432	Ref	**WHEEL DRIVE INSTALLATION (4WD BUILT SEPTEMBER 1989 TO PRESENT) (REAR DRIVE HAS SEPARATE HUB AND BRAKE)**	C

SECTION 1 - FRAME

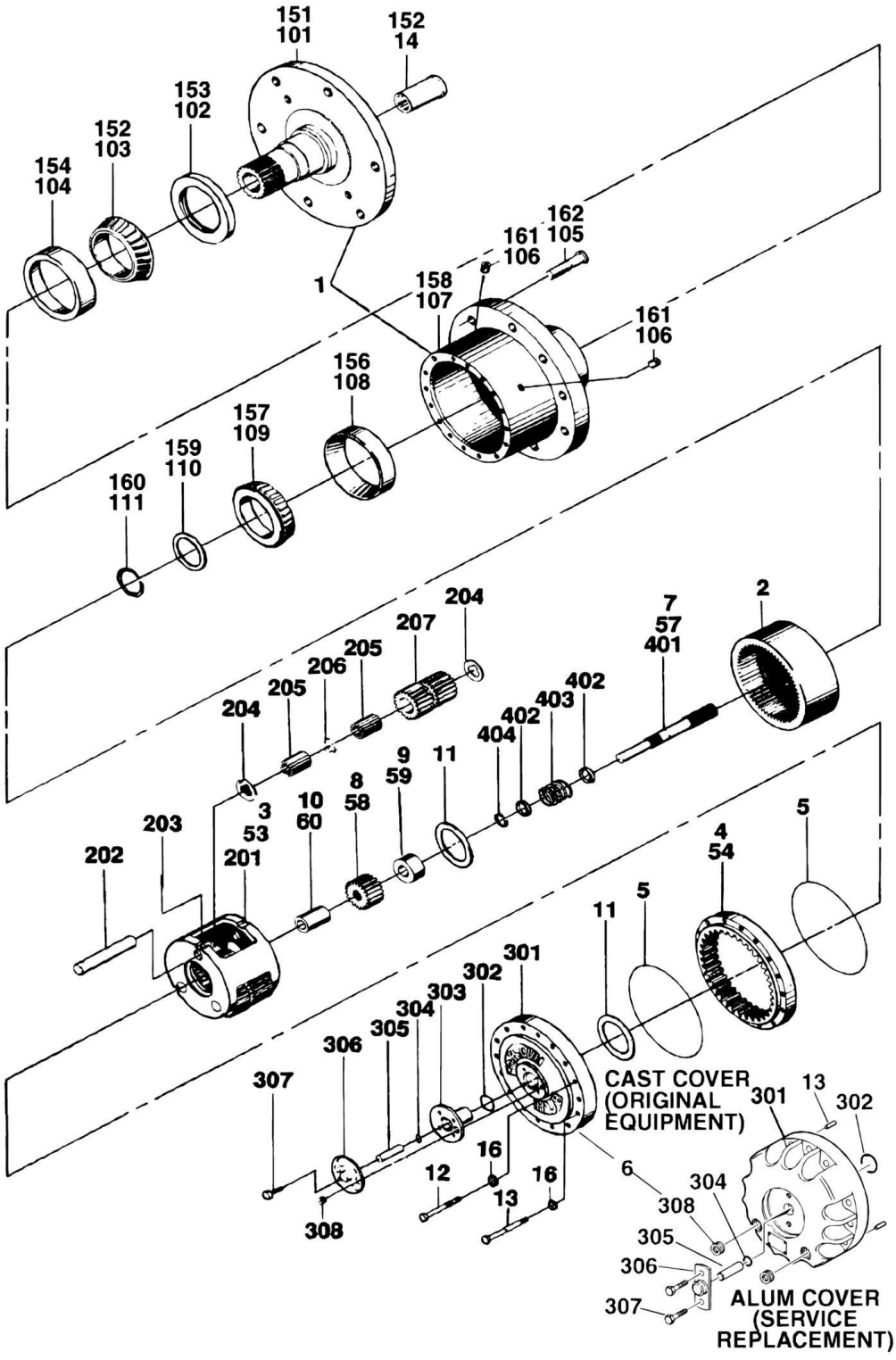
ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0270158	Ref	**WHEEL DRIVE INSTALLATION (4WD) (POST PRODUCTION ALTERNATIVE)**	1
101		Ref	Drive Hub Assembly - Rear Options (See DRIVE HUB ASSEMBLIES for Breakdown):	
101	2780175	2	Drive Hub Assembly - Rear (September 1989 to November 1992)	
101	2780167	2	Drive Hub Assembly - Rear (November 1992 to Present)	
102	3300012	36	Nut, Wheel	
103		Ref	Drive Brake Assembly Options:	
103	0920072	2	Drive Brake Assembly (September 1989 to January 1992) (Ausco) (See DRIVE BRAKE ASSEMBLY - AUSCO for Breakdown)	
103	0920084	2	Drive Brake Assembly (January 1992 to SN 33475) (Mico) (See DRIVE BRAKE ASSEMBLY - MICO for Breakdown)	
103	0920110	2	Drive Brake Assembly (Mico) (See DRIVE BRAKE ASSEMBLY - MICO for Breakdown) **(SN 33476 to Present)**	
103	0920119	2	Optional Brake (Mico) (May be used as alternative) (was p/n 0920117)	
103	7018612	1	Repair Kit - 0920117/0920119 Brake (Includes Case Seal, Piston Inner and Outer O-Rings and Back-up Rings, Stator Disc, Rotor Disc, Return Plate, Springs, Oil Seal, Bearing, 2 Retaining Rings and 2 Mounting Face Gaskets) (1 Per Assembly)	
103	7000731	2	Gasket, Mounting Face	
104	0642014	24	Bolt 5/8in-11NC x 2in	
105	4762000	24	Lockwasher 5/8in	
106	3311801	4	Nut 1/2in-13NC	
107	4761800	8	Lockwasher 1/2in	
108	3160130	4	Drive Motor Assembly (See DRIVE MOTOR ASSEMBLY - 4WD for Breakdown)	
109	4300092	4	Stud 1/2in-13NC x 5 1/2in	
110	4751800	8	Flatwasher 1/2in	
111	0641810	4	Bolt 1/2in-13NC x 1 1/4in	
112		Ref	Drive Hub/Brake Assembly - Front Options (See DRIVE HUB/BRAKE ASSEMBLIES for Breakdown)	
112	2780150	2	Drive Hub/Brake Assembly - Front (September 1989 to August 1992)	
112	2780193	2	Drive Hub/Brake Assembly - Front (August 1992 to November 1992)	
112	2780191	2	Drive Hub/Brake Assembly - Front (November 1992 to Present)	
	0238859	2	**WHEEL DRIVE INSTALLATION (4WD BUILT PRIOR TO SEPTEMBER 1989) (REAR DRIVE HAS COMBINED HUB AND BRAKE)**	
201	2780150	4	Drive Hub/Brake Assembly - Front and Rear (See DRIVE HUB/BRAKE ASSEMBLIES for Breakdown)	
202	3160130	4	Drive Motor Assembly (See DRIVE MOTOR ASSEMBLY - 4WD for Breakdown)	
203	0642014	24	Bolt 5/8in-11NC x 1 3/4in	
204	4762000	24	Lockwasher 5/8in	
205	3300012	36	Nut, Wheel	
206	0641810	8	Bolt 1/2in-13NC	
207	4751800	8	Flatwasher 1/2in	
208	4761800	8	Lockwasher 1/2in	
		Ref	**TIRE AND WHEEL OPTIONS (2WD)**	
301		Ref	Tire and Wheel Options (2WD Front) (Not Shown)	
301	0237850	2	Tire and Wheel Assembly - Pneumatic - 8.75in x 16.5in	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
301	4520143	2	Tire - 8.75in x 16.5in (Firestone Transport I)	
301	0238769	2	Tire and Wheel Assembly - Pneumatic - 8.75in x 16.5in	
301	4520143	2	Tire - 8.75in x 16.5in (Goodyear Tracker LT11)	
301	0239396	2	Tire and Wheel Assembly - Pneumatic - 9.50in x 16.5in	
301	4520110	2	Tire - 9.50in x 16.5in (General Jumbo GLT)	
301	0238135	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in (Firestone)	
301	0238773	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in (Goodyear)	
301	0253131	2	Tire and Wheel Assembly - Foam Filled 8.75in x 16.5in LT (Goodyear Unisteel) **(Prior to SN 31086)**	
301	0253131	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in LT (Galaxy) **(SN 31086 to Present)**	
301	0239806	2	Tire and Wheel Assembly - Foam-Filled 9.5in x 16.5in (General)	
		Ref	**Note: Assemblies may require ballast/foam filling to manufacture's specifications prior to installing on a machine. Refer to Operation and Safety or Service and Maintenance Manuals. Purchase individual tire and /or rim only if able to foam fill tire and wheel assembly, otherwise, purchase complete assembly.**	
302		Ref	Tire and Wheel Options (2WD Rear)	
302	0237851	2	Tire and Wheel Assembly - Pneumatic 8.75in x 16.5in	
302	4520143	2	Tire - 8.75in x 16.5in (Firestone Town and Country) **(Prior to SN 31086)**	
302	4520199	2	Tire - 8.75in x 16.5in (Galaxy) **(SN 31086 to Present)**	
302	0238770	2	Tire and Wheel Assembly - Pneumatic 8.75in x 16.5in	
302	4520143	2	Tire - 8.75in x 16.5in (Goodyear Custom X-Tra Grip Hi-Miller) **(Prior to SN 31086)**	
302	4520199	2	Tire - 8.75in x 16.5in (Galaxy) **(SN 31086 to Present)**	
302	0239397	2	Tire and Wheel Assembly - Pneumatic 9.5in x 16.5in Rear (Optional)	
302	4520111	2	Tire - 9.5in x 16.5in (General Jumbo GLT)	
302	0238136	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in Rear (Firestone)	
302	0238774	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in (Goodyear)	
302	0253131	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in LT (Goodyear Unisteel) **(Prior to SN 31086)**	
302	0253131	2	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in LT (Galaxy) **(SN 31086 to Present)**	
302	0239805	2	Tire and Wheel Assembly - Foam-Filled 9.5in x 16.5in (General)	
		Ref	**Note: Assemblies may require ballast/foam filling to manufacture's specifications prior to installing on a machine. Refer to Operation and Safety or Service and Maintenance Manuals. Purchase individual tire and /or rim only if able to foam fill tire and wheel assembly, otherwise, purchase complete assembly.**	
303		Ref	Rim Options:	
303	4842561	4	Rim (8.75in Tires)	
303	4842994	4	Rim (9.5in Tires)	
304	4640392	4	Valve, Air	
		Ref	**TIRE AND WHEEL OPTIONS (4WD)**	
401		Ref	Tire and Wheel Options (4WD Front and Rear)	
401	0237851	4	Tire and Wheel Assembly - Pneumatic 8.75in x 16.5in	
401	4520143	4	Tire - 8.75in x 16.5in (Firestone) **(Prior to SN 31086)**	
401	4520199	4	Tire - 8.75in x 16.5in (Galaxy) **(SN 31086 to Present)**	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
401	0238770	4	Tire and Wheel Assembly - Pneumatic 8.75in x 16.5in	
401	4520143	4	Tire - 8.75in x 16.50in (Goodyear) **(Prior to SN 31086)**	
401	4520199	4	Tire - 8.75in x 16.5in (Galaxy) **(SN 31086 to Present)**	
401	0239397	4	Tire and Wheel Assembly - Pneumatic 9.5in x 16.5in	
401	4520106	4	Tire - 9.5in x 16.50in (General GLT Traction II)	
401	0251260	2	Tire and Wheel Assembly - LH Side Pneumatic 12in x 16.5in (NHS)	
401	0251259	2	Tire and Wheel Assembly - RH Side Pneumatic 12in x 16.5in (NHS)	
401	4520129	4	Tire - 12in x 16.5in (NHS)	
401	0238136	4	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in (Firestone)	
401	0238774	4	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in (Goodyear)	
401	0253131	4	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.50 LT (Goodyear Unisteel) **(Prior to SN 31086)**	
401	0253131	4	Tire and Wheel Assembly - Foam-Filled 8.75in x 16.5in LT (Galaxy) **(SN 31086 to Present)**	
401	0239806	4	Tire and Wheel Assembly - Foam-Filled 9.5in x 16.5in (General)	
		Ref	**Note: Assemblies may require ballast/foam filling to manufacture's specifications prior to installing on a machine. Refer to Operation and Safety or Service and Maintenance Manuals. Purchase individual tire and /or rim only if able to foam fill tire and wheel assembly, otherwise, purchase complete assembly.**	
402		Ref	Rim Options:	
402	4842561	4	Rim (8.75in Tires)	
402	4842994	4	Rim (9.5in Tires)	
402	4860126	4	Rim (12in Tires)	
403	4640392	4	Valve, Air	

FIGURE 1-5. DRIVE HUB ASSEMBLIES



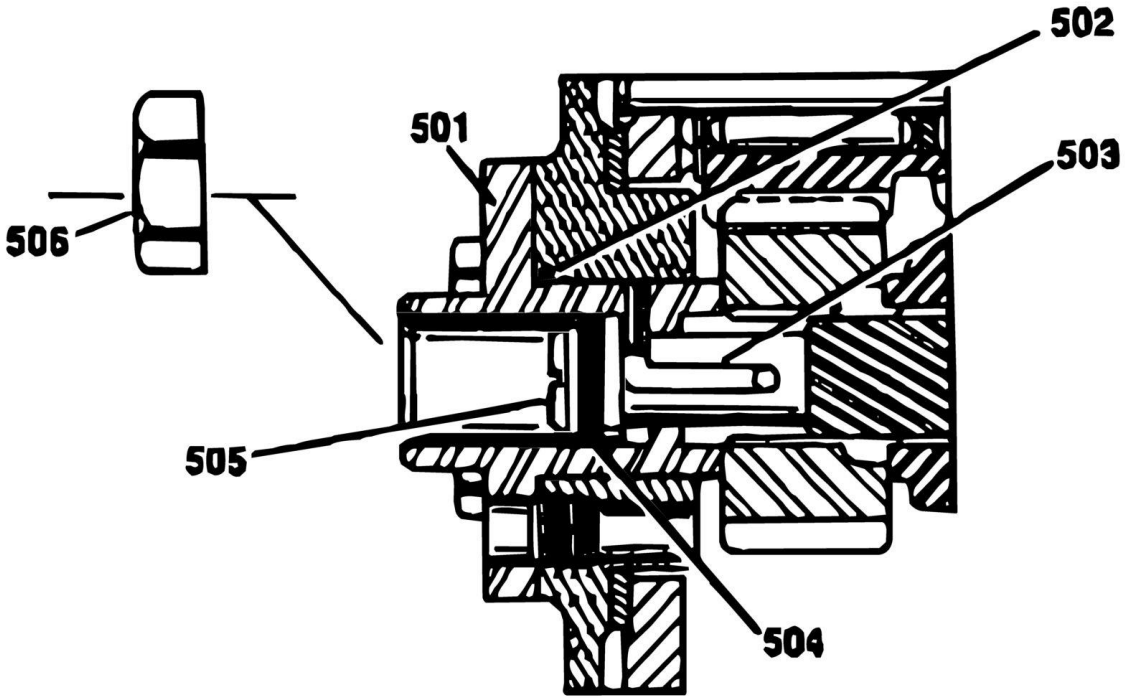

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FIGURE 1-5. DRIVE HUB ASSEMBLIES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DRIVE HUB ASSEMBLIES**	
1		Ref	Hub-Spindle Sub-Assembly Options:	
1	7010428	1	Hub-Spindle Sub-Assembly All except 2780134 Hub (See Items 101-111 for Breakdown)	
1	7000245	1	Hub-Spindle Sub-Assembly 2780134 Hub (See Items 151-162 for Breakdown)	
2	7000246	1	Gear, Internal	
3		Ref	Carrier Assembly (See Items 201-207)	
4		Ref	Gear, Ring (See Item 54 for Options)	
5	7000230	2	O-Ring	
6		Ref	Cover Assembly (Includes Items 301-308)	
7		Ref	Input Shaft Assembly (See Item 57 for Options)	
8		Ref	Gear, Input (See Item 58 for Options)	
9		Ref	Spacer, Thrust (See Items 59 for Options)	
10		Ref	Spacer, Thrust (See Item 60 for Options)	
11	7000253	2	Washer, Thrust	
11	7017096	1	Spacer (Aluminum Cover (Service Replacement)	
12		Ref	Bolt Options:	
12	7000217	12	Bolt Cast Cover (Original Equipment)	
12	7017067	12	Bolt Aluminum Cover (Service Replacement)	
13		Ref	Hardware Options:	
13	7000214	4	Hardware Bolt Used on Cast Cover (Original Equipment)	
13	7017080	4	Hardware Dowel Pin Used Aluminum Cover (Service Replacement)	
14	7000206	1	Coupling	
16	7007603	16	Flatwasher	
		Ref	**DRIVE HUB ASSEMBLIES**	
		Ref	**Electric Machines:**	
	2780134	Ref	**Electric Machines (Prior to March 1989)**	-
	2780168	Ref	**Electric Machines (March 1989 to Present)**	-
		Ref	**Gas/Diesel Machines**	
	2780134	Ref	**2WD (Prior to March 1989)**	-
	2780168	Ref	**2WD (March 1989 to October 1992)**	-
	2780169	Ref	**2WD (October 1992 to September 1995)**	-
	2780167	Ref	**2WD (September 1995 to Present)**	-
	2780175	Ref	**4WD Rear Drive Only (september 1989 to November 1992)**	-
	2780167	Ref	**4WD Rear Drive Only (November 1992 to Present)**	-
53		Ref	Carrier Assembly Options (See Items 201-207 for Breakdown):	
53	7000202	1	Carrier Assembly 2780134/ 2780168/ 2780175 Hubs	
53	7000247	1	Carrier Assembly 2780167/2780169 Hubs	
54		Ref	Gear, Ring Options:	
54	7007634	1	Gear, Ring 2780134/2780175 Hubs	
54	7000203	1	Gear, Ring 2780168 Hub	
54	7000248	1	Gear, Ring 2780167/2780167 Hubs	
57		Ref	Input Shaft Assembly Options (See items 401-404 for Breakdown):	
57	7000250	1	Shaft Assembly 2WD Machines	
57	7007650	1	Shaft Assembly 4WD Machines	
58		Ref	Gear, Input Options:	
58	7000201	1	Gear, Input Electric Machines	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
58	7000201	1	Gear, Input 2WD Gas/Diesel Machines (Prior to October 1992)	
58	7000251	1	Gear, Input 2WD Gas/Diesel Machines (October 1992 to Present)	
58	7007652	1	Gear, Input 4WD Machines	
59		Ref	Spacer, Thrust Options:	
59	7000252	1	Spacer, Thrust 2WD Machines	
59	7007653	1	Spacer, Thrust 4WD Machines	
60		Ref	Spacer, Thrust Options:	
60	Not Required	0	Spacer, Thrust 2WD Machines	
60	7007654	1	Spacer, Thrust 4WD Machines	
	7010428	Ref	**HUB - SPINDLE SUB-ASSEMBLY (2780167/2780168/ 2780169/2780175 HUBS)**	
101	7001997	1	Spindle	
102	2900034	1	Seal	
103	7010429	1	Cone, Bearing	
104	7010429	1	Cup, Bearing	
105	7007697	9	Bolt, Wheel	
106	7000242	2	Plug, Pipe	
107	7007601	1	Hub	
108	7000257	1	Cup, Bearing	
109	7000258	1	Cone, Bearing	
110	2900034	1	Spacer	
111	2900034	1	Ring, Retaining	
	7000245	Ref	**HUB - SPINDLE SUB-ASSEMBLY (2780134 HUBS)**	
151	7000254	1	Spindle	
152	7000206	1	Coupling	
153	2900661	1	Seal	
154	7000255	1	Cup, Bearing	
155	7000256	1	Cone, Bearing	
156	7000257	1	Cup, Bearing	
157	7000258	1	Cone, Bearing	
158	7000259	1	Hub	
159	2900661	1	Spacer	
160	2900661	1	Ring, Retaining	
161	7000242	2	Pipe Plug	
162	7000241	9	Stud	
		Ref	**CARRIER ASSEMBLY OPTIONS**	
	7000202	Ref	**Carrier Assembly 2780134/2780168/2780175 Hubs**	
	7000247	Ref	**Carrier Assembly 2780167/2780169 Hubs**	
201	7001931	1	Carrier	
202	7001911	3	Shaft	
203	7001913	3	Pin, Roll	
204	7001985	6	Washer, Thrust	
205	7001909	96	Roller, Needle	
206	7000263	3	Spacer	
207		Ref	Gear, Cluster Options:	
207	7007643	3	Gear, Cluster 2780134/2780168/2780175 Hubs	
207	7001912	3	Gear, Cluster 2780167/2780169 Hubs	
		Ref	**COVER ASSEMBLY**	
	See Kit Options	Ref	**Cast Cover (Original Equipment)**	
	See Kit Options	Ref	**Aluminum Cover (Service Replacement)**	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
301		Ref	Cover Options:	
301	70001111	1	Cast Cover (Original Equipment) (was p/n 7000226)	
301	70001349	1	Aluminum Cover (Service Replacement) (was p/n 7017091)	
302		Ref	O-Ring Options:	
302	70001111	1	O-Ring Cast Cover (Original Equipment)	
302	70001349	1	O-Ring Aluminum Cover (Service Replacement) (was p/n 7017070)	
303		Ref	Cap, Cover	
303	70001111	1	Cast Cover (Original Equipment)	
303	Not Required	1	Aluminum Cover (Service Replacement)	
304		Ref	O-Ring Options:	
304	70001111	1	O-Ring Cast Cover (Original Equipment)	
304	70001349	1	O-Ring Aluminum Cover (Service Replacement) (was p/n 7017095)	
305		Ref	Rod, Disconnect Options:	
305	70001111	1	Rod Cast Cover (Original Equipment)	
305	70001349	1	Rod Aluminum Cover (Service Replacement) (was p/n 7017092)	
306		Ref	Cap, Disconnect	
306	70001111	1	Cast Cover (Original Equipment)	
306	70001349	1	Aluminum Cover (Service Replacement) (was p/n 7017093)	
307		Ref	Bolt Options:	
307	70001111	4	Bolt Cast Cover (Original Equipment) (was p/n 7017093)	
307	70001349	2	Bolt Aluminum Cover (Service Replacement) (was p/n 7000216)	
308		Ref	Plug, Pipe Options:	
308	70001111	1	Plug, Pipe Cast Cover (Original Equipment) (was p/n 7000243)	
308	70001349	2	Plug, Pipe Aluminum Cover (Service Replacement) (was p/n 7017094)	
		Ref	**INPUT SHAFT ASSEMBLY**	
	7000250	Ref	**2WD**	
	7007650	Ref	**4WD**	
401		Ref	Shaft Options:	
401	7000260	1	Shaft 2WD	
401	7007651	1	Shaft 4WD	
402	7000263	2	Spacer	
403	7000262	1	Spring	
404	7000261	1	Ring, Retaining	
		Ref	**Kit Options:**	
	7010429	1	Bearing Kit (Includes Items 103 & 104)	
	2900034	1	Seal Kit (Includes Items 5, 102, 110 & 111)	
	2900661	1	Seal Kit (Includes Items 5, 11, 153, 159 & 160)	
	See Note	1	Disconnect and Seal Kit (Includes Items 5, 102, 110, 111 & 302-306) (was p/n 2900137) (Note: Use Cover Kit as Replacement)	
		Ref	Cover Kit Options: (Note: Kit Replaces Items 5, 11 (Spacer), 12, 13 (Dowel Pins) & 301-308)	
	70001111	1	Cast Cover (Original Equipment) (was p/n 7001989 & p/n 7017099)	
	70001349	1	Aluminum Cover (Service Replacement) (was p/n 7017090)	
	2901157	Ref	**DISCONNECT HUB ASSEMBLY (CAST COVER (ORIGINAL EQUIPMENT) ONLY) (OPTIONAL)**	-
501	7002025	1	Cover	
502	7000215	1	O-Ring	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
503	7007669	1	Pin, Spring	
504	7010446	1	Seal	
505	7010444	1	Rod, Disconnect	
506	7010447	1	Cap, Dust	
506	7010448	1	O-Ring	

FIGURE 1-6. DRIVE HUB/BRAKE ASSEMBLIES

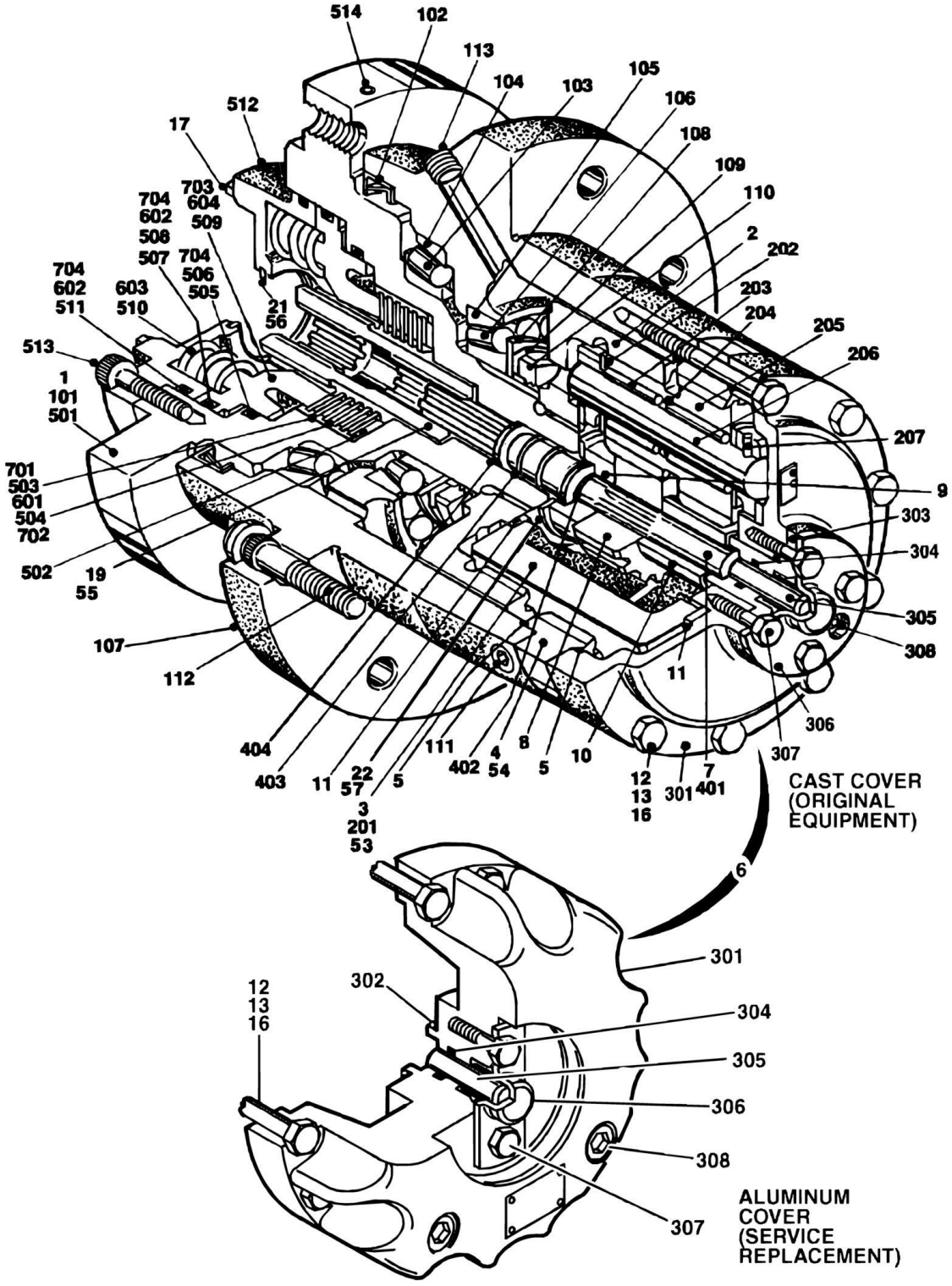


FIGURE 1-6. DRIVE HUB/BRAKE ASSEMBLIES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DRIVE HUB/BRAKE ASSEMBLIES - 4WD (FRONT ONLY)**	
1		Ref	Hub/spindle/Brake Assembly (See Items 101-113 for Breakdown)	
2	7007691	1	Gear, Internal	
3		Ref	Carrier Assembly (See Item 53 for Options)	
4		Ref	Gear, Ring (See Item 54 for Options)	
5	7000230	2	O-Ring	
6		Ref	Cover Assembly (Includes Items 301-308)	
7	7007650	1	Input Shaft Assembly (See Items 401-404 for Breakdown)	
8	7007652	1	Gear, Input	
9	7007653	1	Spacer, Input	
10	7007654	1	Spacer, Input	
11	7000253	2	Washer, Thrust	
11	7017096	1	Spacer (Aluminum Cover (Service Replacement)	
12		Ref	Bolt Options:	
12	7000217	12	Bolt Cast Cover (Original Equipment)	
12	7017067	12	Bolt Aluminum Cover (Service Replacement)	
13		Ref	Hardware Options:	
13	7000214	4	Hardware Bolt Used on Cast Cover (Original Equipment)	
13	7017067	4	Hardware Dowel Pin Used on Aluminum Cover (Service Replacement)	
16	7007603	16	Flatwasher	
17	7007692	1	Gasket	
19		Ref	Coupling (See Item 55 for Options)	
21		Ref	Ring, Retainer (See Item 56 for Options)	
22		Ref	Washer, Thrust (See Item 57 for Options)	
		Ref	**DRIVE HUB/BRAKE ASSEMBLY**	
	2780150	Ref	**Drive Hub/Brake Assembly (Prior to August 1992)**	-
	2780193	Ref	**Drive Hub/Brake Assembly (August 1992 to November 1992)**	-
	2780191	Ref	**Drive Hub/Brake Assembly (November 1992 to Present)**	-
53		Ref	Carrier Assembly Options (See Items 201-207 for Breakdown):	
53	7000202	1	Carrier Assembly (Prior to November 1992)	
53	7000247	1	Carrier Assembly (November 1992 to Present)	
54		Ref	Gear, Ring Options:	
54	7007634	1	Gear, Ring (Prior to August 1992)	
54	7000203	1	Gear, Ring (August 1992 to November 1992)	
54	7000248	1	Gear, Ring (November 1992 to Present)	
55		Ref	Coupling Options:	
55	7010455	1	Coupling (Prior to August 1992)	
55	7010470	1	Coupling (August 1992 to Present)	
56		Ref	Ring, Retainer Options:	
56	Not Required	1	Ring, Retainer (Prior to August 1992)	
56	7010459	1	Ring, Retainer (August 1992 to Present)	
57		Ref	Washer, Thrust Options:	
57	Not Required	1	Washer, Thrust (Prior to August 1992)	
57	7001922	1	Washer, Thrust (August 1992 to Present)	
		Ref	**HUB/SPINDLE/BRAKE SUB-ASSEMBLY**	
101		Ref	Brake Assembly Options:	
101	7010469	1	2780193 & 2780191 Hubs with I.D. Plate (Item 309) (Stamped June 1992 or Earlier) (See Items 501-514 for Breakdown)	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
101	7010473	1	2780193 & 2780191 Hubs with I.D. Plate (Item 309) (Stamped July 1992 or Later) (See Items 601-604 for Breakdown)	
101	7010453	NLA	2780150 Hub with I.D. Plate Stamped W1BJ4Y318 (See Items 701-704 for Breakdown) (No longer available - purchase 7010473 as complete replacement)	
101	7010452	NLA	2780150 Hub with I.D. Plate Stamped W1BJ4U318 (See Items 701-704 for Breakdown) (No longer available - purchase 7010473 as complete replacement)	
102	Kit	1	Seal, Lip	
103	7007683	1	Cup, Bearing	
104	7007684	1	Cone, Bearing	
105	7007685	1	Cup, Bearing	
106	7007686	1	Cone, Bearing	
107	7007687	1	Housing	
108	7007688	1	Flatwasher, Tanged	
109	7997689	1	Flatwasher, Tanged	
110	7007690	1	Nut, Bearing	
111	7000242	2	Plug, Pipe 1/4in NPT	
112	7000241	9	Stud, Wheel	
113	7007617	2	Plug, Pipe 3/8in NPT (Magnetic)	
		Ref	**CARRIER ASSEMBLY**	
	7000202	Ref	**Carrier Assembly (Prior to November 1992)**	
	7000247	Ref	**Carrier Assembly (November 1992 to Present)**	
201	7001931	1	Carrier	
202	7001985	6	Washer, Thrust - Tanged	
203	7001909	96	Bearing, Needle	
204	7000263	3	Spacer, Thrust	
205	7001911	3	Shaft, Planet	
206		Ref	Gear, Cluster Options:	
206	7001912	3	Gear, Cluster (November 1992 to Present)	
206	7007643	3	Gear, Cluster (Prior to November 1992)	
207		Ref	Rollpin Options:	
207	7001913	3	Rollpin (Prior to August 1992)	
207	7010474	3	Rollpin (August 1992 to November 1992)	
207	7001913	3	Rollpin (November 1992 to Present)	
		Ref	**COVER ASSEMBLY**	
	See Kit Options	Ref	**Cast Cover (Original Equipment)**	
	See Kit Options	Ref	**Aluminum Cover (Service Replacement)**	
301		Ref	Cover Options:	
301	70001111	1	Cast Cover (Original Equipment) (was p/n 7000226)	
301	70001349	1	Aluminum Cover (Service Replacement) (was p/n 7017091)	
302		Ref	O-Ring Options:	
302	70001111	1	O-Ring Cast Cover (Original Equipment)	
302	70001349	1	O-Ring Aluminum Cover (Service Replacement) (was p/n 7017070)	
303		Ref	Cap, Cover	
303	70001111	1	Cast Cover (Original Equipment)	
303	Not Required	1	Aluminum Cover (Service Replacement)	
304		Ref	O-Ring Options:	
304	70001111	1	O-Ring Cast Cover (Original Equipment)	
304	70001349	1	O-Ring Aluminum Cover (Service Replacement) (was p/n 7017095)	
305		Ref	Rod, Disconnect Options:	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
305	70001111	1	Rod Cast Cover (Original Equipment) (was p/n 7000212)	
305	70001349	1	Rod Aluminum Cover (Service Replacement) (was p/n 7017092)	
306		Ref	Cap, Disconnect Options:	
306	70001111	1	Cap Cast Cover (Original Equipment) (was p/n 7000211)	
306	70001349	1	Cap Aluminum Cover (Service Replacement) (was p/n 7017093)	
307		Ref	Bolt Options:	
307	70001111	4	Bolt Cast Cover (Original Equipment) (was p/n 7000220)	
307	70001349	2	Bolt Aluminum Cover (Service Replacement) (was p/n 7000216)	
308		Ref	Plug, Pipe Options:	
308	70001111	1	Plug, Pipe Cast Cover (Original Equipment) (was p/n 7000243)	
308	70001349	2	Plug, Pipe Aluminum Cover (Service Replacement) (was p/n 7017094)	
		Ref	Cover Kit Options: (Note: Kit Replaces Items 5, 11 (Spacer), 12, 13 (Dowel Pins) & 301-308)	
	70001111	1	Cast Cover (Original Equipment) (was p/n 7001989 & p/n 7017099)	
	70001349	1	Aluminum Cover (Service Replacement) (was p/n 7017090)	
	7007650	Ref	**INPUT SHAFT ASSEMBLY**	
401	7007651	1	Shaft - 4WD Machines	
402	7000261	1	Ring, Retaining	
403	7000262	1	Spring	
404	7000263	2	Spacer, Thrust	
	7010469	Ref	**BRAKE ASSEMBLY - 2780193 & 2780191 HUBS WITH I.D. PLATE (ITEM 309) STAMPED JUNE 1992 OR EARLIER**	
501	7014100	1	Spindle	
502	7014101	1	Spacer	
503	7014102	7	Disc, Stationary	
504	7014103	6	Disc, Rotating	
505	Kit	1	Ring, Back-up	
506	Kit	1	O-Ring	
507	Kit	1	Ring, Back-up	
508	Kit	1	O-Ring	
509	7014108	1	Piston	
510	7014109	6	Spring	
510	7014110	2	Spring	
511	Kit	1	O-Ring	
512	7014112	1	Cover	
513	Not Available	8	Bolt, Socket Head 3/8in-16NC x 1 1/4in	
514	7014113	1	Expander	
	2900816	1	Brake O-Ring Kit (Includes Items 505-508 & 511)	
	7010473	Ref	**BRAKE ASSEMBLY - 2780193 & 2780191 HUBS WITH I.D. PLATE (ITEM 309) STAMPED JULY 1992 OR LATER**	
601	7010475	1	Brake Lining Kit	
602	7010476	1	Brake O-Ring Kit	
603	7010477	1	Brake Spring Repair Kit	
604	7010478	1	Brake Piston Repair Kit	
	7010453	Ref	**BRAKE ASSEMBLY - 2780150 HUBS**	
	7010453	Ref	**2780150 Hubs with I.D. Plate Stamped W1BJ4Y318**	
	7010452	Ref	**2780150 Hubs with I.D. Plate Stamped W1BJ4U318**	
701	7003087	2	Disc Stationary	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
702	7003089	3	Disc, Rotating	
703	7003088	1	Piston	
704	2900755	1	Brake Seal Kit (Includes Gaskets and Piston Rings)	
	2900754		Seal Kit - Hub (Includes Items 5, 17, 102, 302 & 304)	

FIGURE 1-7. DRIVE BRAKE ASSEMBLY - AUSCO

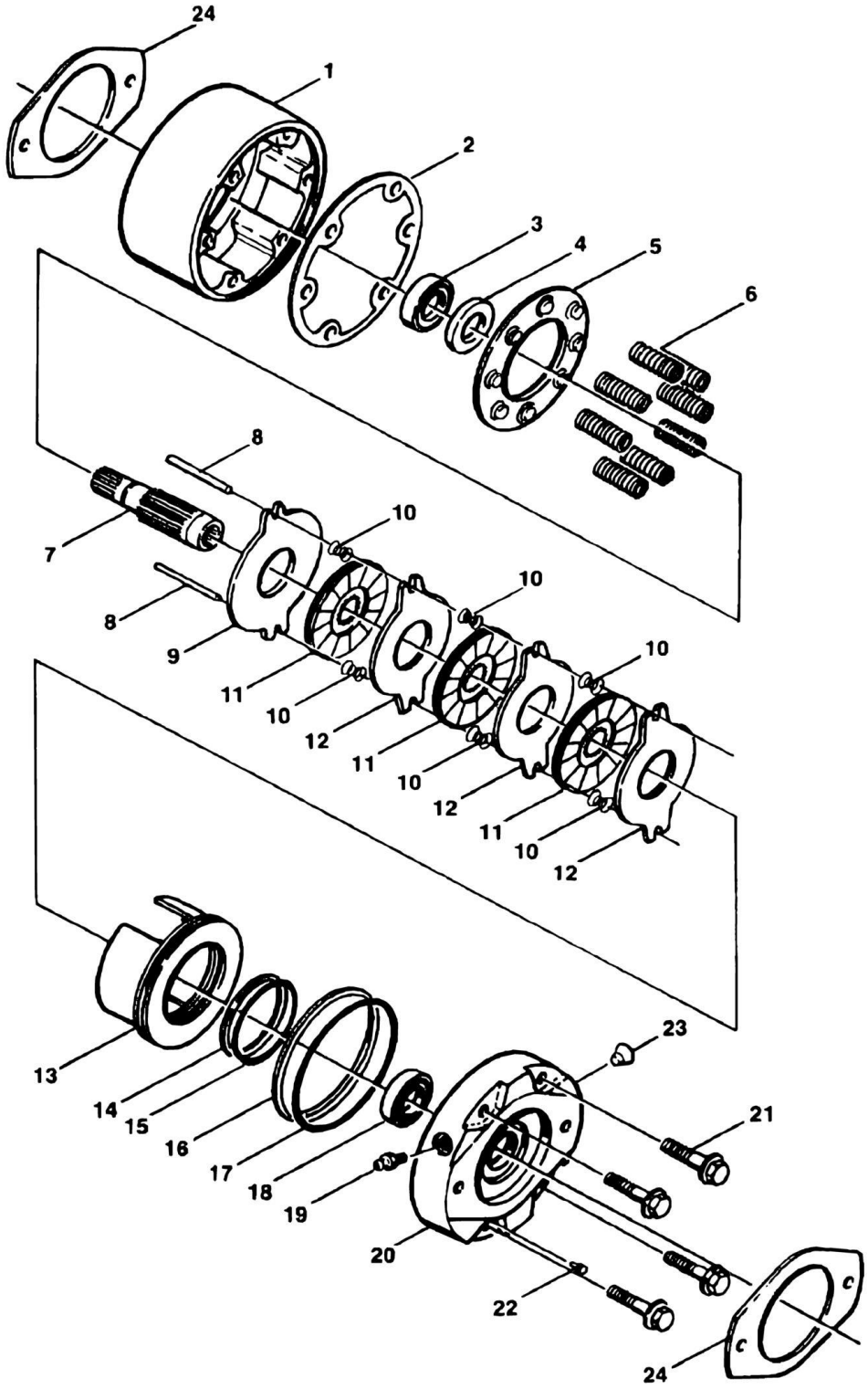


FIGURE 1-7. DRIVE BRAKE ASSEMBLY - AUSCO

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0920072	Ref	**DRIVE BRAKE ASSEMBLY - AUSCO**	D
1	7003047	1	Housing	
2	Kit	1	Gasket	
3	7003049	1	Bearing	
4	Kit	1	Seal, Oil	
5	7003051	1	Retainer, Spring	
6	7003052	8	Spring, Compression	
7	7003070	1	Shaft, Splined	
8	7000717	2	Pin, Torque	
9	7003054	1	Disc, Primary	
10	7003006	6	Spring, Separator	
11	7003055	3	Disc, Rotating	
12	7003056	3	Disc, Stationary	
13	7003057	1	Piston	
14	Kit	1	Ring, Backup	
15	Kit	1	O-Ring	
16	Kit	1	Ring, Backup	
17	Kit	1	O-Ring	
18	7000760	1	Bearing	
19	7000796	1	Screw, Bleeder	
20	7003071	1	Plate, Power	
21	7003007	4	Screw	
22	7003059	1	Valve, Pressure	
23	7000728	1	Plug	
24	Kit	2	Gasket	
	2900662	1	Seal Kit (Includes Items 2, 4, 14, 15, 16, 17 & 24)	

FIGURE 1-8. DRIVE BRAKE ASSEMBLY - MICO

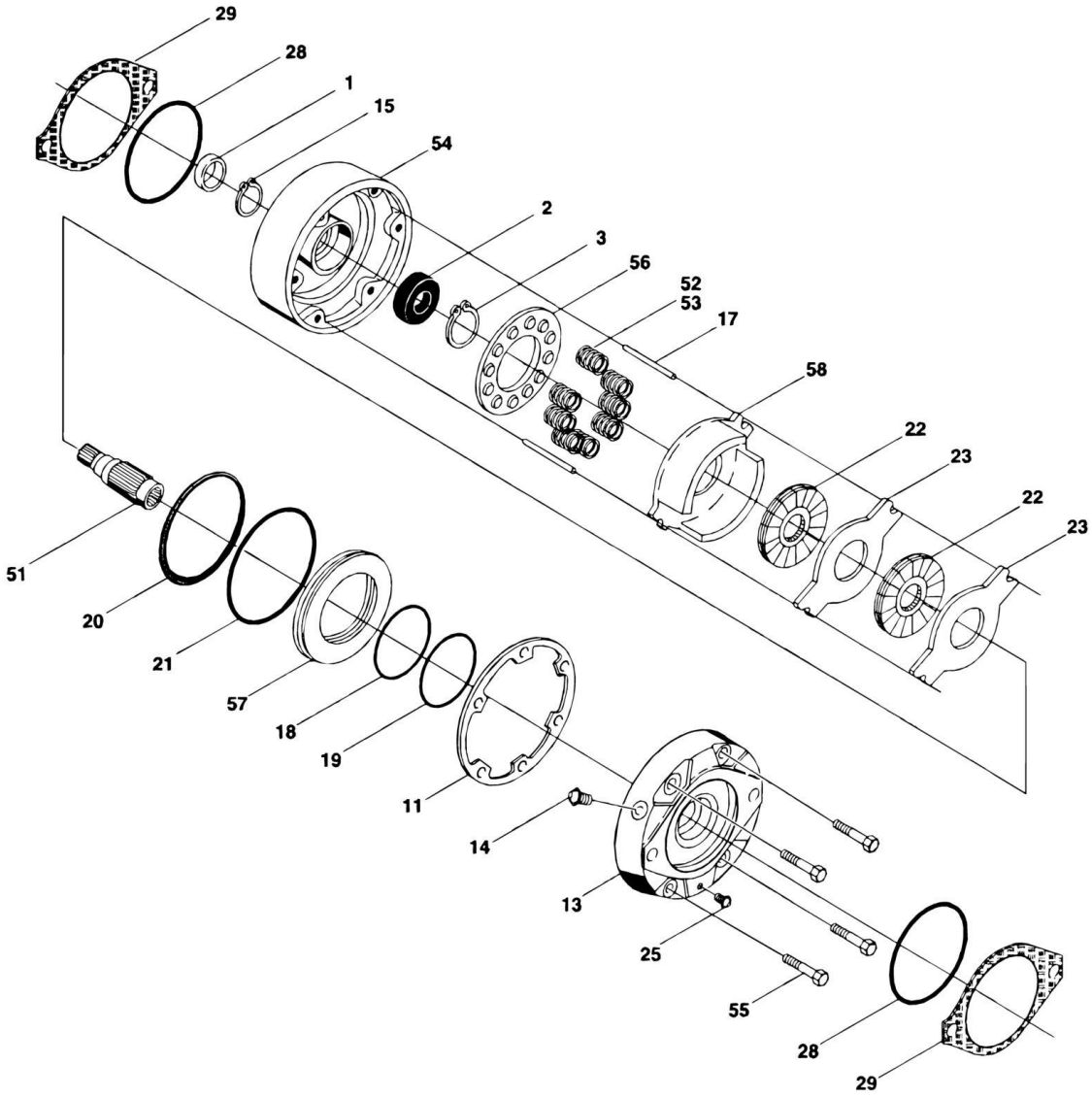


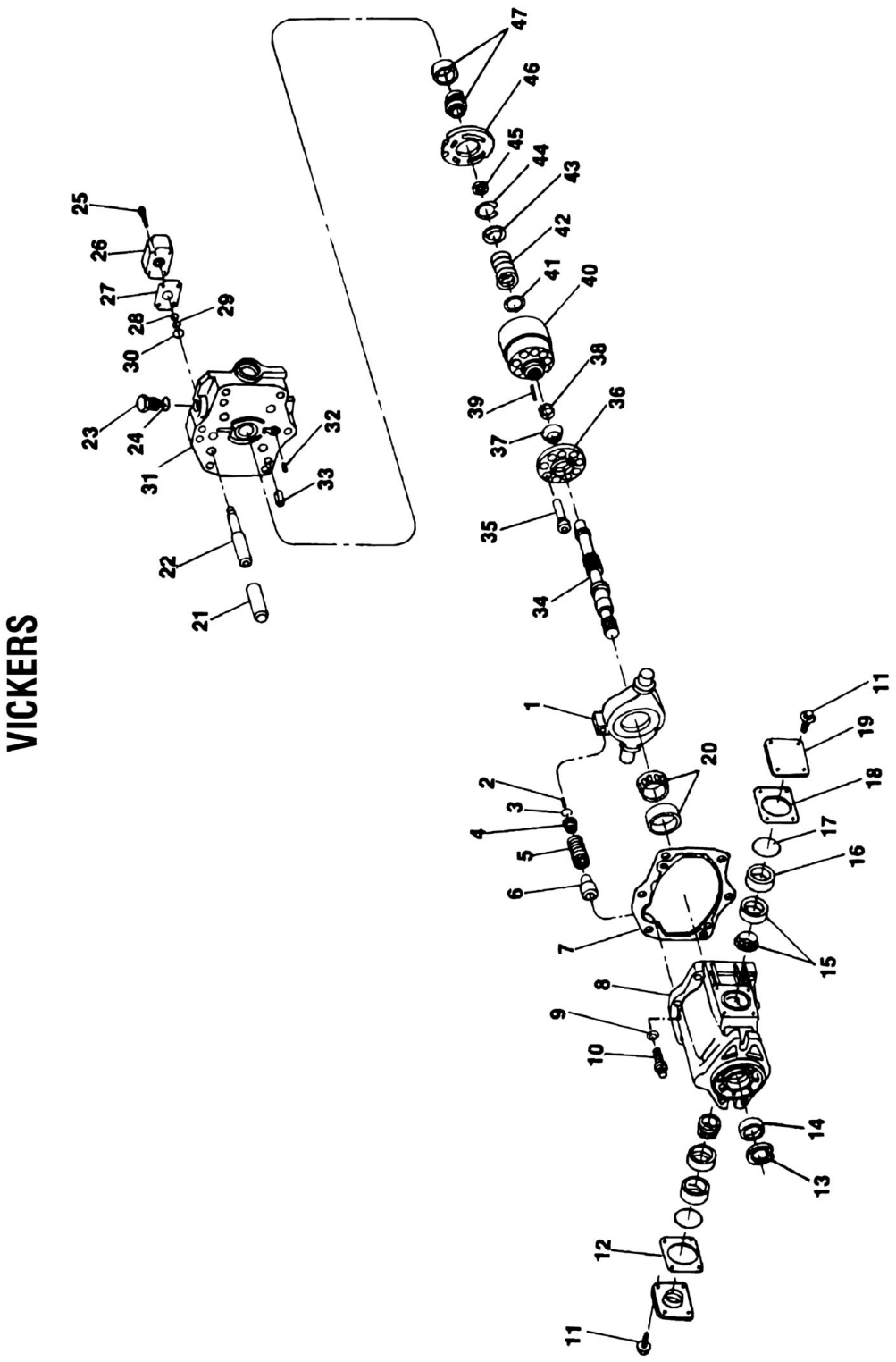
FIGURE 1-8. DRIVE BRAKE ASSEMBLY - MICO

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DRIVE BRAKE ASSEMBLY - MICO**	
1	Kit	1	Seal, Oil	
2	Kit	1	Bearing	
3	7007977	1	Ring, Retaining	
11	Kit	1	Seal, Case	
13	7007986	1	Cover	
14		Ref	Screw, Bleeder/Plug Options:	
14	7007914	1	Screw Bleeder **(Prior to SN 33476)**	
14	7018609	1	Screw Plug **(SN 33476 to Present)**	
15	7011716	1	Ring, Retainer	
16	7011717	1	Guide, Spring	
17	7007987	2	Pin, Dowel	
18	Kit	1	Ring, Back-up	
19	Kit	1	O-Ring	
20	Kit	1	Ring, Back-up	
21	Kit	1	O-Ring	
22	Kit	2	Rotor	
23	Kit	2	Stator	
25	7007924	1	Plug, Pipe	
28	Kit	2	O-Ring	
29	7007933	2	Gasket	
	2900766	1	Seal Kit (Includes Items 1, 11, 18, 19, 20, 21, 28 & 29)	
	2900768	1	Bearing Kit (Includes Items 1, 2, 11, 28 & 29)	
		Ref	**DRIVE BRAKE ASSEMBLY - MICO**	
	0920084	Ref	**Drive Brake Assembly - Mico (Prior to SN 33476)**	A
	0920110	Ref	**Drive Brake Assembly - Mico (SN 33476 to Present)**	C
51	7011712	1	Shaft	
52		Ref	Spring Options:	
52	7007979	6	Spring (Inner) **(Prior to SN 33476)**	
52	7007980	6	Spring (Outer) **(Prior to SN 33476)**	
52	Item 53	1	Spring **(SN 33476 to Present)**	
53		Ref	Spring Options:	
53	Item 52	1	Spring **(Prior to SN 33476)**	
53	7007970	6	Spring (Red) **(SN 33476 to Present)**	
53	7018602	3	Spring (Blue) **(SN 33476 to Present)**	
54		Ref	Housing Options:	
54	7011713	1	Housing **(Prior to SN 33476)**	
54	7018605	1	Housing **(SN 33476 to Present)**	
55		Ref	Bolt, Washer Head Options:	
55	7007985	4	Bolt, Washer Head **(Prior to SN 33476)**	
55	7018607	4	Bolt, Washer Head **(SN 33476 to Present)**	
56		Ref	Guide, Spring Options:	
56	7011717	1	Guide, Spring **(Prior to SN 33476)**	
56	7018606	1	Guide, Spring **(SN 33476 to Present)**	
57		Ref	Piston Options:	
57	7007923	1	Piston **(Prior to SN 33476)**	
57	7018603	1	Piston **(SN 33476 to Present)**	
58		Ref	Return Plate/Separator Options:	
58		Ref	Return Plate/Separator Components: **(Prior to SN 33476)**	
58	Kit	1	Plate, Return	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
58	7011715	2	Separator Assembly	
58	7011714	4	Pin	
58	7007983	2	Separator	
58	7018605	2	Return Plate/Separator Components: **(SN 33476 to Present)**	
58	Kit	1	Return Plate/Separator Assembly	
		Ref	Lining Kit Options (Includes Items 58, 11, 20, 21, 22, 23, 26 & 27):	
	2900767	1	Lining Kit **(Prior to SN 33476)**	
	7018608	1	Lining Kit **(SN 33476 to Present)**	

FIGURE 1-9. DRIVE MOTOR ASSEMBLY - 2WD



SAUER-DANFOSS

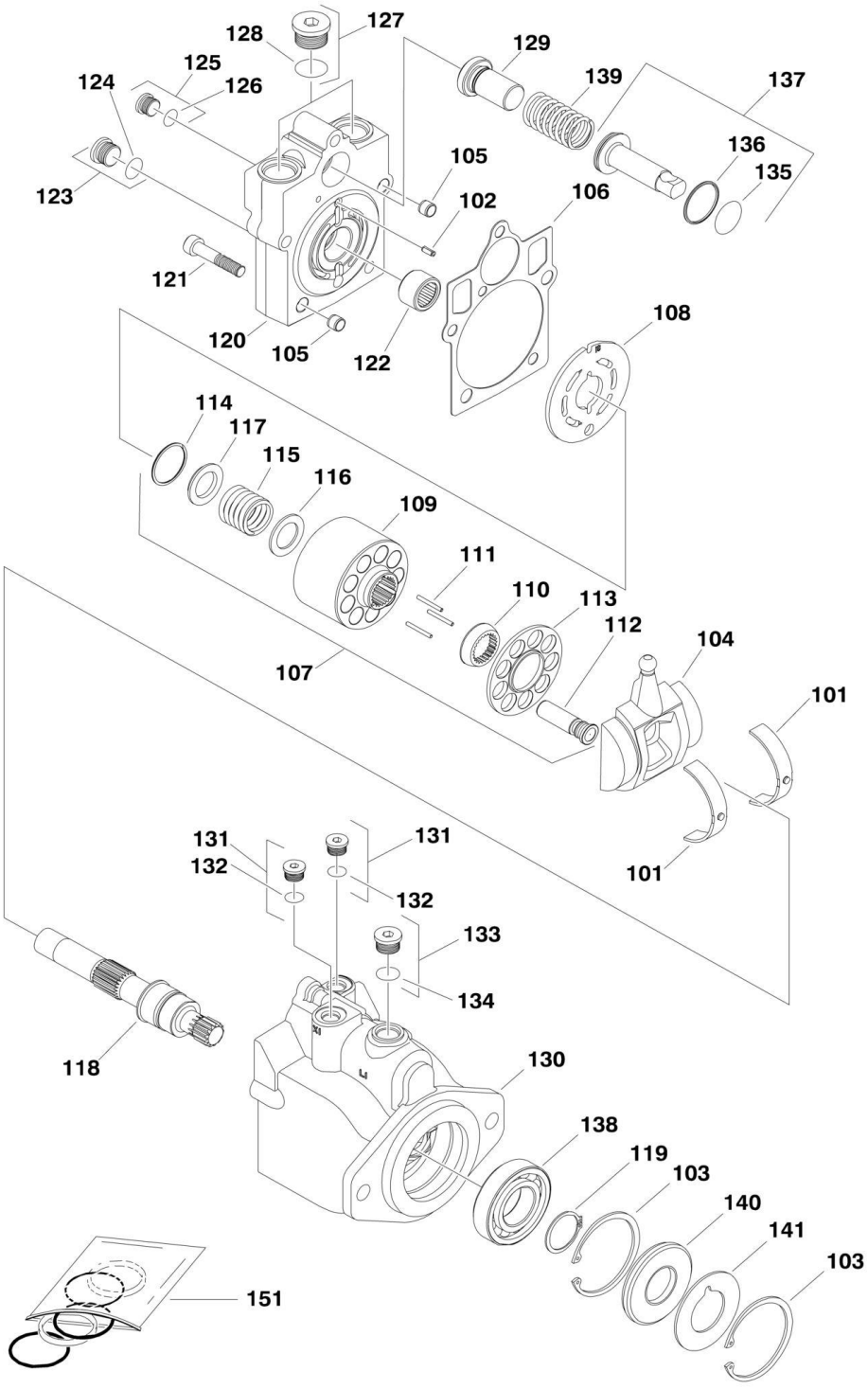


FIGURE 1-9. DRIVE MOTOR ASSEMBLY - 2WD

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3160132	Ref	**DRIVE MOTOR ASSEMBLY - VICKERS**	B
1	7006766	1	Yoke	
2	7006767	1	Roll Pin	
3	7006768	1	Spherical Seat	
4	7006769	1	Spring Seat	
5	7006774	1	Yoke Spring	
6	7006776	1	Yoke Stop	
7	2900659	1	Gasket	
8	7006786	1	Housing	
9	7006787	6	Washer	
10	7006788	6	Screw	
11	7006789	4	Screw	
12		Ref	Shim (Included with Item 18)	
13	7006790	1	Retaining Ring	
14	7006796	1	Shaft	
15	7006791	2	Bearing	
16	7006792	2	Pintle Bearing	
17	2900659	2	O-Ring	
18	7006794	1	Shim Kit (Includes Item 12)	
19	7006795	2	Cover	
20	7006719	1	Bearing	
21	7006797	1	Piston	
22	7006798	1	Piston Rod	
23	7006703	1	Plug	
24	2900659	1	O-Ring	
25	7009300	4	Screw	
26	7009301	1	Control Block	
27	2900659	1	Gasket	
28	2900659	1	O-Ring	
29	2900659	1	Back-up Ring	
30	7009305	1	Retaining Ring	
31	7009306	1	Valve Block	
32	7006706	1	Pin	
33	7009307	2	Pin	
34	7009308	1	Shaft	
35	7006717	9	Piston and Shoes	
36	7006716	1	Shoe Plate	
37	7006715	1	Spherical Washer	
38	7006714	1	Pin, Retainer	
39	7006713	3	Pin	
40	7006712	1	Cylinder, Block	
41	7006711	1	Spring Washer	
42	7006710	1	Spring	
43	7006709	1	Spring Washer	
44	7009309	1	Retaining Ring	
45	7006707	1	Bearing Spacer Kit	
46	7009310	1	Wafer Plate	
47	7006704	1	Bearing S/A	
	2900659	1	Seal Kit (Includes 7, 14, 17, 24, 27, 28 & 29)	
	1001096405	Ref	**DRIVE MOTOR KIT - SAUER-DANFOSS**	2

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1001096406	Ref	**DRIVE MOTOR ASSEMBLY - SAUER-DANFOSS**	A
101	7022302	2	Bearing	
102	7007446	1	Pin	
103	7007438	2	Ring, Retaining	
104	70000794	1	Swashplate	
105	See Note	2	Dowel Locator (Note: Not Available for Purchase)	
106	Item 51	1	Gasket	
107	7027740	1	Cylinder Block Kit (Includes Items 110-117)	
108	7024862	1	Plate, Valve	
109	7027740		Cylinder Block	
110	70000856	1	Guide, Slipper Retainer	
111	7021275	3	Pin, Slipper Hold Down	
112	7024865	9	Piston Assembly	
113	70000857	1	Retainer, Slipper	
114	7022311	1	Ring, Retaining	
115	7024867	1	Spring	
116	7024868	1	Washer	
117	7022314	1	Retainer, Spring	
118	7023910	1	Shaft	
119	7007439	1	Ring, Retaining	
120	70000795	1	Cap, End - Axial	
121	7022368	5	Screw	
122	7021249	1	Bearing, Needle	
123	7022321	1	Plug (Includes Item 124)	
124	7022322	1	O-Ring	
125	7007420	1	Plug (Includes Item 126)	
126	7021256	1	O-Ring	
127	7007419	2	Plug (Includes Item 128)	
128	7007418	2	O-Ring	
129	Not Available	1	Seat, Spring	
130	See Note	1	Housing (Note: Not Available - Purchase Complete Motor)	
131	7007420	2	Plug (Items Item 132)	
132	7021256	2	O-Ring	
133	7022321	1	Plug (Items Item 134)	
134	7022322	1	O-Ring	
135	7022324	1	O-Ring	
136	7022325	1	Ring, Seal	
137	7024871	1	Piston, Servo	
138	7007437	1	Bearing	
139	7022326	1	Spring	
140	7007459	1	Seal, Lip	
141	7022371	1	Washer, Support	
151	7022328	1	Seal Kit (Includes Items 106, 124, 126, 128, 132, 134, 135, 136 & 140)	

FIGURE 1-10. DRIVE MOTOR ASSEMBLY - 4WD

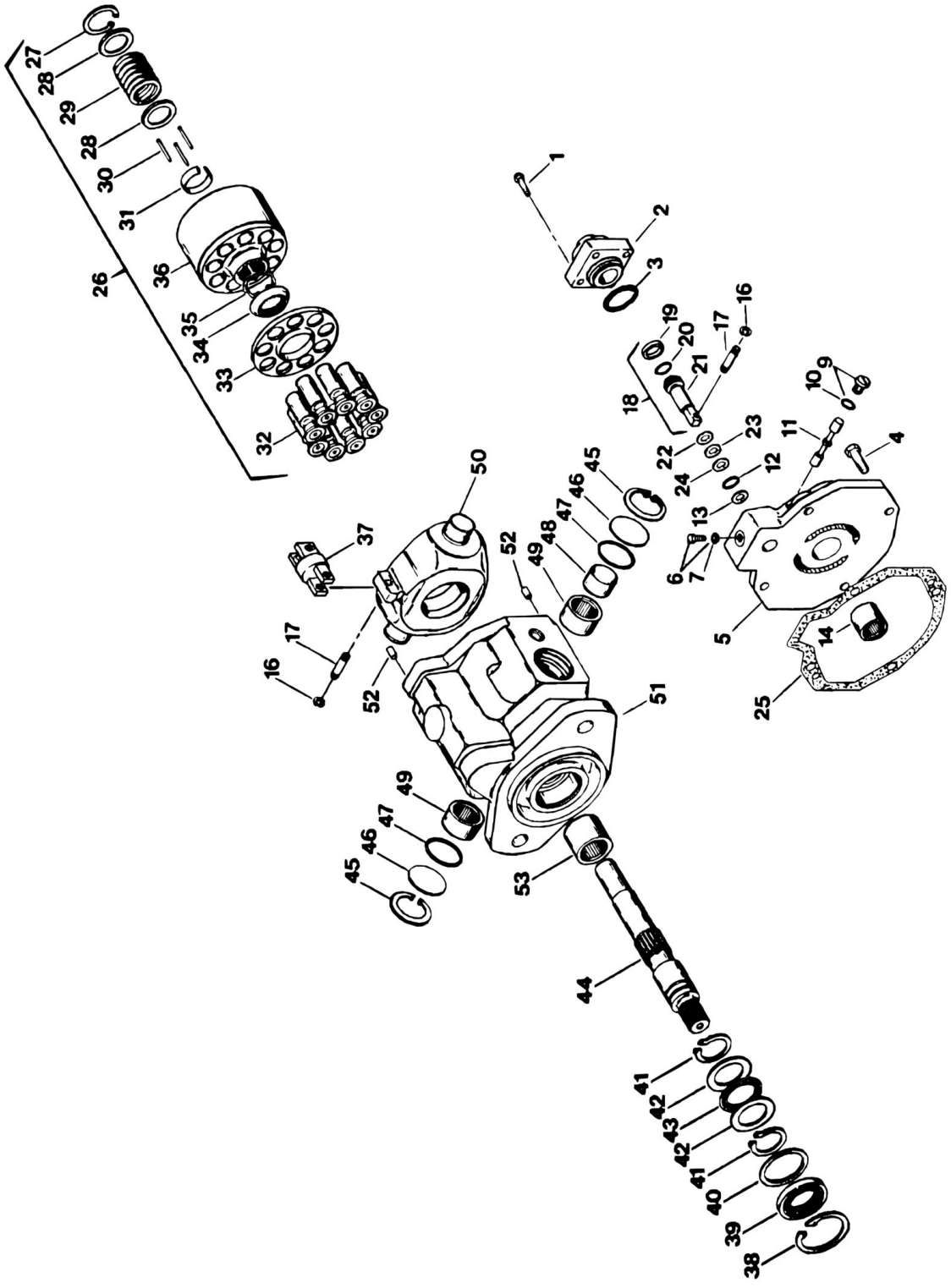


FIGURE 1-10. DRIVE MOTOR ASSEMBLY - 4WD

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3160130	Ref	**DRIVE MOTOR ASSEMBLY - 4WD**	A
1	7004938	4	Screw, Cap, Socket Head	
2	7004939	1	Control Piston Housing Assembly (Includes Item 3)	
3	Kit	1	O-Ring	
4	7004933	4	Screw, Cap, Hex Head	
5	7004941	1	Backplate Assembly (Includes Items 6-14)	
6	7004942	1	Plug Assembly (Includes Item 7)	
7	Kit	1	O-Ring	
9	7004944	2	Plug Assembly (Shuttle Spool) (Includes Items 8 & 9)	
10	Kit	1	O-Ring (1 Per Plug)	
11	7004946	1	Spool, Shuttle	
12	Kit	1	O-Ring	
13	7004918	1	Washer, Backup	
14	7004917	1	Bearing, Needle	
16	7004937	4	Ring, Retaining	
17	7004929	2	Pin, Connector	
18	7004948	1	Control Piston Assembly (Includes Items 19-21)	
19	Kit	1	Ring, Slippery	
20	Kit	1	O-Ring	
21	Not Available	1	Piston, Control	
22	4100027	AR	Spacer, Piston - .092in	
23	4100028	AR	Spacer, Piston - .105in	
24	4100029	AR	Spacer, Piston - .110in	
25	Kit	1	Gasket, Housing	
26	7004916	1	Rotating Kit Assembly (Includes Items 27-36)	
27	7004936	1	Ring, Retaining	
28	7004950	2	Washer, Machined	
29	7004951	1	Spring, Compression	
30	7004952	3	Pin, Loading	
31	7004953	1	Keeper, Pin	
32	7004954	9	Piston, Assembly	
33	7004955	1	Spider	
34	7004956	1	Pivot	
35	7004957	1	Washer, Wave	
36	Not Available	1	Block, Piston	
37	7004928	1	Connector, Camplate	
38	Kit	1	Ring, Retaining	
39	Kit	1	Seal, Shaft	
40	7004906	1	Washer	
41	Kit	2	Ring, Retaining	
42	7004907	2	Race, Thrust	
43	7004908	1	Bearing, Thrust	
44	7004912	1	Shaft, Drive	
45	Kit	2	Ring, Retaining	
46	7004913	2	Cover, Trunnion	
47	Kit	2	O-Ring	
48	7004911	1	Race, Inner	
49	7004914	2	Bearing	
50	7004927	1	Camplate	
51	7004959	1	Housing Assembly (Includes Items 52 & 53)	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
52	7004960	2	Pin, Roll (1/4in Dia x 1/2in Long)	
53	7004910		Bearing	
	2900449		Seal Repair Kit (Includes Items 3, 7, 10, 12, 19, 20, 25, 38, 39, 41, 45 & 47).	

FIGURE 1-11. VALVES INSTALLATION (FRAME MOUNTED)

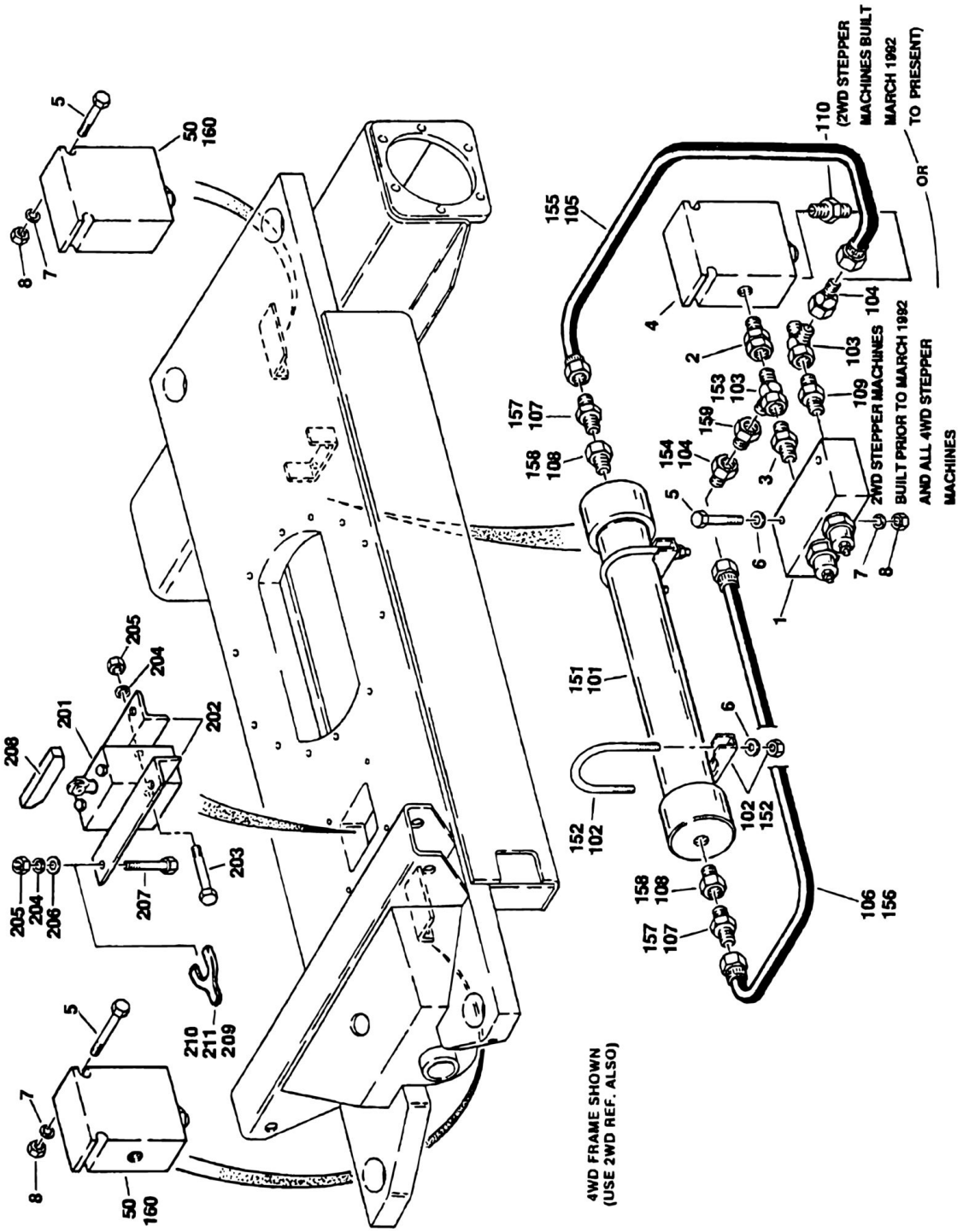


FIGURE 1-11. VALVES INSTALLATION (FRAME MOUNTED)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**VALVES INSTALLATION (FRAME MOUNTED)**	
	1281132	Ref	**2WD (Standard Parts)**	C
	1280931	Ref	**4WD (Standard Parts)**	C
1	4640529	1	Counterbalance Valve Assembly	
1	4640729	2	Cartridge, Valve	
1	7004293	2	Seal Kit - 4640729 Cartridge	
2	2220594	1	Fitting Straight Swivel	
3	2220435	1	Fitting, Straight	
4	4640260	1	Flow Divider Valve Assembly	
5	0641620	AR	Bolt 3/8in-16NC x 2 1/2in	
6	4751600	AR	Flatwasher 3/8in	
7	4761600	AR	Lockwasher 3/8in	
8	3311601	AR	Nut 3/8in-16NC	
		Ref	**DRIVE VALVES INSTALLATION (MACHINES WITH VICKERS VALVE) (VARIABLE PARTS)**	
	0239963	Ref	**2WD (Variable Parts Not Required)**	A
	0238845	Ref	**4WD**	C
50		Ref	Flow Divider Valve Assembly Options:	
50	4640260	2	Flow Divider Machines Built (Prior to March 1992)	
50	Not Available	1	Cartridge (Vickers/Modular Controls Version)	
50	7009739	1	Seal Kit (Vickers/Modular Controls Version)	
50	7007321	1	Cartridge (Fluid Controls Version)	
50	7007323	1	Seal Kit (Fluid Controls Version)	
50	4640671	2	Flow Divider Machines Built (March 1992 to Present)	
50	7010510	1	Cartridge (Vickers/Modular Controls Version)	
50	7009739	1	Seal Kit (Vickers/Modular Controls Version)	
50	70003445	1	Cartridge (Fluid Controls Version) (was p/n 7007322)	
50	No Longer Available	NLA	Seal Kit (Fluid Controls Version) (was p/n 7007323)	
	0239969	Ref	**DRIVE VALVES INSTALLATION (2WD WITH STEPPER VALVES) (VARIABLE PARTS)**	B
101	0234960	1	Accumulator Assembly (See CYLINDER SECTION for Breakdown)	
102	1320011	2	Clamp	
103	2220385	AR	Fitting, Tee	
104	2220618	AR	Fitting, Reducer	
105	2751434	1	Hose	
106	2751435	1	Hose	
107	2180651	2	Fitting	
108	2180127	2	Fitting, Orifice	
109	2220375	AR	Fitting, Straight	
110	2220415	1	Fitting, Straight (Machines Built March 1992 to Present Only)	
	0100011	AR	Loctite #242	
	0238844	Ref	**DRIVE VALVES INSTALLATION (4WD WITH STEPPER VALVES) (VARIABLE PARTS)**	C
151	0234960	1	Accumulator Assembly (See CYLINDER SECTION for Breakdown)	
152	1320011	2	Clamp	
153	2220700	1	Fitting, Tee	
154	2220609	1	Fitting, Reducer	
155	2751434	1	Hose	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
156	2751010	1	Hose	
157	2180651	2	Fitting	
158	2180127	2	Fitting, Orifice	
159	2220621	1	Fitting, Straight Adapter	
160		Ref	Flow Divider Valve Assembly Options:	
160	4640260	2	Flow Divider Machines Built (Prior to March 1992)	
160	Not Available	1	Cartridge (Vickers/Modular Controls Version)	
160	7009739	1	Seal Kit (Vickers/Modular Controls Version)	
160	7007321	1	Cartridge (Fluid Controls Version)	
160	7007323	1	Seal Kit (Fluid Controls Version)	
160	4640671	2	Flow Divider Machines Built (March 1992 to Present)	
160	7010510	1	Cartridge (Vickers/Modular Controls Version)	
160	7009739	1	Seal Kit (Vickers/Modular Controls Version)	
160	70003445	1	Cartridge (Fluid Controls Version) (was p/n 7007322)	
160	No Longer Available	1	Seal Kit (Fluid Controls Version) (was p/n 7007323)	
	0100011	AR	Loctite #242	
	0238908	Ref	**OSCILLATION LOCKOUT VALVE INSTALLATION**	C
201	4640485	1	Lockout Valve Assembly (See LOCKOUT VALVE ASSEMBLY for Breakdown)	
202	0181333	2	Angle, Mounting	
203	0641634	2	Bolt 3/8in-16NC x 4 1/4in	
204	4761600	6	Lockwasher 3/8in	
205	3311601	6	Nut 3/8in-16NC	
206	4751600	4	Flatwasher 3/8in	
207	0641622	4	Bolt 3/8in-16NC x 2 3/4in	
208	1100041	1	Cam (Welded to T/T)	
209	4070410	AR	Shim (1/16in-1.6mm)	
210	4070411	AR	Shim (1/8in-3.1mm)	
211	4070412	AR	Shim (3/16in-4.8mm)	

FIGURE 1-12. LOCKOUT VALVE ASSEMBLY

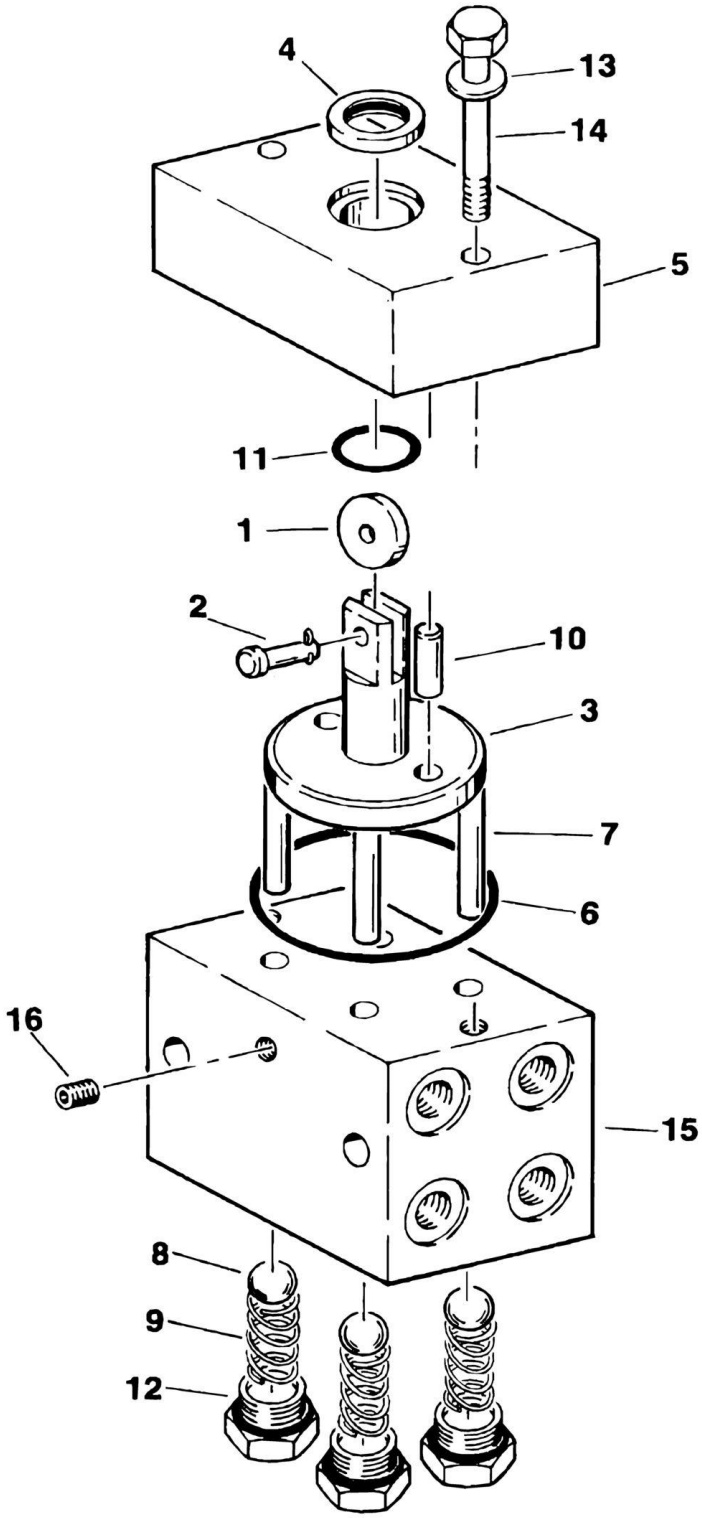


FIGURE 1-12. LOCKOUT VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640485	Ref	**LOCKOUT VALVE ASSEMBLY**	B
1	3860037	1	Roller, Cam	
2	3430407	1	Pin, Clevis 1/4in x 1in	
2	3450203	1	Pin, Cotter	
3	3840833	1	Rod, Plunger	
4	3960047	1	Seal, Rod	
5	0560679	1	Block, Valve Top	
6	3790231	1	O-Ring	
7	3840854	4	Rod	
8	0320008	4	Ball, Valve	
9	4160078	4	Spring	
10	3421284	2	Pin	
11	3790116	1	O-Ring	
12	2180658	4	Plug, Modified	
13	0641518	2	Bolt 5/16in-18NC x 2 1/4in	
14	4761500	2	Lockwasher 5/16in	
15	0560467	1	Block, Valve	
16	2200222	1	Plug 1/4in NPT	
	0100011	AR	Loctite	

FIGURE 1-13. TOW PACKAGE INSTALLATION

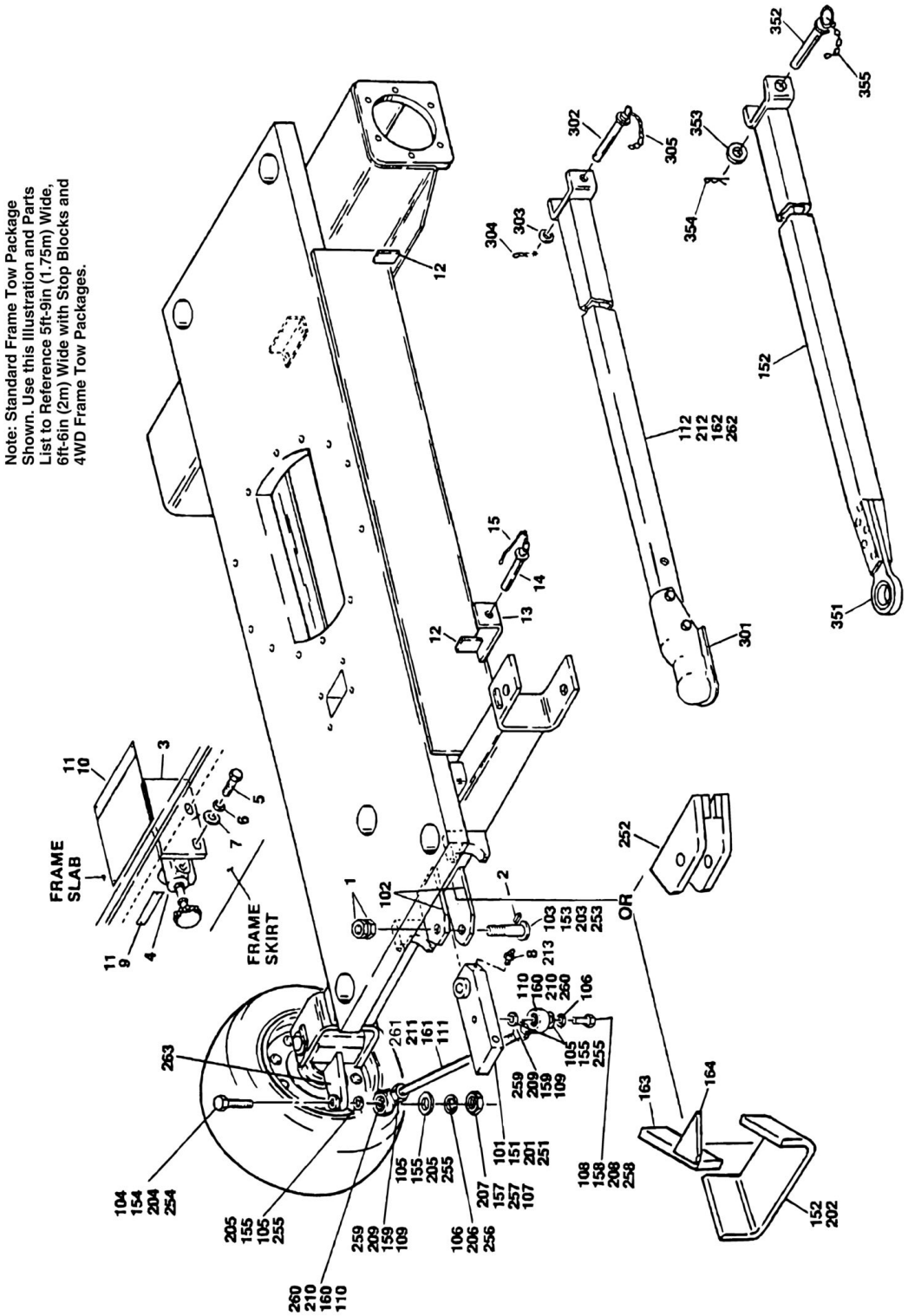


FIGURE 1-13. TOW PACKAGE INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**TOW PACKAGE INSTALLATION (STANDARD PARTS)**	
1	3323002	2	Nut, Jam 1 1/4in-12NF	
2	2880410	1	Keystock 1/4in x 1 1/4in	
3	0900479	1	Bracket, Valve Mounting	
4	4640261	1	Select Valve Assembly	
5	0641507	2	Bolt 5/16in-18NC x 7/8in	
6	4751500	2	Flatwasher 5/16in	
7	4761500	2	Lockwasher 5/16in	
8	2160001	1	Fitting, Grease - 90	
9	3250872	1	Nameplate - Tow Select	
10	3250840	1	Nameplate - Instructions	
11	3820001	8	Rivet	
12	0361651	2	Bar	
13	3532649	1	Plate	
14	3420292	1	Pin, Quick Release	
15	1260017	8 in/20cm	Chain	
	0238882	Ref	**TOW PACKAGE INSTALLATION - 2WD 6FT-6IN/2M FRAME WITHOUT STOP BLOCKS (VARIABLE PARTS)**	A
101	2620029	1	Hitch	
102	3040379	2	Lug	
103	3421246	1	Pin, Hitch	
104	0642234	1	Bolt 3/4in-10NC x 4 1/4in	
105	4740032	4	Washer, Special	
106	4762200	2	Lockwasher	
107		Ref	Nut (Use Standard Nut)	
108	0642220	1	Bolt 3/4in-10NC x 2 1/2in	
109	3322202	2	Nut 3/4in-16NF	
110	1360122	2	End, Rod	
111	3840941	1	Tie-Rod	
112	0360016	1	Tow Bar Assembly (See Items 301-305 for Breakdown)	
	0251060	Ref	**TOW PACKAGE INSTALLATION - 2WD 6FT-6IN/2M FRAME WITH STOP BLOCKS (VARIABLE PARTS)**	A
151	2620029	1	Hitch	
152	4340597	1	Support, Tow Hitch	
153	3421151	1	Pin, Hitch	
154	0630432	1	Bolt, Special	
155	4712200	2	Flatwasher, 3/4in Narrow	
157	3312202	1	Nut, Jam 3/4in-10NC	
158	0642216	1	Bolt 3/4in-10NC x 2in	
159	3322202	2	Nut, Jam 3/4in-16NF	
160	1360122	2	End, Rod	
161	3841065	1	Tie-Rod	
162	0361891	1	Tow Bar Assembly (See Items 351-355 for Breakdown)	
163	0560898	2	Block, Stop	
164	2551292	2	Gusset	
		Ref	**TOW PACKAGE INSTALLATIONS - 2WD 5FT-9IN/11.75M FRAME (VARIABLE PARTS)**	
	0239948	Ref	**With Ball Hitch**	B
	0256746	Ref	**With Pental Hook**	-
201	2620029	1	Hitch	

SECTION 1 - FRAME

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
202	4340575	1	Plate, Hitch Support	
203	3421151	1	Pin	
204	0630424	1	Bolt, Special	
205	4740032	2	Washer, Special	
206	4762200	1	Lockwasher 3/4in	
207	3312202	1	Nut, Jam 3/4in-10NC	
208	0642216	1	Bolt 3/4in-10NC x 2in	
209	3322202	2	Nut, Jam 3/4in-16NF	
210	1360122	2	End, Rod	
211	3841005	1	Tie-Rod	
212		Ref	Tow Bar Assembly Options:	
212	0360016	1	Tow Bar with Ball Hitch (See Items 301-305 for Breakdown)	
212	0361891	1	Tow Bar with Pental Hook (See Items 351-355 for Breakdown)	
213		Ref	Fitting, Grease - 1/8in NPT45 Options:	
213	Not Required	0	Fitting With Ball Hitch	
213	2160003	1	Fitting With Pental Hook	
		Ref	**TOW PACKAGE INSTALLATION - 4WD FRAME (VARIABLE PARTS)**	
	0252053	Ref	**With Oscillating Axle**	-
	0256207	Ref	**With Fixed Axle**	-
251	2620034	1	Hitch	
252		Ref	Plate, Hitch Support Options:	
252	4340625	2	Plate With Oscillating Axle	
252	4340575	2	Plate With Fixed Axle	
253		Ref	Pin, Hitch Options:	
253	3421246	1	Pin With Oscillating Axle	
253	3421151	1	Pin With Fixed Axle	
254	0642636	1	Bolt 1in-8NC x 4 1/2in	
255	4712600	3	Flatwasher 1in	
256	4562346	1	Spacer, Tube	
257	3312605	1	Locknut 1in-8NC	
258	0642628	1	Bolt 1in-8NC x 3 1/2in	
259	3323002	2	Nut, Jam 1 1/4in-12NF	
260	1660114	2	End, Rod	
261	3841137	1	Tie-Rod	
262	0360016	1	Tow Bar Assembly (See Items 301-305 for Breakdown)	
263	3040520	1	Lug, Tie-Rod	
	0360016	Ref	**TOW BAR ASSEMBLY (BALL HITCH)**	I
301	1660009	1	Coupling, Hitch	
302	3420352	1	Pin, Towing	
303	4752600	1	Flatwasher 1in	
304	3420158	1	Hairpin	
305	1260135	AR	Chain	
	0361891	Ref	**TOW BAR ASSEMBLY (PENTAL HOOK)**	-
351	9981834	1	Lug, Hitch	
352	3420352	1	Pin, Towing	
353	4752600	1	Flatwasher 1in	
354	3420158	1	Hairpin	
355	1260017	AR	Chain	

SECTION 2 - TURNTABLE

FIGURE 2-1. CONTROL VALVES INSTALLATIONS - STEPPER VALVES

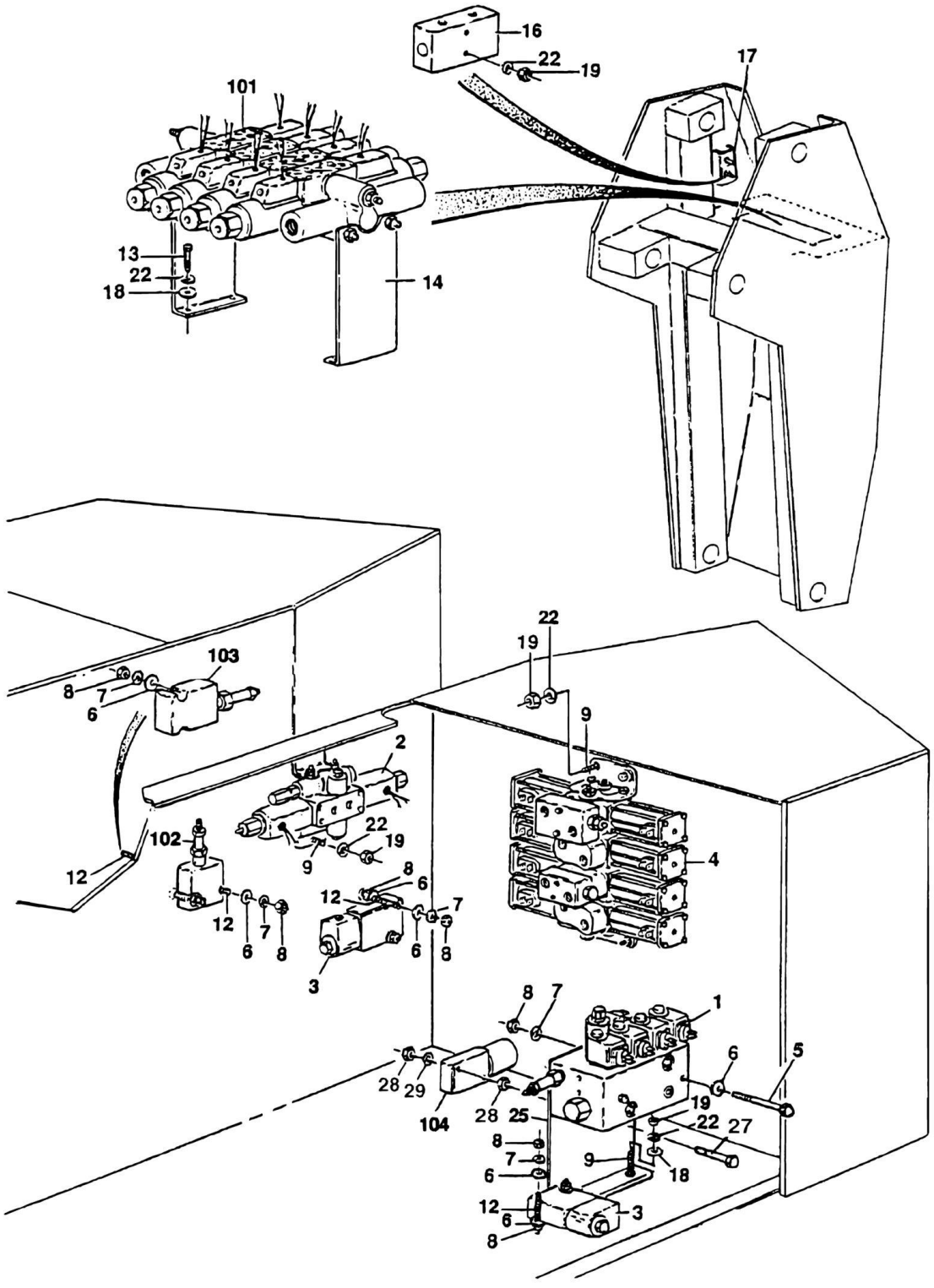


FIGURE 2-1. CONTROL VALVES INSTALLATIONS - STEPPER VALVES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Note: See CONTROL VALVE ASSEMBLY (VICKERS) for Vickers Valves. See Options - SPECIAL OPTIONS SECTION for Parker Valves.**	
	1280962	Ref	**CONTROL VALVES INSTALLATION - (PRIOR TO DECEMBER 1992) (STANDARD PARTS)**	D
	1281898	Ref	**CONTROL VALVES INSTALLATION - (DECEMBER 1992 TO PRESENT) (STANDARD PARTS)**	-
1	4640541	1	Valve Assembly - Stepper (See STEP CONTROL VALVE ASSEMBLY for Breakdown)	
2	4640375	1	Valve Assembly - FPS (See VALVE ASSEMBLY - FPS (STEER) for Breakdown)	
3	4640543	1	Valve Assembly - Solenoid	
3	7009745	1	Coil (Vickers/Modular Controls Version)	
3	7004368	1	Coil (Hydraforce Version)	
4	4640564	1	Valve Assembly - 4 Stack Bang-Bang (See VALVE ASSEMBLY - 4 STACK BANG-BANG for Breakdown)	
5	0641440	2	Bolt 1/4in-20NC x 5in	
6	4751400	6	Flatwasher 1/4in	
7	4761400	6	Lockwasher 1/4in	
8	3311401	8	Nut 1/4in-20NC	
9	4300038	8	Stud (Welded on Part)	
12	4300042	4	Stud (Welded on Part)	
13	0641506	4	Bolt 5/16in-18NC x 3/4in	
14	0901455	2	Bracket, Mounting	
16	4640150	1	Valve, Check	
17	4300073	4	Stud (Welded on Part)	
18	4751500	8	Flatwasher 5/16in	
19	3311501	10	Nut 5/16in-18NC	
22	4761500	14	Lockwasher 5/16in	
25	3533508	1	Bracket, Valve Mounting	
27	0641518	2	Bolt 5/16in-18NC x 2 1/4in	
28	3311501	2	Nut 5/16in-18NC	
29	4761500	2	Lockwasher 5/16in	
		Ref	**CONTROL VALVES INSTALLATIONS (VARIABLE PARTS)**	
	0239019	Ref	**Gas Machines without Rotate**	B
	0239022	Ref	**Gas Machines with Rotate**	B
	0239020	Ref	**Electric Machines without Rotate Built Through 1992**	B
	0253211	Ref	**Electric Machines without Rotate Built (1993 to Present)**	-
	0239021	Ref	**Electric Machines with Rotate Built Through 1992**	B
	0253210	Ref	**Electric Machines with Rotate Built (1993 to Present)**	-
101		Ref	Valve Assembly - FPS Options (See VALVE ASSEMBLY - FPS for Breakdown)	
101	4640556	1	Without Rotate (3 Stack)	
101	4640544	1	With Rotate (4 Stack)	
102		Ref	Pilot Valve Assembly Options:	
102	Not Required	0	Valve (Gas Machines)	
102	4640533	1	Valve (Electric Machines)	
102	7010529	1	Cartridge	
102	2900698	1	Seal Kit - 7010529 Cartridge	
103		Ref	Pressure Reducing Valve Assembly Options:	
103	4640522	1	Valve (Gas Machines)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
103	4640522	1	Valve (Electric Machines Built Through 1992)	
103	4640523	1	Cartridge	
103	2900698	1	Seal Kit - 4640523 Cartridge	
103	Not Required	0	Valve (Electric Machines Built 1993 to Present)	
104		Ref	Selector Valve Assembly Options:	
104	4640123	1	Valve (Gas Machines)	
104	4640123	1	Valve (Electric Machines Built Through 1992)	
104	7004368	1	Coil (Hydraforce Version)	
104	7000558	1	Coil (FPS Version)	
104	7012518	1	Seal Kit (Hydraforce Version)	
104	7006075	1	Seal Kit (FPS Version)	
104	4640758	1	Valve (Electric Machines Built 1993 to Present)	
104	7012906	1	Coil	
104	7012907	1	Seal Kit	

FIGURE 2-2. CONTROL VALVES INSTALLATIONS - VICKERS (KOHLER GAS AND ELECTRIC MACHINES)

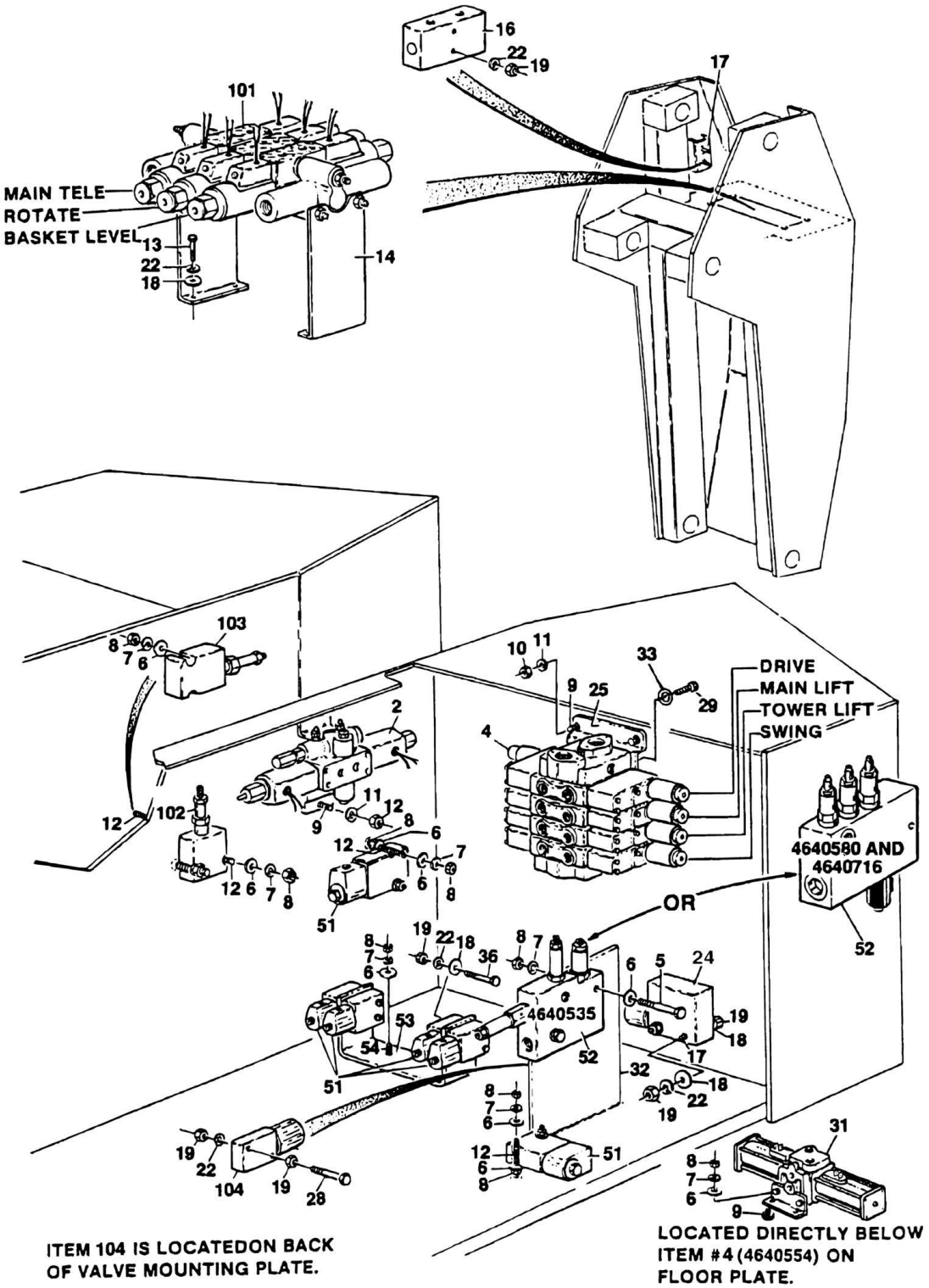


FIGURE 2-2. CONTROL VALVES INSTALLATIONS - VICKERS (KOHLER GAS AND ELECTRIC MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Note: See CONTROL VALVES INSTALLATIONS - STEPPER VALVES for Stepper Valves. See Options - SPECIAL OPTIONS SECTION for U/L Machines with Vickers Valve. Also, See Options - SPECIAL OPTIONS SECTION for Parker Valves.**	
		Ref	**CONTROL VALVES INSTALLATION (STANDARD PARTS)**	
	1280941	Ref	**Control Valves Installation (Standard Parts) (Prior to December 1992)**	E
	1281902	Ref	**Control Valves Installation (Standard Parts) (December 1992 to Present)**	-
2	4640375	1	Valve Assembly - FPS (Steer) (See VALVE ASSEMBLY - FPS (STEER) for Breakdown)	
4		Ref	Control Valve Assembly Options (Vickers):	
4	4640554	1	Control Valve Assembly (Prior to October 1994) (See CONTROL VALVE ASSEMBLY (VICKERS) (PRIOR TO OCTOBER 1994) for Breakdown)	
4	4640914	1	Control Valve Assembly (October 1994 to Present) (See CONTROL VALVE ASSEMBLY - (VICKERS) (OCTOBER 1994 TO PRESENT) for Breakdown)	
5	0641426	2	Bolt 1/4in-20NC x 3 1/4in	
6	4751400	AR	Flatwasher 1/4in	
7	4761400	AR	Lockwasher 1/4in	
8	3311401	AR	Nut 1/4in-20NC	
9	4300034	AR	Stud (Welded on Part)	
10	4761600	10	Lockwasher 3/8in	
11	3311601	6	Nut 3/8in-16NC	
12	4300042	AR	Stud (Welded on Part)	
13	0641506	4	Bolt 5/16in-18NC x 3/4in	
14	0901455	2	Bracket, Valve Mounting	
16	4640150	1	Valve, Check	
17	4300073	AR	Stud (Welded on Part)	
18	4751500	AR	Flatwasher 5/16in	
19	3311501	AR	Nut 5/16in-18NC	
22	4761500	AR	Lockwasher 5/16in	
24	4640360	1	Solenoid Dump Valve Assembly	
24	7010637	1	Seal Kit	
24	7003647	1	Coil (Vickers/Modular Controls Version)	
24	7004368	1	Coil (Hydraforce Version)	
24	7004289	1	Cartridge (Vickers/Modular Control Version)	
24	7010635	1	Cartridge (Hydraforce Version)	
24	7003635	1	Valve, Check (Vickers/Modular Controls Only)	
25	0901489	1	Bracket, Valve Mounting	
28	0641524	2	Bolt 5/16in-18NC x 3in	
29	0641708	3	Bolt 7/16in-14NC x 1in	
31	4640570	1	Valve Assembly - Single Stack Bang-Bang (See VALVE ASSEMBLY - SINGLE STACK BANG-BANG for Breakdown)	
32	3533508	1	Plate, Valve Mounting	
33	4761700	3	Lockwasher 7/16in	
51	4640543	Ref	Solenoid Valve Assembly	
51	4640543	6	With Electric Boom Limit Switches (Prior to July 1988)	
51	4640543	1	With Hydraulic Boom Limit Switches (July 1988 to Present)	
51	7009745	AR	Coil (Vickers/Modular Controls Version) (1 Per Assembly)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
51	7004368	AR	Coil (Hydraforce Version) (1 Per Assembly)	
52		Ref	Accessory Valve Assembly Options:	
52	4640535 See Note	NLA	Valve for Machines Built (Prior to June 1990) (Note: 4640535 Accessory Valve is no longer available as a complete assembly. See ACCESSORY VALVE ASSEMBLY (MILLER) for Individual parts.)	
52	4640580 See Note	NLA	Valve for Machines Built (June 1990 to September 1991) (Note: 4640580 Accessory Valve is no longer available as a complete assembly. See ACCESSORY VALVE ASSEMBLY (HYDRAFORCE) for Individual parts.)	
52	4640716 See Note	NLA	Valve for Machines Built (September 1991 to Present) (Note: 4640716 Accessory Valve is no longer available as a complete assembly. See ACCESSORY VALVE ASSEMBLY (HYDRAFORCE) for Individual parts.)	
53	0901490	1	Bracket, Valve Mounting (Prior to July 1988 Only)	
54	4300068	2	Stud (Welded on Part) (Prior to July 1988 Only)	
		Ref	**CONTROL VALVE INSTALLATION (VARIABLE PARTS)**	
	0238896	Ref	**Kohler Gas Machines with Rotate**	G
	0238898	Ref	**Kohler Gas Machines without Rotate**	G
	0238897	Ref	**Electric Machines with Rotate Built Through 1992**	G
	0253229	Ref	**Electric Machines with Rotate Built (1993 to Present)**	A
	0238899	Ref	**Electric Machines without Rotate Built Through 1992**	G
	0253230	Ref	**Electric Machines without Rotate Built (1993 to Present)**	A
101		Ref	Valve Assembly - FPS Options (See VALVE ASSEMBLY - FPS for Breakdown)	
101	4640555	1	Without Rotate (2 Stack)	
101	4640556	1	With Rotate (3 Stack)	
102		Ref	Pilot Valve Assembly Options:	
102	Not Required	0	Valve (Kohler Gas Machines)	
102	4640533	1	Valve (Electric Machines)	
102	7010529	1	Cartridge	
102	2900698	1	Seal Kit - 7010529 Cartridge	
103		Ref	Pressure Reducing Valve Assembly Options:	
103	4640522	1	Valve (Kohler Gas Machines)	
103	4640522	1	Valve (Electric Machines Built Through 1992)	
103	4640523	1	Cartridge	
103	2900698	1	Seal Kit - 4640523 Cartridge	
103	Not Required	0	Valve (Electric Machines Built 1993 to Present)	
104		Ref	Selector Valve Assembly Options:	
104	4640123	1	Valve (Kohler Gas Machines)	
104	4640123	1	Valve (Electric Machines Built Through 1992)	
104	7004368	1	Coil (Hydraforce Version)	
104	7000558	1	Coil (FPS Version)	
104	7012518	1	Seal Kit (Hydraforce Version)	
104	7006075	1	Seal Kit (FPS Version)	
104	4640758	1	Valve (Electric Machines Built 1993 to Present)	
104	7012906	1	Coil	
104	7012907	1	Seal Kit	

FIGURE 2-3. CONTROL VALVES INSTALLATIONS - VICKERS (FORD GAS, DEUTZ DIESEL AND KUBOTA DIESEL)

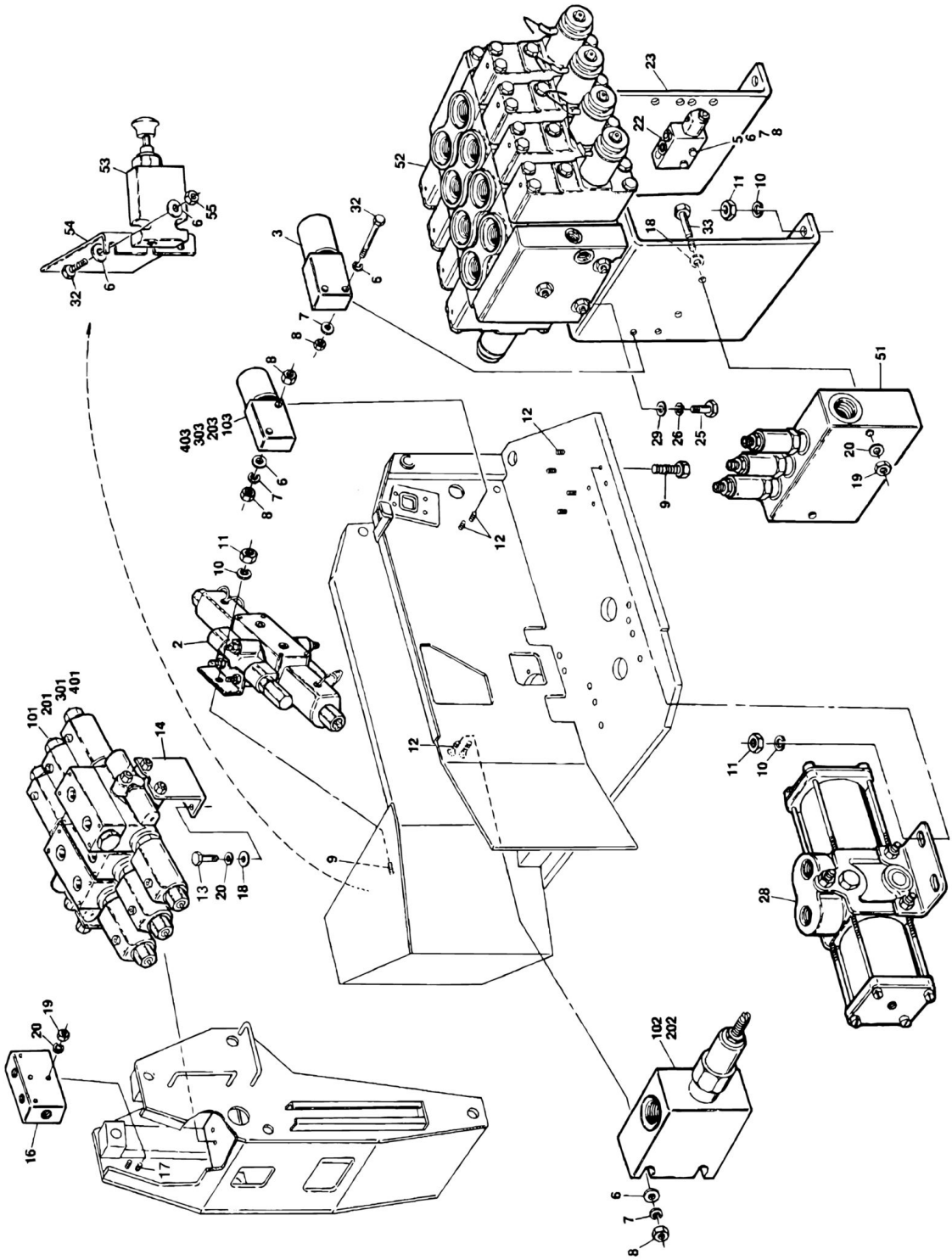


FIGURE 2-3. CONTROL VALVES INSTALLATIONS - VICKERS (FORD GAS, DEUTZ DIESEL AND KUBOTA DIESEL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Note: See CONTROL VALVES INSTALLATIONS - STEPPER VALVES for Stepper Valves. See CONTROL VALVES INSTALLATIONS - VICKERS for Kohler Gas and Electric Machines with Vickers Valves. See Options - SPECIAL OPTIONS SECTION for Parker Valves.**	
		Ref	**CONTROL VALVES INSTALLATION (STANDARD PARTS)**	
	1280941	Ref	**Control Valves Installation (Standard Parts) (Prior to December 1992)**	E
	1281897	Ref	**Control Valves Installation (Standard Parts) (December 1992 to Present)**	C
2	4640375	1	Valve Assembly - FPS (Steer) (See VALVE ASSEMBLY - FPS (STEER) for for Breakdown)	
3	4640543	1	Solenoid Valve Assembly	
3	7009745	1	Coil (Vickers/Modular Controls Version)	
3	7004368	1	Coil (Hydraforce Version)	
5	0641420	AR	Bolt 1/4in-20NC x 2 1/2in	
6	4751400	AR	Flatwasher 1/4in	
7	4761400	AR	Lockwasher 1/4in	
8	3311401	AR	Nut 1/4in-20NC	
9	4300034	8	Stud (Welded on Part)	
10	4761600	8	Lockwasher 3/8in	
11	3311601	8	Nut 3/8in - 16NC	
12	4300098	AR	Stud (Welded on Part)	
13	0641506	4	Bolt 5/16in-18NC x 3/4in	
14	0901455	2	Bracket, Valve Mounting	
16	4640150	1	Valve, Check	
17	4300073	2	Stud (Welded on Part)	
18	4751500	6	Flatwasher 5/16in	
19	3311501	4	Nut 5/16in-18NC	
20	4761500	8	Lockwasher 5/16in	
22	4640360	1	Solenoid Dump Valve Assembly	
22	7010637	1	Seal Kit	
22	7003647	1	Coil (Vickers/Modular Controls Version)	
22	7004368	1	Coil (Hydraforce Version)	
22	7004289	1	Cartridge (Vickers/Modular Controls Version)	
22	7010635	1	Cartridge (Hydraforce Version)	
22	7003635	1	Valve, Check (Vickers/Modular Controls Only)	
23	0901399	1	Bracket, Valve Mounting	
25	0641708	3	Bolt 7/16in-14NC x 1in	
26	4761700	3	Lockwasher 7/16in	
28	4640570	1	Valve Assembly - Single Stack Bang-Bang (See VALVE ASSEMBLY - SINGLE STACK BANG-BANG for Breakdown)	
29	4751700	3	Flatwasher 7/16in	
31	0641424	2	Bolt 1/4in-20NC x 3in	
32	0641416	4	Bolt 1/4in-20NC x 2in	
33	0641528	2	Bolt 5/16in-18NC x 3 1/2in	
51		Ref	Accessory Valve Assembly Options:	
51	4640580 See Note	1	Valve for Machines (Prior to September 1991) (Note: 4640580 Accessory Valve is no longer available as a complete assembly. See ACCESSORY VALVE ASSEMBLY (HYDRAFORCE) for Individual parts.)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
51	4640716 See Note	NLA	Valve for Machines (September 1991 to Present) (Note: 4640716 Accessory Valve is no longer available as a complete assembly. See ACCESSORY VALVE ASSEMBLY (HYDRAFORCE) for Individual parts.)	
52		Ref	Control Valve Assembly (Vickers) Options:	
52	4640554	1	Control Valve Assembly (Prior to October 1994) (See CONTROL VALVE ASSEMBLY (VICKERS) (PRIOR TO OCTOBER 1994) for Breakdown)	
52	4640914	1	Control Valve Assembly (October 1994 to Present) (See CONTROL VALVE ASSEMBLY - (VICKERS) (OCTOBER 1994 TO PRESENT) for Breakdown)	
53	4640866	1	Valve, 2-Way Manual (October 1994 to Present Only)	
53	2900708	1	Seal Kit - Cartridge	
53	7012959	1	Knob	
54	0902051	1	Bracket, Decal	
55	3311405	2	Locknut 1/4in-20NC	
	0239541	Ref	**CONTROL VALVE INSTALLATION (MACHINES WITH ROTATE AND WITHOUT NOISE REDUCTION - BUILT THROUGH 1992) (VARIABLE PARTS)**	C
101	4640556	1	Valve Assembly - FPS 3 Stack (See VALVE ASSEMBLY - FPS for Breakdown)	
102	4640522	1	Pressure Reducing Valve Assembly	
102	4640523	1	Cartridge	
102	2900698	1	Seal Kit - 4640523 Cartridge	
103	4640123	1	Selector Valve Assembly	
103	7004368	1	Coil Hydraforce Version	
103	7000558	1	Coil (FPS Version)	
103	7012518	1	Seal Kit (Hydraforce Version)	
103	7006075	1	Seal Kit (FPS Version)	
	0239542	Ref	**CONTROL VALVE INSTALLATION (MACHINES WITHOUT ROTATE AND WITHOUT NOISE REDUCTION - BUILT THROUGH 1992) (VARIABLE PARTS)**	C
201	4640555	1	Valve Assembly - FPS 2 Stack (See VALVE ASSEMBLY - FPS for Breakdown)	
202	4640522	1	Pressure Reducing Valve Assembly	
202	4640523	1	Cartridge	
202	2900698	1	Seal Kit - 4640523 Cartridge	
203	4640123	1	Selector Valve Assembly	
203	7004368	1	Coil (Hydraforce Version)	
203	7000558	1	Coil (FPS Version)	
203	7012518	1	Seal Kit (Hydraforce Version)	
203	7006075	1	Seal Kit (FPS Version)	
	0253206	Ref	**CONTROL VALVE INSTALLATION (MACHINES WITH ROTATE AND WITH NOISE REDUCTION - 1993 TO PRESENT)**	C
301	4640556	1	Valve Assembly - FPS 3 Stack (See VALVE ASSEMBLY - FPS for Breakdown)	
303	4640758	1	Selector Valve Assembly	
303	7012906	1	Coil	
303	7012907	1	Seal Kit	
304	4060806	7 ft/2m	Shield, Flex Trim	
	0253207	Ref	**CONTROL VALVE INSTALLATION (MACHINES WITHOUT ROTATE AND WITH NOISE REDUCTION - 1993 TO PRESENT)**	C
401	4640555	1	Valve Assembly - FPS 2 Stack (See VALVE ASSEMBLY - FPS for Breakdown)	
403	4640758	1	Selector Valve Assembly	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
403	7012906	1	Coil	
403	7012907	1	Seal Kit	
404	4060806	7 ft/2m	Shield, Flex Trim	

FIGURE 2-4. STEP CONTROL VALVE ASSEMBLY

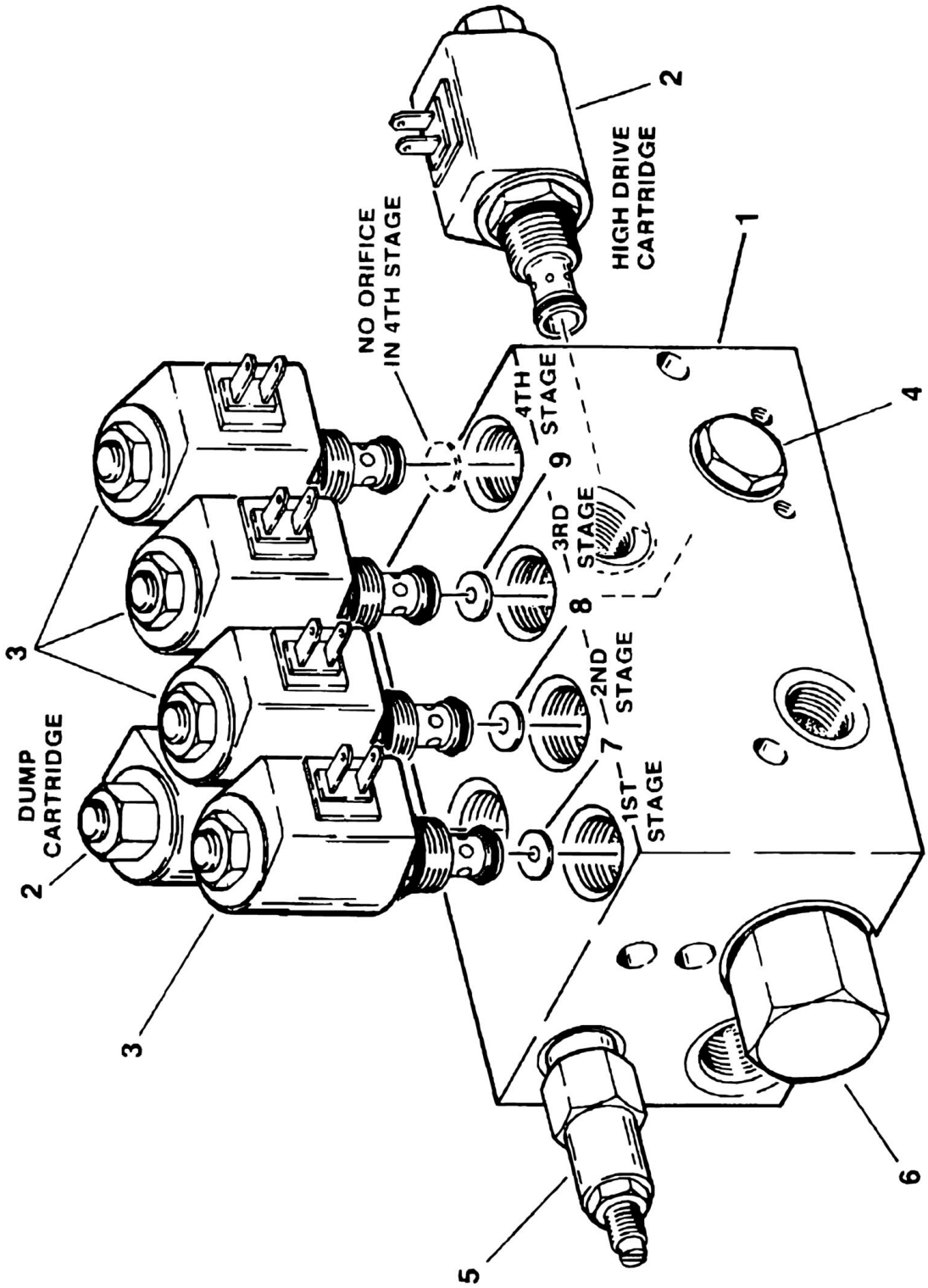


FIGURE 2-4. STEP CONTROL VALVE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640541	Ref	**STEP CONTROL VALVE ASSEMBLY**	C
1	N.S.S.	1	Body (Not Sold Separately)	
2	7009740	2	Valve, Cartridge	
2	7009742	2	Coil (1 Per Cartridge)	
2	2900503	2	Seal Kit (1 Per Cartridge)	
3	7009741	4	Valve, Cartridge	
3	7009742	4	Coil (1 Per Cartridge)	
3	2900503	4	Seal Kit (1 Per Cartridge)	
4	7003635	1	Valve, Check	
4	2900503	1	Seal Kit	
5	7004225	1	Valve, Cartridge Relief	
5	2900503	1	Seal Kit	
6	7004233	1	Valve, Compensator Cartridge	
6	7009768	1	Seal Kit	
7	7009765	1	Orifice (.063)	
8	7009766	1	Orifice (.070)	
9	7009778	1	Orifice (.090)	

FIGURE 2-5. VALVE ASSEMBLY - FPS (STEER)

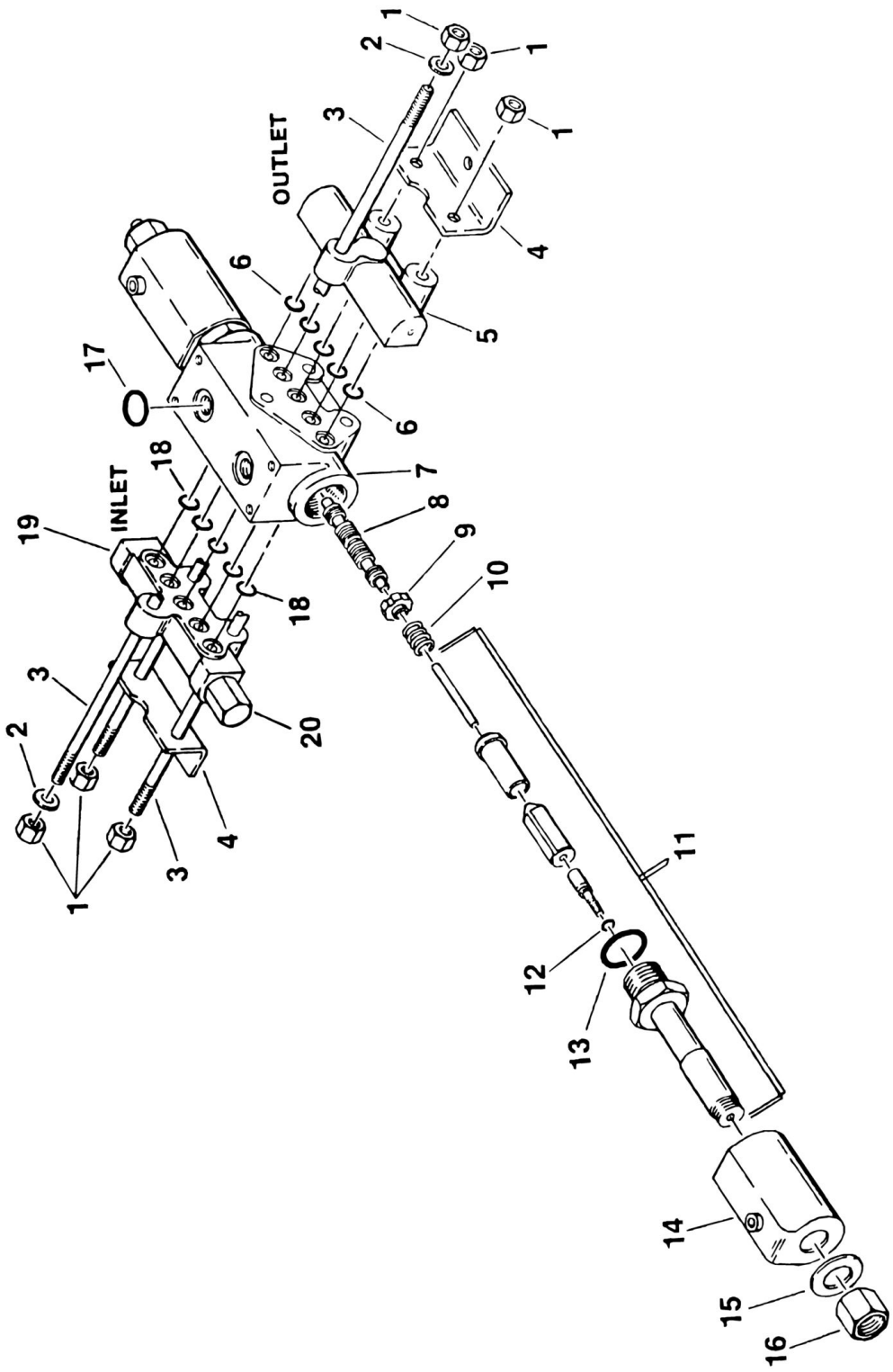


FIGURE 2-5. VALVE ASSEMBLY - FPS (STEER)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640375	Ref	**VALVE ASSEMBLY - FPS (STEER)**	C
1	7000585	6	Nut	
2	7000586	2	Washer	
3	7006043	3	Rod, Tie	
4	7006039	2	Bracket, Mounting	
5	7000600	1	Section, Valve - Outlet	
6	Kit	5	O-Ring	
7	7006041	1	Section, Valve - Complete (Includes Items 8-16)	
8	N.S.S.	1	Spool (Not Sold Separately)	
9	7006037	2	Retainer, Spring	
10	7006036	2	Spring	
11	7006034	2	Tube Assembly	
12	Kit	2	O-Ring	
13	Kit	2	O-Ring	
14	4640049	2	Coil, Solenoid	
15	N.S.S.	2	Nameplate (Not Sold Separately)	
16	7006033	2	Nut	
17	Kit	2	O-Ring	
18	Kit	5	O-Ring	
19	7006040	1	Section, Valve - Inlet (Includes Items 20)	
20	7006053	1	Relief, Inlet	
	7000549	4	Seal Kit - Single Section (Includes Items 12,13,17 & 18)	
	7006047	1	Seal Kit - Standard Outlet (Includes Item 6.)	
	7000550	1	Seal Kit - Inlet Relief	

FIGURE 2-6. VALVE ASSEMBLY - 4 STACK BANG-BANG

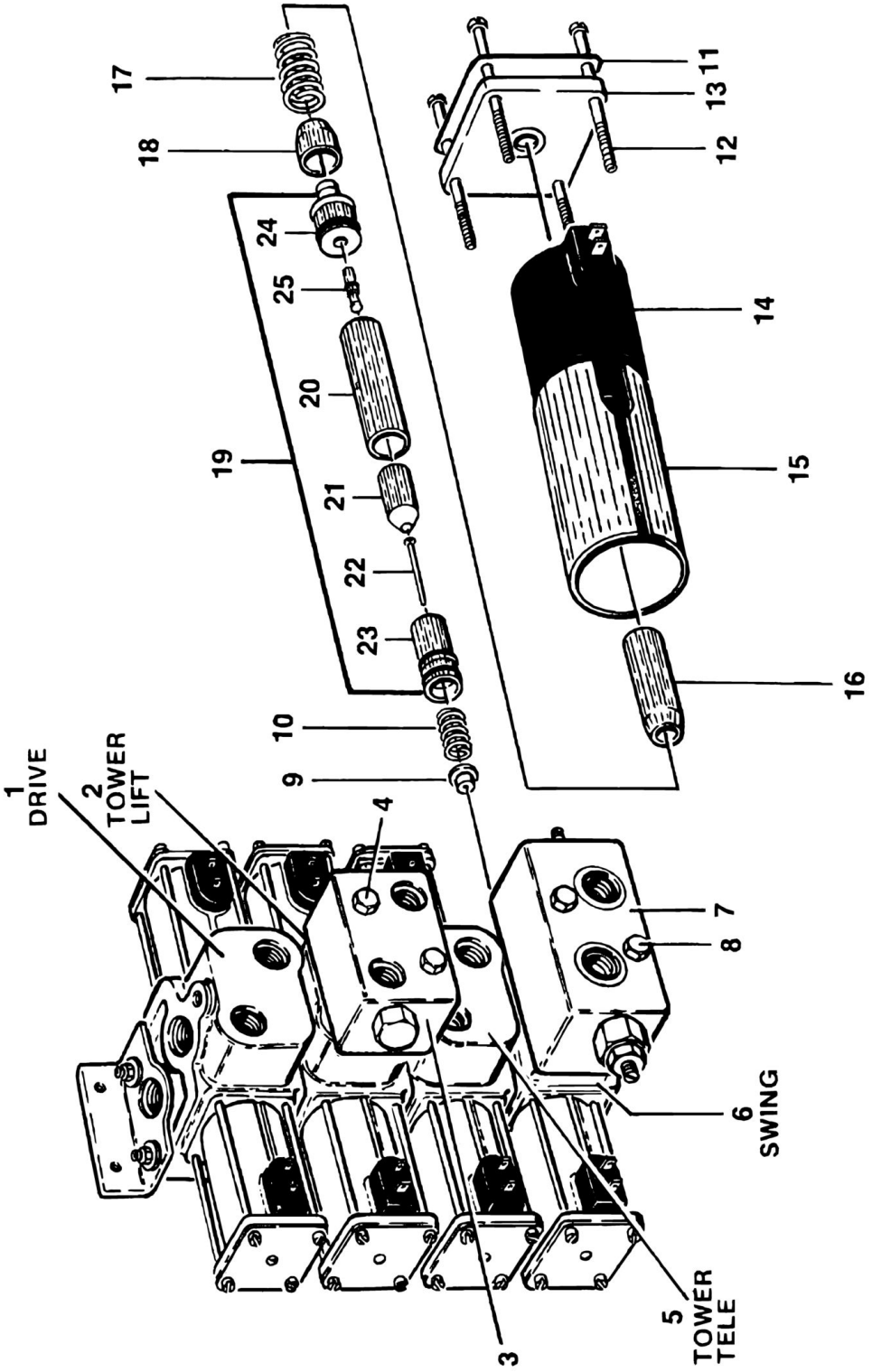


FIGURE 2-6. VALVE ASSEMBLY - 4 STACK BANG-BANG

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640564	Ref	**VALVE ASSEMBLY - 4 STACK BANG-BANG**	A
1	7004894	1	Drive Section - Complete (Refer to Items 9-25 for Serviced Parts)	
2	7003841	1	Tower Lift Section - Complete With Relief Valve (Refer to Items 9-25 for Serviced Parts)	
3	7002262	1	Dual Pilot Check Valve Assembly (Due to various suppliers, internal components are no longer field serviceable)	
4		Ref	Screw	
4	7002325	2	O-Ring	
5	7004894	1	Tower Tele Section - Complete (Refer to items 9-25 for Serviced Parts.)	
6	7003832	1	Swing Section - Complete With Relief Valve (Refer to Items 9-25 for Serviced Parts)	
7	7000468	1	Crossover Relief Valve Block Assembly (Due to various suppliers, internal components are no longer field serviceable)	
8		Ref	Screw	
8	7002325	2	O-Ring	
	7003833	1	Swing Section - Complete Without Relief Valve (Refer to Items 9-25 for Serviced Parts)	
9	7003825	6	Seat, Washer (Drive, Tele and Swing TURNTABLE SECTION per Section)	
9	7002274	2	Seat, Washer (Lift Section)	
10	7002348	8	Spring (2 Per Section)	
11	7003828	6	Nameplate (Drive, Tower Tele and Swing Sections)	
11	7002327	2	Nameplate (Tower Lift Sections)	
	7004896	4	Solenoid Assembly (Drive and Tower Tele Sections)	
	7004859	2	Solenoid Assembly (Tower Lift Section)	
	7003840	2	Solenoid Assembly (Swing Section)	
12	7002339	4	Screw	
13	7002338	1	Plate, End	
14	7000418	1	Coil	
15	7002335	1	Case, Solenoid	
16	7002336	1	Sleeve, Outer Flux	
17	7002334	1	Spring	
18	7002333	1	Sleeve, Inner Flux	
19	7004821	1	Guide Tube Assembly (Drive, Tower Lift and Tower Tele Sections)	
19	7003837	1	Guide Tube Assembly (Swing Section)	
20	7000470	1	Tube, Guide	
21	7002344	1	Plunger	
22	7002346	1	Pin, Push	
23	7003830	1	Cone Assembly	
23	7002345	1	Cone	
23	Kit	1	O-Ring 11/16in OD	
23	Kit	1	O-Ring 3/4in OD	
24	7003831	1	Pin and Guide Assembly (Drive, Tower Lift and Tower Tele Sections)	
24	7003836	1	Pin and Guide Assembly (Swing Section)	
24	7002340	1	Guide	
24	Kit	1	O-Ring 11/16in OD	
25	7003829	1	Pin Assembly (Drive, Tower Lift and Tower Tele Sections)	
25	7003835	1	Pin Assembly (Swing Section)	
25	Kit	1	Seal, Pin	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	7002347	3	O-Ring 3/4in OD (Use Between Sections - Not Shown)	
	7000448	3	O-Ring 1 1/16in OD (Use Between Sections - Not Shown)	
	7000437	3	Seal Kit - Valve Section	

FIGURE 2-7. VALVE ASSEMBLY - FPS

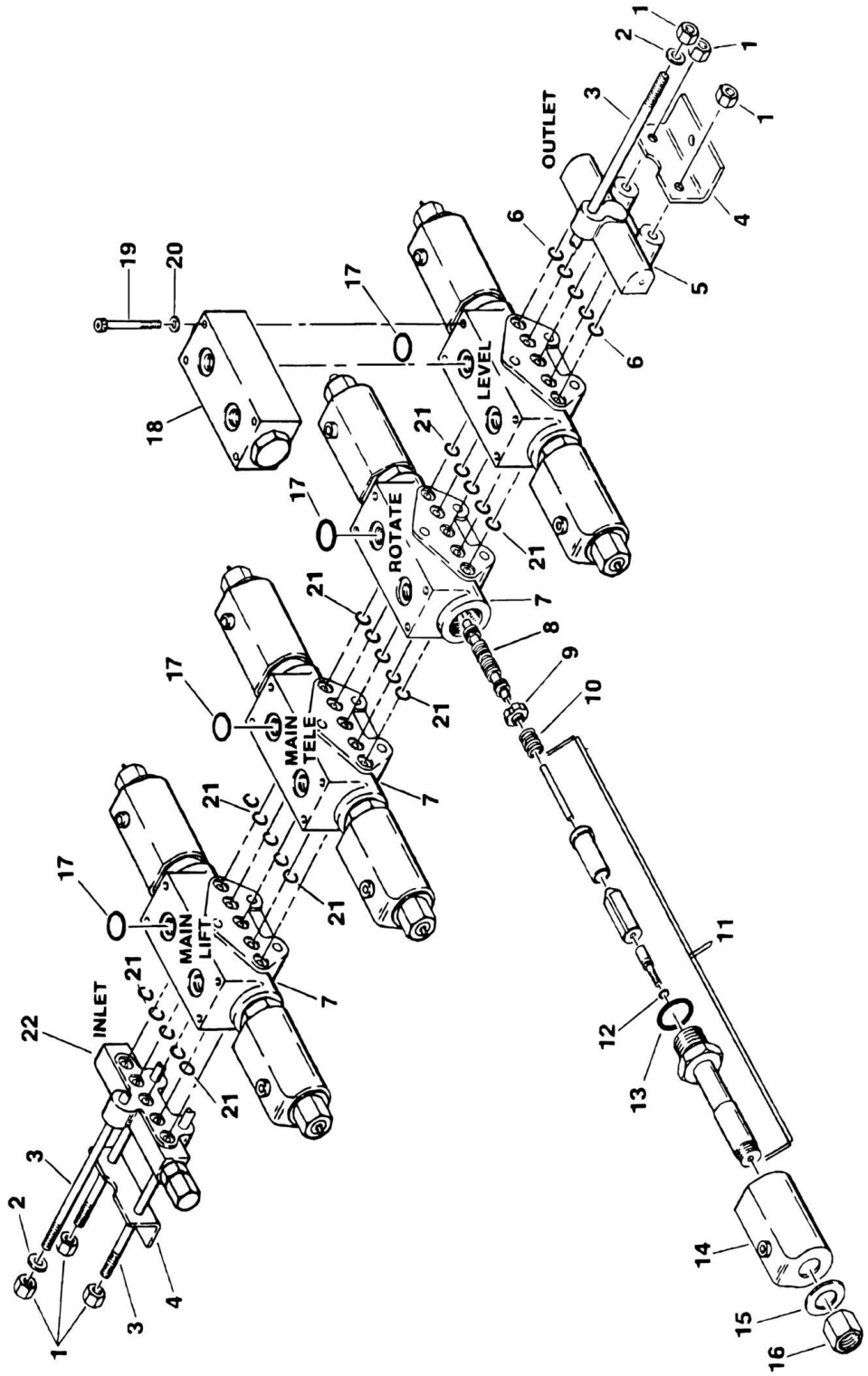


FIGURE 2-7. VALVE ASSEMBLY - FPS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640544	Ref	**4 STACK (Machines with Stepper Valves and Rotate)**	C
	4640556	Ref	**3 STACK (Machines with Stepper Valves and without Rotate/Machines with Vickers Valves and with Rotate)**	C
	4640555	Ref	**2 STACK (Machines with Vickers Valves and without Rotate)**	C
1	7000585	6	Nut	
2	7000586	2	Washer	
3		Ref	Rod, Tie Options:	
3	7006002	3	Rod 4 Stack	
3	7006059	3	Rod 3 Stack	
3	7006061	3	Rod 2 Stack	
4	7006039	2	Bracket, Mounting	
5	7006058	1	Section, Valve - Outlet	
5	7006055	1	Plug, Closed Center (Not Shown)	
6	Kit	5	O-Ring	
7		Ref	Valve Section - Complete Options (Includes 8-16)	
7	7006063	1	Section, Valve - Complete (Main Lift - 4 Stack Used on Stepper Valve Machines)	
7	7006041	3	Section, Valve - Complete (Main Tele, Rotate and Level - 4 Stack Used on Stepper Valve Machines)	
7	7006041	3	Section, Valve - Complete (Main Lift, Main Tele and Level - 3 Stack Used on Stepper Valve Machines)	
7	7006041	3	Section, Valve - Complete (Main Tele, Level and Rotate - 3 Stack Used on Vickers Valve Machines)	
7	7006041	3	Section, Valve - Complete (Main Tele and Level - 2 Stack Used on Vickers Valve Machines)	
8	Not Available	AR	Spool (1 per Valve Section)	
9	7006037	AR	Retainer, Spring (2 per Valve Section)	
10	7006036	AR	Spring (2 per Valve Section)	
11	7006034	AR	Tube Assembly (2 per Valve Section)	
12	Kit	AR	O-Ring (2 per Valve Section)	
13	Kit	AR	O-Ring (2 per Valve Section)	
14	4640049	AR	Coil, Solenoid (2 per Valve Section)	
15	Not Available	AR	Nameplate (2 per Valve Section)	
16	7006033	AR	Nut (2 per Valve Section)	
17	Kit	AR	O-Ring (2 per Valve Section)	
18	7006060	1	Port Block Attachment (Level Section Only)	
19	7000598	4	Bolt	
20	7000597	4	Washer	
21	Kit	AR	O-Ring (5 per Stack)	
22		Ref	Inlet Valve Section Options:	
22	7006056	1	Inlet Valve Section (1987 through 1991) (Without Relief Cartridge)	
22	7006074	1	Inlet Valve Section (1992 to Present) (With Relief Valve)	
	7000549	AR	Seal Kit - Single Section (Includes 12, 13, 17 & 21)	
	7006062	1	Seal Kit - Standard Outlet (Includes Item 6)	
	7000581		Seal Kit - Level Section Port Block (Includes Item 17 and Check Valves O-Rings)	

FIGURE 2-8. CONTROL VALVE ASSEMBLY (VICKERS) (PRIOR TO OCTOBER 1994)

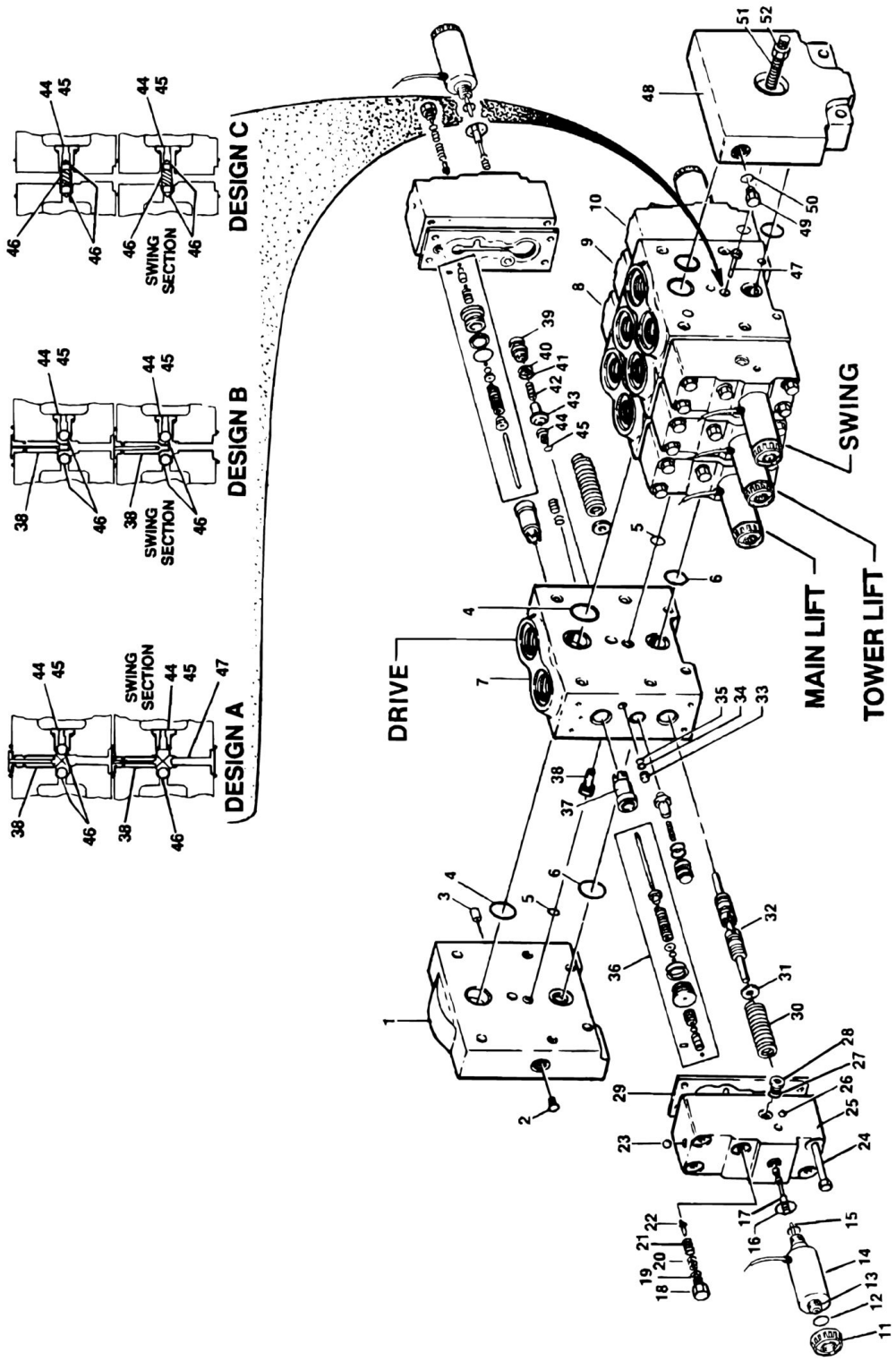


FIGURE 2-8. CONTROL VALVE ASSEMBLY (VICKERS) (PRIOR TO OCTOBER 1994)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640554	Ref	**CONTROL VALVE ASSEMBY (VICKERS) (PRIOR TO OCTOBER 1994)**	A
1	7006724	1	Inlet Body	
2	7006725	1	Setscrew	
3	7006733	1	Plug	
4	Kit	1	O-Ring	
5	Kit	5	O-Ring	
6	Kit	1	O-Ring	
7	7006760	1	Working Section - Complete (Drive) (Includes Items 11-47)	
8	7009327	1	Working Section - Complete (Main Lift) (Includes Items 11-47)	
9	7009327	1	Working Section - Complete (Tower Lift) (Includes Items 11-47)	
10	7006763	1	Working Section - Complete (Swing) (Includes Items 11-47)	
11	7012325 & 7020361	8	Nut, Retaining (was p/n 7009317) (Note: When replacing this nut (7009317) you must order (7012325 & 7020361).	
12	Kit	8	O-Ring (2 Per Section)	
13	7009316	8	Core Tube (Includes O-Ring) (2 Per Section)	
14	7009315	8	Coil and Frame (2 Per Section)	
15	7009319	8	Pin (2 Per Section)	
16	Kit	8	O-Ring (2 Per Section)	
17	7006744	8	Spool (2 Per Section)	
18	7006726	8	Plug, Torque (2 Per Section)	
19	7006727	8	O-Ring (2 Per Section)	
20	7006728	8	Shim Kit (2 Per Section)	
21	7006729	8	Spring (2 Per Section)	
22	7006730	8	Poppet (2 Per Section)	
23	7006731	8	Ball (2 Per Section)	
24	7006745	32	Screw (8 Per Section)	
25	N.S.S.	8	Cap, End (Not Sold Separately) (2 Per Section)	
26	7006746	8	Ball (2 Per Section)	
27	Kit	8	O-Ring (2 Per Section)	
28	7009323	8	Plug (2 Per Section)	
29	7006748	8	Gasket (2 Per Section)	
30	7009324	8	Spring (2 Per Section)	
31	7009325	8	Retainer (2 Per Section)	
32	N.S.S.	4	Spool (Not Sold Separately) (1 Per Section)	
33	7006757	8	Seat (2 Per Section)	
34	Kit	8	Ring, Back-Up (2 Per Section)	
35	Kit	8	O-Ring (2 Per Section)	
36	7009320	8	Servo Stem Assembly (2 Per Section)	
37	7006737	8	Poppet (2 Per Section)	
38	7009321	4	Retainer (13/16in-2.1cm length) (Design A) (1 Per Section)	
38	7009363	4	Retainer (1 3/16in-3cm Length) (Design B) (1 Per Section)	
38	Not Required	0	Retainer (Design C)	
38	Kit	4	O-Ring (1 Per Section)	
39	7006752	8	Retainer (2 Per Section)	
40	Kit	8	Ring, Back-Up (2 Per Section)	
41	Kit	8	O-Ring (2 Per Section)	
42	7006773	8	Spring (2 Per Section)	
43	7006756	6	Poppet (Drive and Swing Sections) (2 Per Section)	
43	7009328	2	Poppet (Lift Sections) (2 Per Section)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
44	7006771	8	Plug, Torque (2 Per Section)	
45	Kit	8	O-Ring (2 Per Section)	
46	7006761	6	Ball (Design A - All Sections Except Swing) (2 Per Section)	
46	7006761	4	Ball (Design A - Swing Section) (4 Per Section)	
46	7006761	8	Ball (Design B - All Sections) (8 Per Section)	
46	7009369	8	Poppet (Design C - All Sections) (8 Per Section)	
46	7009368	4	Spring (Design C - All Sections) (4 Per Section)	
47	7006777	1	Pin, Solid (Design A - Swing Section Only)	
47	Not Required	0	Pin, Solid (Design B and Design C)	
48	7006780	1	Cover, End	
49	7006778	1	Plug, Torque	
50	Kit	1	O-Ring	
51	7009329	3	Rod, Tie	
52	7006782	6	Nut	
	7009330		Seal Kit (Includes Items 4, 5, 6, 12, 16, 27, 34, 35, 38, 40, 41, 45, 50 and Servo Stem O-Rings)	
	7009395	5	Seal Kit - Valve Face (Includes Items 4, 5 & 6)	

FIGURE 2-9. CONTROL VALVE ASSEMBLY - (VICKERS) (OCTOBER 1994 TO PRESENT)

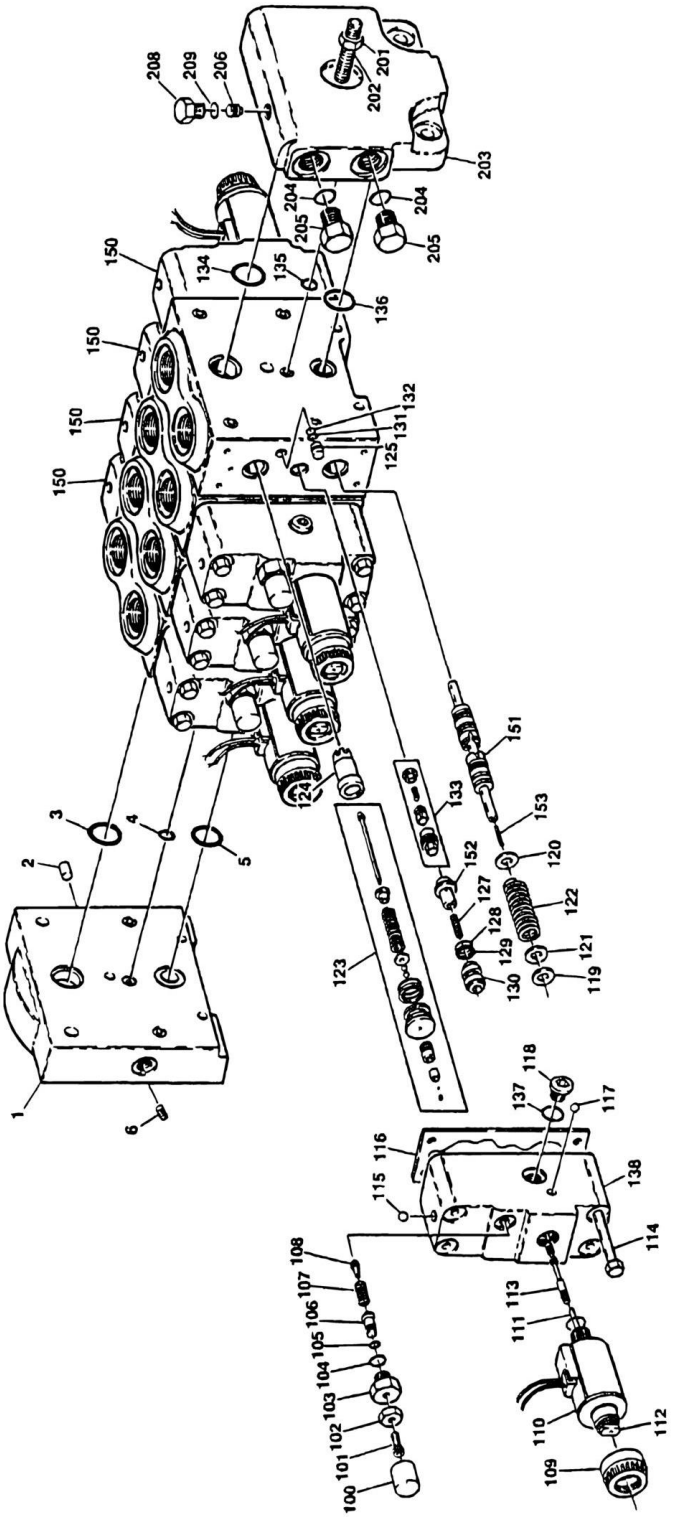


FIGURE 2-9. CONTROL VALVE ASSEMBLY - (VICKERS) (OCTOBER 1994 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640914	Ref	**VICKERS VALVE ASSEMBLY - 4 SECTION**	-
		Ref	**Inlet Section**	
1	7006724	1	Inlet Body	
2	7006733	1	Plug	
3	Kit	1	O-Ring	
4	Kit	1	O-Ring	
5	Kit	1	O-Ring	
6	7006725	1	Setscrew	
		Ref	**Working Sections (Standard Parts)**	
100	Kit	AR	Cap (2 Per Section)	
101	7012319	AR	Screw (2 Per Section)	
102	Kit	AR	Nut (2 Per Section)	
103	Kit	AR	Plug (2 Per Section)	
104	Kit	AR	Packing (2 Per Section)	
105	7012322	AR	Packing (2 Per Section)	
106	Kit	AR	Piston (2 Per Section)	
107	Kit	AR	Spring (2 Per Section)	
108	7006730	AR	Poppet (2 Per Section)	
109	7012325	AR	Nut, Retaining (2 Per Section)	
110	7012339	AR	Coil (2 Per Section)	
111	7009319	AR	Pin (2 Per Section)	
112	7012326	AR	Core Tube Sub Assembly (2 Per Section)	
113	7012327	AR	Spool	
114	7006745	AR	Screw (8 Per Section)	
115	7006731	AR	Ball	
116	Kit	AR	Gasket	
117	7006746	AR	Ball	
118	7009323	AR	Plug (2 Per Section)	
119	7012330	AR	Shim (AR Per Section)	
120	7012329	AR	Retainer (2 Per Section)	
121	7012328	AR	Shim (AR Per Section)	
122	7009324	AR	Spring (2 Per Section)	
123	7009320	AR	Stem Servo Sub Assembly (2 Per Section)	
124	7006737	AR	Poppet (2 Per Section)	
125	7006757	AR	Seat (2 Per Section)	
127	7006773	AR	Spring (2 Per Section)	
128	Kit	AR	O-Ring (2 Per Section)	
129	Kit	AR	Back-up (2 Per Section)	
130	7009398	AR	Retainer (2 Per Section)	
131	Kit	AR	Back-up Ring (2 Per Section)	
132	Kit	AR	O-Ring (2 Per Section)	
133	7012333	AR	Load Sense (2 Per Section)	
134	Kit	AR	O-Ring (2 Per Section)	
135	Kit	AR	O-Ring (2 Per Section)	
136	Kit	AR	O-Ring (5 Per Section)	
137	Kit	AR	O-Ring (2 Per Section)	
138	Not Serviced	AR	Cap, End (2 Per Section)	
	7009330	AR	Seal Kit (1 Per Section)	
	7012383	AR	Piston/Spring Kit (Includes 1 each of items 100, 102, 103, 106 & 107) (2 Per Section)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
150		Ref	**Working Section Options:**	
150	7012332	Ref	Working Section Drive	
150	7012334	Ref	Working Section Lift	
150	7012334	Ref	Working Section Lift	
150	7012335	Ref	Working Section Swing	
151		Ref	Spool Options:	
151	7012331	1	Spool for Drive and Lift Sections	
151	7012340	1	Spool for Swing Section	
152		Ref	Poppet Options:	
152	7009399	2	Poppet for Drive and Swing Sections	
152	7009397	2	Poppet for Lift Sections	
153		Ref	Piston Options:	
153	Not Required	0	Piston for Drive and Lift Sections	
153	7012300	2	Piston for Swing Section	
		Ref	**OUTLET SECTION**	
201	7006782	6	Nut	
202	7009361	3	Rod, Tie	
203	7012337	1	Cover End	
204	Kit	2	O-Ring	
205	7006778	2	Plug	
206	7012338	1	Setscrew Orifice Sub-Assembly	
208	7012336	1	Plug	
209	Kit	1	O-Ring	

FIGURE 2-10. VALVE ASSEMBLY - SINGLE STACK BANG-BANG

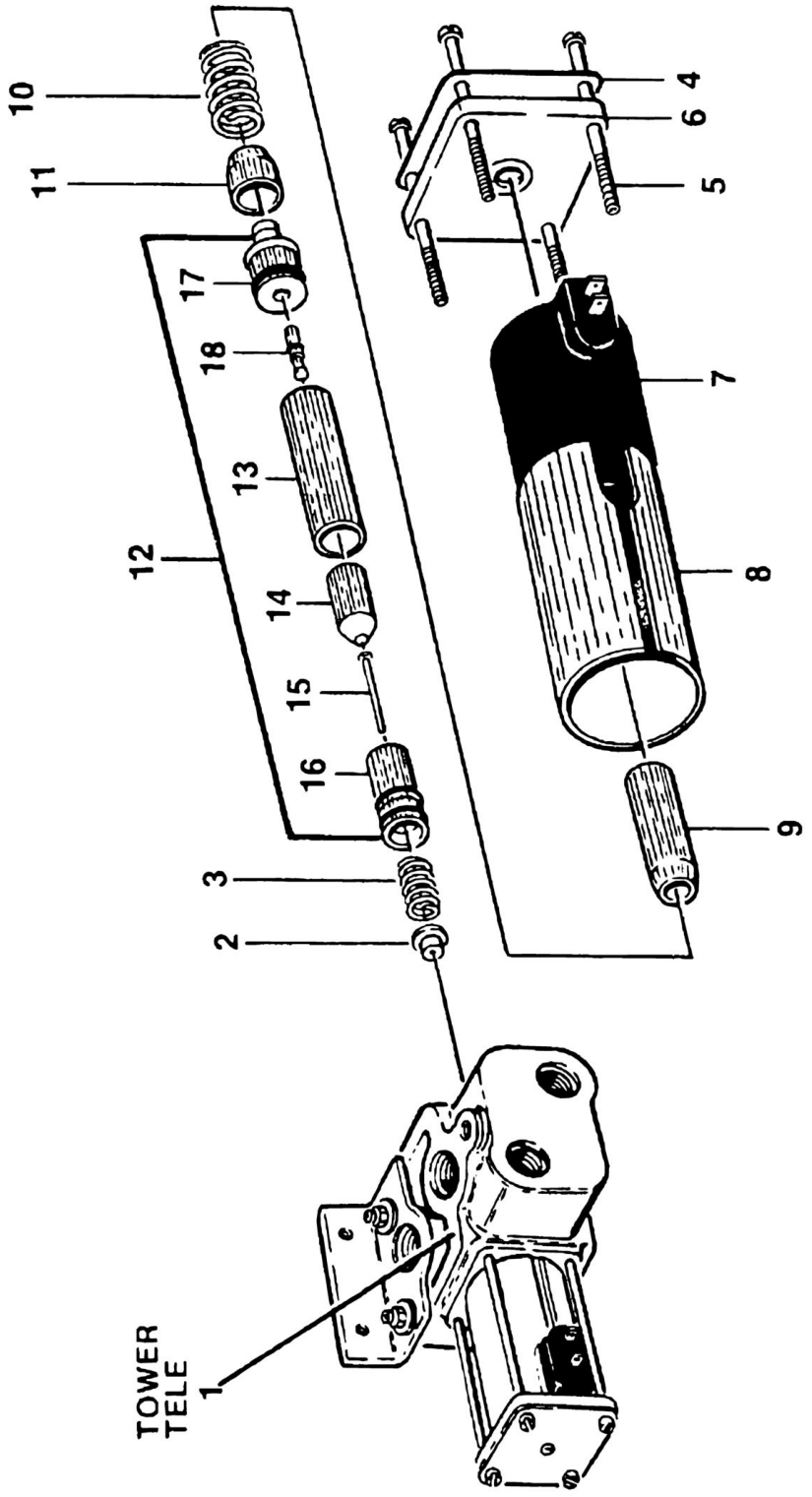


FIGURE 2-10. VALVE ASSEMBLY - SINGLE STACK BANG-BANG

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640570	Ref	**VALVE ASSEMBLY - SINGLE STACK BANG-BANG**	-
1	7004894	1	Drive Section - Complete (Includes Items 2-18)	
2	7003825	2	Seat, Washer	
3	7002348	2	Spring	
4	7003828	2	Nameplate	
	7004896	2	Solenoid Assembly (Includes Items 5-18)	
5	7002339	8	Screw (4 Per Assembly)	
6	7002338	2	Plate, End (1 Per Assembly)	
7	7000418	2	Coil (1 Per Assembly)	
8	7002335	2	Case, Solenoid (1 Per Assembly)	
9	7002336	2	Sleeve, Outer Flux (1 Per Assembly)	
10	7002334	2	Spring (1 Per Assembly)	
11	7002333	2	Sleeve, Inner Flux (1 Per Assembly)	
12	7004821	2	Guide Tube Assembly (Includes Items 13-18) (1 Per Assembly)	
13	7000470	2	Tube, Guide (1 Per Assembly)	
14	7002344	2	Plunger (1 Per Assembly)	
15	7002346	2	Pin, Push (1 Per Assembly)	
16	7003830	2	Cone Assembly (1 Per Assembly)	
16	7002345	2	Cone (1 Per Assembly)	
16	Kit	2	O-Ring 11/16in OD (1 Per Assembly)	
16	Kit	2	O-Ring 3/4in OD (1 Per Assembly)	
17	7003831	2	Pin and Guide Assembly (1 Per Assembly)	
17	7002340	2	Guide (1 Per Assembly)	
17	Kit	2	O-Ring 11/16in OD (1 Per Assembly)	
18	7003829	2	Pin Assembly (1 Per Assembly)	
18	Kit	2	Seal, Pin (1 Per Assembly)	
	7002347	1	O-Ring 3/4in OD (Use Between Sections - Not Shown)	
	7000448	1	O-Ring 1 1/16in OD (Use Between Sections - Not Shown)	
	7000437	4	Seal Kit - Valve Section	

FIGURE 2-11. ACCESSORY VALVE ASSEMBLY (MILLER)

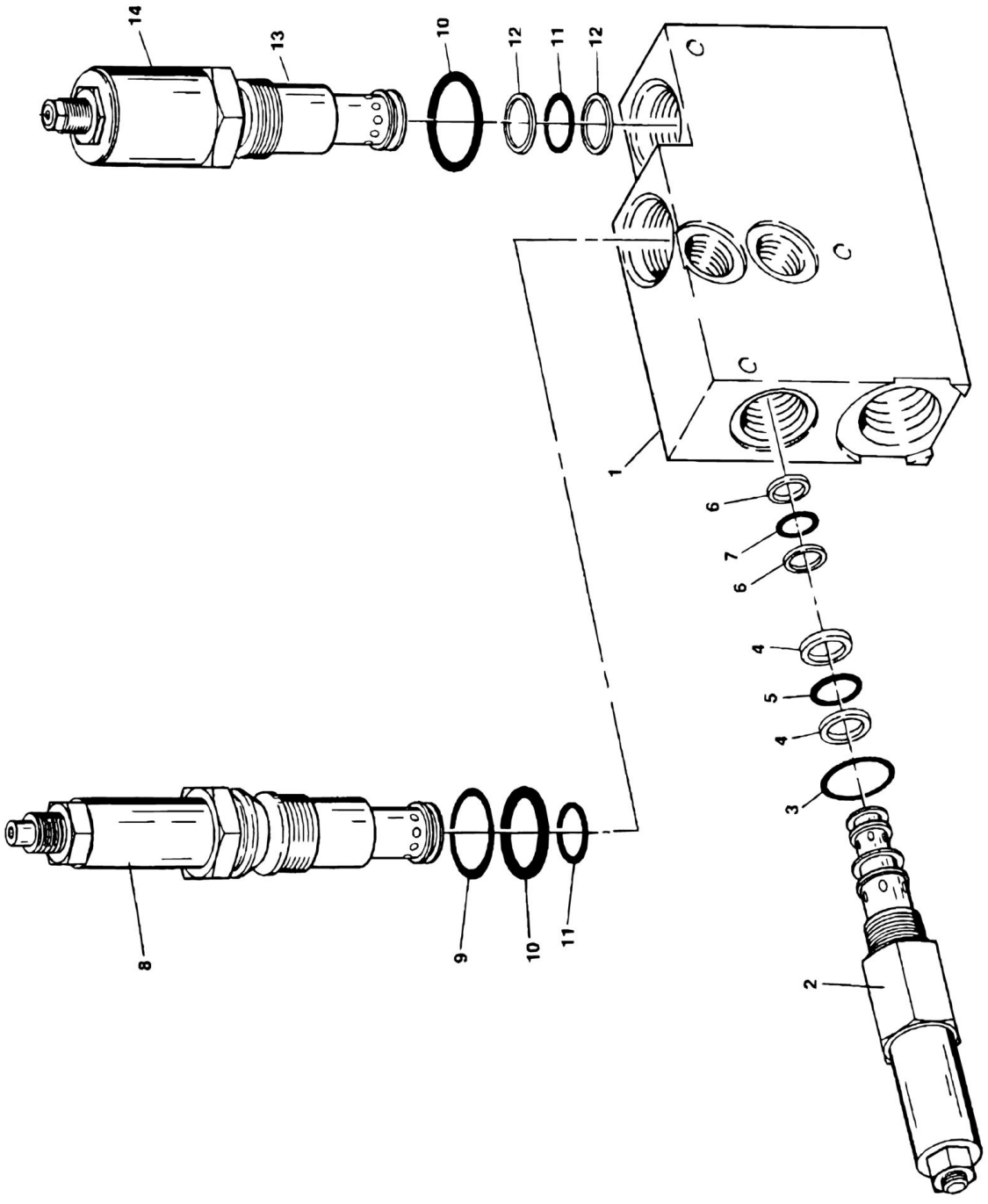


FIGURE 2-11. ACCESSORY VALVE ASSEMBLY (MILLER)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640535	Ref	**ACCESSORY VALVE ASSEMBLY (MILLER)(ELECTRIC AND KOHLER MACHINES BUILT PRIOR TO JUNE 1990)**	A
		Ref	**Note: Not sold as a complete assembly.**	
1	N.S.S.	1	Body (Not Sold Separately)	
2	7009755	1	Cartridge, Pressure Reducing/Relieving	
3	7009759	1	O-Ring	
4	7007760	2	Ring, Back-Up	
5	3790015	1	O-Ring	
6	7009761	2	Ring, Back-Up	
7	3790014	1	O-Ring	
8	7009756	1	Cartridge, Sequence	
9	3790118	1	O-Ring	
10	3790211	2	O-Ring	
11	3790016	2	O-Ring	
12	7009762	2	Ring, Back-Up	
13	7009757	1	Cartridge, 2-Position	
14	7009758	1	Coil (Includes Nut and Washer)	

FIGURE 2-12. ACCESSORY VALVE ASSEMBLY (HYDRAFORCE)

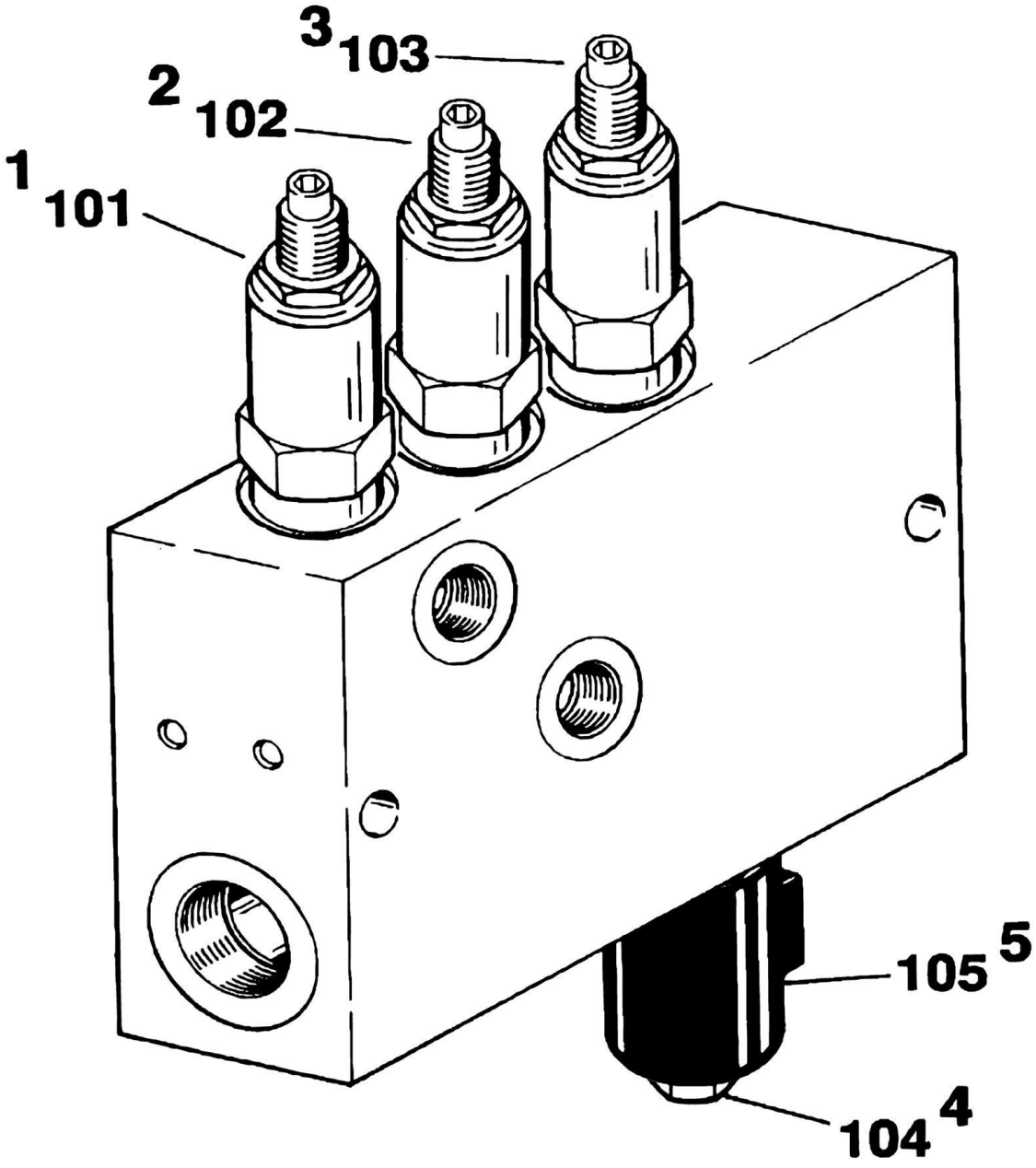


FIGURE 2-12. ACCESSORY VALVE ASSEMBLY (HYDRAFORCE)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4640580	Ref	**ACCESSORY VALVE ASSEMBLY (HYDRAFORCE) (ELECTRIC AND KOHLER MACHINES JUNE 1990 TO SEPTEMBER 1991 MODELS /ALL FORD AND KUBOTA MACHINES PRIOR TO SEPTEMBER 1991)**	-
		Ref	**Note: Not sold as a complete assembly.**	
1	7004365	1	Cartridge - Sequence	
2	7004366	1	Cartridge - Pressure Reducing	
3	7004367	1	Cartridge - Main Relief	
4	7004369	1	Cartridge Less Coil - Dump	
5	7004368	1	Coil	
	2900707	2	Seal Kit (Sequence and Pressure Reducing)	
	2900708	1	Seal Kit (Main Relief)	
	2900709	1	Seal Kit (Dump)	
	4640716	Ref	**ACCESSORY VALVE ASSEMBLY (SEPTEMBER 1991 TO PRESENT MODELS)**	-
		Ref	**Note: Refer to P/N stamped on cartridge hex nut for identification.**	
101		Ref	Cartridge - Sequence Options:	
101	7012506	1	Cartridge Hydraforce PS10-34A	
101	7010552	1	Cartridge Vickers/Modular Controls PSV7-10V	
102		Ref	Cartridge - Pressure Reducing Options:	
102	7012505	1	Cartridge Hydraforce PR10-32A	
102	7010553	1	Cartridge Vickers/Modular Controls PRV1-10V	
103		Ref	Cartridge - Main Relief Options:	
103	7012507	1	Cartridge Hydraforce RV50-26A	
103	7010554	1	Cartridge Vickers/Modular Controls RV5-10V	
104		Ref	Cartridge - Dump Options:	
104	7004369	1	Cartridge Less Coil (Hydraforce SV16-21)	
104	7010556	1	Cartridge with Coil (Vickers/Modular Controls SV3-16V)	
105		Ref	Coil Options:	
105	7004368	1	Coil Hydraforce 6352012	
105	7010555	1	Coil Vickers/Modular Controls 565966	
		Ref	Seal Kit - Sequence Options:	
	7012509	1	Seal Kit Hydraforce Version	
	7010557	1	Seal Kit Vickers/Modular Controls Version	
		Ref	Seal Kit - Pressure Reducing Options:	
	7012510	1	Seal Kit Hydraforce Version	
	7010558	1	Seal Kit Vickers/Modular Controls Version	
		Ref	Seal Kit - Main Relief Options:	
	7012511	1	Seal Kit Hydraforce Version	
	7010559	1	Seal Kit Vickers/Modular Controls Version	
		Ref	Seal Kit - Dump Options:	
	2900709	1	Seal Kit Hydraforce Version	
	7010560	1	Seal Kit Vickers/Modular Controls Version	

FIGURE 2-13. TURNTABLE, BEARING AND SWING DRIVE INSTALLATION

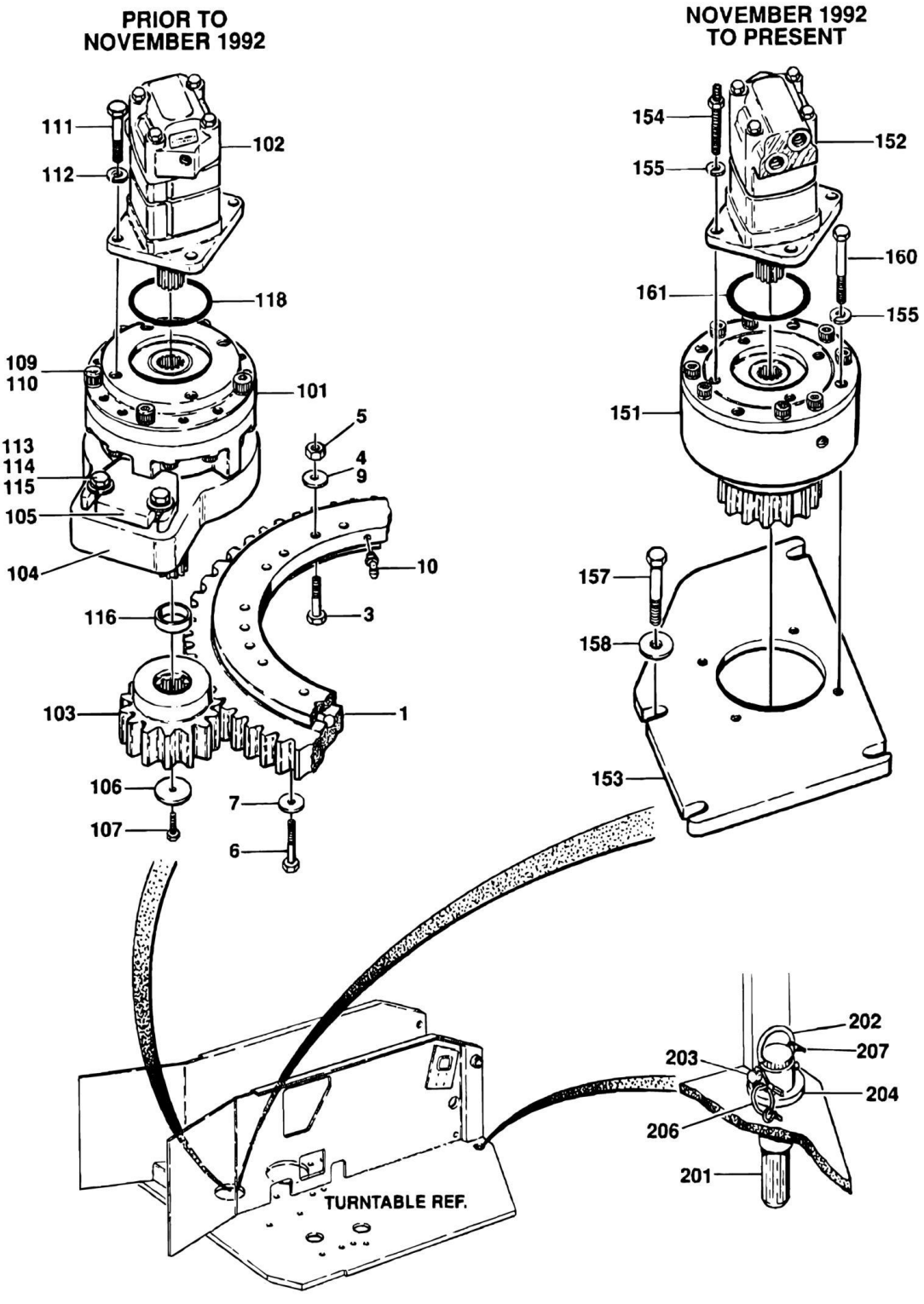


FIGURE 2-13. TURNTABLE, BEARING AND SWING DRIVE INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**TURNTABLE OPTIONS**	
		Ref	**Ford and Deutz Powered Machines:**	
	4620051	Ref	6ft-6in/2m Wide ANSI Spec Machines Built through 1992	
	4620079	Ref	6ft-6in/2m Wide ANSI Spec Machines Built (1993 to Present)	
	4620105	Ref	6ft-6in/2m Wide ANSI Spec Machines with 12in x 16.5in Tires	
	4620064	Ref	6ft-6in/2m Wide CSA Spec Machines Built through 1992	
	4620080	Ref	6ft-6in/2m Wide CSA Spec Machines with Built (1993 to Present)	
	4620064	Ref	5ft-9in/1.75m Wide CSA Spec Machines Built through 1992	
	4620080	Ref	5ft-9in/1.75m Wide CSA Spec Machines Built (1993 to Present)	
		Ref	**Kubota and Kohler Powered Machines:**	
	4620039	Ref	6ft-6in/2m Wide ANSI Spec Machines	
	4620040	Ref	6ft-6in/2m Wide CSA Spec Machines	
	4620042	Ref	5ft-9in/1.75m Wide Machines	
		Ref	**Electric Machines:**	
	4620030	Ref	6ft-6in/2m Wide ANSI Spec Machines Built (Prior to February 1988)	
	4620036	Ref	6ft-6in/2m Wide ANSI Spec Machines Built (February 1988 to January 1990)	
	4620056	Ref	6ft-6in/2m Wide ANSI Spec Machines Built (January 1990 to December 1992)	
	4620082	Ref	6ft-6in/2m Wide ANSI Spec Machines Built (December 1992 to Present)	
	4620040	Ref	6ft-6in/2m Wide CSA Spec Machines	
	4620042	Ref	5ft-9in/1.75m CSA Spec Machines	
		Ref	**TURNTABLE BEARING INSTALLATION**	
	0238511	Ref	**Machines with 8.75in & 9.5in Tires**	B
	0250860	Ref	**Machines with 8.75in & 9.5in Tires**	B
	0255117	Ref	**Machines with 12in Tires**	-
1		Ref	Bearing Kit (was p/n 0440067) Options (Kit Includes Bearing and Mounting Hardware):	
1	2915083	1	Machines with 8.75in & 9.5in Tires	
1	2915084	1	Machines with 12in Tires	
2	3538437	1	Spacer, Bearing (Machines with 12in Tires Only)	
3	0682020	14	Bolt 5/8in-11NC x 2 1/2in (Grade 8)	
4	4740004	11	Washer, Hardened	
5	3300183	14	Nut 5/8in-11NC (Grade 8)	
6	0681820	12	Bolt 1/2in-13NC x 2 1/2in (Grade 8) (8.75in x 9.5in Tires)	
6	0681844	12	Bolt 1/2in-13NC x 5 1/2in (Grade 8) (12in Tires)	
7	4740003	12	Washer, Hardened	
9	4740048	3	Washer, Special	
10	2160001		Fitting, Grease - 90	
	0100019	AR	Loctite #271	
	0100004	AR	Devcon (Not Required on Machines with Milled Frame and Turntable)	
	0238523	Ref	**SWING DRIVE INSTALLATION - MACHINES BUILT THROUGH 1992**	E
101	0920074	1	Swing Brake Assy (See SWING BRAKE ASSEMBLY for Breakdown)	
102	3160147	1	Swing Motor Assy (See SWING MOTOR ASSEMBLY for Breakdown)	
103	2440056	1	Pinion	
104	0080148	1	Adapter	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
105	0560793	1	Block, Clamp	
106	4740018	1	Washer	
107	0641608	1	Bolt 3/8in-16NC x 1in	
109	3931856	4	Bolt, Socket Head 1/2in-13NC x 3 1/2in	
110	4740189	4	Lockwasher 1/2in Hi-Collar	
111	0641810	4	Bolt 1/2in-13NC x 1 1/4in	
112	4761800	4	Lockwasher 1/2in	
113	0641610	2	Bolt 3/8in-16NC x 1 1/4in	
114	4761600	2	Lockwasher 3/8in	
115	4751600	2	Flatwasher 3/8in	
116	4563923	1	Spacer	
118	3790045	1	O-Ring	
	0100011	AR	Loctite #242	
	0100020	AR	Sealant, Pipe	
		Ref	**SWING DRIVE INSTALLATION - MACHINES BUILT 1993 TO PRESENT**	
	0252578	Ref	**Machines Built (1993 to May 1994)**	D
	0255010	Ref	**Machines Built (May 1994 to Present)**	-
151		Ref	Swing Brake Assembly Options:	
151	0920089	1	Brake Used (1993 to May 1994)	
151	7012570	1	Seal Kit - 0920089 Brake (Includes Seals, O-Rings, 1 Back-up Rings and Retaining Ring)	
151	7012571	1	Rebuild Kit - 0920089 Brake (Includes 7012570 Seal Kit, Inner and Outer Discs and Pressure Plate)	
151	0920095	1	Brake Used (May 1994 to Present)	
151	7012651	1	Seal Kit - 0920095 Brake (Includes Seals, O-Rings, 1 Back-up Rings and Retaining Ring)	
151	7012650	1	Rebuild Kit - 0920095 Brake (Includes 7012651 Seal Kit, Inner and Outer Discs and Pressure Plate)	
152	3160183	1	Swing Motor Assy (See SWING MOTOR ASSEMBLY for Breakdown)	
153	3535607	1	Plate, Mounting	
154	4300107	4	Stud 1/2in-13NC x 2in (1993 to May 1994 Only)	
154	3311801	4	Nut 1/2in-13NC	
155		Ref	Lockwasher 1/2in Options:	
155	4761800	8	Lockwasher 1/2in (1993 to May 1994)	
155	4740252	8	Lockwasher 1/2in (May 1994 to Present)	
157	0642014	4	Bolt 5/8in-11NC x 1 3/4in	
158	4740004	4	Washer, Hardened	
160		Ref	Bolt Options:	
160	0641830	4	Bolt (1993 to May 1994)	
160	0641834	4	Bolt (May 1994 to Present)	
161	3790155	1	O-Ring	
	0100019	AR	Loctite #271	
	0100021	AR	Primer	
		Ref	**TURNTABLE LOCK INSTALLATION**	
	0238164	Ref	**Machines with 8.75in & 9.5in Tires**	B
	0255148	Ref	**Machines with 12in Tires**	-
201		Ref	Pin, Lock Options:	
201	3421452	1	Pin Machines with 8.75in & 9.5in Tires	
201	3422414	1	Pin Machines with 12in Tires	
202	3760215	1	D-Ring	
203	3421453	1	Snap-Pin	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
204		Ref	Bushing (Welded on Part)	
204	4842998	1	Machines with 8.75in & 9.5in Tires	
204	0961945	1	Machines with 12in Tires	
206	3760170	1	Ring, Quick Release	
207	1260017	6 in/15cm	Chain	

FIGURE 2-14. SWING BRAKE ASSEMBLY

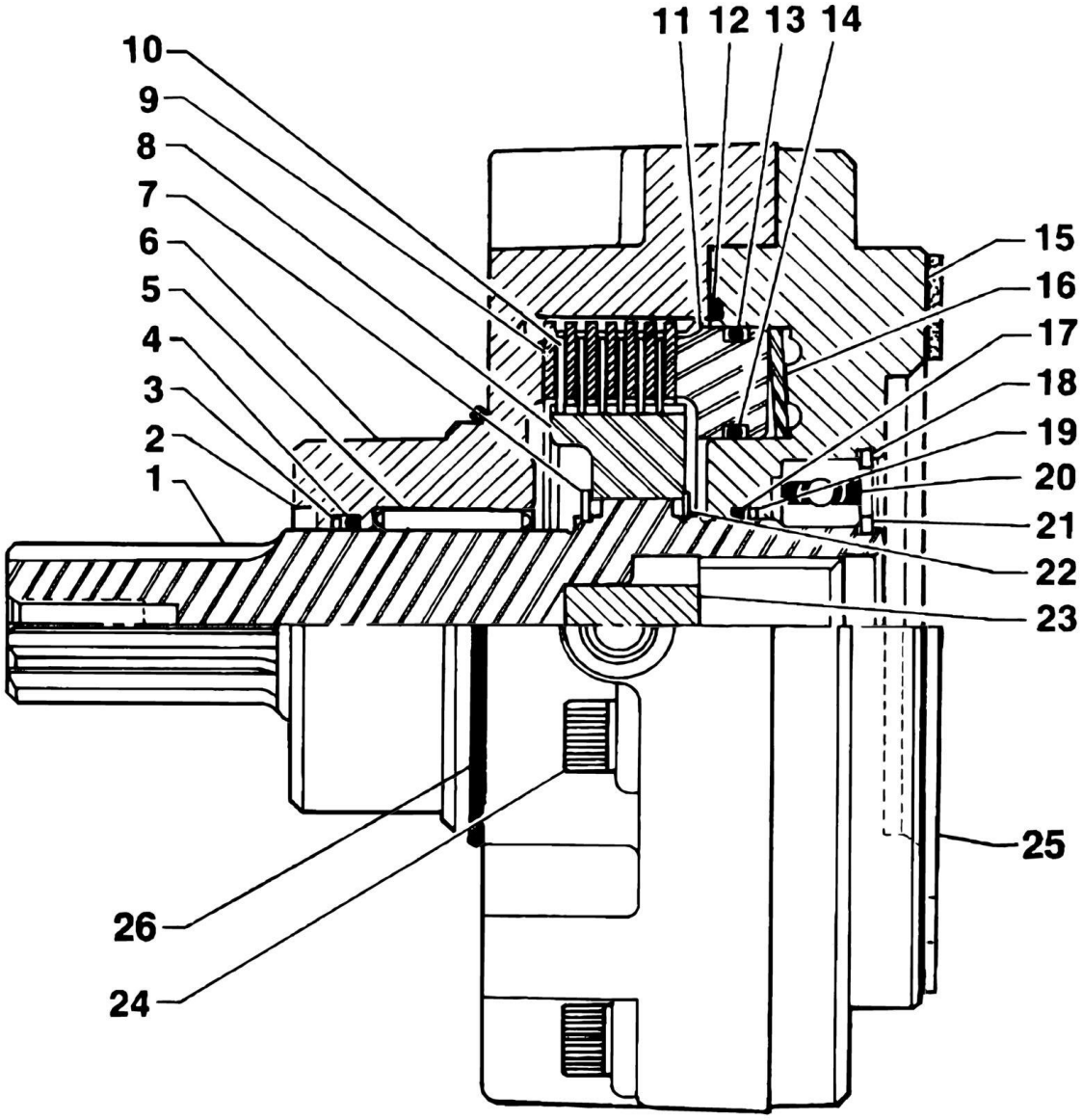


FIGURE 2-14. SWING BRAKE ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0920074	Ref	**SWING BRAKE ASSEMBLY (MACHINES BUILT THROUGH 1992)**	B
		Ref	**Note: For Service Parts on Machines Built 1993 to Present refer to Turntable, Bearing and Swing Drive Installation**	
1	7007960	1	Shaft	
2	Kit	1	Seal, Oil	
3	Kit	1	Ring, Back-up (Units Built through 1989 only)	
4	Kit	1	Ring, Quad	
5	7007956	1	Bearing, Needle	
6	7007955	1	Plate, Cover	
7		Ref	Ring, Retaining Options:	
7	7007954	1	Ring, Retaining Machines Built through 1989	
7	7007991	1	Ring, Retaining Machines Built (1990 to Present)	
8		Ref	Spline, Outer Options:	
8	7007953	1	Spline Machines Built through 1989	
8	7007992	1	Spline Machines Built (1990 to Present)	
9	7007952	7	Stator	
10	7007951	6	Rotor	
11	7007950	1	Piston	
12	Kit	1	O-Ring	
13	Kit	1	O-Ring	
14	Kit	1	O-Ring	
15	7007946	1	Plate, Pressure	
16	7007945	1	Spring, Belleville	
17	Kit	1	Ring, Quad	
18	7007943	1	Ring, Retaining	
19	Kit	1	Ring, Back-up (Units Built through 1989 only)	
20	7007941	1	Bearing	
21	7007940	1	Ring, Retaining	
22	7007939	1	Ring, Retaining (Units Built through 1989 only)	
23	7007938	1	Pin, Dowel (Units Built through 1989 only)	
24		Ref	Bolt, Socket Head Options:	
24	7007937	8	Bolt Machines Built through 1989	
24	7007993	8	Bolt Machines Built (1990 to Present)	
25	Kit	1	Gasket	
26	Kit	1	O-Ring	
	2900774	1	Seal Kit (Includes Items 2, 3, 4, 12, 13, 14, 17, 19, 25 & 26)	

FIGURE 2-15. SWING MOTOR ASSEMBLY

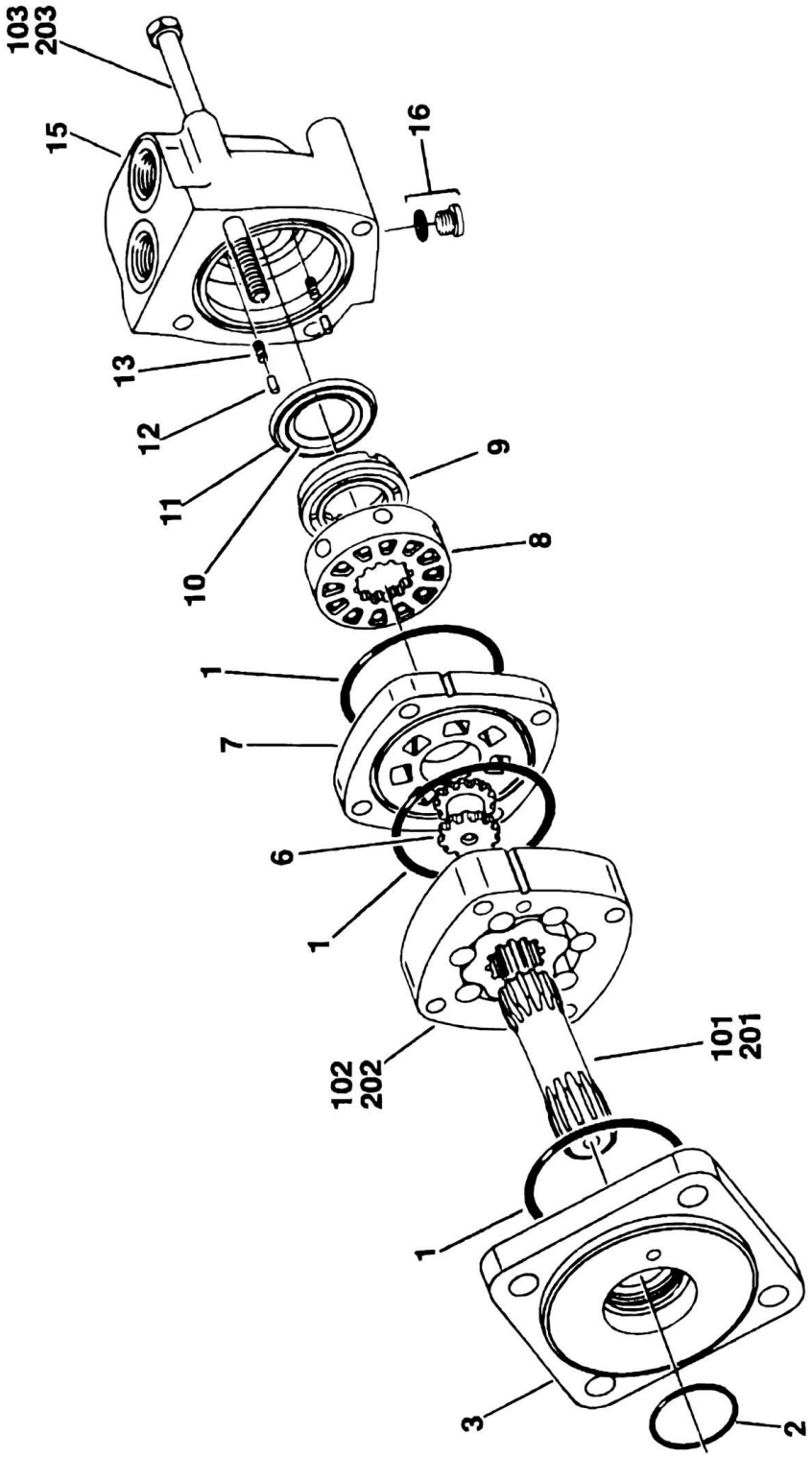


FIGURE 2-15. SWING MOTOR ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**SWING MOTOR ASSEMBLY**	
1	Kit	3	Seal	
2	Kit	1	O-Ring	
3	7009984	1	Flange, Mounting	
6	7009905	1	Drive, Valve	
7	7009983	1	Plate, Valve	
8	7009927	1	Valve	
9	7009909	1	Ring, Balance	
10	Kit	1	Seal, Face - Inner	
11	Kit	1	Seal, Face - Outer	
12	7009912	2	Pin	
13	7009913	2	Spring	
15	7009930	1	Housing, Valve	
16	7002157	1	Plug Assembly	
16	Kit	1	O-Ring	
	7009987	1	Seal Kit (Includes Items 1, 2, 10, 11 & 16 O-Ring)	
	3160147	Ref	**SWING MOTOR ASSEMBLY (MACHINES BUILT THROUGH 1992) (VARIABLE PARTS)**	-
101	7009903	1	Drive	
102	7009985	1	Geroler	
103	7009986	4	Bolt	
	3160183	Ref	**SWING MOTOR ASSEMBLY (MACHINES BUILT 1993 TO PRESENT) (VARIABLE PARTS)**	-
201	7009988	1	Drive	
202	7009989	1	Geroler	
203	7009990	4	Bolt	

FIGURE 2-16. FORD ENGINE INSTALLATION - WITH ELECTRONIC IGNITION (PRIOR TO MARCH 1990)

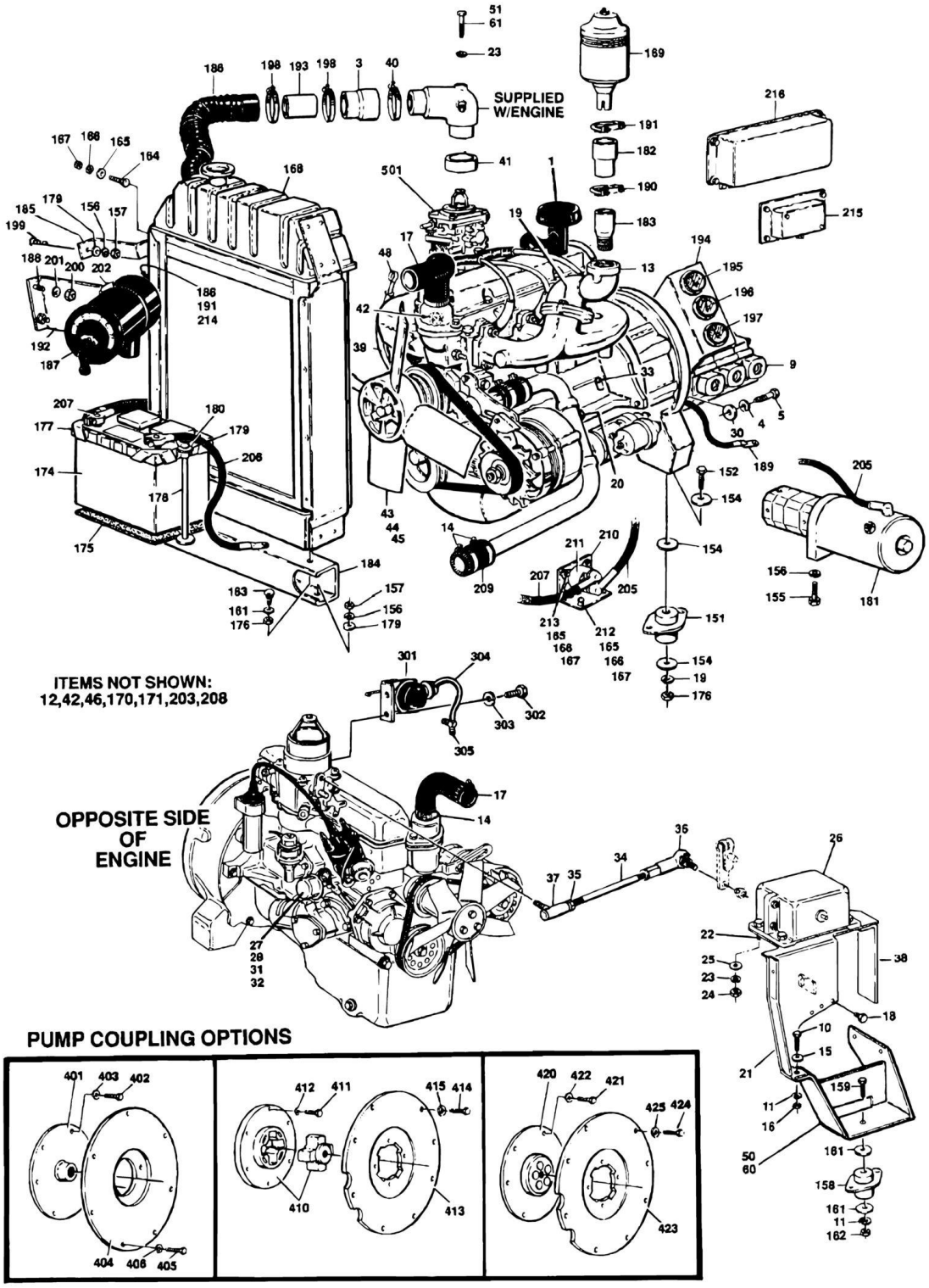


FIGURE 2-16. FORD ENGINE INSTALLATION - WITH ELECTRONIC IGNITION (PRIOR TO MARCH 1990)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FORD ENGINE INSTALLATION - WITH ELECTRONIC IGNITION (PRIOR TO MARCH 1990)**	
		Ref	**FORD ENGINE ASSEMBLY (STANDARD PARTS)**	
1	2000093	1	Engine - Ford VSG-411	
3	2720341	1	Hose, Air Cleaner Outlet	
4	0641509	2	Bolt 5/16in-18NC x 1 1/8in	
5	4761500	2	Lockwasher 5/16in	
9		Ref	Pump Assembly Options:	
9	3600152	1	Pump Assembly (Vickers)	
9	2900660	1	Shaft Seal Kit (Vickers)	
9	3600200	1	Pump Assembly (Barnes) (1 each of fittings p/n's 2220376 & 2210014 are required when replacing Vickers pump with Barnes pump) (See PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES) for Breakdown)	
10	0641812	2	Bolt 1/2in-13NC x 1 1/2in	
11	4761800	3	Lockwasher 1/2in	
12	2180623	1	Fitting, Tee	
13	4843272	1	Exhaust Weldment	
14	1320014	4	Clamp, Hose	
15	4751800	2	Flatwasher 1/2in	
16	3311801	2	Nut 1/2in-13NC	
17	2720264	1	Hose, Radiator - Upper	
18	0701014	5	Bolt 10mm x 30mm	
19	4761700	5	Lockwasher 7/16in	
20	2420024	1	Sender, Temperature	
21	4843287	1	Plate, Mounting - Governor	
22	0641408	13	Bolt 1/4in-20NC x 1in	
23	4761400	15	Lockwasher 1/4in	
24	3311401	11	Nut 1/4in-20NC	
25	4751400	4	Flatwasher 1/4in	
26	2500004	1	Governor, Electronic (Precision Governor)	
27	2420033	1	Sender, Oil Pressure	
28	2220273	1	Fitting, Reducer	
30	4751500	2	Flatwasher 5/16in	
31	2180360	2	Fitting, Tee	
32	4360037	1	Switch, Pressure	
33	2200101	1	Plug, Pipe	
34	3840906	1	Rod, Throttle Control	
35	3321001	2	Nut #10-32NF	
36	0310003	1	Balljoint	
37	0310004	1	Balljoint	
38	0901385	1	Bracket	
39	4564367	1	Tube, Dipstick	
40	1320058	1	Clamp, Hose	
41	0080092	1	Adaptor, Choke	
42	1600111	1	Controller, Temperature	
43	2060016	1	Fan	
44	0080168	1	Adaptor, Fan Spacer	
45	4240096	1	Strap, Fan	
46	4031713	4	Bolt, Socket head 6mm x 45mm	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
48	2420117	1	Gauge, Oil Level Indicator (Dipstick)	
	0239590	Ref	**FORD ENGINE ASSEMBLY - STANDARD GAS (VARIABLE PARTS)**	G
50	4843497	1	Bracket, Engine Mounting	
51	0641440	1	Bolt 1/4in-20NC x 5in	
	0239597	Ref	**FORD ENGINE ASSEMBLY - DUAL FUEL (VARIABLE PARTS)**	G
60	4843416	1	Bracket, Engine Mounting	
61	3840979	1	Rod	
		Ref	**FORD ENGINE INSTALLATION (STANDARD PARTS)**	
151	3200202	2	Mount, Engine - Rear	
152	0641728	2	Bolt 7/16in-14NC x 3 1/2in	
154	4751700	4	Flatwasher 7/16in	
155	0641612	6	Bolt 3/8in-16NC x 1 1/2in	
156	4761600	9	Lockwasher 3/8in	
157	3311601	9	Nut 3/8in-16NC	
158	3200201	1	Mount, Engine - Front	
159	0641828	1	Bolt 1/2in-13NC x 3 1/2in	
161	4751800	4	Flatwasher 1/2in	
162	3311805	1	Locknut 1/2in-13NC	
163	0630403	2	Bolt, Carriage 7/16in-14NC x 1 1/2in	
164	0630360	1	Bolt, Carriage 5/16in-18NC x 1 1/4in	
165	4751500	7	Flatwasher 5/16in	
166	4761500	6	Lockwasher 5/16in	
167	3311501	6	Nut 5/16in-18NC	
168	3620027	1	Radiator	
169		Ref	Muffler Options:	
169	3220052	1	Muffler (Prior to February 1990)	
169	3220067	1	Muffler (February 1990 to March 1990)	
170	2720058	1 ft/30cm	Hose, Low Pressure	
171	1320022	4	Clamp	
172	2220317	1	Fitting, 90	
174	0400003	1	Battery	
175	3980003	1	Seat, Battery	
176	3311705	5	Locknut 7/16in-14NC	
177	0400002	1	Hold-Down, Battery	
177	2910479	1	Replacement Clip Kit for 0400002	
178	0236768	2	Rod, Hold-down	
179	4711600	5	Flatwasher 3/8in	
180	3300029	2	Wingnut 3/8in-16NC	
181	3600050	1	Auxiliary Pump Assembly Options - Vendors Vary	
181		Ref	John S. Barnes Brand Pump:	
181	7004248	1	Motor (Bosch or Prestolite)	
181	7004249	1	Coupling	
181	7010923	1	Pump	
181		Ref	Stone Industries Brand Pump:	
181	7000482	1	Motor	
181	7004412	1	Coupling	
181	7004414	1	Pump	
182		Ref	Adapter, Exhaust Options:	
182	0080166	1	Adapter, Exhaust (Prior to February 1990)	
182	0080180	1	Adapter, Exhaust (February 1990 to March 1990)	
183	2180552	1	Fitting	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
184	0901579	1	Support, Radiator	
185	0901578	1	Bracket, Radiator Side	
186	2720178	18 in/45.5cm	Hose, Air Cleaner	
187	1340004	1	Air Cleaner Assembly	
187	2120034	1	Element, Filter	
188	4843270	1	Bracket, Air Cleaner	
189	1060221	1	Cable, Battery (Engine to Ground)	
190	1320026	1	Clamp, Muffler - 1 3/4in	
191	1320019	2	Clamp, Muffler - 2in	
192	4300032	2	Stud (Welded on Part)	
193	4842365	1	Tube, Air Intake	
194	0901580	1	Bracket, Mounting - Gauge	
195	2420019	1	Gauge, Temperature	
196	2420035	1	Gauge, Oil Pressure	
197	2420091	1	Gauge, Ammeter	
198	1320031	3	Clamp, Hose	
199	4300034	3	Stud (Welded on Part)	
200	3311401	2	Nut 1/4in-20NC	
201	4761400	2	Lockwasher 1/4in	
202	1320122	1	Clamp 5 1/8in-6in	
203	1060092	1	Cable, Battery (Start Relay to Aux Relay)	
205	1060130	1	Cable, Battery (Aux Power to Aux Relay)	
206	1060146	1	Cable, Battery (Battery to Ground)	
207	1060119		Cable, Battery (Battery to Aux Relay)	
208	2720058	9 ft/3m	Hose, Low Pressure (Fuel Line)	
209	2720299	6 in/15cm	Hose, Radiator	
210	0901455	1	Bracket, Relay	
211	3740067	1	Relay, Auxiliary	
212	4300038	2	Stud (Welded on Part)	
213	0641508	2	Bolt 5/16in-18NC x 1in	
214	0080170	1	Adapter, Air Intake	
215	3740061	1	Relay, Lock-out	
216	1600098	1	Controller, Electronic	
	0238167	Ref	**CHOKE INSTALLATION**	-
301	0237568	1	Choke Assembly	
302	3910812	2	Screw, Machine #8-32NC x 3/4in	
303	4760800	2	Lockwasher #8	
304	2720016	1 ft/30.5cm	Hose	
305	2220317	1	Fitting	
		Ref	**PUMP COUPLING INSTALLATION - STEEL DISC (PRIOR TO SEPTEMBER 1989)**	
401	1760117	1	Disc, Pump Drive	
402	0641509	6	Bolt 5/16in-18NC x 1 1/8in	
403	4761500	6	Lockwasher 5/16in	
404	0080134	1	Adapter, Pump	
405	0641609	8	Bolt 3/8in-16NC x 1 1/8in	
406	4761600	8	Lockwasher 3/8in	
	0239972	Ref	**PUMP COUPLING INSTALLATION - LOVEJOY OPTION (SEPTEMBER 1989 TO MARCH 1990)**	-
410	1660176	1	Coupling	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
410	Not Available	1	Disc, Coupling	
410	Not Available	1	Hub, Coupling	
411	0641510	6	Bolt 5/16in-18NC x 1 1/4in	
412	4761500	6	Lockwasher 5/16in	
413	0080169	1	Adapter, Pump	
414	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
415	4761600	8	Lockwasher 3/8in	
	0250595	Ref	**PUMP COUPLING INSTALLATION - HAYES OPTION (DECEMBER 1989 TO MARCH 1990)**	-
420	1660182	1	Coupling (Note: Coupling Internal spines must be lubed with Lithium based grease prior to installation.)	
421	0641507	6	Bolt 5/16in-18NC x 7/8in	
422	4761500	6	Lockwasher 5/16in	
423	0080169	1	Adapter, Pump	
424	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
425	4761600	8	Lockwasher 3/8in	
	3020021	AR	Grease, Coupling	
		Ref	**ENGINE COMPONENTS**	
501		Ref	Carburetor - Ford VSG-411 Options:	
501	2900397	1	Carburetor Without Built-in Choke (1989)	
501	7000892	1	Carburetor With Built-in Choke (1990)	
501	7019933	1	Rebuild Kit - Carburetor (All Models) (was p/n 7000878)	
501	7000894	1	Automatic Choke	
501	7012577	1	Fitting, Carburetor Vacuum Line (1990)	
501	7012578	1	Carburetor Vacuum Line Assembly (1990)	
501	7000646	1	Gasket, Carburetor	
501	7000877	1	Fuel Shut-Off - Has Wire Connection	
501	7000884	1	Fuel Shut-Off - Has Terminal Post	
501	7012564	1	Engine Wiring Harness	
501		Ref	Alternator Options:	
501	7000893	1	Alternator - Bosch Version	
501	7019670	1	Alternator - Prestolite Version (Was 7012653)	
501	7019670	1	Alternator - Leese Nuville Version	
501	7014500	1	Oil Filter (Case of 12)	
501	7019666	1	Pump, Fuel	
501	7019668	1	Starter	
501	7019665	1	Control, Ignition	
501	7020028	1	Gasket Set (Lower)	
501	7020029	1	Gasket Set (Upper)	
501	7020030	1	Gasket, Head	
	7014680	1	Main Components Kit (Includes 1 each of Carburetor, Fuel and Water Pumps, Alternator, Starter, and Ignition Control)	
	7014681	1	Engine Kit (Includes Hoses, Gasket Set, Thermostat, V-Belt and Coil)	
	7014682	1	Tune-up Kit (Includes Oil and Fuel Filters, Plugs and Ignition Wire Set)	

SECTION 2 - TURNTABLE

FIGURE 2-17. FORD ENGINE INSTALLATION - WITH DISTRIBUTORLESS IGNITION SYSTEM (MARCH 1990 TO PRESENT)

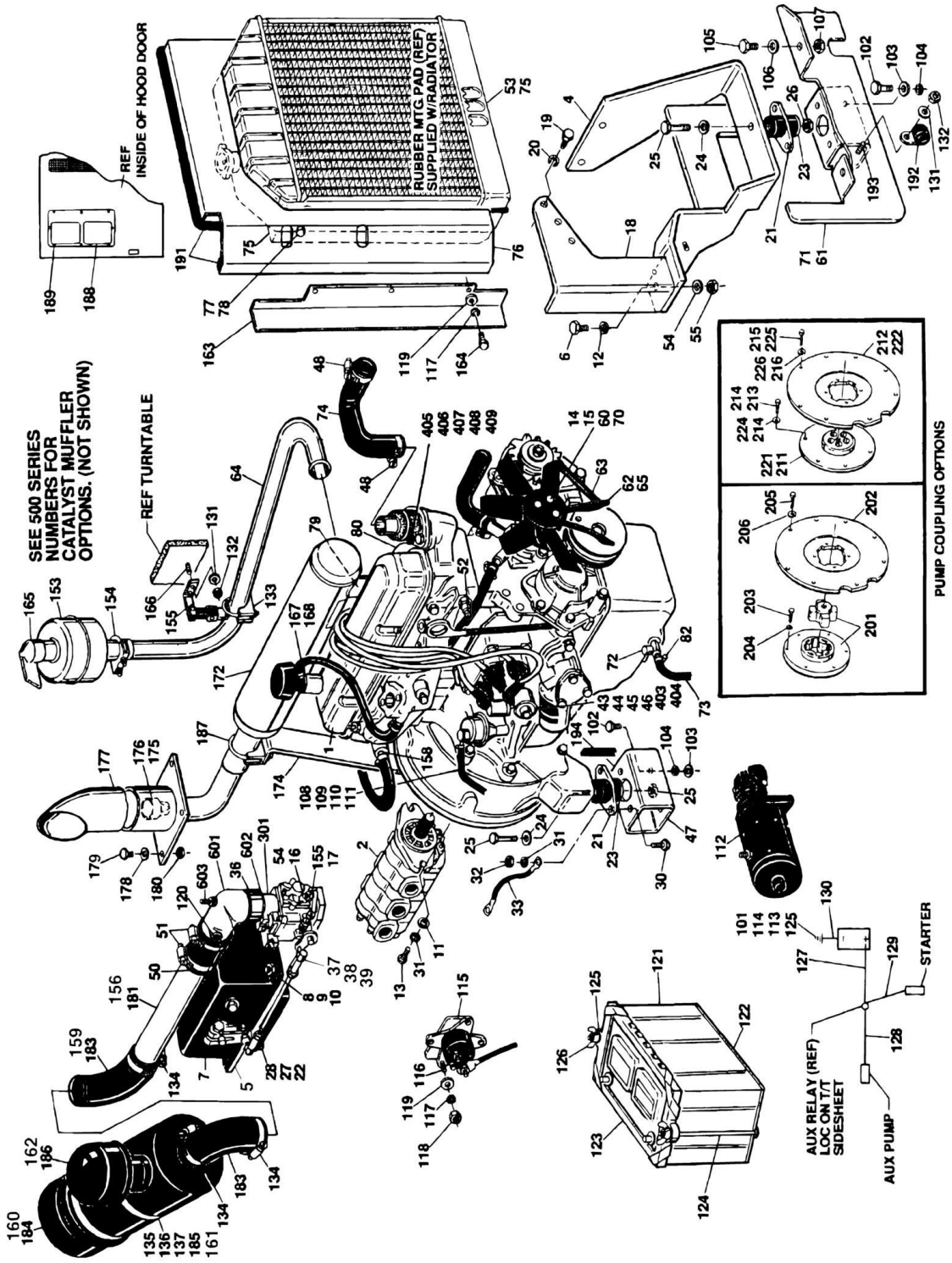


FIGURE 2-17. FORD ENGINE INSTALLATION - WITH DISTRIBUTORLESS IGNITION SYSTEM (MARCH 1990 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FORD ENGINE INSTALLATION - WITH DISTRIBUTORLESS IGNITION SYSTEM (MARCH 1990 TO PRESENT)**	
		Ref	**See SPECIAL OPTIONS for Ford VSG-413 used (August 1998 to Present)**	
		Ref	**FORD ENGINE ASSEMBLY (STANDARD PARTS)**	
1		Ref	Engine - Ford VSG-411 Options:	
1	2000109	1	Engine - Ford VSG-411 (March 1990 to August 1992) (Industrial Flywheel)	
1	2000117	1	Engine - Ford VSG-411 (August 1992 to October 1994) (Automotive Flywheel and Bosch Alternator)	
1	2000129	1	Engine - Ford VSG-411 (October 1994 to March 1995) (Automotive Flywheel and Prestolite Alternator)	
1	2000130	1	Engine - Ford VSG-411 (March 1995 to July 1995) (Automotive Flywheel and Prestolite Alternator)	
1	2000135	1	Engine - Ford VSG-411 (July 1995 to Present) (Automotive Flywheel and Prestolite Alternator)	
2		Ref	Pump Assembly Options:	
2	3600152	1	Pump Assembly (Vickers)	
2	2900660	1	Shaft Seal Kit (Vickers)	
2	3600200	1	Pump Assembly (Barnes) (1 each of fittings p/n's 2220376 & 2210014 are required when replacing Vickers pump with Barnes pump) (See PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES) for Breakdown)	
4		Ref	Bracket, Engine Mounting - Front Options:	
4	4843416	1	Bracket, Engine Mounting - Front (Prior to February 1992)	
4	4843497	1	Bracket, Engine Mounting - Front (February 1992 to Present)	
5	3533445	1	Plate, Mounting - Governor and Carburetor	
6	0641812	1	Bolt 1/2in-13NC x 1 1/2in	
7	2500005	1	Governor, Precision	
8	0641410	4	Bolt 1/4in-20NC x 1 1/4in	
9	4761400	5	Lockwasher 1/4in	
10	3311401	5	Nut 1/4in-20NC	
11	4740185	2	Washer, Hardened	
12	4761800	1	Lockwasher 1/2in	
13	0641610	2	Bolt 3/8in-16NC x 1 1/4in	
14	0700814	3	Bolt, Metric 8mm x 30mm	
15	4831900	3	Lockwasher, Metric 8mm	
16	4300090	2	Stud	
17	3321501	2	Nut 5/16in-24NF	
18	3533291	1	Plate	
19	0701014	AR	Bolt, Metric 10mm x 30mm	
19	0701012	AR	Bolt, Metric 10mm x 25mm	
20	4832000	7	Lockwasher, Metric 10mm	
21	3200318	3	Mount, Engine	
22	3911012	2	Screw, Machine #10-24NC x 3/4in	
23	4740273	3	Washer, Snubbing	
24	4751700	6	Flatwasher 7/16in	
25	0641728	AR	Bolt 7/16in-14NC x 3 1/2in	
25	0641724	AR	Bolt 7/16in-14NC x 3in	
26	3311705	3	Locknut 7/16in-14NC	
27	4761000	2	Lockwasher #10	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
28	3311001	2	Nut #10-24NC	
30	0641608	6	Bolt 3/8in-16NC x 1in	
31	4761600	8	Lockwasher 38in	
32	3311601	6	Nut 3/8in-16NC	
33	1060221	1	Cable, Battery (Engine to Ground)	
36	0080182	1	Adapter, Carburetor	
37	3841049	1	Rod, Throttle	
38	3321401	2	Nut, Jam 1/4in-20NC	
39	1660157	2	Balljoint	
43	4360037	1	Switch, Oil Pressure	
44	2220273	1	Fitting, Reducer	
45	2180360	1	Fitting, Tee	
46	2420131	1	Sender, Oil Pressure	
47	4564591	2	Tube, Mounting	
48	1320014	4	Clamp, Hose	
50	2720341	1	Hose, Air Cleaner	
51	1320058	1	Clamp, Hose	
52	2420130	1	Sender, Temperature	
53	3620027	1	Radiator	
54	4751800	1	Flatwasher 1/2in	
55	3311801	1	Nut 1/2in-13NC	
	0250645	Ref	**FORD ENGINE ASSEMBLY (WITHOUT NOISE REDUCTION PACKAGE - MACHINES BUILT THROUGH 1992) (VARIABLE PARTS)**	H
60	4031713	3	Bolt, Metric Socket Head 6mm x 45mm	
61	4843560	1	Mount, Engine - Front	
62	2060016	1	Fan	
63	4240096	1	Strap, Fan	
64	4564682	1	Tube, Exhaust	
65	0080168	1	Adapter, Fan	
		Ref	**FORD ENGINE ASSEMBLY (WITH NOISE REDUCTION)**	
	0252775	Ref	**MACHINES BUILT (1993 TO JULY 1995)**	F
	0255762	Ref	**MACHINES BUILT (JULY 1995 TO PRESENT)**	A
70	2060019	1	Fan Kit	
71	4844133	1	Mount, Engine - Front	
72	4640750	1	Valve, Oil Drain	
73	2750532	18 in/46cm	Hose, Low Pressure	
74	2720264	1	Hose, Radiator - Upper	
75	2680402	1	Shroud, Radiator	
76	3536015	1	Plate, Baffle	
77	3941005	10	Screw, Self-Tapping #10 x 5/8in	
78	4761000	10	Lockwasher #10	
79	4565830	1	Tube, Exhaust	
80	3100073	1	Manifold, Exhaust (January 1993 to March 1995 Only)	
81	2720042	1	Hose	
82	1320032	3	Clamp, Hose	
		Ref	**FORD ENGINE INSTALLATION (STANDARD PARTS)**	
101	3311601	3	Nut 3/8in-16NC	
102	0641807	6	Bolt 1/2in-13NC x 7/8in	
103	4751800	6	Flatwasher 1/2in	
104	4761800	6	Lockwasher 1/2in	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
105	0630403	2	Bolt, Carriage 7/16in-14NC x 1 1/2in	
106	4751700	2	Flatwasher 7/16in	
107	3311705	2	Locknut 7/16in-14NC	
108	2180104	1	Fitting, Nipple	
109	2220273	1	Bushing, Reducer	
110	1320022	2	Clamp	
111	2720058	9 ft/2.75m	Hose, Fuel Line	
112		Ref	Auxiliary Pump Assembly Options - Vendors Vary:	
112	3600050	1	John S. Barnes Brand Pump Version:	
112	7004248	1	Motor (Bosch or Prestolite)	
112	7004249	1	Coupling	
112	7010923	1	Pump	
112	3600050	1	Stone Industries Brand Pump Version:	
112	7000482	1	Motor	
112	7004412	1	Coupling	
112	7004414	1	Pump	
112	3600208	1	Fenner Fluid Power Brand Pump Version:	
112	7013710	1	Motor	
112	7013711	1	Coupling	
112	7013712	1	Pump	
113	4761600	3	Lockwasher 3/8in	
114	0641612	3	Bolt 3/8in-16NC x 1 1/2in	
115	3740067	1	Relay	
116	4300081	2	Stud (Welded on Part)	
117	4761000	2	Lockwasher #10	
118	3311001	2	Nut #10-24NC	
119	4751000	2	Flatwasher #10	
120	3520046	1	Plug, Tapered	
121	0400003	1	Battery	
122	3980003	1	Seat, Battery	
123	0400002	1	Hold-Down, Battery	
123	2910479	1	Replacement Clip Kit for 0400002	
124	0236768	2	Rod, Hold-down	
125	4751600	4	Flatwasher 3/8in	
126	3300029	2	Wingnut 3/8in-16NC	
127	1060172	1	Cable, Battery (Battery to Aux Relay)	
128	1060149	1	Cable, Battery (Aux Relay to Aux Pump)	
129	1060103	1	Cable, Battery (Aux Relay to Starter)	
130	1060046	1	Cable, Battery (Battery to Ground)	
131	4751500	2	Flatwasher 5/16in	
132	3311505	1	Locknut 5/16in-18NC	
133	1320026	1	Clamp, Muffler	
134	1320031	5	Clamp, Hose	
135	4300068	4	Stud (Welded on Part)	
136	4761400	4	Lockwasher 1/4in	
137	3311401	4	Nut 1/4in-20NC	
	0250646	Ref	**FORD ENGINE INSTALLATION (WITHOUT NOISE REDUCTION PACKAGE - BUILT THROUGH 1992) (VARIABLE PARTS)**	E
153	3220076	1	Muffler	
154	1320020	1	U-Clamp	
155	0901387	1	Bracket, Exhaust	
156	4843654	1	Tube, Air Intake	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
158	2220314	1	Fitting, Barbed	
159	2720354	1	Elbow	
160	1340051	1	Air Cleaner Assembly	
160	7012661	1	Element, Filter	
161	0340016	2	Band, Air Cleaner	
162	1120370	1	Cap, Air Inlet	
163	4060741	1	Shield	
164	3911008	3	Screw, Machine #10-24NC x 1/2in	
165	1120218	1	Cap, Rain - Exhaust	
166	4300038	2	Stud (Welded on Part)	
167	2720042	15 in/38cm	Hose, Heater	
168	1320032	2	Clamp, Hose	
	0252776	Ref	**FORD ENGINE INSTALLATION (WITHOUT NOISE REDUCTION PACKAGE - BUILT 1993 TO JULY 1995)**	C
	0254843	Ref	**EXHAUST INSTALLATION (WITH NOISE REDUCTION PACKAGE - BUILT 1993 TO JULY 1995)**	-
	0255763	Ref	**EXHAUST INSTALLATION (WITH NOISE REDUCTION PACKAGE - BUILT JULY 1995 TO PRESENT)**	2
172	3220084	1	Muffler	
174	0901858	1	Bracket, Muffler	
175	4565829	1	Tube, Exhaust	
176	3220083	1	Arrestor, Spark	
177	4844209	1	Stack, Exhaust	
178	4751400	4	Flatwasher 1/4in	
179	0641406	4	Bolt 1/4in-20NC x 3/4in	
180	3311405	4	Locknut 1/4in-20NC	
181	4844211	1	Intake, Air	
183	0080046	1	Elbow	
184	1340020	1	Air Cleaner Assembly	
184	7004214	1	Element, Filter	
185	0340002	2	Band, Mounting - Air Cleaner	
186	1120161	1	Cap, Air Inlet	
187	1320026	1	Clamp, Muffler	
188	3536021	1	Plate, Inlet Adapter	
189	3820001	8	Rivet	
190	3960483	15 in/38cm	Seal	
191	3960418	5 ft/1.5m	Seal	
192	1320131	1	Clamp	
193	0641508	1	Bolt 5/16in-18NC x 1in	
194	4060807	4 in/9cm	Hose Protection, Trim Flex **(SN 32166 to Present)**	
	0239972	Ref	**PUMP COUPLING INSTALLATION - LOVEJOY WITH INDUSTRIAL FLYWHEEL (MARCH 1990 TO AUGUST 1992)**	-
201	1660176	1	Coupling	
201	Not Available	1	Disc, Coupling	
201	Not Available	1	Hub, Coupling	
202	0080169	1	Adapter, Pump	
203	0641510	6	Bolt 5/16in-18NC x 1 1/4in	
204	4761500	6	Lockwasher 5/16in	
205	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
206	4761600	8	Lockwasher 3/8in	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0250595	Ref	**PUMP COUPLING INSTALLATION - HAYES WITH INDUSTRIAL FLYWHEEL (MARCH 1990 TO AUGUST 1992)**	-
211	1660182	1	Coupling (Note: Coupling Internal spines must be lubed with Lithium based grease prior to installation.)	
212	0080169	1	Adapter, Pump	
213	0641507	6	Bolt 5/16in-18NC x 7/8in	
214	4761500	6	Lockwasher 5/16in	
215	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
216	4761600	8	Lockwasher 3/8in	
	3020021	AR	Grease, Coupling	
	0252807	Ref	**PUMP COUPLING INSTALLATION - HAYES WITH AUTOMOTIVE FLYWHEEL (AUGUST 1992 TO PRESENT)**	-
221	1660206	1	Coupling (Note: Coupling, Internal Spines must be lubed with Lithium based grease prior to Installation.)	
222	0080169	1	Adapter, Pump	
223	0700808	6	Bolt, Metric 8mm x 16mm	
224	4831900	6	Lockwasher, Metric 8mm	
225	0641610	8	Bolt 3/8in-16NC x 1 1/2in	
226	4761600	8	Lockwasher 3/8in	
	3020021	AR	Grease, Coupling	
		Ref	**ENGINE COMPONENTS**	
301	7000892	1	Carburetor - Ford VSG-411	
301	7019933	1	Rebuild Kit - Carburetor (All Models) (was p/n 7000878)	
301	7012577	1	Fitting, Carburetor Vacuum Line	
301	7012578	1	Carburetor Vacuum Line Assembly	
301	7027607	1	Gasket, Carburetor (Bottom)	
301	7024321	1	Gasket, Carburetor (Top)	
301	70000163	1	Needle, Spring Load Fuel Valve	
301	7027646	2	Gasket, Carburetor	
301	7023471	1	Float Assembly	
301	7000894	1	Choke, Automatic	
301	7000877	1	Fuel Shut-Off - Has Wire Connection	
301	7000884	1	Fuel Shut-Off - Has Terminal Post	
301	7022174	1	Filter, Fuel	
301	7019939	1	Filter, Fuel	
301	2120112	1	Separator, Fuel	
301	7019666	1	Pump, Fuel	
301	7025153	1	Gasket, Fuel Pump	
301	7012564	1	Engine Wiring Harness	
301		Ref	Alternator Options:	
301	7000893	1	Alternator - Bosch Version	
301	7019670	1	Alternator - Prestolite Version (was p/n 7012653)	
301	7019670	1	Alternator - Leese Nuville Version	
301	7019934	1	Belt, Alternator	
301	7019935	1	Pulley, Alternator	
301	7019936	1	Pulley, Crankshaft	
301	7019951	1	Pump, Water	
301	7019937	1	Pulley, Water Pump	
301	7019938	1	Outlet, Water	
301	7019942	1	Hose, Water Pump/Intake Inlet	
301	7019950	1	Themostat, 160	
301	7019941	1	Hose, Radiator (Upper)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
301	7019943	1	Hose, Radiator (Lower)	
301	7019945	1	Hose, Bypass	
301	7019959	1	Dipstick	
301	7019960	1	Tube, Dipstick	
301	7019917	1	Pump, Oil	
301	7014500	1	Oil Filter (Case of 12)	
301	7022173	1	Oil Filter (Individual Filter)	
301	7019949	1	Oil Filter (Individual Filter)	
301	7019667		Cap, Oil Filler	
301	7019668	1	Starter	
301	7023670	1	Control, Ignition (was p/n 7019665)	
301	7019954		Harness, Ignition Module Patch	
301		Ref	Spark Plug Wire Set Options:	
301	7019989	1	Machines Built Through 1999 (Clip-on Style)	
301	7019989	1	#1 Plug Wire (was p/n 7019955)	
301	7019989	1	#2 Plug Wire (was p/n 7019956)	
301	7019989	1	#3 Plug Wire (was p/n 7019957)	
301	7019989	1	#4 Plug Wire (was p/n 7019958)	
301	7022176	AR	Machines Built 2000 to Present (Push-on Style)	
301	7022103	1	#1 Plug Wire	
301	7022101	1	#2 Plug Wire	
301	7022102	1	#3 Plug Wire	
301	7022104	1	#4 Plug Wire	
301		Ref	Coil Options:	
301	7019987	1	Machines Built Through 1999 (Wires Clip On)	
301	7019998	1	Machines Built 2000 to Present (Wires Push On)	
301	7016602	1	Flywheel	
301	7019919	1	Gear, Ring (Flywheel)	
301	7022180	1	Gear, Ring (132 Teeth) (Flywheel)	
301	7019944	1	Block Assembly, 11-Stud Terminal (Located on Rear of Engine)	
301	7019946	1	Flange, Exhaust Pipe	
301	7019947	1	Gasket, Exhaust Pipe Flange	
301	7019948	1	Manifold, Exhaust Outlet	
301	70000929	1	Sensor, Crankshaft	
	7014680	1	Main Components Kit (Includes 1 each of Carburetor, Fuel and Water Pumps, Bosch Alternator, Starter, and Ignition Control)	
	7014687		Main Components Kit (Includes 1 each of Carburetor, 1 Fuel and Water Pumps, Prestolite Alternator, Starter and Ignition Control)	
	7014681	1	Engine Kit (Includes Hoses, Gasket Set, Thermostat, V-Belt and Coil)	
		Ref	Tune-up Kit Options (Includes Oil and Fuel Filters, Plugs and Ignition Wire Set)	
	7014682	1	Machines Built Through 1999	
	7023668	1	Machines Built (2000 to Present)	
	7022172	1	Machines Built (2000 to Present)	
	0252625	Ref	**OPTIONAL ENGINE DISTRESS INSTALLATION**	5-E
403	2180360	1	Fitting, Tee	
404	4360182	1	Switch, Oil Pressure	
405	0080200	1	Fitting, Adapter	
406	3960423	1	Gasket	
407	0700819	2	Bolt, Metric 8mm x 55mm	
408	4831900	2	Lockwasher 8mm	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
409	4360157	1	Switch, Water Temperature	
	0252045	Ref	**OPTIONAL CATALYST EXHAUST INSTALLATION (NOT SHOWN) (PRIOR TO APRIL 1994)**	A
501	3220081	1	Muffler, Catalyst	
502	4565298	1	Tube, Exhaust (90)	
503	4565297	1	Tube, Exhaust (Manifold to Venturi)	
504	1320020	3	Clamp, Exhaust	
505	4564711	1	Tube, Exhaust (Catalyst to Muffler)	
506	3220076	1	Muffler	
507	1320026	1	Clamp, Exhaust	
	0254840	Ref	**OPTIONAL CATALYST EXHAUST INSTALLATION (NOT SHOWN) (APRIL 1994 TO PRESENT)**	2-B
551	3220081	1	Muffler, Catalyst	
552	4566519	1	Tube, Exhaust (90)	
553		Ref	Tube, Exhaust (Manifold to Venturi) Options:	
553	4566518	1	Tube, Exhaust (Manifold to Venturi) (Prior to April 1999)	
553	4567819	1	Tube, Exhaust (Manifold to Venturi) (April 1999 to Present)	
554	1320020	5	Clamp, Muffler	
555	4564711	1	Tube, Exhaust (Catalyst to Muffler)	
556	3220076	1	Muffler, Spark Arrester	
557	1320026	1	Clamp, Muffler	
558	1120218	1	Cap, Rain	
559	3520034	4	Plug, Hole (Located on Item 556)	
560	0641406	2	Bolt 1/4in-20NC x 3/4in	
561	4751400	2	Flatwasher 1/4in	
562	3311405	2	Locknut 1/4in-20NC	
	0251050	Ref	**AIR HORN INSTALLATION - STANDARD GAS**	-
		Ref	**Note: See Dual Fuel Installation for Dual Fuel and Straight LP Machines.**	
601	0080175	1	Adapter, Air Horn	
602	3960388	1	Gasket	
603	3840979	1	Rod, Adapter	

FIGURE 2-18. DUAL FUEL INSTALLATION (FORD ELECTRONIC IGNITION - PRIOR TO MARCH 1990)

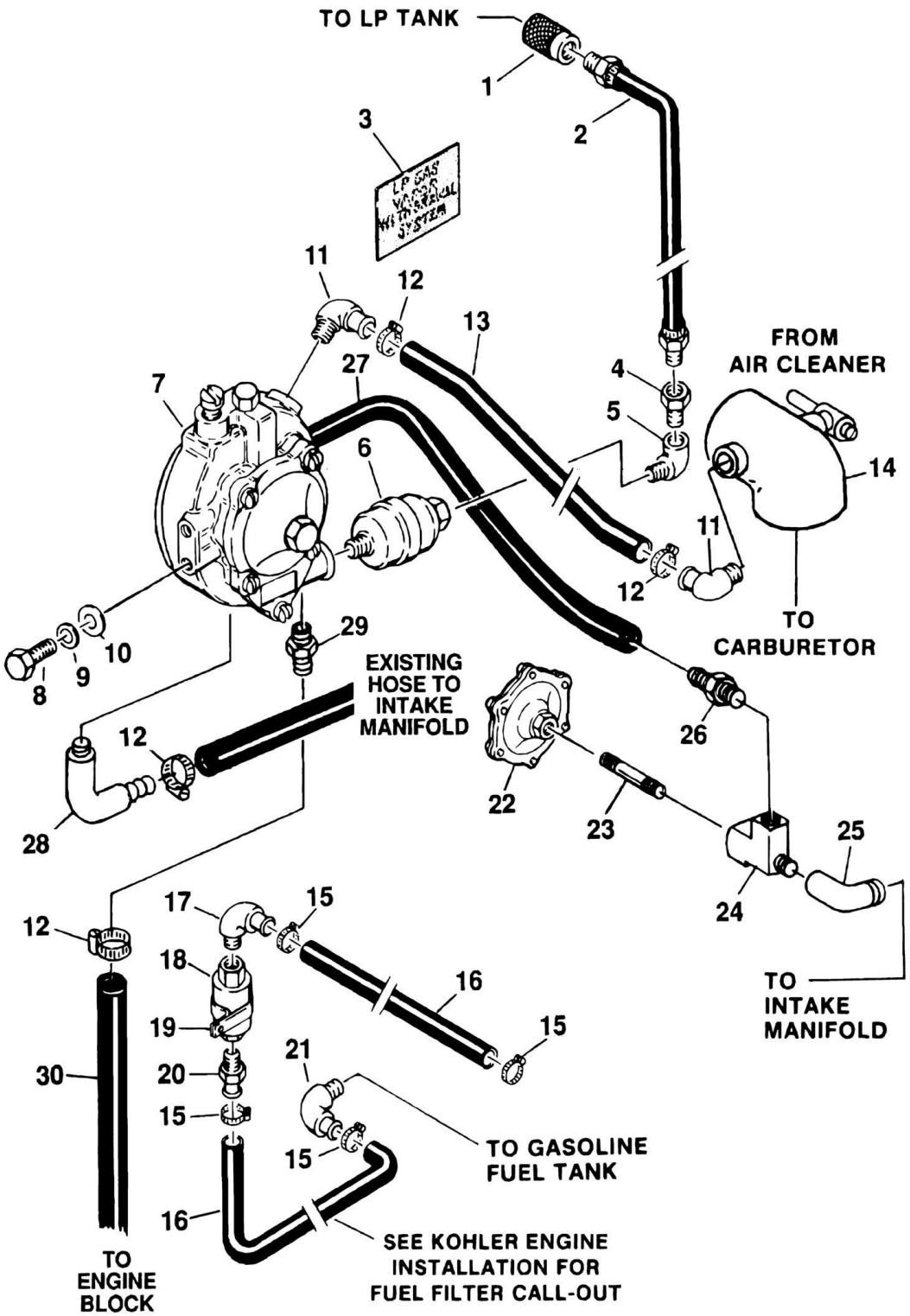


FIGURE 2-18. DUAL FUEL INSTALLATION (FORD ELECTRONIC IGNITION - PRIOR TO MARCH 1990)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DUAL FUEL INSTALLATION (FORD ELECTRONIC IGNITION - PRIOR TO MARCH 1990)**	
1	2180387	1	Fitting - LP Connector	
1	0100020	AR	Loctite	
2	2720190	1	Hose	
3	1700819	1	Decal - LP Vapor Withdrawal System	
4	2180418	1	Fitting, Straight	
5	2220648	1	Fitting, 90	
5	0100020	AR	Loctite	
6	2120077	1	Filter Lock - LP	
6	0100020	AR	Loctite	
7	3720011	1	Regulator (Ford - Vapor Withdrawal)	
8	0641405	2	Bolt 1/4in-20NC x 5/8in	
9	4761400	2	Lockwasher 1/4in	
10	4751400	2	Flatwasher 1/4in	
11	2220675	2	Fitting, 90 Barbed	
11	0100020	AR	Loctite	
12	1320032	8	Clamp	
13	2720112	2 ft/61cm	Hose	
14	0080167	1	Adapter, Carburetor	
15	1320022	4	Clamp	
16	2720015	6 ft/1.8m	Hose	
17	2220296	1	Fitting, 90 Barbed	
18	4640391	1	Fuel Lock - Gas	
18	0100020	AR	Loctite	
19	1320060	1	Clamp	
20	2220315	1	Fitting, Straight Barbed	
21	2220317	1	Fitting, 90 Barbed	
21	0100020	AR	Loctite	
22	4360188	1	Switch, Vacuum Safety	
23	2180537	1	Fitting, Nipple	
24	2180360	1	Fitting, Tee	
25	2220124	1	Fitting, 90	
26	2220295	1	Fitting, Straight	
27	2720016	2 ft/61cm	Hose	
28	2220364	1	Fitting, 90	
29	2220633	1	Fitting, Straight	
30	2720160	2 ft/61cm	Hose	

FIGURE 2-19. DUAL FUEL INSTALLATION (FORD DISTRIBUTORLESS IGNITION - MARCH 1990 TO PRESENT)

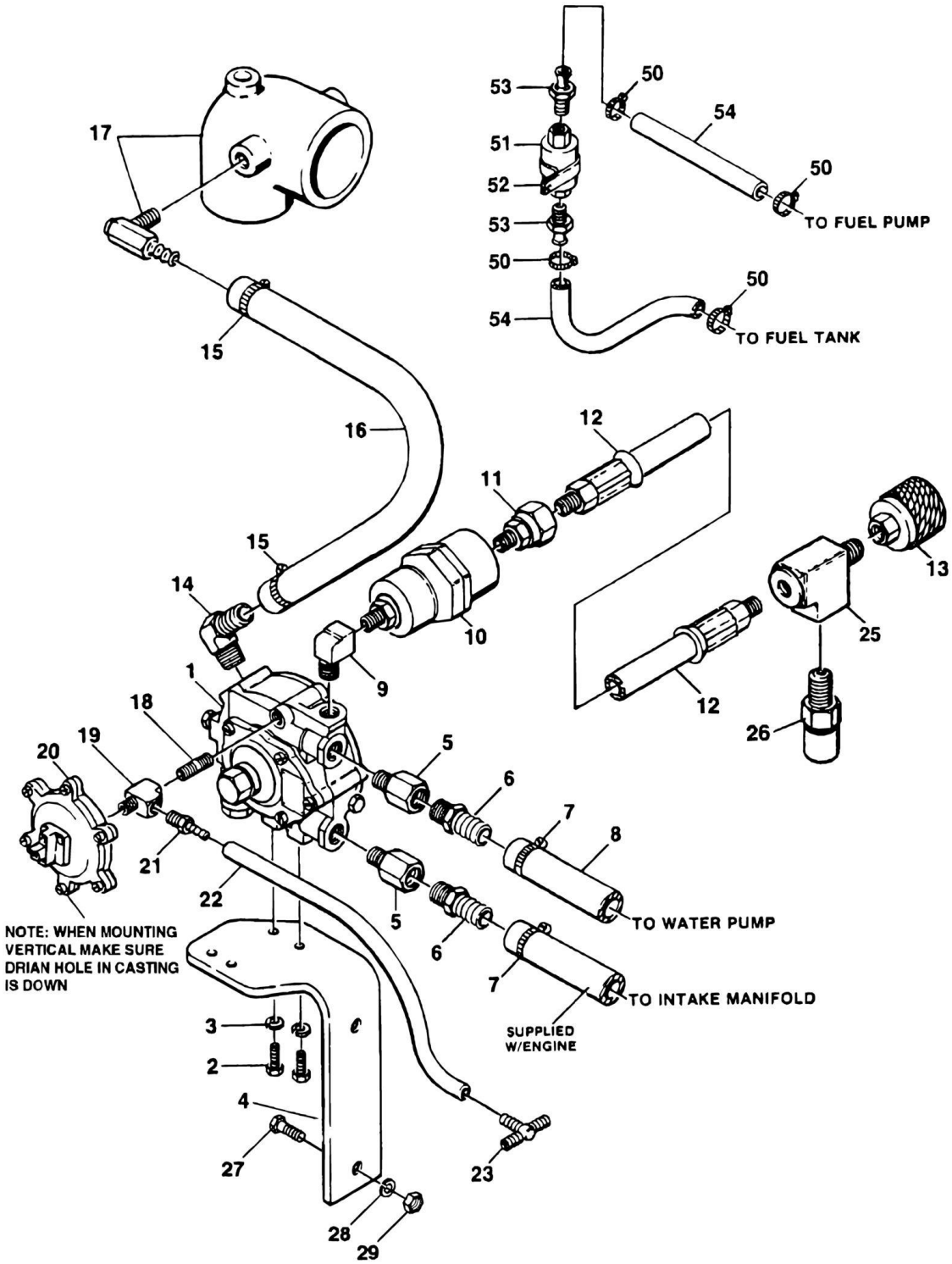
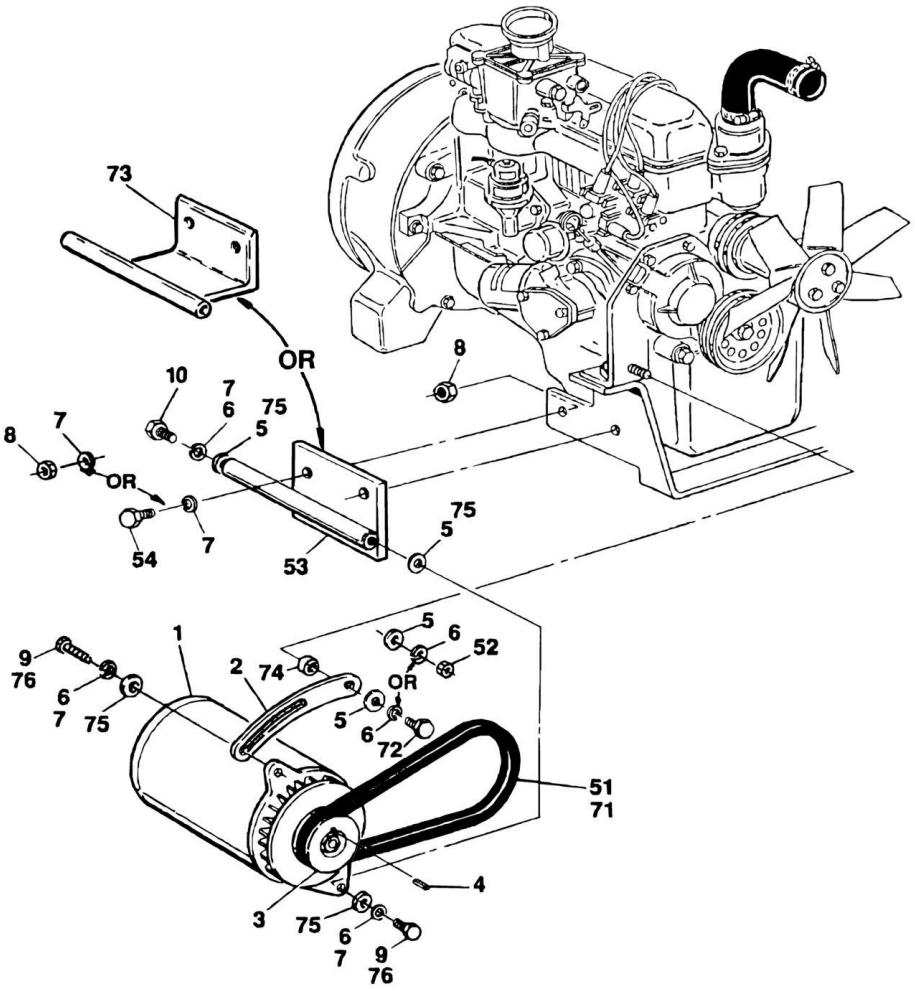


FIGURE 2-19. DUAL FUEL INSTALLATION (FORD DISTRIBUTORLESS IGNITION - MARCH 1990 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1281296	Ref	**DUAL FUEL INSTALLATION (FORD DISTRIBUTORLESS IGNITION - MARCH 1990 TO PRESENT)**	H
1	3720011	1	Regulator	
1	7017516	1	Kit, Rebuilding	
2	0641405	2	Bolt 1/4in-20NC x 5/8in	
3	4761400	2	Lockwasher 1/4in	
4	0901664	1	Bracket (Prior to August 1995)	
4	0902184	1	Bracket (August 1995 to Present)	
5	2220364	2	Fitting, Adapter	
6	2180535	2	Fitting, Barbed	
7	1320032	4	Clamp	
8	2720042	32 in/82cm	Hose	
9	2220648	1	Fitting, 90	
10	2120077	1	Filterlock	
11	2180418	1	Fitting, Swivel	
12	2720149	1	Hose	
13	2180387	1	Fitting, Tank	
14	2220675	1	Fitting, 90 Barbed	
15	1320017	2	Clamp	
16	2720112	2 ft/61cm	Hose	
17	0080167	1	Adapter	
17	3960388	1	Gasket	
18	2180104	1	Fitting, Nipple	
19	2180360	1	Fitting, Tee	
20	4360188	1	Switch, Vacuum	
21	2180536	1	Fitting, Barbed	
22		Ref	Hose (Supplied With Engine)	
23	2180623	1	Fitting, Tee	
25	2220290	1	Fitting, Tee	
26	2180389	1	Fitting, Pressure Relief	
27	0641608	2	Bolt 3/8in-16NC x 1in	
28	4761600	2	Lockwasher 3/8in	
29	3311601	2	Nut 3/8in x 16NC	
	0250939	Ref	**DUAL FUEL INSTALLATION**	F
50	1320022	4	Clamp	
51	4640391	1	Valve, Gas Lock	
52	1320095	1	Clamp, Mounting	
53	2220315	2	Fitting, Barbed	
54	2720058	6 ft/1.8m	Hose, Fuel Line	
	0251728	Ref	**STRAIGHT LP GAS INSTALLATION**	E
	2901184	1	Blanking Plate Kit (Cover Fuel Pump Location) (Not	

FIGURE 2-20. GENERATOR INSTALLATION - 110V (FORD) (OPTIONAL)



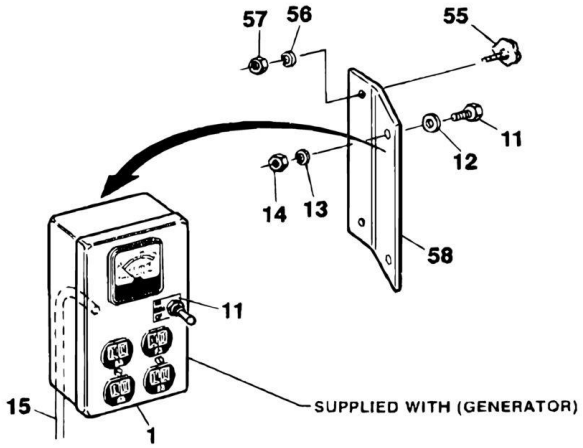


FIGURE 2-20. GENERATOR INSTALLATION - 110V (FORD) (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**GENERATOR INSTALLATION (STANDARD PARTS)**	
1	2460011	1	Generator Assembly with Control Box	
1	3580134	1	Pulley	
1	7012558	1	Generator Assembly Only	
1	7020108	4	Brush	
1	7020109	4	Holder, Brush	
1	7012513	4	Caps, Brush Holder	
1	7012514	1	Fan	
1	7020193	1	Cord, Power	
1	7026199	1	Armature	
1	7020110	1	End Bell, Front	
1	7020111	1	End Bell, Rear	
1	7020190	2	Bearing	
1	7003657	1	Control Box Assembly	
		Ref	**Note: Replacement 110V Control Box comes with 2 std Receptacles p/n 4460190. Optional Industrial Twist Lock Receptacles p/n 4460027 must be ordered separately.**	
1	2420203	1	Voltmeter	
1	4360542	1	Breaker, Circuit	
1	4460190	2	Receptacle	
1	2920162	1	Lamp	
1	7020191	1	Switch, Toggle	
1	3520028	1	Plug, Hole	
2	4340569	1	Support, Adjustable	
4	2860012	1	Key, Woodruff	
5	4751500	AR	Flatwasher 5/16in	
6	4761500	AR	Lockwasher 5/16in	
7	4761600	AR	Lockwasher 3/8in	
8	3311601	2	Nut 3/8in-16NC	
9	0641508	1	Bolt 5/16in-18NC x 1in	
10	0721006	2	Bolt #10-24NC x 3/4in	
11	3251476	1	Nametag	
12	4751000	2	Flatwasher #10	
13	4761000	2	Lockwasher #10	
14	3311001	2	Nut #10-24NC	
15	1060268	10 ft/3m	Cable, Electrical - 12/3	
	0239739	Ref	**GENERATOR INSTALLATION (MACHINES BUILT PRIOR TO MAY 1991) (VARIABLE PARTS)**	C
51	0480056	1	V-Belt	
52	3311501	1	Nut 5/16in-18NC	
53	4843156	1	Bracket, Mounting - Generator	
54	0641609	2	Bolt 3/8in-16NC x 1 1/8in	
55	4300031	2	Stud (Welded on Part)	
56	4761400	2	Lockwasher 1/4in	
57	3311401	2	Nut 1/4in-20NC	
58	0901584	1	Bracket, Control Box	
	0251950	Ref	**GENERATOR INSTALLATION (MACHINES BUILT MAY 1991 TO PRESENT) (VARIABLE PARTS)**	5
71	0480057	1	V-Belt	
72	0641511	1	Bolt 5/16in-18NC x 1 3/8in	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
73	0901774	1	Bracket, Mounting - Generator	
74	0961247	1	Bushing	
75	4751600	4	Flatwasher 3/8in	
76	0681610	2	Bolt 3/8in-16NC x 1 1/4in Grade 8	

FIGURE 2-21. DEUTZ ENGINE INSTALLATION

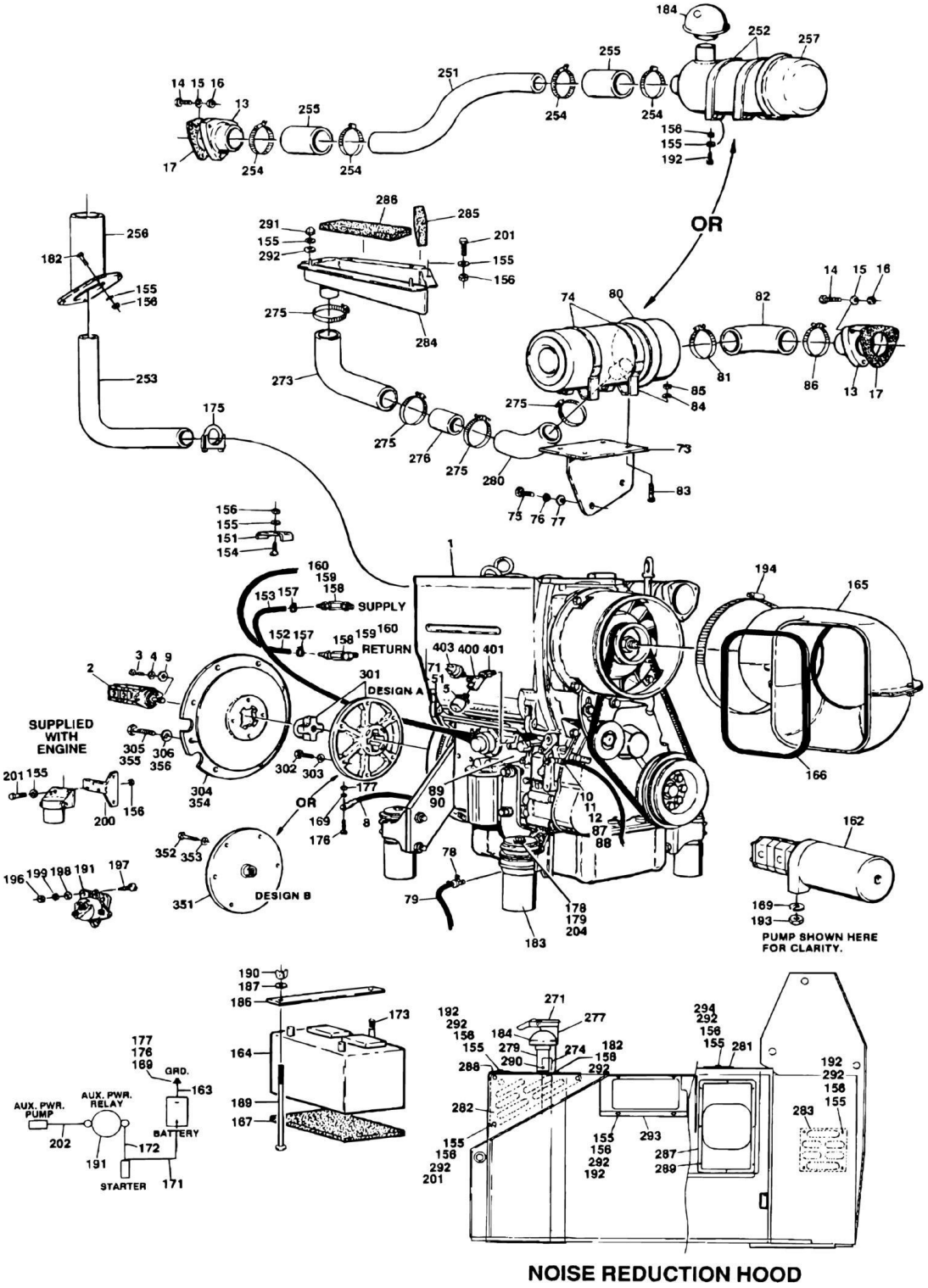


FIGURE 2-21. DEUTZ ENGINE INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DEUTZ ENGINE ASSEMBLY (STANDARD PARTS)**	
1		Ref	Engine - Deutz F2L-1011 Diesel Options:	
1	2000106	1	Engine - Deutz F2L-1011 Diesel (Prior to August 1995)	
1	2000137	1	Engine - Deutz F2L-1011 Diesel (August 1995 to Present)	
2		Ref	Pump Assembly Options:	
2	3600152	1	Pump Assembly (Vickers)	
2	2900660	1	Shaft Seal Kit (Vickers)	
2	3600200	1	Pump Assembly (Barnes) (1 each of fittings p/n's 2220376 & 2210014 are required when replacing Vickers pump with Barnes pump) (See PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES) for Breakdown)	
3	0641509	2	Bolt 5/16in-18NC x 1 1/8in	
4	4761500	2	Lockwasher 5/16in	
5	2180730	1	Fitting, Special	
8	1060221	1	Cable, Battery (Engine to Ground)	
9	4751500	2	Flatwasher 5/16in	
10		Ref	Adapter, Throttle Options:	
10	0080172	1	Adapter, Throttle (Prior to September 1995)	
10	4460302	1	Adapter, Throttle (September 1995 to Present)	
11	3450203	1	Pin, Cotter 1/16in x 3/4in	
12		Ref	Component Options:	
12	3951003	1	Component Setscrew #10-24NC x 3/8in (Prior to September 1995)	
12	0902244	1	Component Bracket, Throttle (September 1995 to Present)	
13	0080177	1	Adapter Weldment	
14	3311501	3	Nut 5/16in-18NC	
15	4761500	3	Lockwasher 5/16in	
16	0641512	3	Bolt 5/16in-18NC x 1 1/2in	
17	3960407	1	Gasket, Intake Adapter	
	0250828	Ref	**DEUTZ ENGINE ASSEMBLY (MACHINES WITHOUT NOISE REDUCTION PACKAGE WERE BUILT THROUGH 1992) (VARIABLE PARTS)**	B
51	2420131	1	Sender, Oil Pressure	
	0252777	Ref	**DEUTZ ENGINE ASSEMBLY (MACHINES WITH NOISE REDUCTION PACKAGE WERE BUILT 1993 TO PRESENT) (VARIABLE PARTS)**	G
71	2420110	1	Sender, Oil Pressure	
73	0901838	1	Bracket, Air Cleaner	
74	0340002	2	Band, Air Cleaner	
75	0701010	2	Bolt, Metric 10mm x 20mm	
76	4832000	2	Lockwasher 10mm	
77	4711600	1	Flatwasher 3/8in	
78	4640751	1	Valve, Oil Drain	
79	2750532	18 in/46cm	Hose, Low Pressure	
80	1340020	1	Air Cleaner Assembly	
80	7004214	1	Element	
81	1320016	2	Clamp, Hose	
82	0080039	1	Adapter, Elbow	
83	0641408	4	Bolt 1/4in-20NC x 1in	
84	4761400	4	Lockwasher 1/4in	
85	3311401	4	Nut 1/4in-20NC	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
86	1320022	1	Clamp	
87	4711400	1	Lockwasher 1/4in	
88	0641512	2	Bolt 6mm x 10mm	
89	2180104	1	Fitting, Nipple	
90	2200261	1	Fitting, Coupling	
		Ref	**DEUTZ ENGINE INSTALLATION (STANDARD PARTS)**	
151	1320041	1	Clamp	
152	2720271	7 ft/2m	Line, Fuel Return	
153	2720058	6 ft/1.8m	Line, Fuel Supply	
154	4300032	AR	Stud (Welded on Part)	
155	4761400	AR	Lockwasher 1/4in	
156	3311401	AR	Nut 1/4in-20NC	
157	1320022	4	Clamp	
158	2220317	1	Fitting, Barbed	
158	2220536	1	Fitting, Barbed	
159	2220063	1	Fitting, 90 Swivel	
159	2220273	2	Fitting, Reducer	
160	4420001	AR	Tape, Sealant	
162		Ref	Auxiliary Pump Assembly Options - Vendors Vary:	
162	3600050	1	John S. Barnes Brand Pump Version:	
162	7004248	1	Motor (Bosch or Prestolite)	
162	7004249	1	Coupling	
162	7010923	1	Pump	
162	3600050	1	Stone Industries Brand Pump Version:	
162	7000482	1	Motor	
162	7004412	1	Coupling	
162	7004414	1	Pump	
162	3600208	1	Fenner Fluid Power Brand Pump Version:	
162	7013710	1	Motor	
162	7013711	1	Coupling	
162	7013712	1	Pump	
163	1060046	1	Cable, Battery (Battery to Ground)	
164	0400075	1	Battery	
165		Ref	Scoop, Air Intake Options:	
165	1840005	1	Scoop, Air Intake (Prior to April 1995)	
165	1840011	1	Scoop, Air Intake (April 1995 to Present)	
166	3960389	51 in/1.3m	Seal, Rubber Grip	
167	3980007	1	Seat, Battery	
169	4761600	4	Lockwasher 3/8in	
171	1060154	1	Cable, Battery (Battery to Starter)	
172	1060054	1	Cable, Battery (Starter to Auxiliary Power Relay)	
173	0641628	1	Bolt 3/8in-16NC x 3 1/2in	
175	1320019	AR	Clamp, Exhaust	
176	4300034	2	Stud (Welded on Parts)	
177	3311601	2	Nut 3/8in-16NC	
178	0641856	3	Bolt 1/2in-13NC x 7in	
179	4761800	4	Lockwasher 1/2in	
182	0641406	4	Bolt 1/4in-20NC x 3/4in	
183	0080178	4	Adapter, Engine Mounting	
184	1120161	1	Cap, Air Inlet	
186	0361810	1	Holddown, Battery	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
187	4751600	2	Flatwasher 3/8in	
189	0236768	1	Rod, Holddown	
190	3300029	2	Wingnut 3/8in-16NC	
191	3740067	1	Solenoid	
192	4300031	AR	Stud (Welded on Part)	
193	0641614	2	Bolt 3/8in-16NC x 1 3/4in	
194	1320059	1	Clamp (Prior to March 1995)	
196	3311001	2	Nut #10-24NC	
197	4300081	2	Stud (Welded on Parts)	
198	4751000	2	Flatwasher #10	
199	4761000	2	Lockwasher #10	
200	0901361	1	Bracket, Fuel Filter	
201	0641408	2	Bolt 1/4in-20NC x 1in (Prior to September 1995)	
201	0641418	2	Bolt 1/4in-20NC x 2 1/4in (September 1995 to Present)	
202	1060093	1	Cable, Battery (Auxiliary Relay to Auxiliary Pump)	
203	0100011	AR	Loctite	
204	0641852	1	Bolt 1/2in-13NC x 6 1/2in	
	0250829	Ref	**DEUTZ ENGINE INSTALLATION (MACHINES WITHOUT NOISE REDUCTION PACKAGE WERE BUILT THROUGH 1992) (VARIABLE PARTS)**	E
		Ref	**Note: See SPECIAL OPTIONS SECTION for Optional Exhaust Systems.**	
251	4564655	1	Tube, Air Inlet	
252	0340002	2	Band, Air Cleaner	
253	4564656	1	Tube, Exhaust	
254	1320031	4	Clamp, Hose	
255	2720351	1 ft/.3m	Hose, Rubber	
256	4843620	1	Snorkel Weldment	
257	1340020	1	Air Cleaner Assembly	
257	7004214	1	Element	
	0252778	Ref	**DEUTZ ENGINE INSTALLATION (MACHINE WITH NOISE REDUCTION PACKAGE WERE BUILT 1993 TO PRESENT) (VARIABLE PARTS)**	F
		Ref	**Note: See SPECIAL OPTIONS SECTION for Optional Exhaust Systems.**	
271	1120405	1	Cap, Rain	
273	2720334	1	Hose	
274	4565719	1	Tube, Exhaust	
275	1320016	4	Clamp	
276	4565270	4	Tube	
277	Not Available	1	Snorkel, Exhaust	
279	4565718	1	Tube, Extension	
280	0080046	1	Adapter, Tube	
281	1670639	1	Cover, Base Plate	
282	1670638	1	Cover, Hood Support	
283	1670616	1	Cover, Side	
284	4844132	1	Intake Box Weldment	
285	2820048	1	Foam, Acoustical	
286	2820049	1	Foam, Acoustical	
287	3536248	1	Plate	
288	1670321	1	Plate, Adapter	
289	3820019	8	Rivet	
290	3941406	2	Screw, Self-Tapping 1/4inx 3/4in	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
291	3300151	2	Nut, Acorn	
292	4751400	21	Flatwasher 1/4in	
293	3536132	1	Plate, Baffle	
294	0641412	2	Bolt 1/4in-20NC x 1 1/2in	
	0239972	Ref	**COUPLING INSTALLATION - LOVEJOY OPTION**	-
301	1660176	1	Coupling, Lovejoy	
302	0641510	6	Bolt 5/16in-18NC x 1 1/4in	
303	4761500	6	Lockwasher 5/16in	
304	0080163	1	Plate, Adapter	
305	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
306	4761600	8	Lockwasher 3/8in	
	0250595	Ref	**COUPLING INSTALLATION - HAYES OPTION**	-
351	1660182	1	Coupling, Hayes (Note: Coupling Internal Spines must be lubed with Lithium based grease prior to installation.)	
352	0700810	6	Bolt, Metric 8mm x 20mm	
353	4831900	6	Lockwasher, Metric 8mm	
354	0080163	1	Plate, Adapter	
355	0641610	8	Bolt 3/8in-16NC x 1 1/4in	
356	4761600	8	Lockwasher 3/8in	
	0251537	Ref	**OPTIONAL ENGINE DISTRESS INSTALLATION**	D
	0251682	Ref	**OPTIONAL ENGINE SHUTDOWN INSTALLATION**	-
400	2180360	1	Fitting, Tee	
401		Ref	Fitting Options:	
401	2180749	1	Fitting, 45 (Engine Distress)	
401	2180693	1	Fitting, Nipple (Engine Shutdown)	
401	2220318	1	Fitting, 90 (Engine Shutdown)	
403	4360065	1	Switch, Pressure	
		Ref	**ENGINE COMPONENTS**	
		Ref	Engine 2000106	
	7000693	1	Muffler - Deutz F2L1011	
	7000699	1	Seal, Exhaust (Doughnut)	
	7012598	1	Fuel Filter	
	7012599	2	Injector, Fuel	
	7012698	1	Fuel Pump - Main	
	7016331	1	Oil Filter	
	7012626	1	Starter	
	7020465	1	Cap, Oil Filler	
	3600213	1	Pump, Drive (was p/n 7012572)	
	3520078	1	Plug (was p/n 7012573)	
	1670680	1	Cover, Timing Chain (was p/n 7012574)	
	7012575	1	Pulley, Crankshaft	
	7016308	1	Ring, Air Intake	
	7019607	1	Shutdown Device (was p/n 7016359)	
	7020414	1	V-Belt	
	7020437	1	Flywheel	
	7020496	1	Gear, Ring (Flywheel)	
	7020456	1	Dipstick	
	7014683	1	Oil Change and Gasket Kit (Includes Fuel Line Washer, or Plug Washer, Oil Filter, Fuel Filter Injector Tip Gasket and Valve Cover Gasket)	
		Ref	Engine 2000137	
	7020417	1	Alternator	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	7000693	1	Muffler - Deutz F2L1011	
	7000699	1	Seal, Exhaust (Doughnut)	
	8320270	1	Fuel Filter (was p/n 7016328)	
	7012599	1	Pump, Fuel Injector	
	7020426	1	Injector, Fuel	
	7020425	1	Nozzle, Injector	
	7020424	1	Gasket, Injector Tip	
	7016309	1	Washer, Sealing (Copper)	
	7024413	1	Fuel Pump - Main	
	7020411		Gasket, Lift	
	7016332	1	Starter (was p/n 7016678)	
	7020465	1	Cap, Oil Filler	
	7020467	1	Pump, Oil	
	7016331	1	Oil Filter	
	7019607	1	Shutdown Device (was p/n 7016359)	
	7020414	1	V-Belt	
	7020027	1	Flywheel/Ring Gear Assembly	
	7020477	1	Gear, Ring (Flywheel)	
	7020434	1	Dipstick	
	7020429	1	Gasket, Vale Cover	
		Ref	Gasket, Head Options:	
	70003160	1	Gasket 1 Notch	
	70003161	1	Gasket 2 Notch	
	70003162	1	Gasket 3 Notch	
	7020404	1	Washer, Oil Pan	
	7020406	1	Ring, Sealing	
	70001138	2	Mounting, Motor (Rear)	
	70001136	1	Mounting Kit, Motor (Front - LH)	
	70001137	1	Mounting Kit, Motor (Front - RH)	

FIGURE 2-22. GENERATOR INSTALLATION 110 VOLT (DEUTZ) (OPTIONAL)

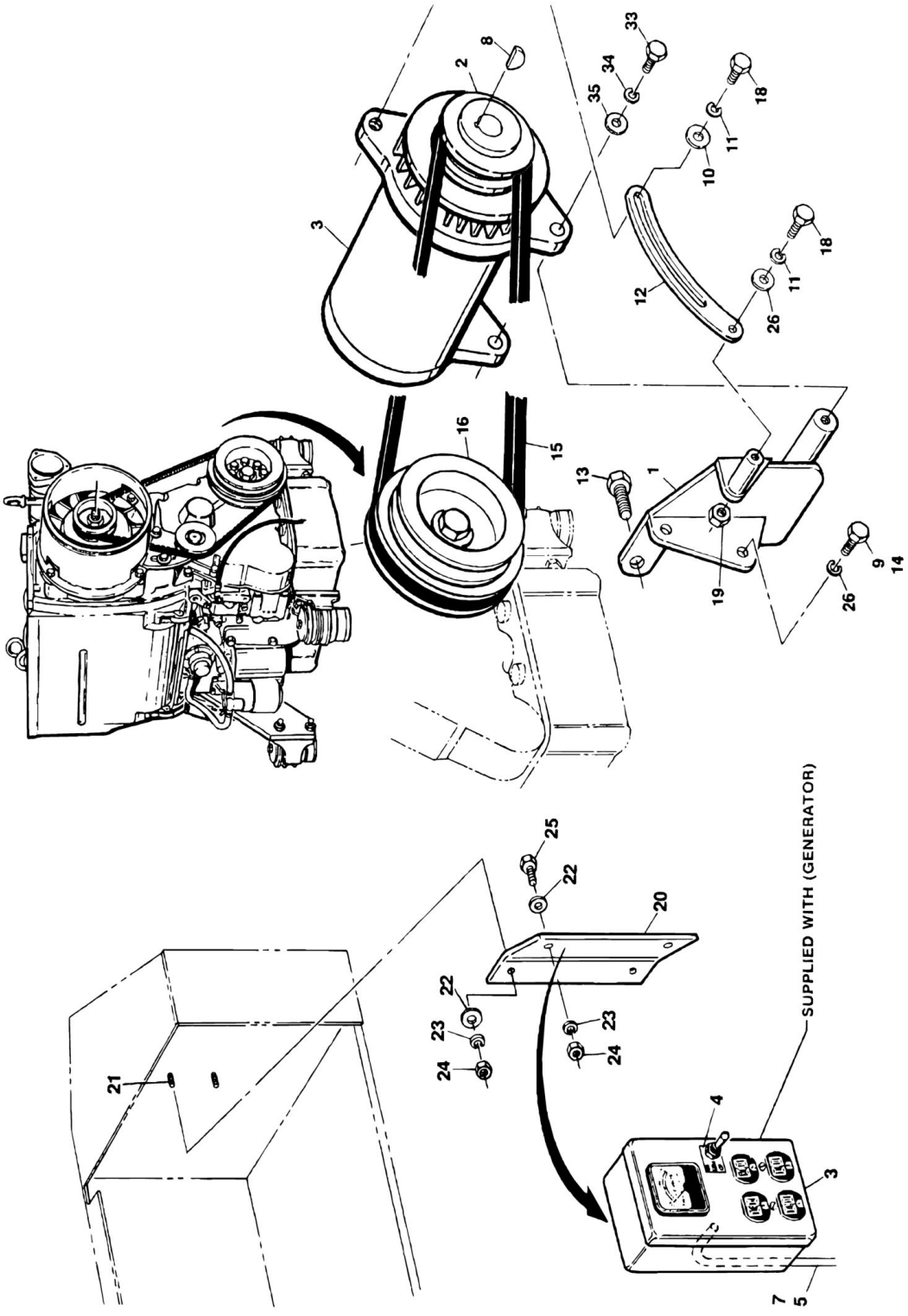


FIGURE 2-22. GENERATOR INSTALLATION 110 VOLT (DEUTZ) (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0251880	Ref	**GENERATOR INSTALLATION - 110 VOLT (DEUTZ)**	9
1	4843410	1	Bracket, Mounting - Generator	
3	2460011	1	Generator Assembly with Control Box	
3	3580134	1	Pulley	
3	7012558	1	Generator Assembly Only	
3	7020108	4	Brush	
3	7020109	4	Holder, Brush	
3	7012513	4	Caps, Brush Holder	
3	7012514	1	Fan	
3	7020193	1	Cord, Power	
3	7026199	1	Armature	
3	7020110	1	End Bell, Front	
3	7020111	1	End Bell, Rear	
3	7020190	2	Bearing	
3	7003657	1	Control Box Assembly	
		Ref	**Note: Replacement 110V Control Box comes with 2 std Receptacles p/n 4460190. Optional Industrial Twist Lock Receptacles p/n 4460027 must be ordered separately.**	
3	2420203	1	Voltmeter	
3	4360542	1	Breaker, Circuit	
3	4460190	2	Receptacle	
3	2920162	1	Lamp	
3	7020191	1	Switch, Toggle	
3	3520028	1	Plug, Hole	
4	3251476	1	Nametag - Generator On/Off	
5	1060515	1	Cable, Electrical - 12/4 (was p/n 1060012)	
7	4460023	1	Terminal, Connector	
8	2860012	1	Key, Woodruff	
9	0100011	AR	Loctite	
10	4751500	1	Flatwasher 5/16in	
11	4761500	2	Lockwasher 5/16in	
12	0361815	1	Arm, Adjustment	
13	0701414	1	Bolt, Metric 14mm x 30mm	
14	0701012	2	Bolt, Metric 10mm x 25mm	
15	0480059	1	V-Belt	
16	3580158	1	Pulley	
18	0681510	2	Bolt 5/16in-18NC x 1 1/4in	
19	3311501	1	Nut 5/16in-18NC	
20	0901584	1	Bracket, Mounting - Control Box	
21	4300068	2	Stud (Welded on Part)	
22	4751400	4	Flatwasher 1/4in	
23	4761400	6	Lockwasher 1/4in	
24	3311401	4	Nut 1/4in-20NC	
25	0641406	2	Bolt 1/4in-20NC x 3/4in	
26	4812000	2	Flatwasher, Metric 10mm	
27	2180730	1	Fitting, Adapter (Prior to October 1, 1992 Only)	
28	2180749	1	Fitting, 45	
29	2180537	1	Fitting, Nipple **(Prior to SN 23307)**	
29	2180730	1	Fitting, Adapter **(SN 23307 to Present)**	
30	2180360	1	Fitting, Tee **(Prior to SN 23307)**	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
31	2200261	1	Fitting, Coupling **(Prior to SN 23307)**	
32	4360037	1	Switch, Oil Pressure	
33	0681610	2	Bolt 3/8in-16NC x 1 1/4in	
34	4761600	2	Lockwasher 3/8in	
35	4751600	2	Flatwasher 3/8in	

FIGURE 2-23. PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES)

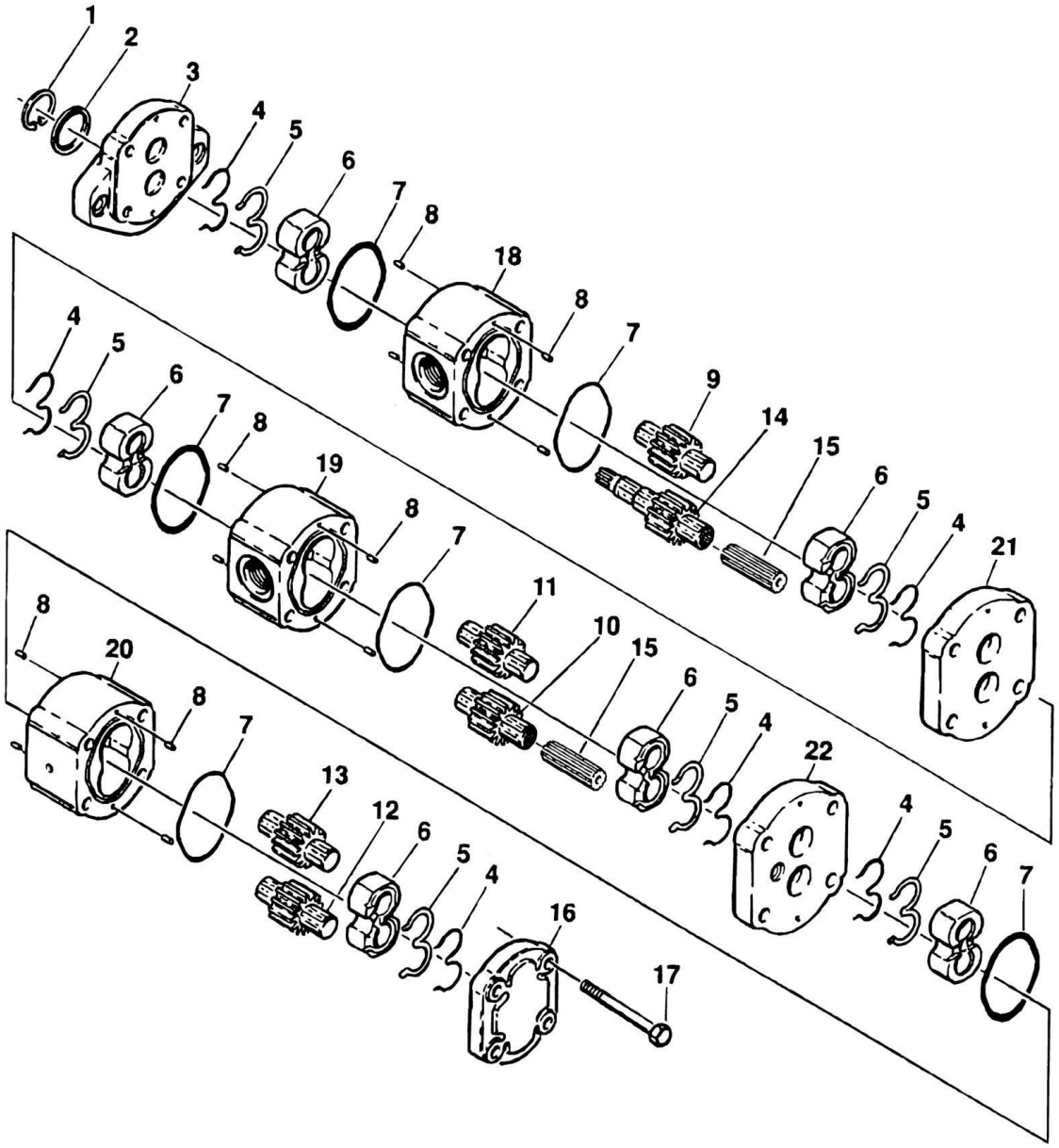


FIGURE 2-23. PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3600200	Ref	**PUMP ASSEMBLY - BARNES (FORD AND DEUTZ POWERED MACHINES)**	
1	7010955	1	Ring, Retaining	
2	Kit	1	Seal, Shaft	
3	7010964	1	Flange, Mounting	
4	Kit	6	Ring, Backup	
5	Kit	6	E-Seal	
6	7010957	6	Bearing	
7	Kit	6	O-Ring	
8	7010959	12	Pin, Dowel	
9	7010980	1	Gear, Idler (Section 1)	
10	7010981	1	Gear, Idler	
11	7010982	1	Gear, Idler	
12	7010976	1	Gear, Idler (Section 3)	
13	7010954	1	Gear, Idler	
14	7010979	1	Gear, Drive	
15	7010965	2	Coupling	
16	7010960	1	Cover, End	
17	7010966	4	Bolt	
18	7010967	1	Housing (Section 1)	
19	7010968	1	Housing (Section 2)	
20	7010969	1	Housing (Section 3)	
21	7010970	1	Plate, Distance (Section 2)	
22	7010971	1	Plate, Distance (Section 3)	
	7010962	1	Seal Kit (Includes Items 2, 4, 5 & 7)	

FIGURE 2-24. KUBOTA ENGINE INSTALLATION

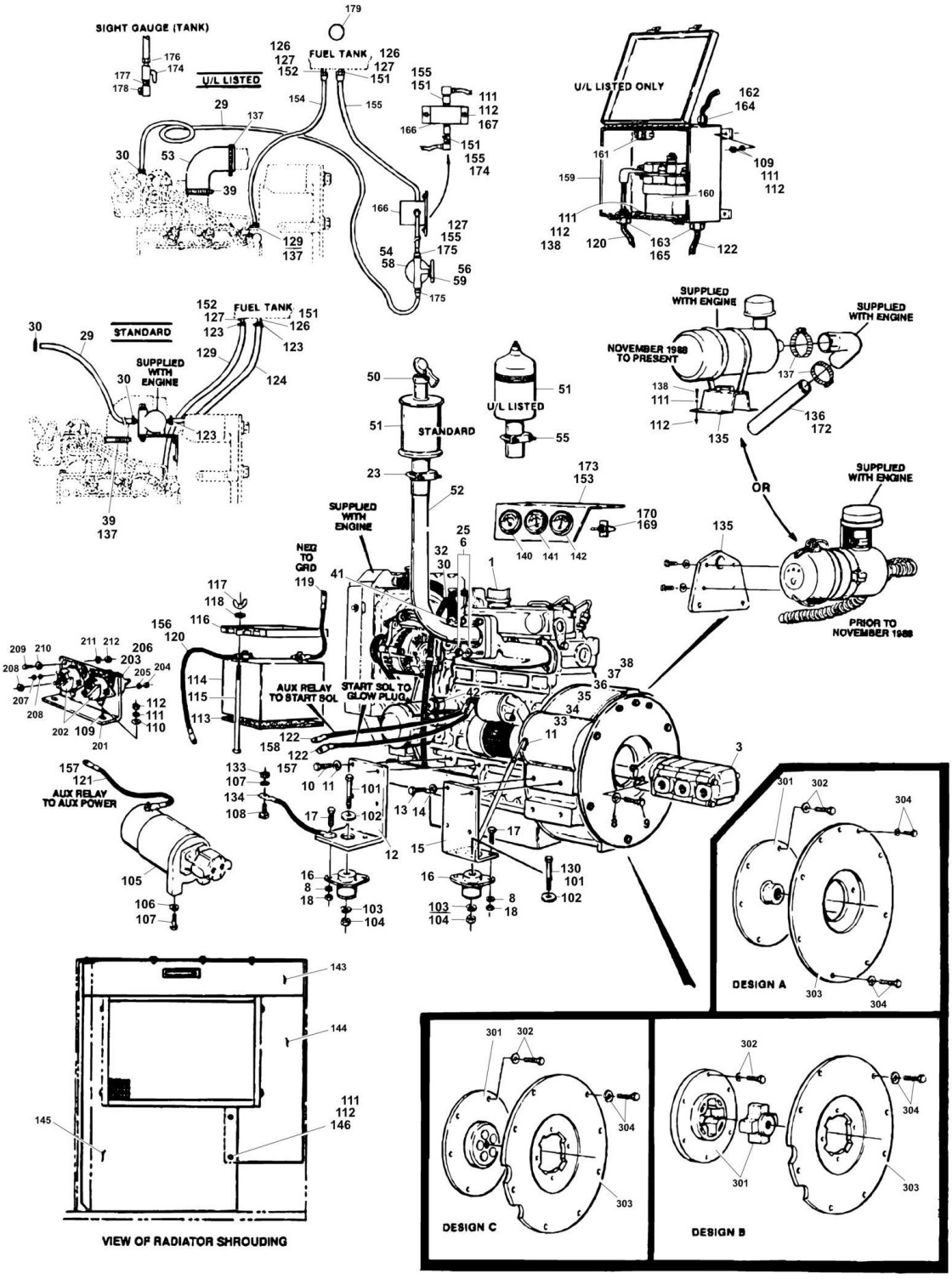


FIGURE 2-24. KUBOTA ENGINE INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**KUBOTA ENGINE ASSEMBLY (STANDARD PARTS)**	
1	2000101	1	Engine, Kubota Diesel	
3	3600142	1	Pump Assembly (Vickers)	
3	2900660	1	Shaft Seal Kit (Vickers)	
3	3600201	1	Pump Assembly (Barnes) (Some additional Fittings may be required for installation) (See PUMP ASSEMBLY - BARNES for Breakdown)	
6	4761500	2	Lockwasher 5/16in	
8	4761600	AR	Lockwasher 5/16in	
9	0641607	2	Bolt 3/8in-16NC x 7/8in	
10	0630394	AR	Bolt, Metric M10-1.25 x 25mm	
11	4740116	9	Lockwasher, Metric 10mm	
12	3200276	2	Bracket, Engine (Front)	
13	0641810	8	Bolt 1/2in-13NC x 1 1/4in	
14	4761800	8	Lockwasher 1/2in	
15	3200277	2	Bracket, Engine (Rear)	
16	3200202	4	Mount, Engine (Rear)	
17	0641608	8	Bolt 3/8in-16NC x 1in	
18	3311601	8	Nut 3/8in-16NC	
23	1320020	1	Clamp, Muffler	
25	3290801	4	Nut, Metric 8mm	
29	2720058	18 in/46cm	Hose, Low Pressure	
30	1320022	3	Clamp	
32	2750532	24 in/61cm	Hose, Low Pressure	
33	3520068	1	Plug	
34	2200201	1	Fitting, Plug	
35	0630414	1	Bolt, Special	
36	4740351	2	Washer, Metric #12	
37	4843180	1	Tube, Dipstick	
38	0630416	1	Bolt, Metric M10-1.25 x 16mm	
39	1320012	1	Clamp, Hose	
41	2420108	1	Sender, Water Temperature	
42	2420073	1	Sender, Oil Pressure	
		Ref	**KUBOTA ENGINE ASSEMBLY (VARIABLE PARTS)**	
	0239084	Ref	**Standard Machines**	F
	0239777	Ref	**U/L Machines**	E
50		Ref	Cap, Rain Options:	
50	1120218	1	Standard Machines	
50	Not Required	0	U/L Machines	
51		Ref	Muffler Options:	
51	3220027	1	Standard Muffler (Standard Machines)	
51	3220067	1	Optional Spark Arrestor Muffler (Standard Machines)	
51	3220074	1	Standard Spark Arrestor Muffler (U/L Machines)	
52		Ref	Exhaust Weldment Options:	
52	4843088	1	Exhaust Weldment Standard Machines	
52	4843441	1	Exhaust Weldment U/L Machines	
53		Ref	Hose/Tubing Options:	
53	2720331	1	Hose Standard Machines	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
53	4564466	1	Hose U/L Machines	
54	2120113	1	Base, Filter (U/L Machines Only)	
55	1320132	1	Clamp, Muffler (U/L Machines Only)	
56	0701014	4	Bolt, Metric M10-1.5 x 30mm (U/L Machines Only)	
57	0160011	1	Alternator, Totally Enclosed (Not Shown) (U/L Machines Only)	
57	0901598	1	Bracket (U/L Machines Only)	
57	4340571	1	Support, Adjustable (U/L Machines Only)	
57	0641412	1	Bolt 1/4in-20NC x 1 1/2in (U/L Machines Only)	
57	0641528	1	Bolt 5/16in-18NC x 3 1/2in (U/L Machines Only)	
57	4751500	2	Flatwasher 5/16in (U/L Machines Only)	
58	2120114	1	Element, Filter (U/L Machines Only)	
59	4300032	3	Stud (Welded on Part) (U/L Machines Only)	
59	4761400	3	Lockwasher 1/4in (U/L Machines Only)	
59	3311401	3	Nut, 1/4in-20NC (U/L Machines Only)	
		Ref	**KUBOTA ENGINE INSTALLATION (STANDARD PARTS)**	
101	0641730	3	Bolt 7/16in-14NC x 3 3/4in	
102	4740273	4	Washer, Snubbing	
103	4761700	4	Lockwasher 7/16in	
104	3311701	3	Nut 7/16in-14NC	
105	3600050	1	Auxiliary Pump Assembly (Vendors Vary):	
105		Ref	John S. Barnes Version:	
105	7004248	1	Motor	
105	7004249	1	Coupling	
105	7010923	1	Pump	
105		Ref	Stone Industries Version:	
105	7000482	1	Motor	
105	7004412	1	Coupling	
105	7004414	1	Pump	
106	0641612	3	Bolt 3/8in-16NC x 1 1/2in	
107	4761600	3	Lockwasher 3/8in	
108	0239092	1	Electrical Panel Assembly (See Items 201- 212 for Breakdown)	
109	4300032	AR	Stud (Welded on Part)	
110	4751400	AR	Flatwasher 1/4in	
111	4761400	AR	Lockwasher 1/4in	
112	3311401	AR	Nut 1/4in-20NC	
113	3980003	1	Seat, Battery	
114	0400003	1	Battery	
115	0236768	2	Rod, Hold-down	
116	0400002	1	Hold-Down, Battery	
116	2910479	1	Replacement Clip Kit for 0400002	
117	3300029	2	Wing-Nut 3/8in-16NC	
118	4711600	2	Flatwasher 3/8in Narrow	
119	1060146	1	Cable, Battery (Negative to Ground)	
120	1060172	1	Cable, Battery (Positive to Aux Relay - Standard/Contactor - U/L Listed Machines)	
121	1060221	1	Cable, Battery (Aux Relay to Aux Pump)	
122	1060093	AR	Cable, Battery (Aux Relay to Starter Solenoid/Contactor to Aux Relay - U/L Machines/Starter Solenoid to Glow Plugs)	
123	1320022	4	Clamp	
124	2720058	AR	Hose	
124	2720058	4.5 ft/1.4m	Hose Standard Machines	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
124	2720058	9 in/23cm	Hose U/L Listed Machines	
126	0100020	AR	Loctite	
127	2220273	1	Fitting, Reducer	
129	2720271	AR	Hose	
129	2720271	3.5 ft/1.1m	Hose Standard Machines	
129	2720271	9 in/23cm	Hose U/L Listed Machines	
130	0641718	1	Bolt 7/16in-14NC x 2 1/4in	
133	3311601	1	Nut 3/8in-16NC	
134	1060093	1	Cable, Battery (Engine to Ground)	
135		Ref	Bracket, Air Cleaner Options:	
135	0901510	1	Bracket Design A - (Prior to November 1988)	
135	0901551	1	Bracket Design B - (November 1988 to Present)	
136	4564215	1	Bracket Tube - Air Intake (November 1988 to Present Only)	
137	1320012	3	Clamp	
138	0641406	AR	Bolt 1/4in-20NC x 3/4in	
140	2420107	1	Gauge - Water Temperature	
141	2420074	1	Gauge - Oil Pressure	
142	2420091	1	Gauge - Volt	
143	2680374	1	Hood, Shroud (Top)	
144	2680373	1	Hood, Shroud (Side)	
145	2680375	1	Hood, Shroud (Bottom)	
146	0641404	2	Bolt 1/4in-20NC x 1/2in	
		Ref	**KUBOTA ENGINE INSTALLATION (STANDARD MACHINES) (VARIABLE PARTS)**	
	0239085	Ref	**Standard Machines**	C
	0239778	Ref	**U/L Listed Machines**	B
151		Ref	Fitting, 90 Options:	
151	2220317	1	Fitting Standard Machines	
151	2180704	3	Fitting U/L Listed Machines	
152		Ref	Fitting, 90 Options:	
152	2220805	1	Fitting Standard Machines	
152	2180703	2	Fitting U/L Listed Machines	
153		Ref	Bracket, Gauge Mounting Options:	
153	0901552	1	Bracket Standard Machines	
153	4843422	1	Bracket U/L Listed Machines	
154	4564079	5 ft/1.5m	Tube, Fuel Line (U/L Listed Machines Only)	
154	2180705	3	Fitting, Nut (U/L Listed Machines Only)	
155	4564078	5 ft/1.5m	Tube, Fuel Line (U/L Listed Machines Only)	
155	2180706	2	Fitting, Nut (U/L Listed Machines Only)	
156	0840029	1	Boot, Battery Post (U/L Listed Machines Only)	
157	0840027	7	Boot, Battery Cable End (U/L Listed Machines Only)	
158	0840025	2	Boot, Battery Cable End (U/L Listed Machines Only)	
159	0860595	1	Box Assembly (U/L Listed Machines Only)	
160	3740065	1	Contactor - 300 Amp (U/L Listed Machines Only)	
161	3740049	1	Relay (U/L Listed Machines Only)	
162	4460052	1	Connector, Strain Relief (U/L Listed Machines Only)	
163	4460051	2	Connector, Strain Relief (U/L Listed Machines Only)	
164	3300047	1	Locknut, Conduit (U/L Listed Machines Only)	
165	3300048	2	Locknut, Conduit (U/L Listed Machines Only)	
166	3600094	1	Pump, Electric Fuel (U/L Listed Machines Only)	
167	4300031	2	Stud (Welded on Part) (U/L Listed Machines Only)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
169	3251292	1	Nametag - Primer (Not Shown) (U/L Listed Machines Only)	
170	4360200	1	Switch, Toggle (U/L Listed Machines Only)	
172	4564467	1	Tube, Air Intake (U/L Listed Machines Only)	
173	3533683	1	Plate (U/L Listed Machines Only)	
174	4640618	2	Valve, Shut-Off (U/L Listed Machines Only)	
175	2220265	2	Fitting, Reducer (U/L Listed Machines Only)	
176	2180371	1	Fitting, Barbed (U/L Listed Machines Only)	
177	2220261	1	Fitting, Nipple (U/L Listed Machines Only)	
178	2220648	1	Fitting, 90 (U/L Listed Machines Only)	
179	1120367	1	Cap, Fuel Tank (U/L Listed Machines Only)	
	0239092	Ref	**ELECTRICAL PANEL ASSEMBLY**	-
201	3532675	1	Panel, Mounting	
202	3740067	2	Relay	
203	3740059	1	Relay, Start	
204	3310801	1	Nut #8-32NC	
205	4760800	1	Lockwasher #8	
206	3300220	6	Nut, Special	
207	3321001	3	Nut #10-32NF	
208	4761000	3	Lockwasher #10	
209	0641406	4	Bolt 1/4in-20NC x 3/4in	
210	4751400	8	Flatwasher 1/4in	
211	4761400	4	Lockwasher 1/4in	
212	3311401	4	Nut 1/4in-20NC	
		Ref	**COUPLING INSTALLATION - OPTION**	
	Not Available	Ref	**Steel Disc (Prior to September 1989) (Design A)**	
	0239964	Ref	**Lovejoy (September 1989 to Present) (Design B)**	-
	0220596	Ref	**Hayes (September 1989 to Present) (Design C)**	-
301		Ref	Coupling Options:	
301	1760117	1	Coupling Steel Disc (Prior to September 1989) (Design A)	
301	1660176	1	Coupling Lovejoy (September 1989 to Present) (Design B)	
301	1660182	1	Coupling Hayes (September 1989 to Present) (Design C)	
302	0641506	6	Bolt 5/16in-18NC x 3/4in	
302	0641509	6	Bolt 5/16in-18NC x 1 1/8in	
302	4761500	6	Lockwasher 5/16in	
303		Ref	Adapter, Pump Mounting Options:	
303	0080152	1	Adapter Steel Disc (Prior to September 1989) (Design A)	
303	0080169	1	Adapter Lovejoy (September 1989 to Present) (Design B)	
303	0080169	1	Adapter Hayes (September 1989 to Present) (Design C)	
304	0641607	8	Bolt 3/8in-16NC x 7/8in	
304	0641609	8	Bolt 3/8in-16NC x 1 1/8in (When Required)	
304	4761600	8	Lockwasher 3/8in	
		Ref	**KUBOTA ENGINE COMPONENTS**	
		Ref	Harness, Engine and Valve Options:	
	4921143	1	Harness Stepper Valve Machines	
	4921144	1	Harness Vickers Valve Machines	
	7004393	1	Alternator	

FIGURE 2-25. THROTTLE AND FUEL SHUT-OFF INSTALLATION (KUBOTA)

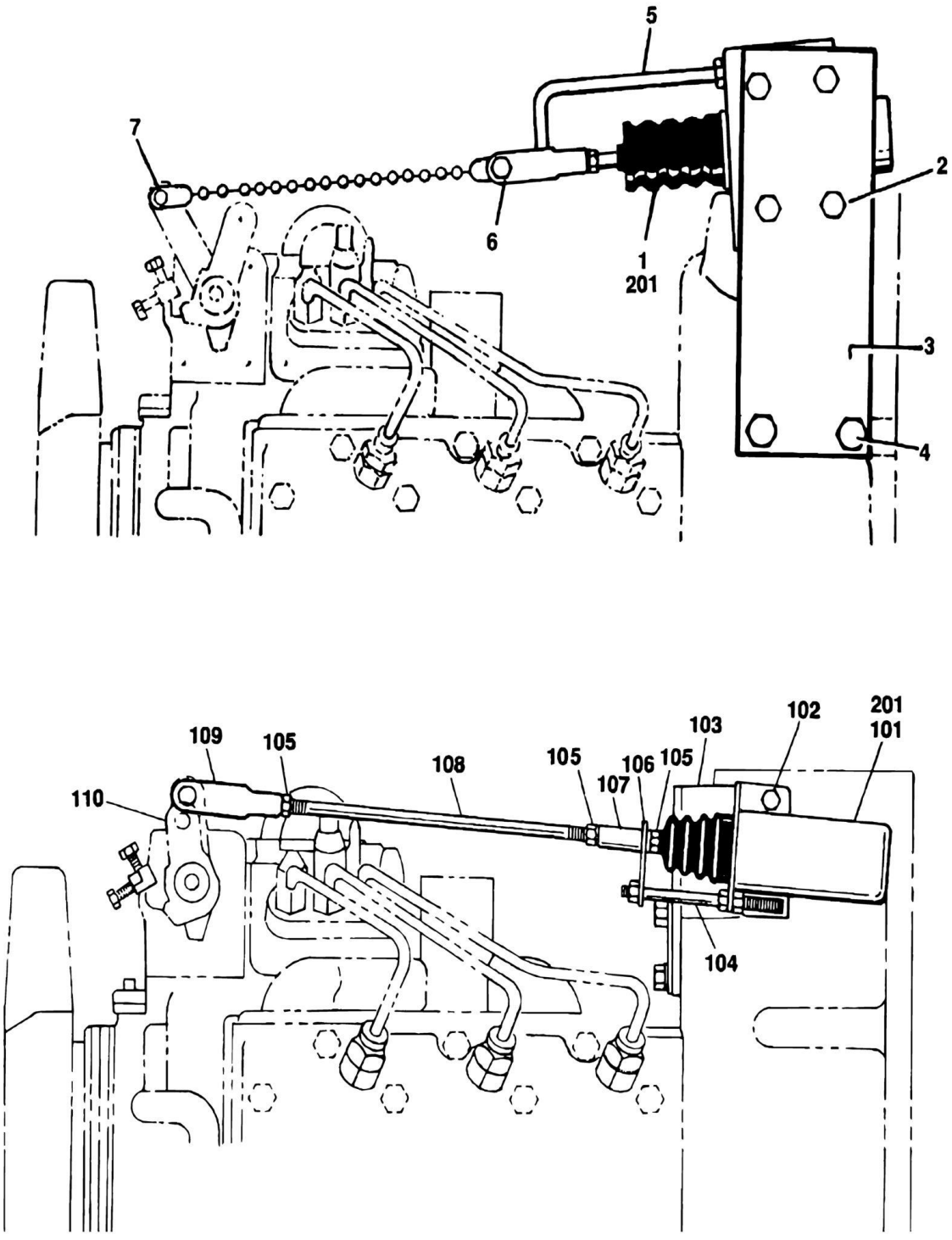


FIGURE 2-25. THROTTLE AND FUEL SHUT-OFF INSTALLATION (KUBOTA)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0239116	Ref	**THROTTLE AND FUEL SHUT-OFF INSTALLATION (CHAIN CONTROLLED) (KUBOTA)**	-
1	3740048	1	Solenoid	
2	0641406	4	Bolt 1/4in-20NC x 3/4in	
2	4751400	4	Flatwasher 1/4in	
2	4761400	4	Lockwasher 1/4in	
2	3311401	4	Nut 1/4in-20NC	
3	0901511	1	Bracket	
4	0641506	2	Bolt 5/16in-18NC x 3/4in	
4	4761500	2	Lockwasher 5/16in	
5	3840765	1	Rod	
5	3311401	2	Nut 1/4in-20NC	
6	1360061	1	Yoke Assembly (Includes Chain, Clevis and Cotter Pins)	
7	0721005	1	Bolt #10-24NC x 5/8in	
7	4761000	1	Lockwasher #10	
7	3311001	1	Nut #10-24NC	
	0239116	Ref	**THROTTLE AND FUEL SHUT-OFF INSTALLATION (ROD CONTROLLED) (KUBOTA)**	A
101	3740028	1	Solenoid	
102	0641406	2	Bolt 1/4in-20NC x 3/4in	
102	4751400	2	Flatwasher 1/4in	
102	4761400	2	Lockwasher 1/4in	
102	3311401	2	Nut 1/4in-20NC	
103	0901532	1	Bracket	
104	3840979	1	Rod, Stop	
104	3311401	3	Nut 1/4in-20NC	
104	4761400	1	Lockwasher 1/4in	
105	3321401	3	Nut 1/4in-28NF	
105	4761400	3	Lockwasher 1/4in	
106	0361700	1	Bar, Stop	
107	3300134	1	Nut, Barrel	
108	3840898	1	Rod	
109	1360112	1	Clevis, Yoke	
110	3740071	1	Solenoid, Engine Shut-Down	
		Ref	**U/L COMPONENTS (WHEN REQUIRED)**	
201	0840026	2	Boot, Cable End	

FIGURE 2-26. KOHLER ENGINE INSTALLATIONS

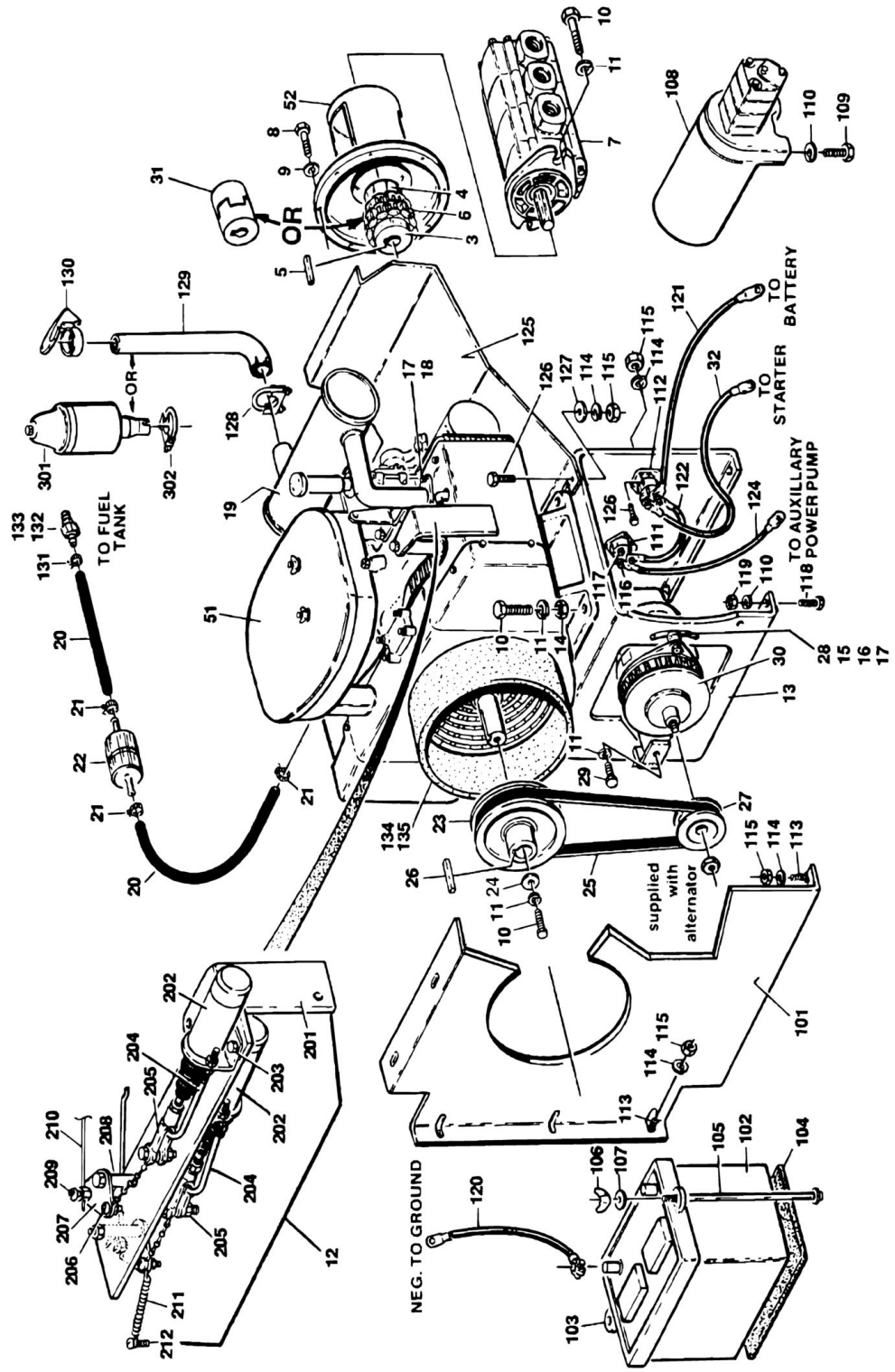


FIGURE 2-26. KOHLER ENGINE INSTALLATIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**KOHLER ENGINE ASSEMBLY (STANDARD PARTS)**	
3	Not Available	1	Coupling Half (Front) (Use Item 31 Instead)	
4	Not Available	1	Coupling Half (Rear) (Use Item 31 Instead)	
5	2880416	1	Key	
6	Not Available	1	Chain (Use Item 31 Instead)	
7		Ref	Pump Assembly Options:	
7	3600142	1	Pump Assembly (Vickers)	
7	2900660	1	Shaft Seal Kit (Vickers)	
7	3600201	1	Pump Assembly (Barnes) (Some Additional Fittings Required for Installation) (See PUMP ASSEMBLY - BARNES for Breakdown)	
8	0641708	4	Bolt 7/16in-14NC x 1in	
9	4761700	4	Lockwasher 7/16in	
10	0641608	AR	Bolt 3/8in-16NC x 1in	
11	4761600	8	Lockwasher 3/8in	
12	0237795	1	Throttle and Choke Assembly (See Items 201-212 for Breakdown)	
13	4843044	1	Motor Mount Weldment	
14	3311601	4	Nut 3/8in-16NC	
15	0700816	1	Bolt, Metric 8mm x 40mm	
16	4751500	1	Flatwasher 5/16in	
17	4761500	5	Lockwasher 5/16in	
18	3931512	4	Bolt, Socket Head 5/16in-18NC x 3/4in	
19	3220069	1	Muffler	
20	2720015	5 ft/1.5m	Hose, Low Pressure (Fuel LIne)	
21	1320022	3	Clamp, Hose	
22	2120042	1	Filter, Fuel	
23	3580138	1	Pulley (Top)	
24	4740273	1	Washer	
25	0480024	1	V-Belt	
26	2880408	1	Key	
27	3580100	1	Pulley (Bottom)	
28	0960807	1	Bushing	
29	0641620	1	Bolt 3/8in-16NC x 2 1/2in	
30	2460015	1	Alternator	
31		Ref	Coupling, Flex Options:	
31	1660161	1	Coupling Standard	
31	1660166	1	Coupling Dual Fuel	
32	1060130	1	Cable, Battery (Relay to Starter)	
		Ref	**KOHLER ENGINE ASSEMBLY (VARIABLE PARTS)**	
	0238463	Ref	**Standard 18HP**	E
	0238461	Ref	**Dual Fuel 18 HP**	G
	0239075	Ref	**Standard 20HP**	A
	0239073	Ref	**Dual Fuel 20 HP**	B
51		Ref	Engine Options:	
51	2000102	1	Engine 18HP	
51	2000098	1	Engine 20HP	
52		Ref	Adapter, Pump Options:	
52	0080159	1	Adapter 18HP	
52	0080096	1	Adapter 20HP	
		Ref	**KOHLER ENGINE INSTALLATION (STANDARD PARTS)**	
101	3380362	1	Panel, Shroud	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
102	0400003	1	Battery	
103	0400002	1	Hold-Down, Battery	
103	2910479	1	Replacement Clip Kit for 0400002	
104	3980003	1	Seat, Battery	
105	0236768	2	Rod, Hold-down	
106	4751600	2	Flatwasher 3/8in	
107	3300029	2	Wingnut 3/8in-16NC	
108	3600050	1	Auxiliary Pump Assembly (Vendors Vary):	
108		Ref	John S. Barnes Version:	
108	7004248	1	Motor	
108	7004249	1	Coupling	
108	7010923	1	Pump	
108		Ref	Stone Industries:	
108	7000482	1	Motor	
108	7004412	1	Coupling	
108	7004414	1	Pump	
109	0641612	2	Bolt 3/8in-16NC x 1 1/2in	
110	4761600	6	Lockwasher 3/8in	
111	3740067	1	Relay	
112	3740059	1	Relay	
113	4300031	5	Stud (Welded on Parts)	
114	4761400	10	Lockwasher 1/4in	
115	3311401	10	Nut 1/4in-20NC	
116	3300220	2	Nut, Special	
117	3311001	1	Nut #10-24NC	
118	0641615	4	Bolt 3/8in-16NC x 1 3/4in	
119	3311601	4	Nut 3/8in-16NC	
120	1060146	1	Cable, Battery (Negative to Ground)	
121	1060154	1	Cable, Battery (Positive to Starter Solenoid)	
122	1060221	1	Cable, Battery (Starter Solenoid to Aux Solenoid)	
124	1060080	1	Cable, Battery (Aux Solenoid to Aux Pump)	
125	3532007	1	Plate, Heat Shield	
126	0641406	5	Bolt 1/4in-20NC	
127	4751400	1	Flatwasher 1/4in	
128	1320020	1	Clamp	
129	4563827	1	Tube, Exhaust	
130	1120218	1	Cap, Rain	
131	1320022	1	Clamp	
132	2220317	1	Fitting, Barbed	
133	0100020	AR	Sealant, Pipe	
134	3960270	27 in/67cm	Seal, Foam	
135	0100001	AR	Adhesive	
	0237795	Ref	**THROTTLE AND CHOKE ASSEMBLY**	E
201	3200257	1	Bracket	
202	3740028	2	Solenoid	
203	0641406	4	Bolt 1/4in-20NC x 3/4in	
203	4751400	4	Flatwasher 1/4in	
203	4761400	4	Lockwasher 1/4in	
203	3311401	4	Nut 1/4in-20NC	
204	3840765	1	Rod	
204	3311401	2	Nut 1/4in-20NC	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
205	1360061	2	Clevis (Includes Yoke, Chain and Hardware)	
206	0721005	2	Screw #10-24NC x 5/8in	
206	4761000	2	Lockwasher #10	
206	3311001	2	Nut #10-24NC	
207	3531512	2	Plate	
208	0721014	2	Bolt #10-24NC x 1 3/4in	
208	4751000	2	Flatwasher #10	
208	4761000	2	Lockwasher #10	
208	3311001	2	Nut #10-24NC	
208	4563626	2	Spacer	
209	4460302	2	Terminal, Cable Pivot	
209	4751400	2	Flatwasher 1/4in	
209	3450303	2	Pin, Cotter	
210	3840897	2	Rod, Linkage	
211	4160022	1	Spring	
212	0750804	1	Screw, Pan Head #8 x 1/2in	
	0238892	Ref	**SPARK ARRESTOR INSTALLATION (OPTIONAL)**	-
301	3220067	1	Muffler, Spark Arrestor	
302	1320132	1	Clamp	
		Ref	**ENGINE COMPONENTS**	
		Ref	Harness, Engine and Valve Options:	
	4921118	1	Harness Stepper Machines	
	4921122	1	Harness Vickers Machines	
	7000879	1	Regualator, Voltage (Engine 2000098 Only)	
	7000891	1	Starter (Model - M20) (Engine 2000098 Only)	
	7000899	1	Filter, Oil (Engine 2000098 Only)	
	7009784	1	Solenoid (Engine 2000098 Only)	
	7020132	1	Element, Air Cleaner (Engine 2000098 Only)	
	7020133	1	Precleaner, Air Cleaner Element (Engine 2000098 Only)	

FIGURE 2-27. DUAL FUEL INSTALLATION - KOHLER

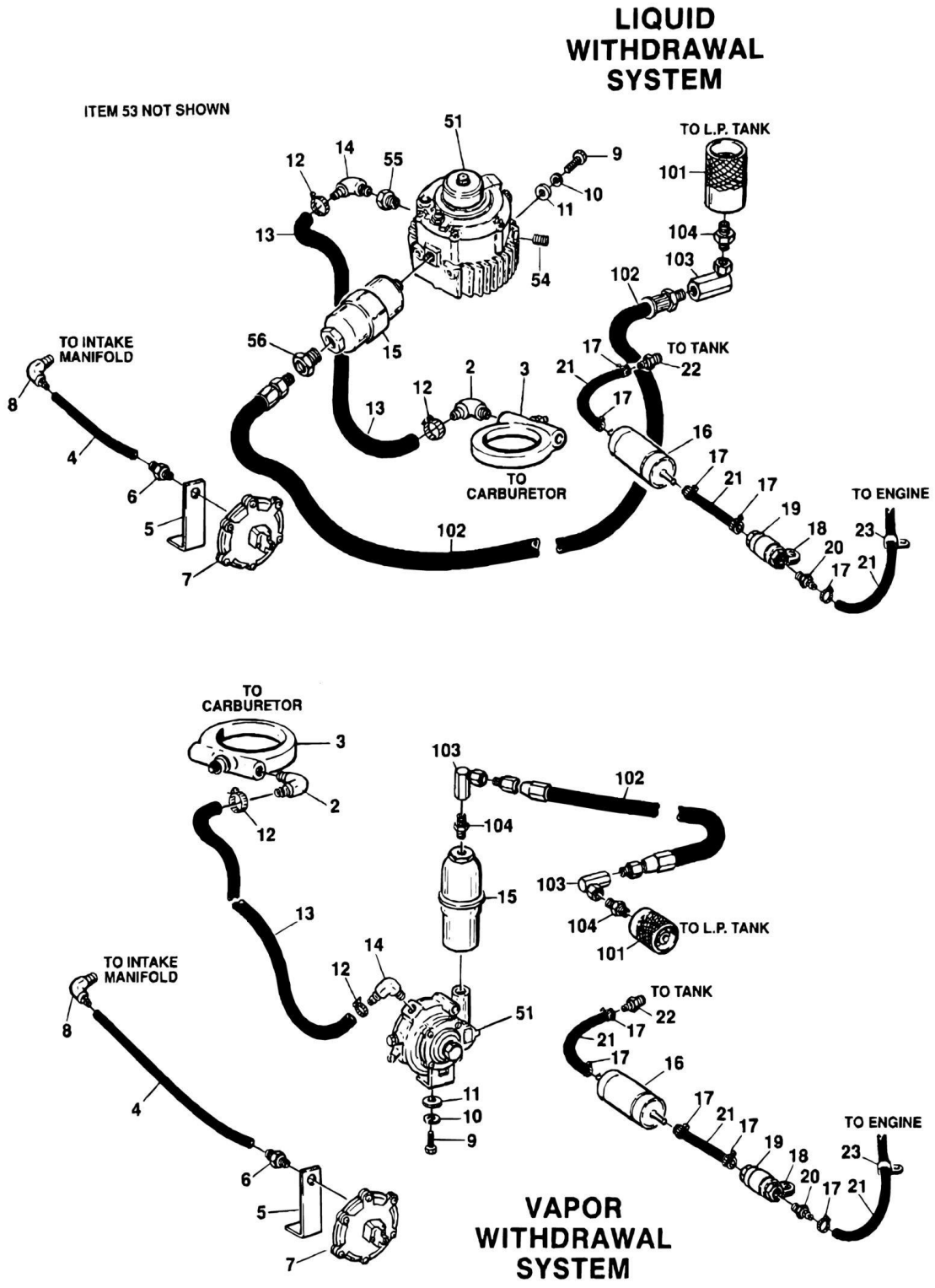


FIGURE 2-27. DUAL FUEL INSTALLATION - KOHLER

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DUAL FUEL INSTALLATION (STANDARD PARTS)**	
1	0100020	AR	Sealant, Pipe	
2	2220675	1	Fitting, 90	
3	0080142	1	Adaptor, Carburetor	
4	2720016	9 in/23cm	Hose, Vacuum	
5	0901415	1	Bracket, Mounting	
6	2180536	1	Fitting, Barbed	
7	4360188	1	Switch, Vacuum Safety	
8	2220296	1	Fitting, 90 Barbed	
9	0641405	2	Bolt 1/4in-20NC x 5/8in	
10	4761400	2	Lockwasher 1/4in	
11	4751400	2	Flatwasher 1/4in	
12	1320032	2	Clamp	
13	2720112	2 ft/61cm	Hose	
14	2220675	1	Fitting, 90 Barbed	
15	2120077	1	Filter, LP Gas	
16	2120042	1	Filter, In-Line Fuel	
17	1320022	5	Clamp	
18	1320060	1	Clamp	
19	4640391	1	Fuel-Lock	
20	2220315	1	Fitting, Barbed	
21	2720015	8 ft/2.4m	Hose, Fuel Line	
22	2220317	1	Fitting, 90	
23	1320041	2	Clamp, Hose	
		Ref	**DUAL FUEL INSTALLATION (VARIABLE PARTS)**	
	1280969	Ref	**Vapor Withdrawal System**	B
	1280853	Ref	**Liquid Withdrawal System**	F
51		Ref	Regulator Options:	
51	3720012	1	Regulator Vapor Withdrawal System	
51	4700003	1	Regulator Liquid Withdrawal System	
52		Ref	Bracket, Mounting Options:	
52	0901416	1	Bracket Vapor Withdrawal System	
52	Not Required	0	Bracket Liquid Withdrawal System	
53		Ref	Decal Options:	
53	1700819	1	Decal LP Gas Vapor Withdrawal System	
53	1700818	1	Decal LP Gas Liquid Withdrawal System	
54	2200202	1	Fitting, Plug (Liquid Withdrawal System Only)	
55	2220251	1	Fitting, Reducer (Liquid Withdrawal System Only)	
56	2220399	1	Fitting, Straight (Liquid Withdrawal System Only)	
	0238585	Ref	**TANK LINES INSTALLATION**	B
101	2180387	1	Fitting, LP Connector	
102	2720176	1	Hose, Gas	
103	2220648	1	Fitting, 90	
104	2180418	1	Fitting, Straight	

FIGURE 2-28. GENERATOR INSTALLATION (KOHLER) (OPTIONAL)

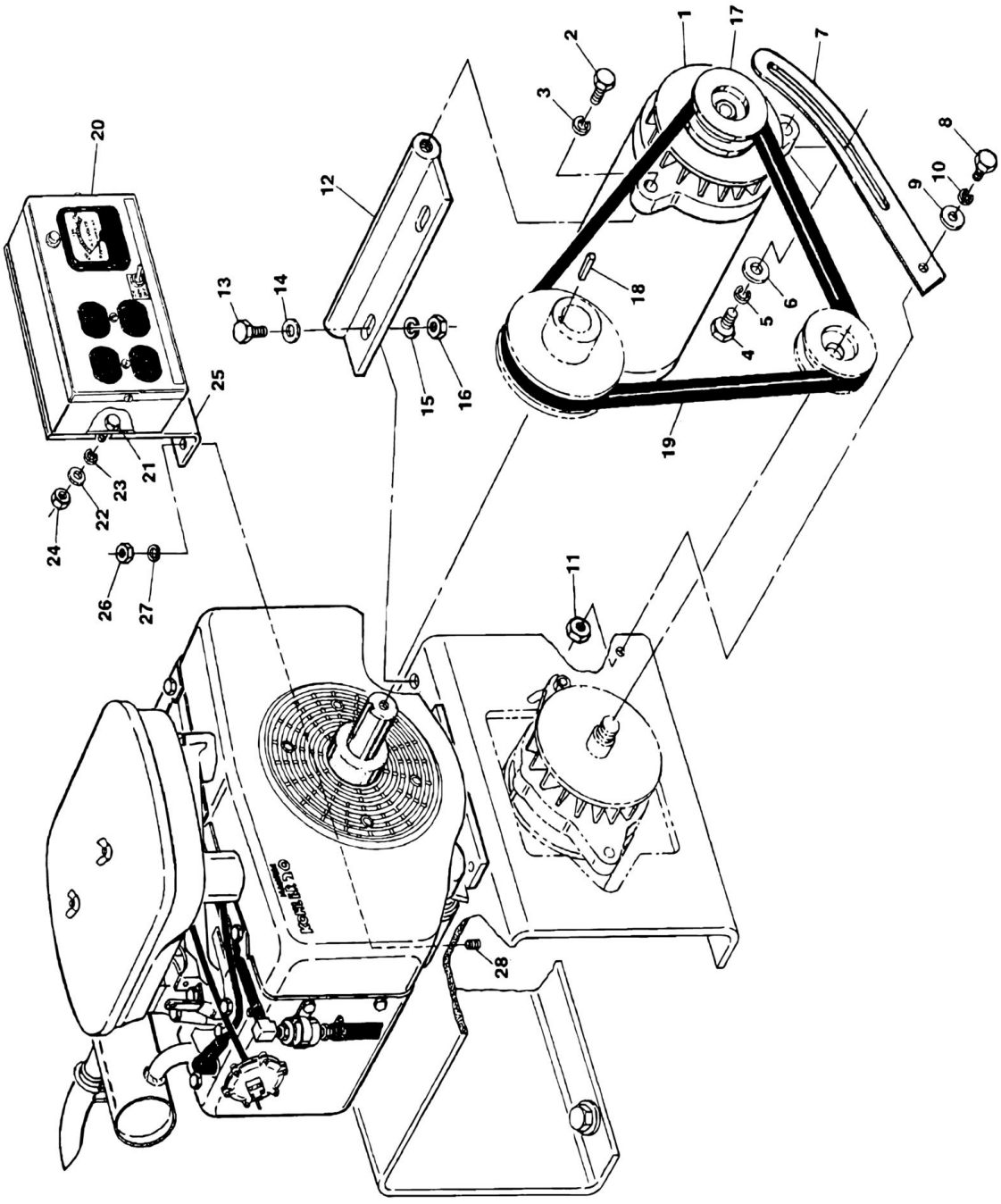


FIGURE 2-28. GENERATOR INSTALLATION (KOHLER) (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0238925	Ref	**GENERATOR INSTALLATION (KOHLER)**	D
1	2460011	1	Generator - Powermite 110 (Includes Item 20 also)	
1	3580134	1	Pulley	
1	7012558	1	Generator Assembly Only	
1	7020108	4	Brush	
1	7020109	4	Holder, Brush	
1	7012513	4	Caps, Brush Holder	
1	7012514	1	Fan	
1	7020193	1	Cord, Power	
1	7026199	1	Armature	
1	7020110	1	End Bell, Front	
1	7020111	1	End Bell, Rear	
1	7020190	2	Bearing	
2	0641508	2	Bolt 5/16in-18NC x 1in	
3	4761500	2	Lockwasher 5/16in	
4	0641506	1	Bolt 5/16in-18NC x 3/4in	
5	4761500	1	Lockwasher 5/16in	
6	4751500	1	Flatwasher 5/16in	
7	0361610	1	Bracket (Lower)	
8	0641508	1	Bolt 5/16in-18NC x 1in	
9	4751500	1	Flatwasher 5/16in	
10	4761500	1	Lockwasher 5/16in	
11	3311501	1	Nut 5/16in-18NC	
12	0901491	1	Bracket (Upper)	
13	0641608	2	Bolt 3/8in-16NC x 1in	
14	4751600	2	Flatwasher 3/8in	
15	4761600	2	Lockwasher 3/8in	
16	3311601	2	Nut 3/8in-16NC	
18	2880408	1	Key	
19	0480047	1	Belt	
20	7003657	1	Box, Electrical (Supplied with Generator)	
		Ref	**Note: Replacement 110V Control Box comes with 2 std Receptacles p/n 4460190. Optional Industrial Twist Lock Receptacles p/n 4460027 must be ordered separately.**	
20	2420203	1	Voltmeter	
20	4360542	1	Breaker, Circuit	
20	4460190	2	Receptacle	
20	2920162	1	Lamp	
20	7020191	1	Switch, Toggle	
20	3520028	1	Plug, Hole	
21	0641406	2	Bolt 1/4in-20NC x 3/4in	
22	4751400	2	Flatwasher 1/4in	
23	4761400	2	Lockwasher 1/4in	
24	3311401	2	Nut 1/4in-20NC	
25	0901492	1	Bracket	
26	3311401	3	Nut 1/4in-20NC	
27	4761400	3	Lockwasher 1/4in	
28	4300031	3	Stud (Welded on Parts)	

FIGURE 2-29. ELECTRIC POWERED MACHINES COMPONENTS INSTALLATION

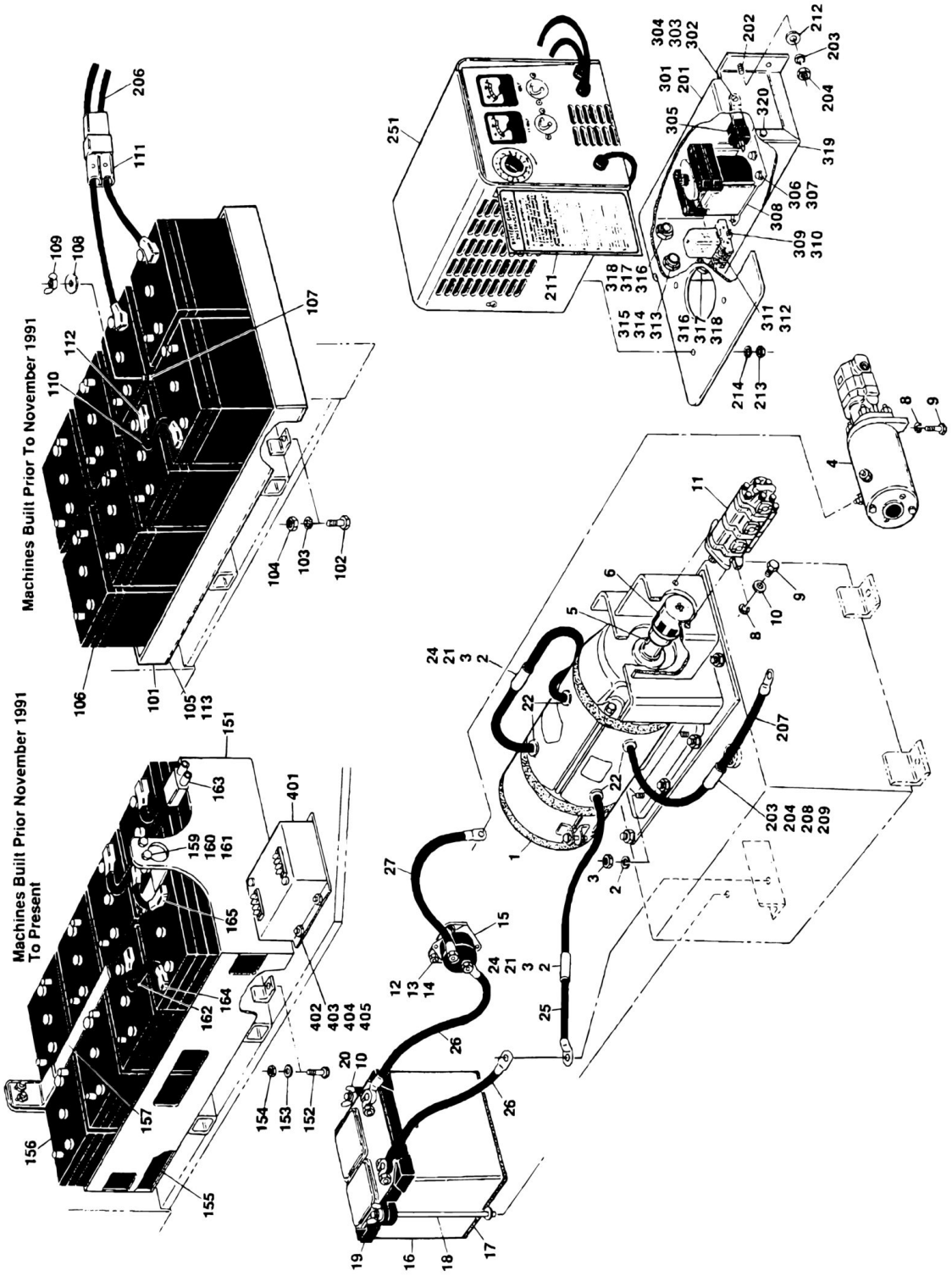


FIGURE 2-29. ELECTRIC POWERED MACHINES COMPONENTS INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Note: See Options - SPECIAL OPTIONS SECTION for U/L and 440VAC Machines.**	
	0258465	Ref	**MOTOR AND PUMP INSTALLATION (STANDARD PARTS)**	G
1		Ref	Motor, Electric Options:	
1	3160145	1	Motor Flex Coupling Mount (Used Prior to November 1989)	
1	3160153	1	Direct Mount (Used November 1989 to Present)	
1	7012588	8	Brush (3160153 Motor)	
1	7012589	8	Spring (3160153 Motor)	
2	4761500	6	Lockwasher 5/16in	
3	3311501	6	Nut 5/16in-18NC	
4		Ref	Auxiliary Pump Assembly (Vendors Vary):	
4	3600050	1	John S. Barnes Version:	
4	7004248	1	Motor	
4	7004249	1	Coupling	
4	7010923	1	Pump	
4	3600050	1	Stone Industries Version:	
4	7000482	1	Motor	
4	7004412	1	Coupling	
4	7004414	1	Pump	
4	3600208	1	Fenner Fluid Power Version:	
4	7013710	1	Motor	
4	7013711	1	Coupling	
4	7013712	1	Pump	
5	2880416	1	Key (Used Prior to November 1989 Only)	
6	1660166	1	Coupling, Flex (Used Prior to November 1989 Only)	
8	4761600	4	Lockwasher 3/8in	
9	0641610	4	Bolt 3/8in-16NC	
10	4751600	4	Flatwasher 3/8in	
11		Ref	Pump Assembly Options:	
11	3600142	1	Pump Assembly - Vickers (Not Field Serviceable)	
11	2900660	1	Pump Shaft Seal Kit - Vickers	
11	3600201	1	Pump Assembly - Barnes (1 each of fittings p/n's 2220376 & 2210014 are required when replacing Vickers Pump with Barnes Pump) (See PUMP ASSEMBLY - BARNES for Breakdown)	
12	4300032	2	Stud (Welded on Part)	
13	4761400	2	Lockwasher 1/4in	
14	3311401	2	Nut 1/4in-20NC	
15	3740067	1	Relay	
16	0400003	1	Battery	
17	3980003	1	Seat, Battery	
18	0236768	2	Rod, Hold-down	
19	0400002	1	Hold-Down, Battery	
19	2910479	1	Replacement Clip Kit for 0400002	
20	3300029	2	Wingnut 3/8in-16NC	
21	0641504	2	Bolt 5/16in-18NC x 1/2in	
22	0100009	AR	Silicone RTV	
24	2820030	12 in/30cm	Tubing, Heat Shrink	
25	1060221	1	Cable, Battery (Motor to Ground)	
26	1060146	2	Cable, Battery (Negative to Ground and Positive to Relay)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
27	1060133	1	Cable, Battery (Relay to Aux Pump)	
	0238522	Ref	**BATTERIES INSTALLATION (MACHINES BUILT PRIOR TO NOVEMBER 1991)**	C
101		Ref	Tray Weldment Options:	
101	4843427	1	Tray Weldment (January 1990 to November 1991)	
101	4842925	1	Tray Weldment (Prior to January 1990)	
102	0641612	2	Bolt 3/8in-16NC x 1 1/2in	
103	4761600	2	Lockwasher 3/8in	
104	3311601	2	Nut 3/8in - 16NC	
105	3980003	8	Seat, Battery	
106		Ref	Battery Options;	
106	0400067	8	Battery (Wet) (Standard Equipment)	
106	0400113	8	Battery (Dry) (Optional)	
107	0236768	3	Rod, Hold-down	
108	4740273	3	Washer, Special	
109	3300029	3	Wingnut 3/8in-16NC	
110	1060084	7	Cable, Battery	
111	1060277	1	Cable Assembly	
112	0840016	16	Boot, Terminal	
113	0100001	AR	Adhesive	
	0252482	Ref	**BATTERIES INSTALLATION (MACHINES BUILT NOVEMBER 1991 TO PRESENT)**	-
151	4844054	1	Tray Weldment	
152	0641612	2	Bolt 3/8in-16NC x 1 1/2in	
153	4761600	2	Lockwasher 3/8in	
154	3311601	2	Nut 3/8in-16NC	
155	3980018	1	Seat, Battery	
156		Ref	Battery Options;	
156	0400055	8	Battery (Wet) (Standard Equipment)	
156	0400107	8	Battery (Dry) (Optional)	
157	0362075	1	Bar, Tee	
158	0181554	2	Angle, Retaining	
159	0641408	4	Bolt 1/4in-20NC x 1in	
160	3311405	4	Locknut 1/4in-20NC	
161	4751400	4	Flatwasher 1/4in	
162	1060352	7	Cable, Battery	
163	1060277	1	Cable Assembly	
164	0840031	8	Boot, Terminal	
165	0840032	8	Boot Terminal	
		Ref	**BATTERY CHARGER INSTALLATION (STANDARD PARTS)**	
201	0239003	1	Contactor Box Assembly (See Items 301-320 for Breakdown)	
202	4300038	4	Stud (Welded on Part)	
203	4761500	5	Lockwasher 5/16in	
204	3311501	5	Nut 5/16in-18NC	
206	1060276	1	Cable Assembly (Contactor to Batteries to Ground)	
207	1060197	1	Cable, Battery (Motor to Contactor)	
208	0641504	1	Bolt 5/16in-18NC x 1/2in	
209	2820030	12 in/30cm	Tubing, Heat Shrink	
211	3252163	1	Nameplate - Instruction	
212	4751500	4	Flatwasher 5/16in	
213	3311401	4	Nut 1/4in-20NC	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
214	4761400	4	Lockwasher 1/4in	
		Ref	**BATTERY CHARGER INSTALLATION (Variable parts)**	
	0238619	Ref	**Battery Charger Installation (Prior to November 1991)**	C
	0252481	Ref	**Battery Charger Installation (November 1991 to Present)**	C
251		Ref	Battery Charger Assembly Options (See BATTERY CHARGER ASSEMBLY for Breakdown)	
251	0400068	1	Battery Charger Assembly (Prior to November 1991)	
251	0400077	1	Battery Charger Assembly (November 1991 to Present)	
	0239003	Ref	**CONTACTOR BOX ASSEMBLY**	B
301	0901477	1	Bracket	
302	3911012	1	Screw, Machine #10-24NC x 3/4in	
303	4761000	1	Lockwasher #10	
304	3311001	1	Nut #10-24NC	
305	3740049	1	Relay	
306	0641403	4	Bolt 1/4in-20NC x 3/8in	
307	4761400	4	Lockwasher 1/4in	
308	3740064	1	Contactor	
309	4760600	2	Lockwasher #6	
310	3910608	2	Screw, Machine #6-32NC x 1/2in	
311	4120002	1	Socket, Relay	
312	3740035	1	Relay - DPDT	
313	4460052	1	Connector, Strain Relief	
314	3300047	1	Locknut, Conduit	
315	0960239	1	Bushing	
316	4460051	2	Connector, Strain Relief	
317	3300048	2	Locknut, Conduit	
318	0960238	2	Bushing	
319	1670471	1	Cover	
320	3941003	2	Screw, Self-Tapping #10-24NC x 3/8in	
	0250775	Ref	**CONVERTOR INSTALLATION (STANDARD PARTS ON MACHINES BUILT APRIL 1990 TO PRESENT)**	B
401	1600119	1	Convertor Assembly	
402	0721014	4	Bolt #10-24NC x 1 3/4in	
403	4761000	4	Lockwasher #10	
404	3311001	4	Nut #10-24NC	
405	4751000	4	Flatwasher #10	

FIGURE 2-30. PUMP ASSEMBLY - BARNES (KOHLER, KUBOTA AND ELECTRIC POWERED MACHINES)

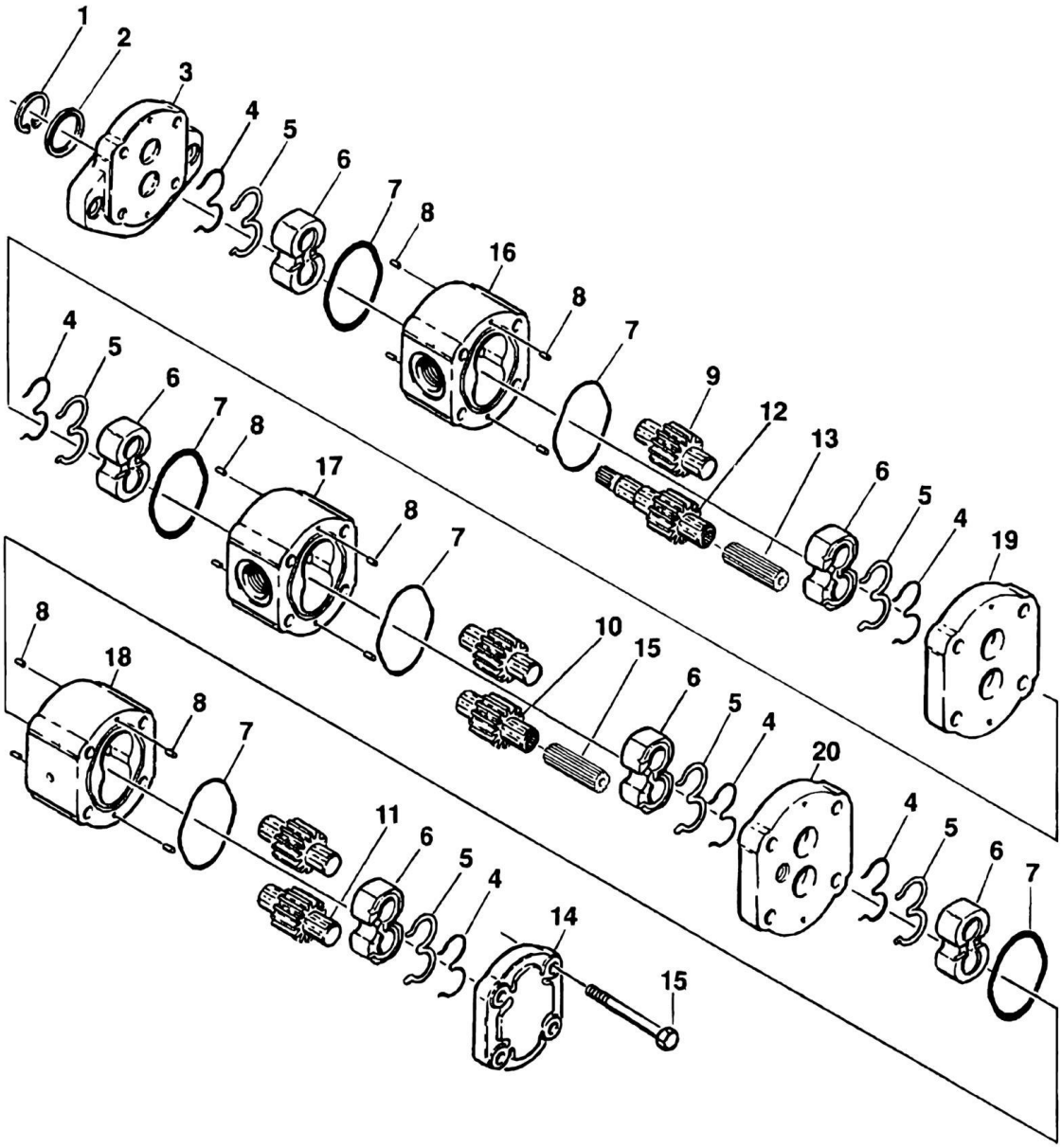


FIGURE 2-30. PUMP ASSEMBLY - BARNES (KOHLER, KUBOTA AND ELECTRIC POWERED MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3600201	Ref	**PUMP ASSEMBLY - BARNES (KOHLER, KUBOTA AND ELECTRIC POWERED MACHINES)**	
1	7010955	1	Ring, Retaining	
2	Kit	1	Seal, Shaft	
3	7010956	1	Flange, Mounting	
4	Kit	6	Ring, Backup	
5	Kit	6	E-Seal	
6	7010957	6	Bearing	
7	Kit	6	O-Ring	
8	7010959	12	Pin, Dowel	
9	7010954	3	Gear, Idler	
10	7010975	1	Gear, Idler (Section 1)	
11	7010976	1	Gear, Idler (Section 3)	
12	7010977	2	Gear, Drive	
13	7010965	2	Coupling	
14	7010960	1	Cover, End	
15	7010972	4	Bolt	
16	7010958	1	Housing (Section 1)	
17	7010974	1	Housing (Section 2)	
18	7010969	1	Housing (Section 3)	
19	7010970	1	Plate, Distance (Section 2)	
20	7010971	1	Plate, Distance (Section 3)	
	7010962	1	Seal Kit (Includes Items 2, 4, 5 & 7)	

FIGURE 2-31. BATTERY CHARGER ASSEMBLY (ELECTRIC POWERED MACHINE)

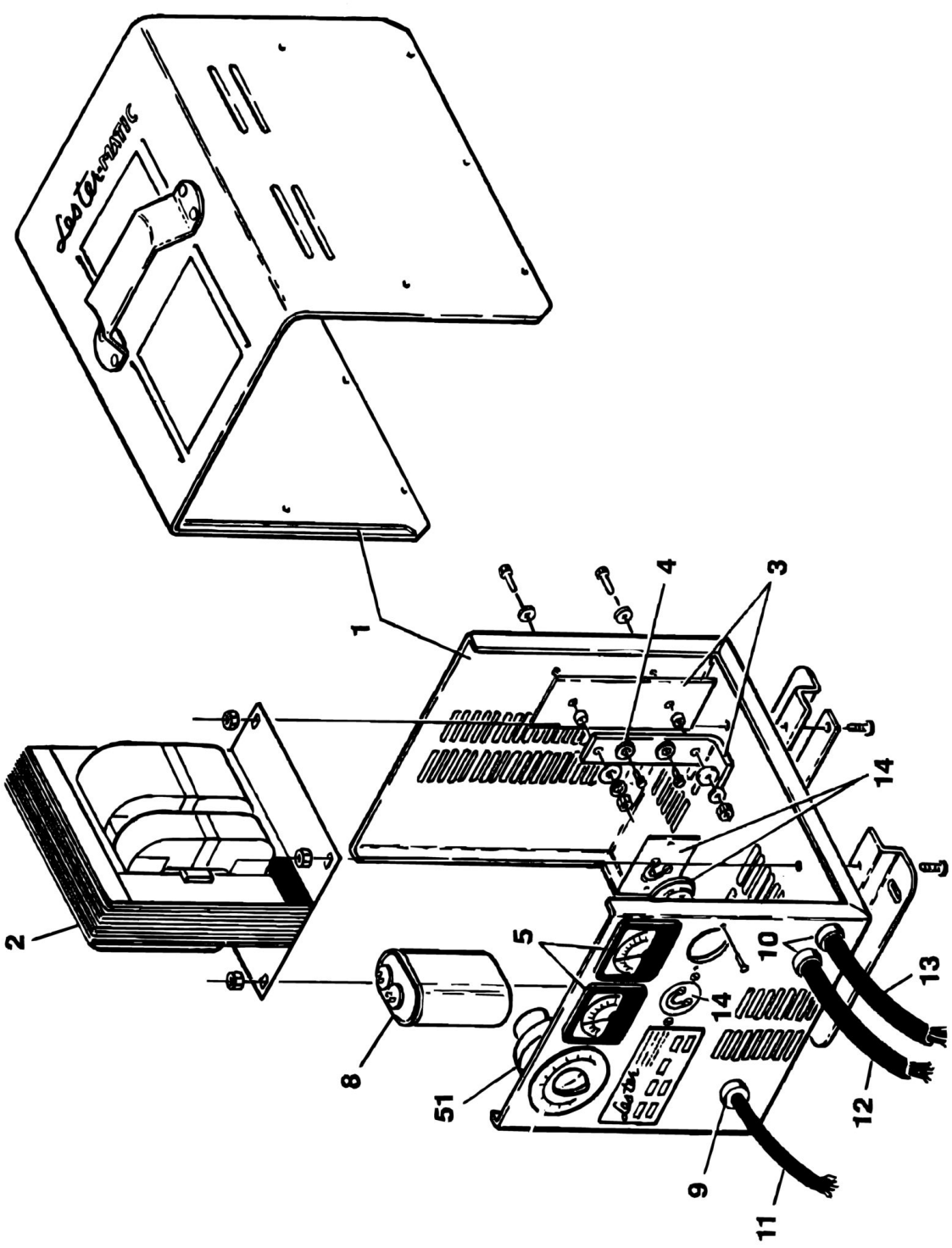


FIGURE 2-31. BATTERY CHARGER ASSEMBLY (ELECTRIC POWERED MACHINE)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**BATTERY CHARGER ASSEMBLY**	
	0400068	Ref	**Manual Timer (Prior to November 1991)**	-
	0400077	Ref	**Automatic Timer (November 1991 to Present)**	-
1	7005955	1	Case Assembly	
2	7005956	1	Transformer Assembly	
3	7005957	2	Heat Sink Assembly	
4	7005958	4	Diode	
5	7005959	2	Ammeter	
8	7005928	1	Capacitor	
9	7005935	3	Bushing	
10	7005960	2	Bushing	
11	7005937	1	Cord Set, AC	
12	7005961	1	Cord Set, 12VDC	
13	7005962	1	Auxiliary Relay Cable Assembly 48VDC	
14	7005963	2	Fuse Assembly	
51		Ref	Timer Options:	
51	7005951	1	Timer (Manual Timer - Prior to November 1991)	
51	7005941	1	Knob (Manual Timer - Prior to November 1991)	
51	7005969	1	Timer (Automatic Timer - November 1991 to Present)	

FIGURE 2-32. DOUBLE BATTERY PACKAGE AND INVERTER INSTALLATIONS (ELECTRIC MACHINE OPTIONS)

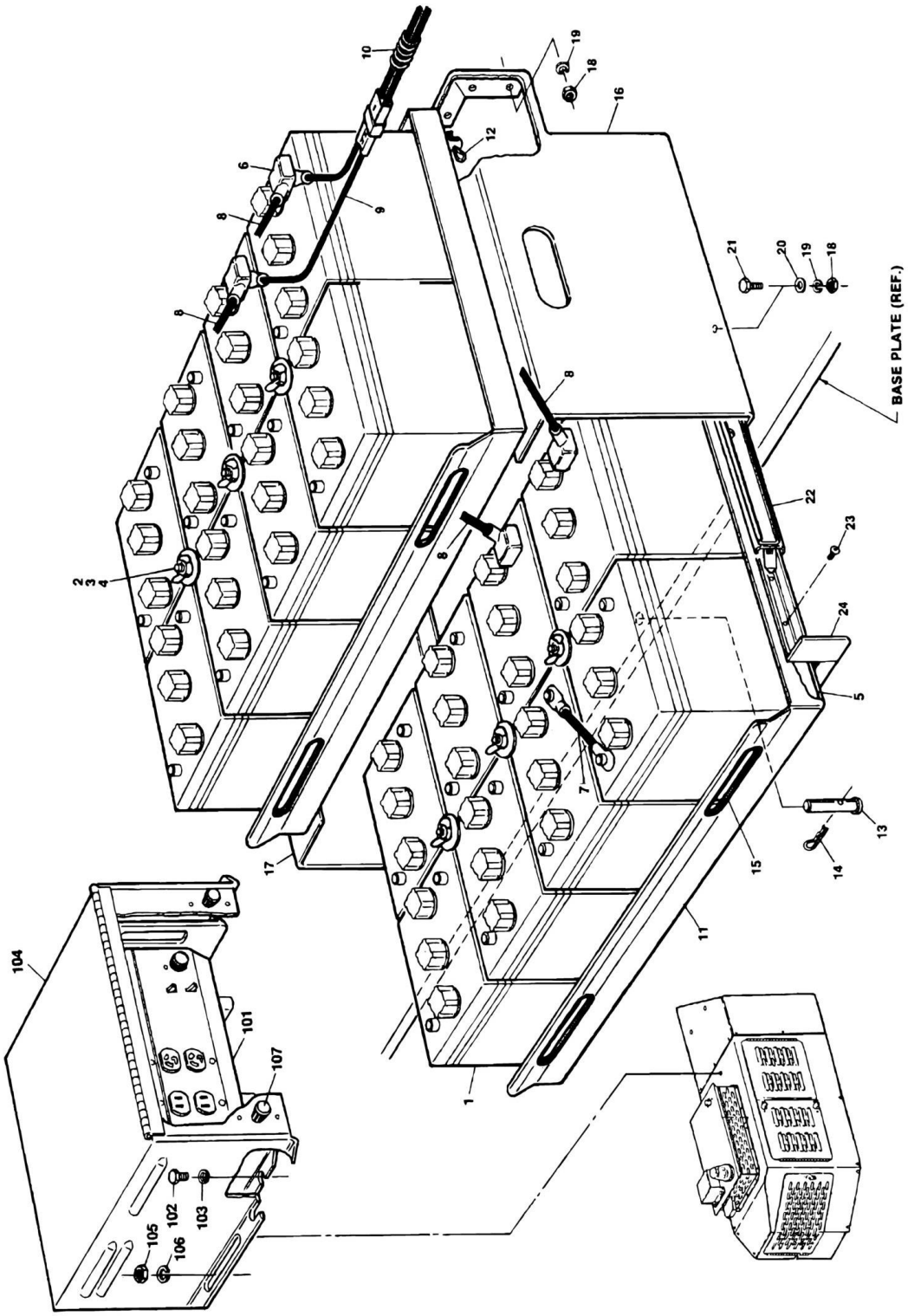


FIGURE 2-32. DOUBLE BATTERY PACKAGE AND INVERTER INSTALLATIONS (ELECTRIC MACHINE OPTIONS)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0239421	Ref	**DOUBLE BATTERY PACKAGE**	C
1		Ref	Battery Options:	
1	0400067	16	Battery (Wet) (Standard)	
1	0400113	16	Battery (Dry) (Optional)	
2	3300029	6	Wingnut 3/8in-16NC	
3	4740273	6	Washer, Special	
4	0236768	6	Rod, Holddown	
5	3980003	16	Seat, Masonite	
6	0840016	32	Boot, Terminal	
7	1060084	14	Cable	
8	1060197	2	Cable, Battery	
9	1060105	1	Cable Assembly - Battery	
10	2820025	1	Guard, Cable	
11	4843150	2	Try	
12	3420158	2	Hairpin (Top Tray Only)	
13	3421594	1	Pin, Flathead	
14	3420157	1	Pin, Quick Release	
15	2540014	4 ft	Grommet, Flex Trim	
16	3532913	1	Plate, Side (Right Hand)	
17	3532914	1	Plate, Side (Left Hand)	
18	3311601	8	Nut 3/8in-16NC	
19	4761600	8	Lockwasher 3/8in	
19	4300034	6	Stud (Welded on Parts)	
20	4751600	2	Flatwasher 3/8in	
21	0641612	2	Bolt 3/8in-16NC x 1 1/2in	
22	3200285	1 pr	Slide, Box	
23	0640413	16	Screw, Button Head	
23	0100011	AR	Loctite	
24	4843198	1	Box Weldment	
	0239403	Ref	**INVERTOR INSTALLATION**	A
101	2460017	1	Invertor	
102	0641403	4	Bolt 1/4in-20NC x 3/8in	
103	4761400	4	Lockwasher 1/4in	
103	0560816	4	Block, Mounting (Welded on Part) (Not Shown)	
104	1670484	1	Cover Weldment	
105	3311401	4	Nut 1/4in-20NC	
106	4761400	4	Lockwasher 1/4in	
106	4300031	4	Stud (Welded on Part) (Not Shown)	
107	2940048	2	Latch	
107	3820019	2	Rivet	

FIGURE 2-33. TANKS INSTALLATION

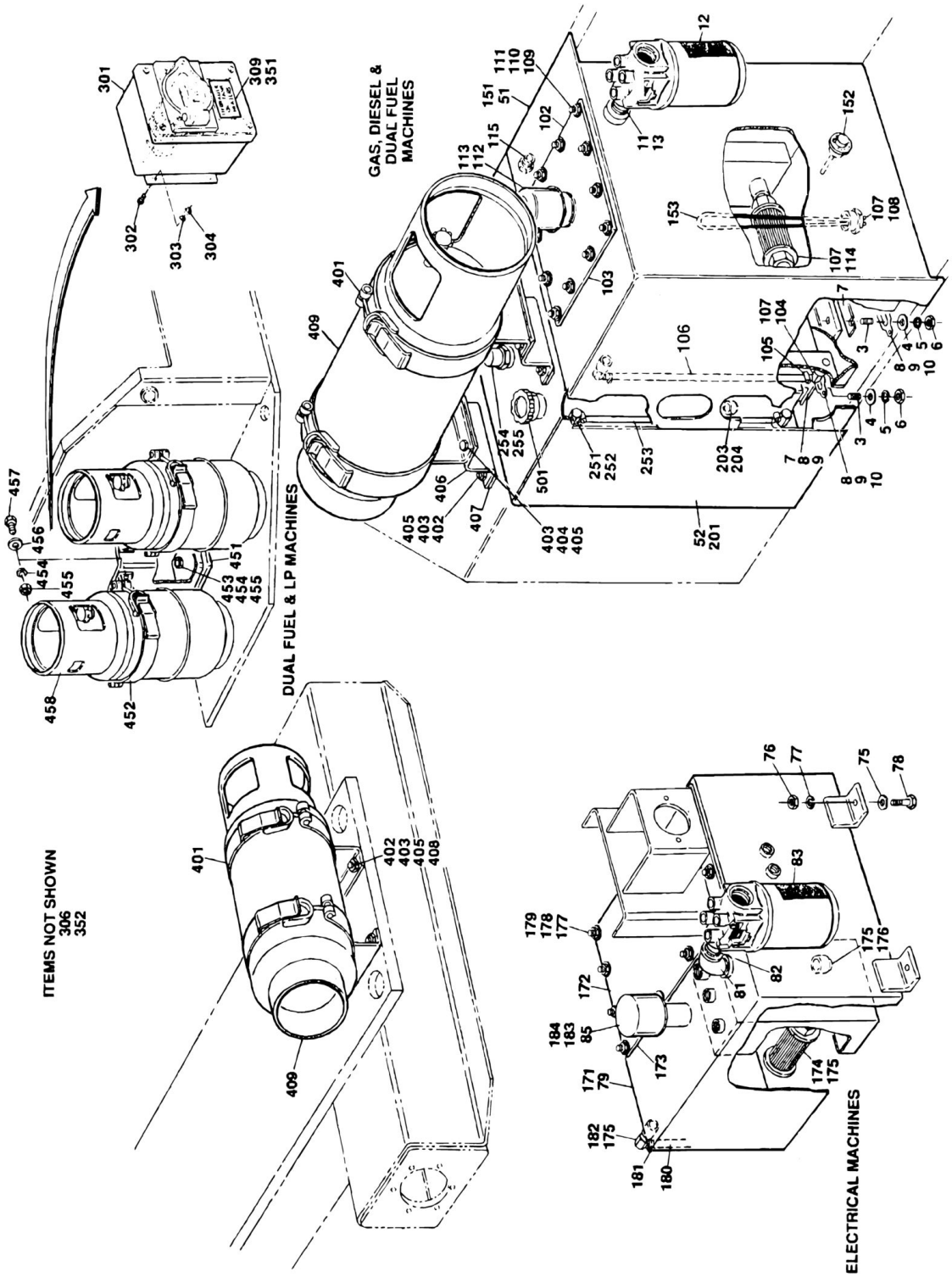


FIGURE 2-33. TANKS INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**FUEL AND HYDRAULIC TANKS INSTALLATION (GAS, DUAL FUEL, LP ONLY AND DIESEL)**	
		Ref	**Note: For Electric Machines See Items 75-85.**	
	0238534	Ref	**Tanks With Sight Level Gages and Without Heaters**	3
	0239334	Ref	**Tanks With Mechanical Fuel Level Gage/Hydraulic Sight Level Gage and Without Heaters**	3
	0238977	Ref	**Tanks With Sight Level Gages and With Heaters**	3
	0255603	Ref	**Tanks With Low Fuel Indicator and 10 Micron Return Filter**	2
	0239437	Ref	**Tanks for LP Only Machines**	2-B
3	4300078	8	Stud (Welded on Part)	
4	4751500	8	Flatwasher 5/16in	
5	4761500	8	Lockwasher 5/16in	
6	3311501	8	Nut 5/16in-18NC	
7	4070679	4	Shim 1/16in- 1.6mm	
8	4070410	AR	Shim 1/16in- 1.6mm	
9	4070411	AR	Shim 1/8in- 3.2mm	
10	4070412	AR	Shim 3/16in-4.8mm	
11	2180644	1	Fitting, Nipple	
12		Ref	Filter Assembly Options:	
12	2120109	1	Filter Assembly (Standard - 25 Micron)	
12	2120110	1	Element, Filter - 25 Micron	
12	2120151	1	Filter Assembly (Optional - 10 Micron)	
12	2120129	1	Element, Filter - 10 Micron	
13	0100020	AR	Sealant, Pipe	
14	1340046	AR	Breather (Not Shown) **(SN 32921 to Present)**	
51		Ref	Hydraulic Tank Assembly Options (See Items 101-153 for Breakdown):	
51	4400289	1	Tanks Without Heaters	
51	4400253	1	Tanks With Heaters	
52		Ref	Fuel Tank Assembly (See Items 201-255 for Breakdown)	
52	4400239	1	Tanks With Sight Level Gages and Without Heaters	
52	0239331	1	Tanks With Mechanical Fuel Level Gage/Hydraulic Sight Level Gage and Without Heaters	
52	4400239	1	Tanks With Sight Level Gages and With Heaters	
52	4400379	1	Tanks With Low Fuel Indicator and 10 Micron Return Filter	
52	0239437	1	Tanks for LP Only Machines (Filler Panel) (Not Shown)	
52		Ref	Hardware to Install Filler Panel:	
52	3300151	2	Nut, Acorn 1/4in-20NC (Not Shown)	
52	4300031	2	Stud (Welded on Part) (Not Shown)	
52	4761400	2	Lockwasher 1/4in (Not Shown)	
	0238465	Ref	**HYDRAULIC TANK INSTALLATION (ELECTRIC MACHINES)**	F
		Ref	**Note: See SPECIAL OPTIONS SECTION - Options for Electric U/L Machines.**	
75	4751500	3	Flatwasher 5/16in	
76	3311501	3	Nut 5/16in-18NC	
77	4761500	3	Lockwasher 5/16in	
78	0641512	3	Bolt 5/16in-18NC x 1 1/2in	
79	4400241	1	Hydraulic Tank Assembly (See Items 171-185 for Breakdown)	
81	2200447	1	Fitting, 90	
82	2180644	1	Fitting, Nipple	
83	2120109	1	Filter Assembly	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
83	2120110	1	Element, Filter	
84	0100020	AR	Sealant, Pipe	
85	1340046	1	Breather	
		Ref	**HYDRAULIC TANK ASSEMBLY**	
	4400289	Ref	**Tank without Heaters**	B
	4400253	Ref	**Tank with Heaters**	A
102	1670446	1	Lid, Tank	
103	3960369	1	Gasket, Lid	
104	2180467	2	Fitting, 90	
105	1320022	2	Clamp	
106	4562516	19 in/48cm	Tube, Sight	
107	0100020	AR	Sealant, Pipe	
108	3520022	1	Plug, Magnetic	
109	4751400	12	Flatwasher 1/4in	
110	4761400	12	Lockwasher 1/4in	
111	3311401	12	Nut 1/4in-20NC	
112	1340045	1	Cap, Fill	
113	4740338	6	Washer, Sealing	
114	2120106	1	Filter, Suction	
115	2220242	1	Fitting, Plug	
151		Ref	Tank Weldment Options:	
151	4400276	1	Tank without Heaters	
151	4400254	1	Tank with Heaters	
152		Ref	Element, Heater Options:	
152	Not Required	0	Tank without Heaters	
152	2580018	1	Tank with Heaters	
153		Ref	Controller, Thermostat	
153	Not Required	0	Tank without Heaters	
153	1600043	1	Tank with Heaters	
	4400241	Ref	**HYDRAULIC TANK ASSEMBLY - ELECTRIC MACHINES**	D
171	4400242	1	Tank Weldment	
172	3532064	1	Lid, Tank	
173	3960372	1	Gasket, Lid	
174	2120120	1	Filter, Suction	
175	0100020	AR	Sealant, Pipe	
176	3520022	1	Plug, Magnetic	
177	4751400	12	Flatwasher 1/4in	
178	4761400	12	Lockwasher 1/4in	
179	3311401	12	Nut 1/4in-20NC	
180	4562516	8 in/20cm	Tube, Sight	
181	1320022	2	Clamp	
182	2180467	2	Fitting, 90	
183	4740338	6	Washer, Sealing	
184	1340047	1	Fill Cap/Breather	
		Ref	**FUEL TANK ASSEMBLY (STANDARD PARTS)**	
201		Ref	Tank Weldment Options:	
201	4400240	1	Standard Tank	
201	4400380	1	Tank with Low Level Indicator	
202	Not Required	0	Not Required	
203	2200052	1	Plug, Pipe	
204	0100020	AR	Sealant, Pipe	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4400239	Ref	**FUEL TANK ASSEMBLY - WITH SIGHT LEVEL GAGE (VARIABLE PARTS)**	A
	4400379	Ref	**FUEL TANK ASSEMBLY - WITH SIGHT GAGE AND LOW LEVEL INDICATOR KIT (VARIABLE PARTS)**	-
251	2180467	2	Fitting, 90	
252	1320022	2	Clamp	
253	4562516	8 in/20cm	Tube, Sight	
254	Not Required	0	Not Required	
255	Not Required	0	Not Required	
	0239331	Ref	**FUEL TANK ASSEMBLY - WITH MECHANICAL GAGE (VARIABLE PARTS)**	A
251 to 253	Not Required	0	Not Required	
254	2180043	1	Coupling	
255	2420002	1	Gage, Mechanical	
		Ref	**OPTIONAL COLD WEATHER PACKAGE INSTALLATION (GAS AND DUAL FUEL MACHINES)**	
	0238986	Ref	**Kohler Engine**	C
	0250439	Ref	**Ford Engine**	B
	0256384	Ref	**Deutz Engine**	-
301	0231756	1	Junction Box Assembly	
302	4300031	4	Stud (Welded on Part)	
303	4761400	4	Lockwasher 1/4in	
304	3311401	4	Nut 1/4in-20NC	
306	2580001	1	Heater, Battery (Not Shown)	
309	3251243	1	Decal	
351		Ref	Nameplate - Heaters Options:	
351	3251837	1	Nameplate Kohler Engine	
351	3251228	1	Nameplate Ford Engine	
351	3251228	1	Nameplate Deutz Engine	
352		Ref	Heater Kit - Engine Coolant Options (Not Shown):	
352	Not Required	0	Heater Kit Kohler Engine	
352	2580026	1	Heater Kit Ford Engine	
352	2901111	1	Heater Kit Deutz Engine (Cold Start Kit - Not Shown)	
353	0700808	1	Bolt, Metric (Not Shown) (Use to Bolts on E.T.S. Switch on Deutz Machines Only)	
354	4761500	1	Lockwasher (Not Shown) (Use to Bolts on E.T.S. Switch on Deutz Machines Only)	
		Ref	**LP TANK INSTALLATION (DUAL FUEL AND STRAIGHT LP ONLY MACHINES)**	
	0250990	Ref	**Lp Tank Installation (Dual Fuel and Straight Lp Only Machines) (April 1990 to Present)**	B
401	1320023	2 pr	Clamp, LP Tank	
402	4300034	8	Stud (Welded on Part)	
403	4751600	16	Flatwasher 3/8in	
404	0641608	4	Bolt 3/8in-16NC x 1in	
405	3311605	12	Locknut 3/8in-16NC	
406	0901701	2	Bracket, Tank	
407	4070744	1	Shim - 1/4in	
408	4751800	4	Flatwasher 1/2in	
409		Ref	Tank Options:	
409	4400164	2	LP Tank - 20lb (Liquid Withdrawal)	
409	4400281	2	LP Tank - Aluminum 33.5lb (Liquid Withdrawal) (Was p/n 4400040)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
409	4400421	2	LP Tank - Steel 33.5lb (Liquid Withdrawal)	
409	4400275	2	LP Tank - Aluminum 43.5lb (Liquid Withdrawal) (Was p/n 4400038)	
409	4400420	2	LP Tank - Steel 43.5lb (Liquid Withdrawal)	
	0238585	Ref	**Lp Tank Installation (Dual Fuel and Straight Lp Only Machines) (Prior to April 1990)**	C
451	4842919	1	Bracket, Mounting	
452	1320023	1 pr	Clamp, LP Tank	
453	4300034	4	Stud (Welded on Part)	
454	4761600	8	Lockwasher 3/8in	
455	3311601	8	Nut 3/8in-16NC	
456	4751600	4	Flatwasher 3/8in	
457	0641608	4	Bolt 3/8in-16NC x 1in	
458		Ref	LP Tank Options:	
458	4400164	2	LP Tank - 20lb (Liquid Withdrawal)	
458	4400040	2	LP Tank - 33.5lb (Liquid Withdrawal)	
458	4400275	2	LP Tank - 43.5lb (Liquid Withdrawal)	
458	4400038	2	LP Tank - 43.5lb (Vapor Withdrawal)	
		Ref	**FUEL CAP ASSEMBLY**	
	0236285	Ref	**Fuel Cap Assembly (Prior to June 1995)**	5-E
	0255823	Ref	**Fuel Cap Assembly (June 1995 to SN 30381)**	2-B
	0257365	Ref	**Fuel Cap Assembly with Standard Cap (SN 30382 to Present)**	1
	0257366	Ref	**Fuel Cap Assembly with Locking Red Cap (SN 30382 to Present)**	1
	0258626	Ref	**Fuel Cap Assembly with Locking Blue Cap (SN 30382 to Present)**	1
501		Ref	Cap, Fill Options:	
501	1120314	1	Cap, Fill **(Prior to SN 30382)**	
501	1120314	1	Cap, Fill with Standard Cap **(SN 30382 to Present)**	
501	1120367	1	Cap, Fill with Locking Red Cap **(SN 30382 to Present)**	
501	1120512	1	Cap, Fill with Locking Blue Cap **(SN 30382 to Present)**	

FIGURE 2-34. ROTARY OIL COUPLING INSTALLATION

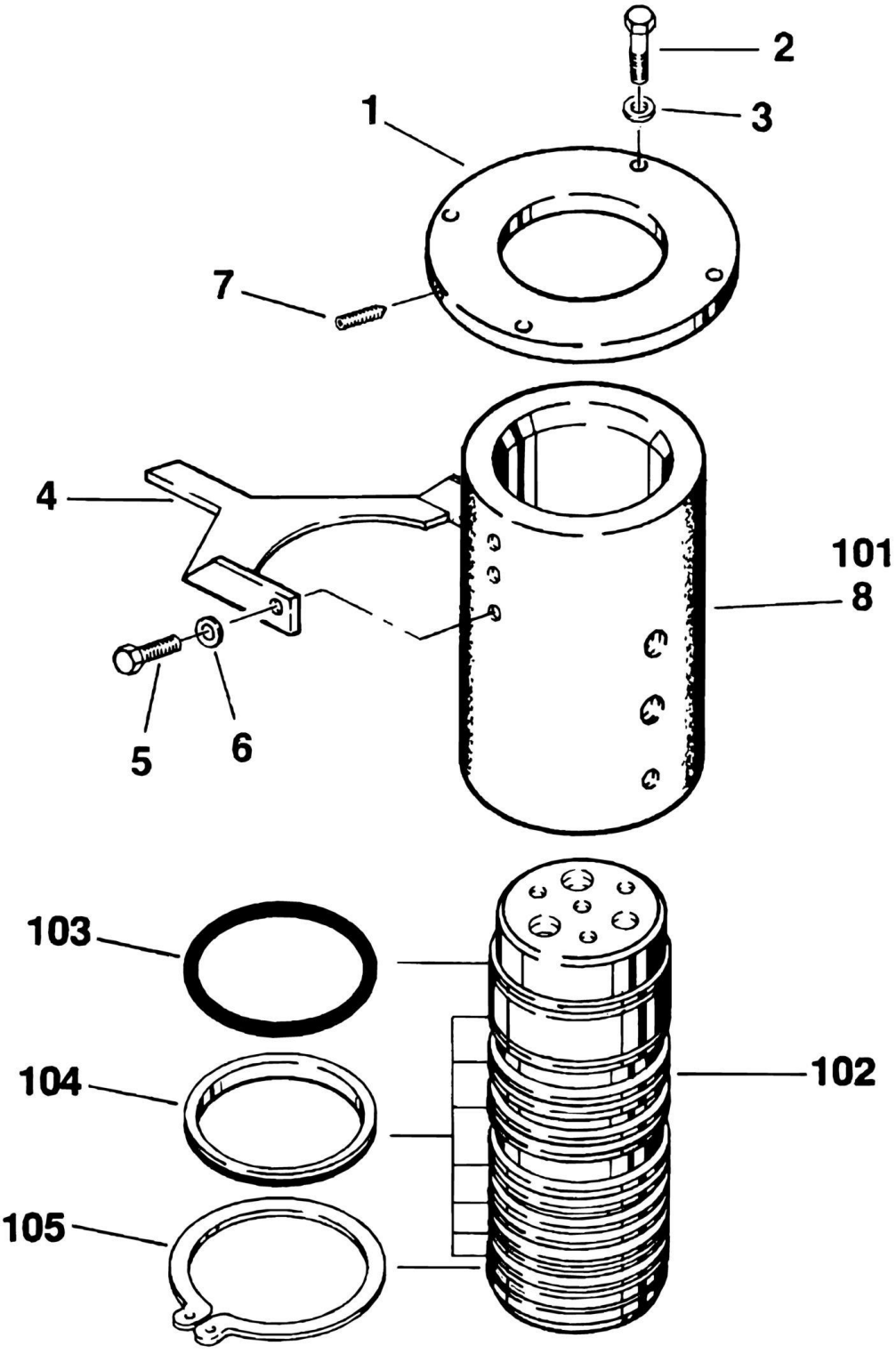


FIGURE 2-34. ROTARY OIL COUPLING INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0238615	Ref	**ROTARY OIL COUPLING INSTALLATION**	A
1	1440154	1	Collar	
2	0641512	4	Bolt 5/16in-18NC x 1 1/2in	
3	4761500	4	Lockwasher 5/16in	
4	3530403	1	Plate, Retaining	
5	0641807	2	Bolt 1/2in-13NC x 7/8in	
6	4761800	2	Lockwasher 1/2in	
6	0100003	AR	Loctite TL277-41	
7	3951820	2	Setscrew 1/2in-13NC x 7/8in	
7	0100011	AR	Loctite #242	
8	1660160	1	Coupling Assembly (Includes Items 101-105)	
	1660160	Ref	**COUPLING ASSEMBLY**	A
101	2760091	1	Housing, Swivel	
102	0620058	1	Body, Swivel	
103	Kit	7	O-Ring	
104	Kit	1	T-Seal	
105	3760004	1	Ring, Retaining	
		Ref	Seal Kit Options:	
	2901146	1	Seal Kit 1660154, 1660160 & 1660185 Couplings (Includes Items 103 & 105)	
	1660213EX	1	Seal Kit 1660213 Couplings (was p/n 7013175)	
		Ref	Note: Due to complexity of repair, seal kit no longer available. Use rebuilt unit as replacement.	

FIGURE 2-35. OPTIONAL MANUAL DESCENT INSTALLATION

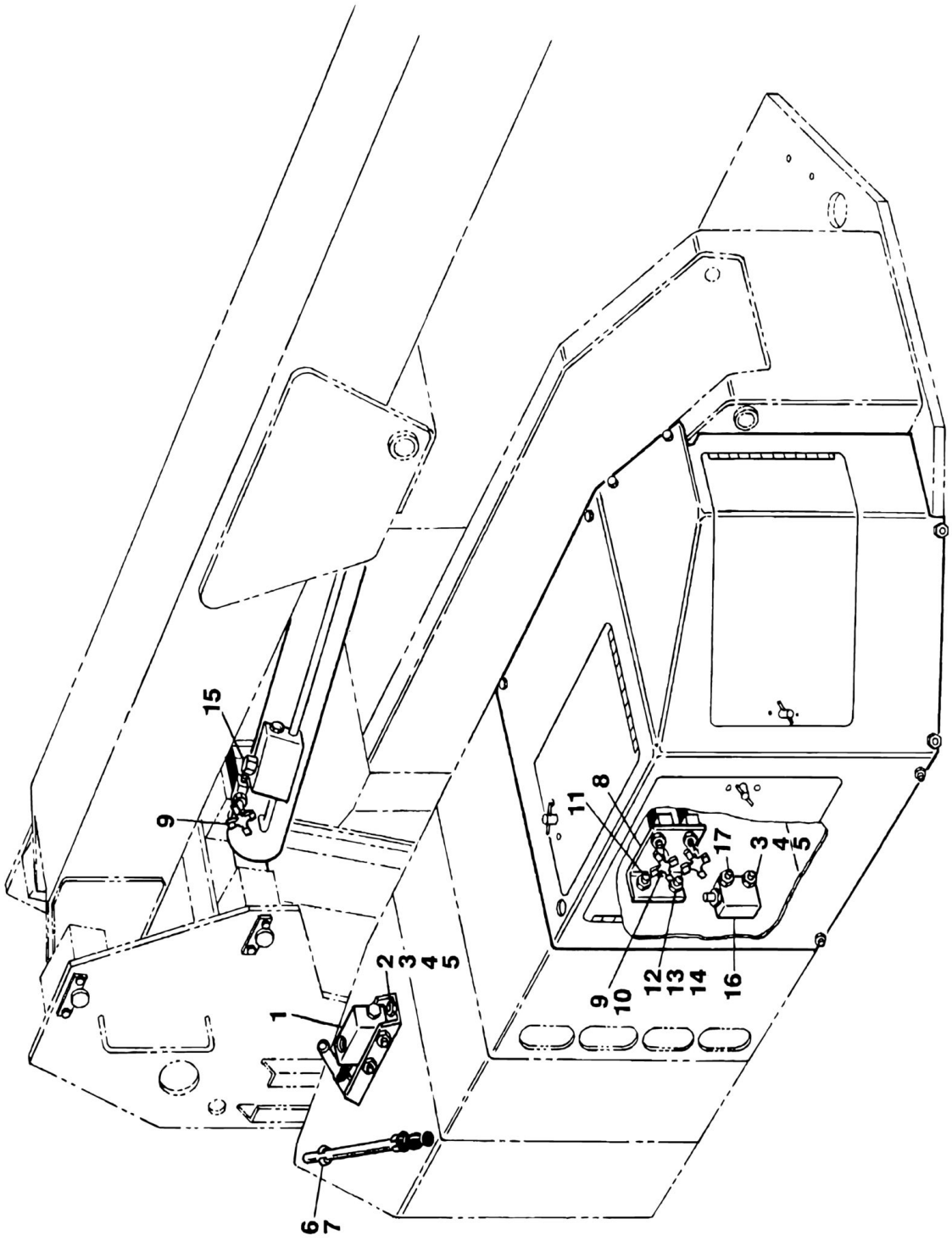


FIGURE 2-35. OPTIONAL MANUAL DESCENT INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0252119	Ref	**OPTIONAL MANUAL DESCENT INSTALLATION**	C
1	3600179	1	Hand Pump Assembly	
1	2900779	1	Seal Kit	
1	7010652	1	Handle	
1	3600179	1	Pump, w/o Handle (was p/n 7016673)	
1	0902425	1	Cover (Not Shown) **(SN 34879 to Present)**	
2	4300038	2	Stud (Welded on Part)	
3	4751500	4	Flatwasher 5/16in	
4	4761500	4	Lockwasher 5/16in	
5	3311501	4	Nut 5/16in-18NC	
6	1380136	2	Clip, Gripper	
7	3941003	2	Screw, Self-Tapping #10 x 3/8in	
8	0901763	1	Bracket, Valve Mounting	
9	4640005	3	Valve, Manual	
10	2900062	2	Mounting Kit - Valve	
11	4300068	2	Stud (Welded on Part)	
12	4751400	2	Flatwasher 1/4in	
13	4761400	2	Lockwasher 1/4in	
14	3311401	2	Nut 1/4in-20NC	
15	2220820	1	Fitting, Straight	
16	4640521	1	Valve Assembly	
16	4640771	1	Cartridge	
16	2900770	1	Seal Kit - 4640771 Cartridge	
17	4300078	2	Stud (Welded on Part)	

FIGURE 2-36. GROUND CONTROL BOX INSTALLATION (MACHINES WITH ELECTRIC BOOM LIMIT SWITCHES BUILT PRIOR TO MAY 1988)

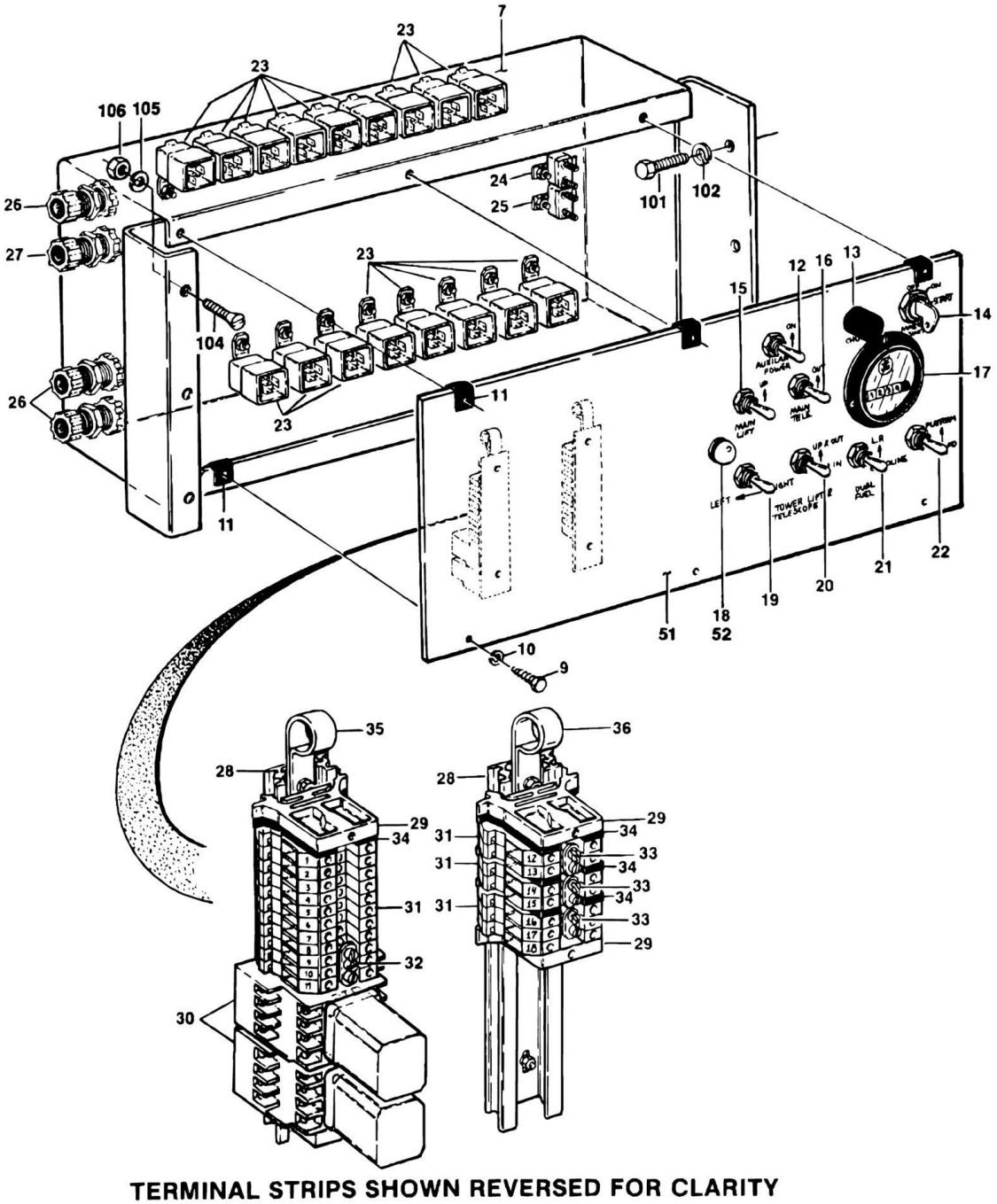


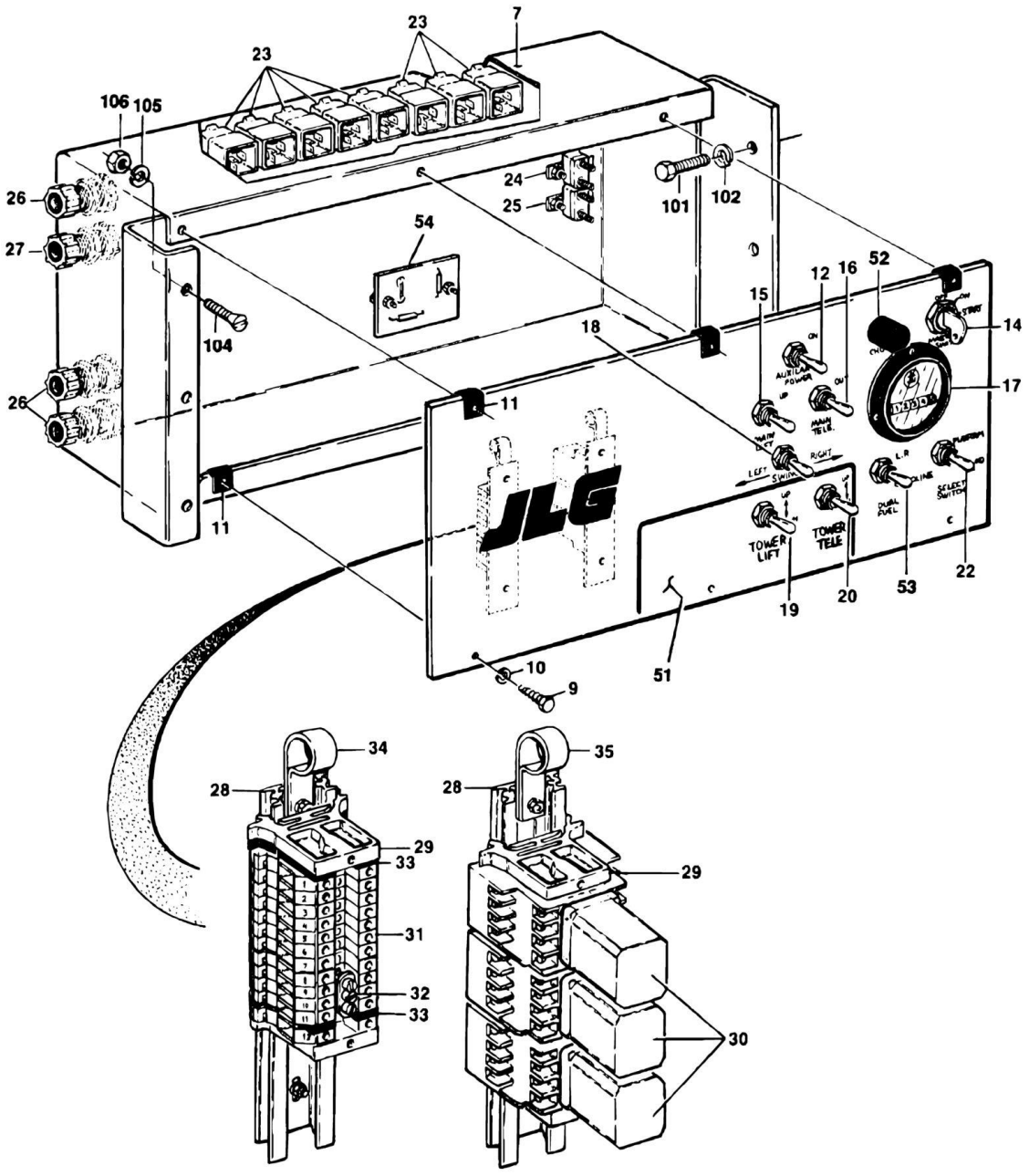
FIGURE 2-36. GROUND CONTROL BOX INSTALLATION (MACHINES WITH ELECTRIC BOOM LIMIT SWITCHES BUILT PRIOR TO MAY 1988)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**GROUND CONTROL BOX ASSEMBLY**	
	0238564	Ref	**Gas and Diesel Machines**	C
	0238565	Ref	**Electric Machines**	A
7	4842906	1	Control Box Weldment	
9	0750806	6	Screw, Self-Tapping #8 x 3/4in	
10	4760800	6	Lockwasher #8	
11	3300177	6	Fastener, Self Retaining	
12	4360200	1	Switch, Toggle (Auxiliary Power)	
13	4360016	1	Switch, Pushbutton (Choke or Run)	
14	4360003	1	Switch, Master	
14	2860002	1	Key, Replacement	
15	4360202	1	Switch, Toggle (Main Lift)	
16	4360202	1	Switch, Toggle (Main Telescope)	
17	2420009	1	Hourmeter	
18	2920028	1	Lamp, Indicator	
19	4360202	1	Switch, Toggle (Swing)	
20	4360202	1	Switch, Toggle (Tower Lift Telescope)	
21		Ref	Component Options:	
21	4360201	1	Component Switch, Toggle (Dual Fuel Machines)	
21	3520028	1	Component Plug, Dot (Diesel, Regular Gas and Electric)	
22	4360201	1	Switch, Toggle (Select Switch)	
23	3740049	AR	Relay (Gas Machines Only)	
23	3311001	1	Nut #10-24NC	
23	4761000	1	Lockwasher #10	
24	4360216	1	Breaker, Circuit - 30 Amp	
24	3311001	1	Nut #10-24NC	
24	4761000	1	Lockwasher #10	
25	4360232	1	Breaker, Circuit - 15 Amp	
25	3311001	1	Nut #10-24NC	
25	4761000	1	Lockwasher #10	
26	4460051	3	Connector	
26	0960238	3	Bushing	
26	3300048	3	Locknut, Conduit 3/4in	
27	4460071	1	Connector	
27	0960238	1	Bushing	
27	3300048	1	Locknut, Conduit 3/4in	
28	3640555	2	Rail, Mounting	
28	3910808	2	Screw, Round Head #8-32NC x 1/2in	
28	4750800	2	Flatwasher #8	
28	3310801	2	Nut #8-32NC	
29	4460299	4	Stop, Terminal	
30	3740058	2	Relay (Lift and Swing)	
30	4120013	2	Socket, Relay	
30	3740063	2	Spring, Relay	
31	4460298	18	Strip, Terminal	
31	4460301	1	Strip, Terminal Marking	
32	4460309	1	Bar, Terminal Connecting	
32	4460305	3	Screw, Block	
32	4460306	3	Washer, Block	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
32	4460307	3	Sleeve, Block	
33	4460308	3	Bar, Terminal Connecting	
33	4460305	2	Screw, Block	
33	4460306	2	Washer, Block	
33	4460307	2	Sleeve, Block	
34	4460300	4	Barrier, Terminal	
35	1320044	1	Clamp	
36	1320130	1	Clamp	
51		Ref	Panel, Front Options:	
51	3251778	1	Panel Gas and Diesel Machines	
51	3251779	1	Panel Electric Machines	
52		Ref	Bulb, Light Options:	
52	2920029	1	Bulb Gas and Diesel Machines (12V)	
52	2920060	1	Bulb Electric Machines (18V)	
		Ref	**GROUND CONTROL BOX INSTALLATIONS**	
	0238558	Ref	**Gas Machines with Stepper Valves**	
	0239026	Ref	**Gas Machines with Stepper Valves**	
	0239353	Ref	**Diesel Machines with Stepper Valves**	
	0238560	Ref	**Electric Machines with Stepper Valves**	
	0250991	Ref	**Electric Machines with Stepper Valves**	
	0259061	Ref	**Gas Machines with Vickers Valves**	
	0259783	Ref	**Gas Machines with Vickers Valves**	
	0259354	Ref	**Diesel Machines with Vickers Valves**	
	0250608	Ref	**Electric Machines with Vickers Valves**	
	0250695	Ref	**Electric Machines with Vickers Valves (440VAC)**	
101	0641406	3	Bolt 1/4in-20NC x 3/4in	
102	4711400	3	Flatwasher 1/4in	
104	0741405	3	Screw, Flat Head 1/4in-20NC x 5/8in	
105	4761400	3	Lockwasher 1/4in	
106	3311401	3	Nut 1/4in-20NC	

FIGURE 2-37. GROUND CONTROL BOX INSTALLATON (GAS/DIESEL MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MAY 1988 TO MARCH 1990 AND ELECTRIC MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MAY 1988 TO PRESENT)



TERMINAL STRIPS SHOWN REVERSED FOR CLARITY

FIGURE 2-37. GROUND CONTROL BOX INSTALLATON (GAS/DIESEL MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MAY 1988 TO MARCH 1990 AND ELECTRIC MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MAY 1988 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**GROUND CONTROL BOX ASSEMBLY (STANDARD PARTS)**	
	0239023	Ref	**Kohler Gas with Stepper Valves**	D
	0239060	Ref	**Kohler Gas with Vickers Valves**	C
	0239780	Ref	**Ford Gas with Vickers Valve**	A
	0239351	Ref	**Kubota Diesel with Stepper Valves**	B
	0239352	Ref	**Kubota Diesel with Vickers Valves**	B
	0239024	Ref	**Electric Machines with Stepper Valves Built (May 1988 to April 1990)**	D
	0250992	Ref	**Electric Machines with Stepper Valves Built (April 1990 to Present)**	C
	0250610	Ref	**Electric Machines with Vickers Valves Built (May 1988 to Present)**	B
7	4842906	1	Control Box Weldment	
9	0750806	6	Screw, Self Tapping #8 x 3/4in	
10	4760800	6	Lockwasher #8	
11	3300177	6	Fastener, Self Retaining	
12	4360200	1	Switch, Toggle (Auxiliary Power)	
14	4360003	1	Switch, Master	
14	2860002	1	Key, Replacement	
15	4360202	1	Switch, Toggle (Main Lift)	
16	4360202	1	Switch, Toggle (Main Telescope)	
17	2420009	1	Hourmeter	
18	4360202	1	Switch, Toggle (Swing)	
19	4360202	1	Switch, Toggle (Tower Lift)	
20	4360202	1	Switch, Toggle (Tower Telescope)	
22	4360201	1	Switch, Toggle (Select Switch)	
23	3740049	AR	Relay	
23	3311001	1	Nut #10-24NC	
23	4761000	1	Lockwasher #10	
24	4360216	1	Breaker, Circuit - 30 Amp	
24	3311001	1	Nut #10-24NC	
24	4761000	1	Lockwasher #10	
25	4360232	1	Breaker, Circuit - 15 Amp	
25	3311001	1	Nut #10-24NC	
25	4761000	1	Lockwasher #10	
26	4460051	3	Connector	
26	0960238	3	Bushing	
26	3300048	3	Locknut, Conduit 3/4in	
27	4460071	1	Connector	
27	0960238	1	Bushing	
27	3300048	1	Locknut, Conduit 3/4in	
28	3640555	2	Rail, Mounting	
28	3910608	2	Screw, Round Head #6-32NC x 1/2in	
28	4750600	2	Flatwasher #6	
28	3310601	2	Nut #6-32NC	
29	4460299	4	Stop, Terminal	
30	3740058	AR	Relay (Lift, Swing and Tele)	
30	4120013	AR	Socket, Relay	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
30	3740063	AR	Spring, Relay	
31	4460298	12	Strip, Terminal	
31	4460301	1	Strip, Terminal Marking	
32	4460309	1	Bar, Terminal Connecting	
32	4460305	3	Screw, Block	
32	4460306	3	Washer, Block	
32	4460307	3	Sleeve, Block	
33	4460300	2	Barrier, Terminal	
34	1320044	1	Clamp	
35	1320130	1	Clamp	
51		Ref	Panel, Front Options:	
51	3251840	1	Panel Gas and Diesel Machines	
51	3251841	1	Panel Electric Machines (Prior to May 1994)	
51	3252381	1	Panel Electric Machines (May 1994 to Present)	
52		Ref	Component Options:	
52	4360274	1	Component Switch, Push Button (Choke) (Kohler Gas)	
52	3520026	1	Component Plug (Ford Gas)	
52	4360274	1	Component Switch, Push Button (Glow Plug) (Kubota Diesel)	
52	3251872	1	Component Nameplate - Glow Plug (Kubota Diesel)	
52	4360274	1	Component Switch, Push Button (Run) (Electric Machines)	
53		Ref	Component Options:	
53	4360201	1	Component Switch, Toggle (With Dual Fuel)	
53	3520028	1	Component Plug (Without Dual Fuel)	
54		Ref	Board, PC - Remote Speed Set	
54	Not Required	0	Board Kohler, Kubota and Electric Machines	
54	4360228	1	Board Ford Machines	
54	3310601	2	Nut #6-32NC	
54	4760600	2	Lockwasher #6	
54	4564088	2	Tube, Spacer	
		Ref	**GROUND CONTROL BOX INSTALLATION**	
		Ref	**With Stepper Valves:**	
	0238558	Ref	**Gas Machines with Stepper Valves**	
	0239026	Ref	**Gas Machines with Stepper Valves**	
	0239353	Ref	**Diesel Machines with Stepper Valves**	
	0238560	Ref	**Electric Machines with Stepper Valves**	
	0250991	Ref	**Electric Machines with Stepper Valves**	
		Ref	**With Vickers Valves:**	
	0259061	Ref	**Gas Machines with Vickers Valves**	
	0259783	Ref	**Gas Machines with Vickers Valves**	
	0259354	Ref	**Diesel Machines with Vickers Valves**	
	0250608	Ref	**Electric Machines with Vickers Valves**	
	0250695	Ref	**Electric Machines with Vickers Valves (440VAC)**	
101	0641406	3	Bolt 1/4in-20NC x 3/4in	
102	4711400	3	Flatwasher 1/4in Narrow	
104	0741405	3	Screw, Flat Head 1/4in-20NC x 5/8in	
105	4761400	3	Lockwasher 1/4in	
106	3311401	3	Nut 1/4in-20NC	

FIGURE 2-38. GROUND CONTROL BOX INSTALLATION (GAS/DIESEL MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MARCH 1990 TO PRESENT)

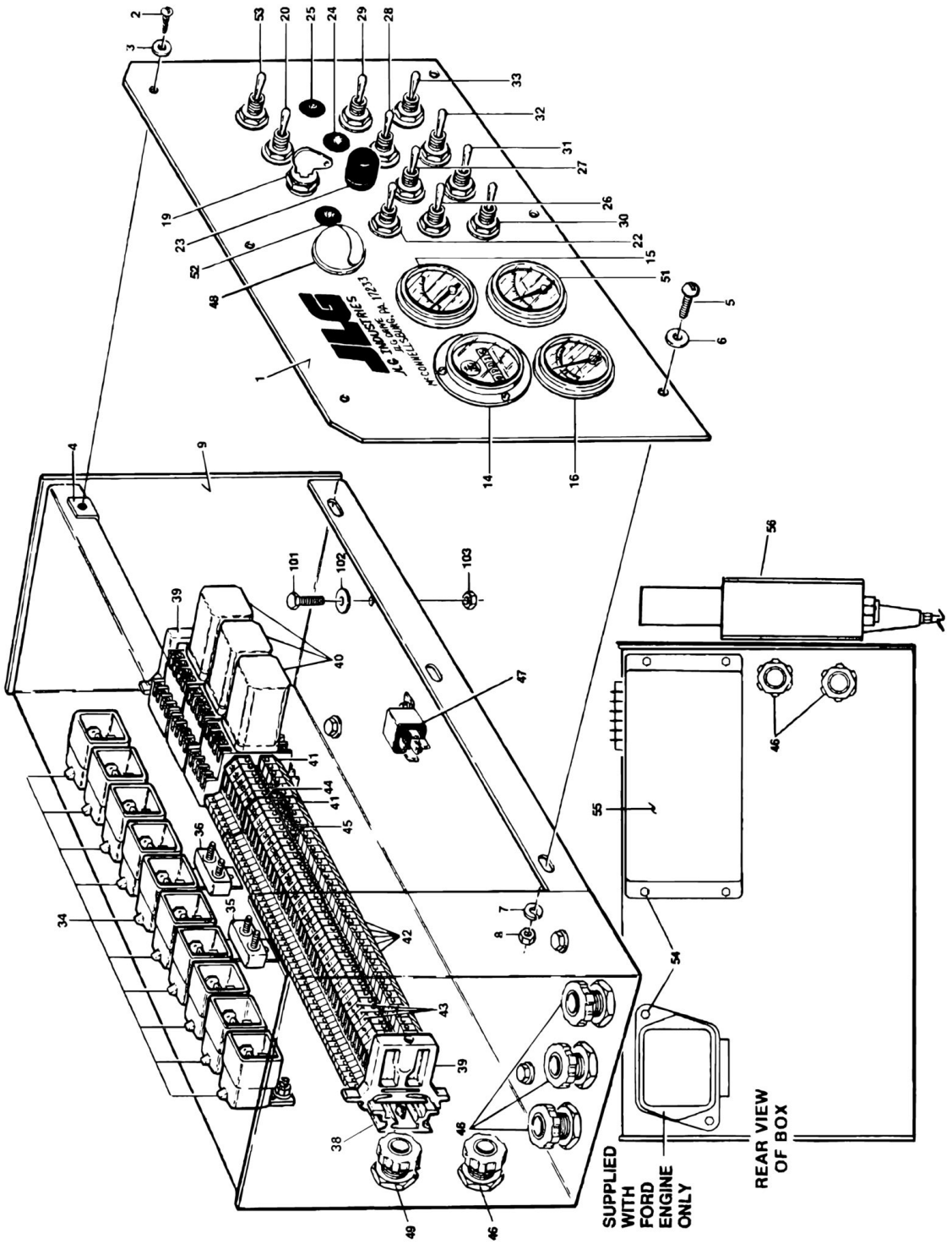


FIGURE 2-38. GROUND CONTROL BOX INSTALLATION (GAS/DIESEL MACHINES WITH HYDRAULIC BOOM LIMIT SWITCHES BUILT MARCH 1990 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**GROUND CONTROL BOX ASSEMBLY**	
	0860657	Ref	**Gas Machines Built (March 1990 to January 1993)**	D-E
	0860646	Ref	**Gas Machines Built (March 1990 to January 1993)**	D-E
	0860846	Ref	**Gas Machines Built (January 1993 to October 1994)**	C
	0860955	Ref	**Gas Machines Built (October 1994 to Present)**	2
	0860653	Ref	**Diesel Machines Built (March 1990 to January 1993)**	C
	0860845	Ref	**Diesel Machines Built (January 1993 to Present)**	3
1	3251895	1	Lid	
1	4420037	38 in/1m	Strip, Rubber (Not Shown)	
2	0750806	2	Screw, Self-Tapping #8 x 3/4in	
3	4740120	2	Washer, Fiber	
4	3300177	2	Nut, Tinnerman	
5	3911412	3	Screw, Round Head 1/4in-20NC x 3/4in	
6	4751400	3	Flatwasher 1/4in	
7	4761400	3	Lockwasher 1/4in	
8	3311401	3	Nut 1/4in-20NC	
9	0860645	1	Box	
14	2420009	1	Hourmeter	
15	2420129	1	Voltmeter	
16		Ref	Gage, Oil Pressure Options:	
16	2420128	1	Gage, Oil Pressure (0-80psi)	
16	2420111	1	Gage, Oil Pressure (0-100psi)	
19	4360003	1	Switch, Key (Master Switch)	
19	2860002	1	Key, Replacement	
20	4360073	1	Switch, Toggle - Center Off (Select)	
20	3790012	1	O-Ring	
22	4360199	1	Switch, Toggle (Ignition)	
22	4360141	1	Guard, Switch	
22	3790012	1	O-Ring	
23	4360274	1	Switch, Push Button (Start)	
23	3790015	1	O-Ring	
24	3520028	1	Plug, Hole (Ford and Deutz)	
25	3520026	1	Plug, Hole	
26	4360202	1	Switch, Toggle (Tower Lift)	
26	3790012	1	O-Ring	
27	4360202	1	Switch, Toggle (Main Lift)	
27	3790012	1	O-Ring	
28	4360202	1	Switch, Toggle (Swing)	
28	3790012	1	O-Ring	
29	4360202	1	Switch, Toggle (Platform Level)	
29	3790012	1	O-Ring	
30	4360202	1	Switch, Toggle (Tower Tele)	
30	3790012	1	O-Ring	
31	4360202	1	Switch, Toggle (Main Tele)	
31	3790012	1	O-Ring	
32	4360202	1	Switch, Toggle (Platform Rotate)	
32	3790012	1	O-Ring	
33	4360200	1	Switch, Toggle (Auxiliary Power)	
33	3790012	1	O-Ring	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
34	3740049	10	Relay - SPDT	
34	3311001	10	Nut #10-24NC	
34	4761000	10	Lockwasher #10	
34	4751000	10	Flatwasher #10	
35	4360216	1	Switch, Circuit Breaker - 30 Amp	
36	4360232	1	Switch, Circuit Breaker - 15 Amp	
38	3640711	1	Rail (16 5/8in - 42cm Length)	
38	3910606	2	Screw #6-32NC x 3/8in	
38	4750600	2	Flatwasher #6	
38	4760600	2	Lockwasher #6	
38	3310601	2	Nut #6-32NC	
39	4460299	2	Stop, Terminal	
40	3740058	3	Relay - 4PDT	
40	4120013	3	Base, Relay	
40	3740063	3	Spring	
41	4460300	2	Barrier, Terminal	
42	4460298	45	Block, Terminal	
43	4460301	1	Marker, Terminal	
44	4460308	AR	Bar, Buss (2 Position)	
44	4460305	AR	Screw	
44	4460306	AR	Washer	
44	4460307	AR	Sleeve	
45	4460311	AR	Bar, Buss	
45	4460305	AR	Screw	
45	4460306	AR	Washer	
45	4460307	AR	Sleeve	
46	4460051	4	Connector, Strain Relief	
46	0960238	4	Bushing	
46	3300048	4	Nut, Conduit	
47	3740077	1	Relay, Bosch	
47	3311001	1	Nut #10-24NC	
47	4761000	1	Lockwasher #10	
47	4751000	1	Flatwasher #10	
48	2420024	1	Light, Panel (Optional)	
49	4460244	1	Connector, Strain Relief	
49	0960238	1	Bushing	
49	3300048	1	Nut, Conduit	
51		Ref	Gage, Water Temperature	
51	2420127	1	Gas Machines	
51	2420125	1	Diesel Machines	
52		Ref	Breaker, Circuit Options:	
52	3520026	1	Plug, Hole (Gas Machines)	
52	4360212	1	Breaker, Circuit (Diesel Machines)	
53		Ref	Switch, Toggle Options:	
53	3520026	1	Plug, Hole (Standard Gas and Diesel Machines)	
53	4360201	1	Switch, Toggle (Dual Fuel Machines)	
54	3311001	AR	Nut #10-24NC	
54	4761000	AR	Lockwasher #10	
54	4751000	AR	Flatwasher #10	
55		Ref	Controller, Engine Options:	
55	1600117	1	Gas Machines	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
55	Not Required	0	Diesel Machines	
55		Ref	Harness, Engine (Not Shown)	
55	4921282	1	Gas Machines	
55	Not Required	0	Diesel Machines	
56		Ref	Actuator, Adeco Throttle Options:	
56	Not Required	0	Gas Machines	
56	0060023	1	Actuator, Adeco Throttle (Diesel Machines)	
56	7008829	1	PC Board	
56	7008821	1	Motor	
56	7008828	1	Cable	
		Ref	**GROUND CONTROL BOX INSTALLATION**	
	0250936	Ref	**Gas Machines (March 1990 to January 1993)**	
	0253783	Ref	**Gas Machines (January 1993 to October 1994)**	
	0255155	Ref	**Gas Machines (October 1994 to Present)**	
	0250937	Ref	**Diesel Machines (March 1990 to January 1993)**	
	0253782	Ref	**Diesel Machines (January 1993 to Present)**	
101	0641408	4	Bolt 1/4in-20NC x 1in	
102	4751400	4	Flatwasher 1/4in	
103	3311405	4	Locknut 1/4in-20NC	

FIGURE 2-39. TILT INDICATOR, LIGHTS AND ALARMS INSTALLATIONS (TURNTABLE MOUNTED)

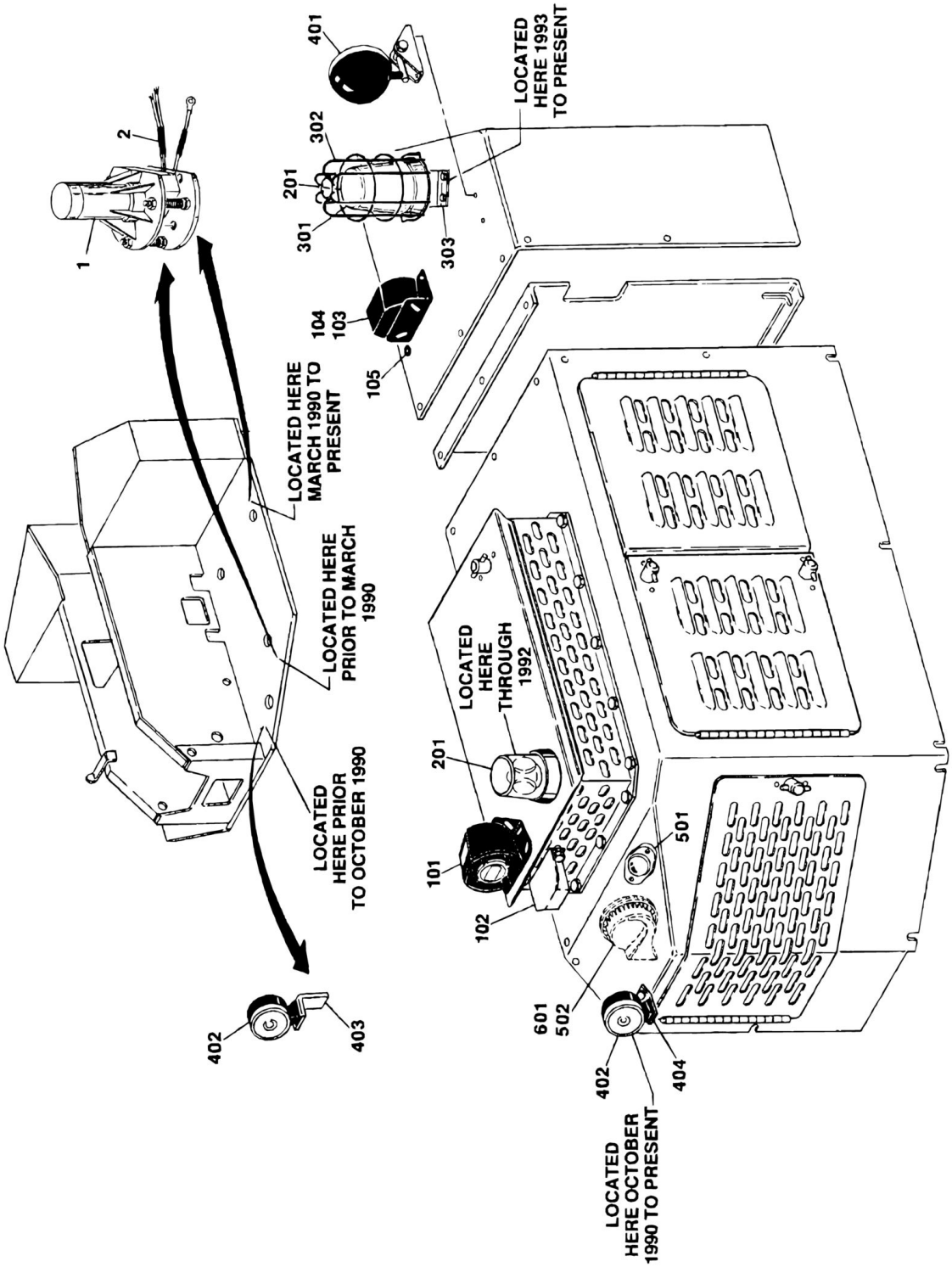


FIGURE 2-39. TILT INDICATOR, LIGHTS AND ALARMS INSTALLATIONS (TURNTABLE MOUNTED)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**5 TILT INDICATOR INSTALLATION**	
	0238515	Ref	**5 Tilt (Standard - Prior to March 1990)**	C
	0250913	Ref	**5 Tilt (Standard - March 1990 to Present)**	B
	0251087	Ref	**3 Tilt (Optional May 1990 to Present)**	A
1		Ref	Tilt Indicator Options:	
1	4360171	1	5 Tilt Indicator - Standard	
1	4360280	1	3 Tilt Indicator - Optional	
1	4300106	2	Drive Screw	
2	2820022	6 in/15cm	Tubing, Vinyl	
		Ref	**ALARMS INSTALLATION (OPTIONAL - PRIOR TO MAY 1990) (VARIABLE PARTS)**	
	0238789	Ref	**Descent Alarm**	
	0239401	Ref	**Motion Alarm**	
	0251287	Ref	**Motion Alarm (U/L)**	A
	0238988	Ref	**Tilt Alarm**	
	0238787	Ref	**Travel Alarm**	
	0251286	Ref	**Travel Alarm (U/L)**	A
101		Ref	Alarm, Horn Options:	
101	0140024	1	Alarm, Horn (Standard Machines)	
101	0140025	1	Alarm, Horn (U/L Machines)	
102	0140016	1	Alarm, Tilt (Optional)	
	0251070	Ref	**ALARMS INSTALLATION (OPTIONAL - MAY 1990 TO OCTOBER 1992) (VARIABLE PARTS)**	A
103	0140024	1	Alarm, Horn	
		Ref	**ALARMS INSTALLATION (OPTIONAL - OCTOBER 1992 TO PRESENT) (VARIABLE PARTS)**	
	0253609	Ref	**Travel Alarm**	
104	0140032	1	Alarm, Horn	
105	2590016	1	Grommet	
		Ref	**BEACON LIGHT INSTALLATION (OPTIONAL)**	
	0238864	Ref	**Amber Beacon (Gas/Diesel Machines)**	
	0238865	Ref	**Red Beacon (Gas/Diesel Machines)**	
	0238868	Ref	**Amber Beacon (Electric Machines)**	
	0251424	Ref	**Amber Beacon (U/L Electric Machines)**	
	0238869	Ref	**Red Beacon (Electric Machines)**	
	0251609	Ref	**Red Beacon (U/L Electric Machines)**	
201		Ref	Light, Beacon Options:	
201	2920009	1	Light, Beacon (Red)	
201	2920018	1	Light, Beacon (Amber - Standard Machines)	
201	2920096	1	Light, Beacon (Amber - U/L Machines)	
		Ref	**STROBE LIGHT INSTALLATION (OPTIONAL)**	A
	0253607	Ref	**Amber Beacon**	
	0253608	Ref	**Red Beacon**	
301		Ref	Light, Strobe Options:	
301	2920109	1	Light, Strobe (Red)	
301	2920105	1	Light, Strobe (Amber)	
302	4060829	1	Guard, Light	
303	3536597	1	Bracket, Mounting	
303	2540016	2	Grommet	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**HEADLIGHT AND TAILLIGHT INSTALLATION - 12 VDC (OPTIONAL)**	
	0239619	Ref	**12VDC Lights - Machines Built Through 1992**	C
	0254940	Ref	**12VDC Lights - Machines Built (1993 to Present)**	2
	0254031	Ref	**48VDC Lights**	-
401		Ref	Headlight Components:	
401		Ref	12VDC Lights	
401		Ref	Headlight Options:	
401	2920001	2	Headlight **(Prior to SN 40415)**	
401	2920001	2	Headlight **(SN 40415 to Present)**	
401	3311501	2	Nut 5/16in-18NC (Prior to 1993)	
401	4761500	2	Lockwasher 5/16in (Prior to 1993)	
401	4300038	2	Stud (Welded on Part) (Prior to 1993)	
401	3941406	4	Screw, Self-Tap 1/4in x 3/4in (1993 to Present)	
401	4761400	4	Lockwasher 1/4in (1993 to Present)	
401	4751400	4	Flatwasher 1/4in (1993 to Present)	
401		Ref	48VDC Lights	
401	2920106	2	Headlight	
401	0901927	2	Bracket	
401	3941404	4	Screw, Self-Tap 1/4in x 1/2in	
401	2540016	2	Grommet	
402		Ref	Taillight Components Options:	
402	2920019	2	12VDC Taillight	
402	2920118	2	48VDC Taillight	
402	0641404	6	Bolt 1/4in-20NC x 1/2in	
402	3311405	6	Locknut 1/4in-20NC	
403		Ref	Angle (Prior to October 1990) Options:	
403	0181386	2	Angle for 12VDC Light	
403	Not Required	0	Angle for 48VDC Light	
404		Ref	Angle (October 1990 through 1992) Options:	
404	0181592	2	Angle for 12VDC Light	
404	0901964	2	Angle for 48VDC Light	
	0250008	Ref	**ENGINE DISTRESS INSTALLATION - FORD (OPTIONAL - PRIOR TO NOVEMBER 1991)**	A
		Ref	**Note: For Machines built (November 1991 to Present) See Platform Console Box Installation.**	
501	2920034	1	Light	
502	0140001	1	Horn (Attached to Hood)	
	0252096	Ref	**HORN INSTALLATION (STANDARD ELECTRIC MACHINES)**	-
601	0140001	1	Horn (Attached at Steer Valve)	

FIGURE 2-40. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT PRIOR TO MARCH 1990 AND ALL ELECTRIC MACHINES)

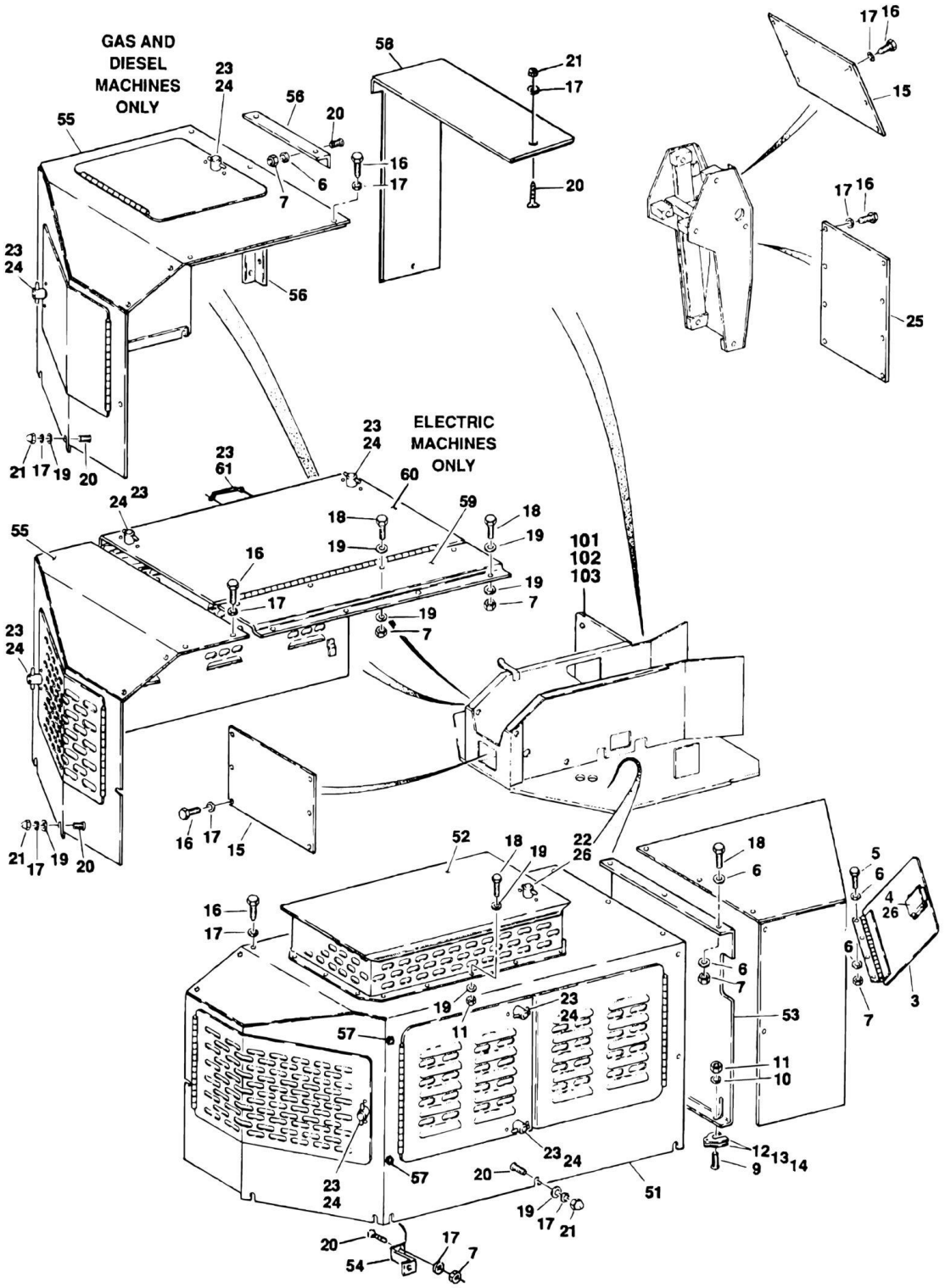


FIGURE 2-40. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT PRIOR TO MARCH 1990 AND ALL ELECTRIC MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**HOODS INSTALLATION**	
	0239708	Ref	**Ford Gas, Dual Fuel and Straight LP Only**	C
	0238721	Ref	**Kohler Gas**	C
	0238686	Ref	**Kohler Dual Fuel**	C
	0239543	Ref	**Kubota Diesel**	C
	0238687	Ref	**Electric Machines (Prior to December 1989)**	D
	0250191	Ref	**Electric Machine (December 1989 to November 1991)**	C
	0252480	Ref	**Electric Machines (November 1991 to Present)**	A
		Ref	**Note: Replacement Decals Must Be Ordered Separately - See DECALS SECTION.**	
3	4842885	1	Door Weldment	
4	2940057	1	Latch, Sliding	
5	0641406	4	Bolt 1/4in-20NC x 3/4in	
6	4711400	AR	Flatwasher 1/4in Narrow	
7	3311405	AR	Locknut 1/4in-20NC	
9	4300073	2	Stud (Welded on Part)	
10	4751500	2	Flatwasher 5/16in	
11	3311505	2	Locknut 5/16in-18NC	
12	4070410	AR	Shim 1/16in-16.6mm Thickness	
13	4070411	AR	Shim 1/8in-3.2mm Thickness	
14	4070412	AR	Shim 3/16in-4.8mm Thickness	
15	3532202	2	Plate, Cover	
16	3941406	AR	Screw, Self-Tapping 1/4in x 3/4in	
17	4761400	AR	Lockwasher 1/4in	
18	0641408	AR	Bolt 1/4in-20NC x 1in	
19	4751400	AR	Flatwasher 1/4in	
20	4300031	AR	Stud (Welded on Part)	
21	3300151	AR	Nut, Acorn 1/4in-20NC	
22	2940050	1	Latch	
23	3820019	AR	Rivet	
24	2940048	AR	Latch	
25	3532260	1	Plate, Cover	
26	3820012	2	Rivet	
51		Ref	Hood (Right Side) Options:	
51	4843265	1	Hood Ford Gas, Dual Fuel and Straight LP Only	
51	4842964	1	Hood Kohler Gas and Dual Fuel	
51	4843209	1	Hood Kubota Diesel	
51	4842964	1	Hood Electric Machines	
52		Ref	Ventilator Options:	
52	4843267	1	Ventilator Ford Gas, Dual Fuel and Straight LP Only	
52	4842961	1	Ventilator Kohler Gas and Dual Fuel	
52	4843208	1	Ventilator Kubota Diesel	
52	4842961	1	Ventilator Electric Machines	
53		Ref	Plate, Mounting - Valves Options:	
53	3532212	1	Plate Ford Gas, Dual Fuel and Straight LP Only	
53	3536298	1	Plate Kohler Gas and Dual Fuel	
53	3532212	1	Plate Kubota Diesel	
53	3536298	1	Plate Electric Machines (Prior to December 1990)	
53	3532212	1	Plate Electric Machines (December 1990 to Present)	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
54		Ref	Bracket, Hood Options:	
54	0901575	1	Bracket Ford Gas, Dual Fuel and Straight LP Only	
54	0901574	1	Bracket Ford Gas, Dual Fuel and Straight LP Only	
54	Not Required	0	Bracket Kohler Gas and Dual Fuel	
54	Not Required	0	Bracket Kubota Diesel	
54	Not Required	0	Bracket Electric Machines	
55		Ref	Hood (Left Side) Options:	
55	4843204	1	Hood Ford Gas, Dual Fuel and Straight LP Only	
55	4842977	1	Hood Kohler Gas and Dual Fuel	
55	4843204	1	Hood Kubota Diesel	
55	4842965	1	Hood Electric Machines	
56		Ref	Angle, Mounting Options:	
56	0181396	2	Ford Gas, Dual Fuel and Straight LP Only	
56	0181396	2	Angle Kohler Gas and Dual Fuel	
56	0181396	2	Angle Kubota Diesel	
56	Not Required	0	Angle Electric Machines	
57	0940036	2	Angle Bumper, Door (Ford Gas, Dual Fuel and Straight LP Only)	
58	3532981	1	Angle Panel, Filler (Straight LP Only)	
59		Ref	Panel Options:	
59	Not Required	0	Panel All Except Electric Machines	
59	4842881	1	Panel, Filler - Electric Machines (Prior to December 1990)	
59	3533638	1	Panel Door, Access - Electric Machines (December 1989 to Present)	
59	3534432	2	Panel Frame, Hood/Door Frame - Electric Machines (December 1989 to Present)	
60		Ref	Cover, Battery Options:	
60	Not Required	0	Cover All Except Electric Machines	
60	4842929	1	Cover Electric Machines (Prior to December 1989)	
60	4843402	1	Cover Electric Machines (December 1989 to November 1991)	
60	4844055	1	Cover Electric Machines (November 1991 to Present)	
61	2560003	1	Handle, Hood (Electric Machines Only)	
	0239470	Ref	**COUNTERWEIGHT COVER INSTALLATION (ELECTRIC MACHINES ONLY)**	-
101	3533031	1	Cover	
102	3900161	4	Screw, Lag 3/8in x 1 1/4in	
103	4751600	4	Flatwasher 3/8in	

FIGURE 2-41. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT MARCH 1990 THROUGH 1992)

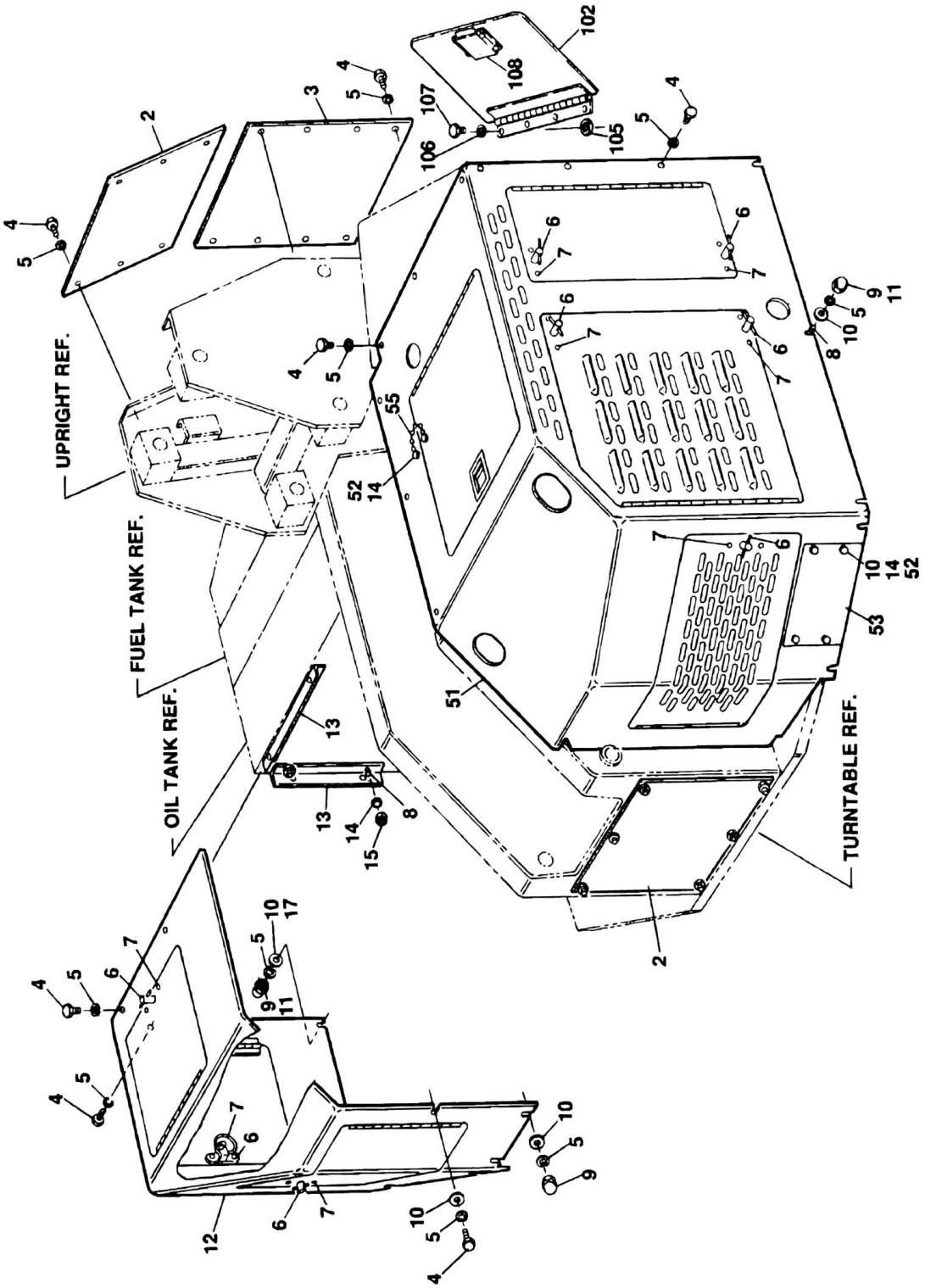


FIGURE 2-41. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT MARCH 1990 THROUGH 1992)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**HOODS INSTALLATION**	
	0250907	Ref	**Ford Gas Machines**	C
	0250849	Ref	**Deutz Diesel Machines**	B
		Ref	**Note: Replacement Decals Must Be Ordered Separately - See DECALS SECTION.**	
2	3532202	2	Plate, Cover	
3	3532260	1	Plate, Cover	
4	3941406	33	Screw, Self-Tapping 1/4in x 3/4in	
5	4761400	4	Lockwasher 1/4in	
6	2940048	AR	Latch	
7	3820019	AR	Rivet	
8	4300031	15	Stud (Welded on Part)	
9	3300151	9	Nut, Acorn 1/4in-20NC	
10	4751400	17	Flatwasher 1/4in	
11	0100011	AR	Loctite #242	
12	4843204	1	Hood (Left Side)	
13	0181396	2	Angle, Mounting	
14	3311405	AR	Locknut 1/4in-20NC	
15	4711400	AR	Flatwasher 1/4in Narrow	
16	0641408	2	Bolt 1/4in-20NC x 1in	
17	4300032	4	Stud (Welded on Part)	
51		Ref	Hood (Right Side) Options:	
51	4843647	1	Hood Ford Gas Machines	
51	4843601	1	Hood Deutz Diesel Machines	
52	0641406	AR	Bolt 1/4in-20NC x 3/4in	
53		Ref	Door Panel Options:	
53	4843648	1	Panel Ford Gas Machines	
53	Not Required	0	Panel Deutz Diesel Machines	
54		Ref	Latch Options:	
54	2940045	1	Latch Ford Gas Machines (Flush Mount)	
54	2940048	1	Latch Deutz Diesel Machines (Turn Knob)	
55		Ref	Chain Options:	
55	1260017	1	Chain Ford Gas Machines	
55	Not Required	0	Chain Deutz Diesel Machines	
	1281340	Ref	**GROUND CONTROL BOX COVER INSTALLATION (STANDARD PARTS)**	F
102	1780245	1	Door	
103	2600157	1	Hinge	
105	3311405	4	Locknut 1/4in-20NC	
106	4751400	8	Flatwasher 1/4in	
107	0641405	4	Bolt 1/4in-20NC x 5/8in	
108	2940057	1	Latch, Sliding	

FIGURE 2-42. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT 1993 TO PRESENT)

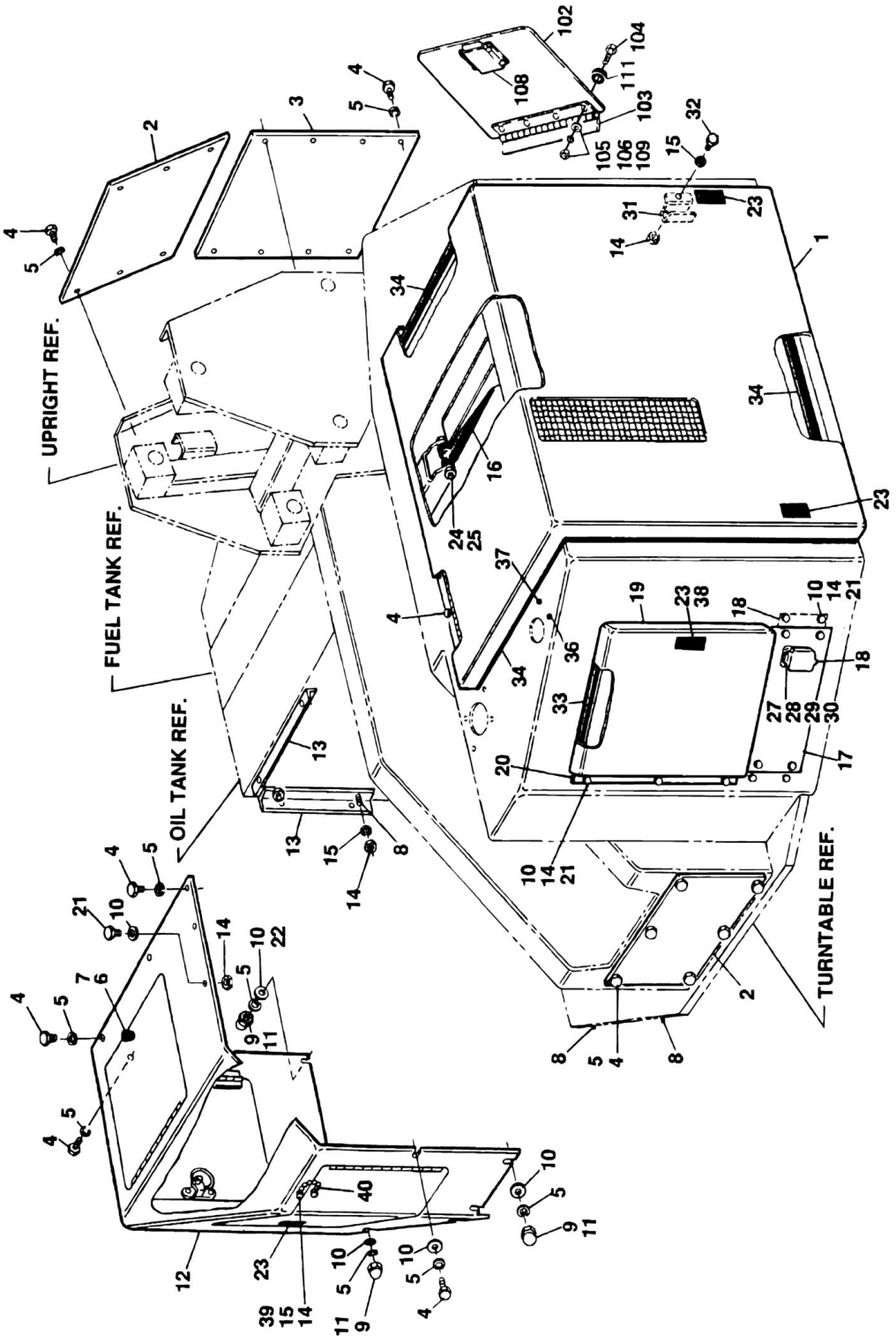


FIGURE 2-42. HOODS INSTALLATION (GAS/DIESEL MACHINES BUILT 1993 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0252774	Ref	**HOODS INSTALLATION**	F-6
		Ref	**Note: Replacement Decals Must Be Ordered Separately - See DECALS SECTION.**	
1	4844130	1	Hood (Right Side)	
2	3532202	2	Plate, Cover	
3	3532260	1	Plate, Cover	
4	3941406	32	Screw, Self-Tapping 1/4in x 1/2in	
5	4761400	36	Lockwasher 1/4in	
6	2940051	1	Latch, Slam	
8	4300031	6	Stud (Welded on Part)	
9	3300151	4	Nut, Acorn 1/4in-20NC	
10	4751400	55	Flatwasher 1/4in	
11	0100011	AR	Loctite #242	
12	4844210	1	Hood (Left Side)	
13	0181396	2	Angle, Mounting	
14	3311405	24	Locknut 1/4in-20NC	
15	4711400	4	Flatwasher 1/4in	
16	4160110	2	Spring, Gas	
17	3536017	1	Plate, Filler	
18	4220153	2	Stop, Door	
19	4843945	1	Door	
20	4070798	1	Shim	
21	0641408	4	Bolt 1/4in-20NC x 1in	
22	4300032	2	Stud (Welded on Part)	
23		Ref	Latch	
23	2940113	5	Latch (Was p/n 2940042) **(Prior to SN 33711)**	
23	2940113	5	Latch **(SN 33711 to Present)**	
25	3311505	4	Locknut 5/16in-18NC	
26	1670612	1	Cover, Access (110 Volt)	
27	3910812	4	Bolt #10-24NC x 1in	
28	4760800	4	Lockwasher #10	
29	4750800	4	Flatwasher #10	
30	3310801	4	Nut #10-24NC	
31	4060832	2	Shield, Seal	
33	3960417	5 ft/1.5m	Seal, Door	
34	3960418	15 ft/4.6m	Seal	
35	0100040	AR	Sealant	
36	3520054	1	Plug, Hole 7/16in-11mm	
37	3520034	4	Plug, Hole 5/16in-8mm	
38	2940070	1	Pawl, Latch **(Prior to SN 22711)**	
39	0641406	14	Bolt 1/4in-20NC x 3/4in	
40	1260017	6 in/15cm	Chain	
	1281340	Ref	**GROUND CONTROL BOX COVER INSTALLATION**	H
102	1780245	1	Door	
103	2600157	1	Hinge	
104	0641406	4	Screw, 1/4in-20NC x 3/4in	
105	3311401	4	Nut, 1/4in-20NC	
106	4751400	16	Flatwasher 1/4in	
108	2940057	1	Latch, Sliding	
109	4761400	4	Lockwasher 1/4in	

SECTION 2 - TURNTABLE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
111	0940083	2	Bumper	

SECTION 3 - BOOM

FIGURE 3-1. BOOMS AND LIMIT SWITCHES INSTALLATIONS

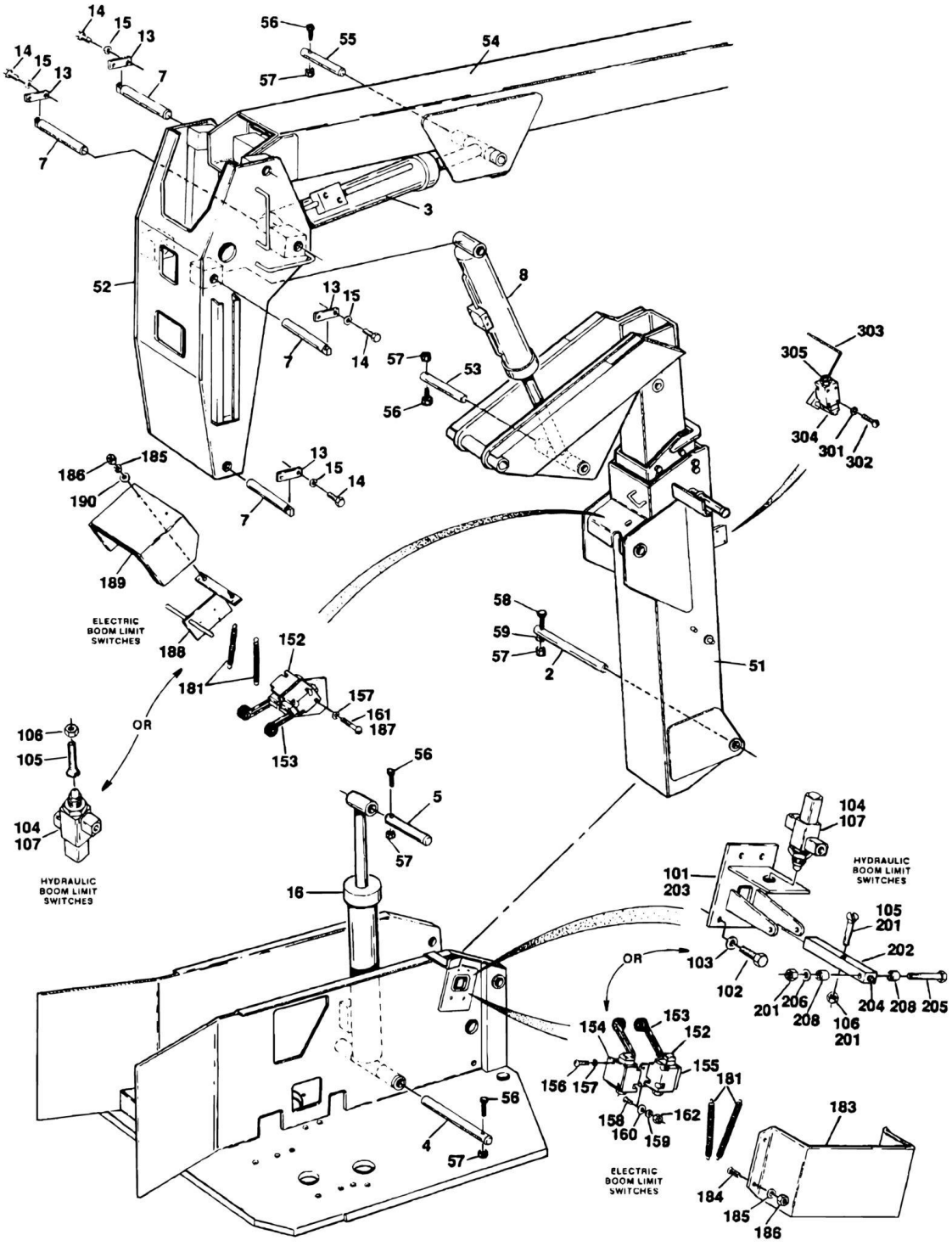


FIGURE 3-1. BOOMS AND LIMIT SWITCHES INSTALLATIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**BOOMS INSTALLATION (STANDARD PARTS)**	
	0238593	Ref	**ANSI Spec with Electric Limit Switches Built (Prior to May 1988)**	B
	0238987	Ref	**ANSI Spec with Hydraulic Limit Switches Built (May 1988 to Present)**	H
	0252269	Ref	**CSA Spec with Hydraulic Limit Switches Built (Prior to May 1988)**	A
2	3421481	1	Pin, Pivot	
3	1681840	1	Lift Cylinder Assembly - Main Boom (See CYLINDER SECTION for Breakdown)	
4	3421480	1	Pin, Attach	
5	3421482	1	Pin, Attach	
7	3421478	4	Pin, Pivot	
8	1681962	1	Level Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
13	3531946	4	Plate, Retainer	
14	0641508	8	Bolt 5/16in-18NC x 1in	
15	4761500	8	Lockwasher 5/16in	
16	1681960	1	Lift Cylinder Assembly - Tower Boom (See CYLINDER SECTION for Breakdown)	
51		Ref	Boom Assembly - Tower Boom Options (See TOWER BOOM ASSEMBLIES for Breakdown)	
51	0800530	1	Boom Assembly Machines with Electric Limit Switches Built (Prior to May 1988)	
51	0800567	1	Boom Assembly Machines with Hydraulic Limit Switches Built (May 1988 to Present)	
52		Ref	Upright Weldment Options:	
52	4842862	1	Weldment Machines Built (Prior to January 1991)	
52	4843804	1	Weldment Machines Built (January 1991 to Present)	
53		Ref	Pin, Attach Options:	
53	3421483	1	Pin ANSI Spec	
53	3421993	1	Pin CSA Spec	
54		Ref	Boom Assembly - Main Boom Options (See MAIN BOOM ASSEMBLY for Breakdown)	
54	0800537	1	Boom Assembly Machines with Electric Limit Switches Built (Prior to May 1988)	
54	0800572	1	Boom Assembly Machines with Hydraulic Limit Switches Built (May 1988 to Present)	
55		Ref	Pin, Attach Options:	
55	3421489	1	Pin ANSI Spec with Electric Limit Switches Built (Prior to May 1988)	
55	3421780	1	Pin ANSI Spec with Hydraulic Limit Switches Built (May 1988 to Present)	
55	3421994	1	Pin CSA Spec with Hydraulic Limit Switches Built (Prior to May 1988)	
56		Ref	Hardware Options:	
56	3421475	4	Hardware Pin, Grooved Used Machines with Electric Limit Switches Built (Prior to May 1988) (Not Shown)	
56	0641522	4	Hardware Bolt 5/16in-18NC x 2 3/4in Used Machines with Hydraulic Limit Switches Built (May 1988 to Present)	
57	3311505	5	Hardware Locknut 5/16in-18NC (Machines with Hydraulic Limit Switches Built May 1988 to Present Only)	
58		Ref	Hardware Options:	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
58	3421475	1	Hardware Pin, Grooved Used Machines with Electric Limit Switches Built (Prior to May 1988) (Not Shown)	
58	0641544	1	Hardware Bolt 5/16in-18NC x 5 1/2in Used Machines with Hydraulic Limit Switches Built (May 1988 to Present)	
59	4751500	2	Flatwasher 5/16in (Machines with Hydraulic Limit Switches Built May 1988 to Present Only)	
	0238988	Ref	**HORIZONTAL CUT-OUT VALVES INSTALLATION - HYDRAULIC LIMIT SWITCH (MACHINES BUILT MAY 1988 TO PRESENT)**	D
101	0239015	1	Valve Actuator Assembly (See Items 201-208 for Breakdown)	
102	0641609	4	Bolt 3/8in-16NC x 1 1/8in	
103	4751600	4	Flatwasher 3/8in	
104	4640310	2	Valve, Check	
104	7012649	1	Seal Kit (1 Per Valve)	
105	0630427	1	Screw, Flathead 1/2in-13NC x 2 1/2in	
105	0630415	1	Screw, Flathead 3/8in-16NC x 1 3/4in	
106	3311805	1	Locknut 1/2in-13NC	
106	3311605	1	Locknut 3/8in-16NC	
107	0100003	AR	Loctite	
	0238742	Ref	**HORIZONTAL CUT-OUT SWITCH INSTALLATION - ELECTRIC LIMIT SWITCH (MACHINES BUILT PRIOR TO MAY 1988)**	B
152	4360236	4	Head, Switch	
152	4360277	4	Switch	
153	4360237	4	Roller and Arm Assembly	
154	0901478	1	Bracket	
155	0901479	1	Bracket	
156	0731004	4	Screw, Machine #10-32NF x 1/2in	
157	4761000	10	Lockwasher #10	
158	4300032	4	Stud (Welded on Part)	
159	4761400	4	Lockwasher 1/4in	
160	4751400	4	Flatwasher 1/4in	
161	3911020	4	Screw #10-24NC x 1 1/2in	
162	3311401	4	Nut 1/4in-20NC	
163	4360057	1	Switch, Limit	
164	0200333	1	Arm, Lever	
165	3911028	2	Screw, #10-24NC x 1 3/4in	
	0238976	Ref	**SWITCH SPRINGS AND SHIELDS INSTALLATION (MACHINES BUILT PRIOR TO MAY 1988)**	-
181	4160040	4	Spring, Extension	
182	0181414	1	Angle, Spring Clip (Welded on Part - Not Shown)	
183	4060679	1	Shield (Lower)	
184	4300031	6	Stud (Welded on Part)	
185	4761400	6	Lockwasher 1/4in	
186	3311401	6	Nut 1/4in-20NC	
187	3911028	2	Screw #10-24NC x 1 3/4in	
188	4843049	1	Bracket	
189	4060680	1	Shield (Upper)	
190	4751400	2	Flatwasher 1/4in	
	0239015	Ref	**HYDRAULIC VALVE ACTUATOR ASSEMBLY (MACHINES BUILT MAY 1988 TO PRESENT)**	C
201	3311605	2	Locknut 3/8in-16NC	
202	0361630	1	Bar, Mounting	
203	4843037	1	Plate, Mounting	
204	2160003	1	Fitting, Grease	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
205	0641620	1	Bolt 3/8in-16NC x 2 1/2in	
206	4751600	1	Flatwasher 3/8in	
207	0630415	1	Screw, Flathead 3/8in-16NC x 1 3/4in	
208	4563996	2	Spacer, Tube	
	0239298	Ref	**ABOVE HORIZON LIMIT SWITCH INSTALLATION (MACHINES BUILT MAY 1988 TO PRESENT)**	B
301	4761000	2	Lockwasher #10	
302	3911028	2	Screw #10-24NC x 1 3/4in	
303	0200333	1	Arm, Lever	
304	4360057	1	Switch, Limit	
305	4460049	1	Connector, Strain Relief	

FIGURE 3-2. MAIN BOOM ASSEMBLY

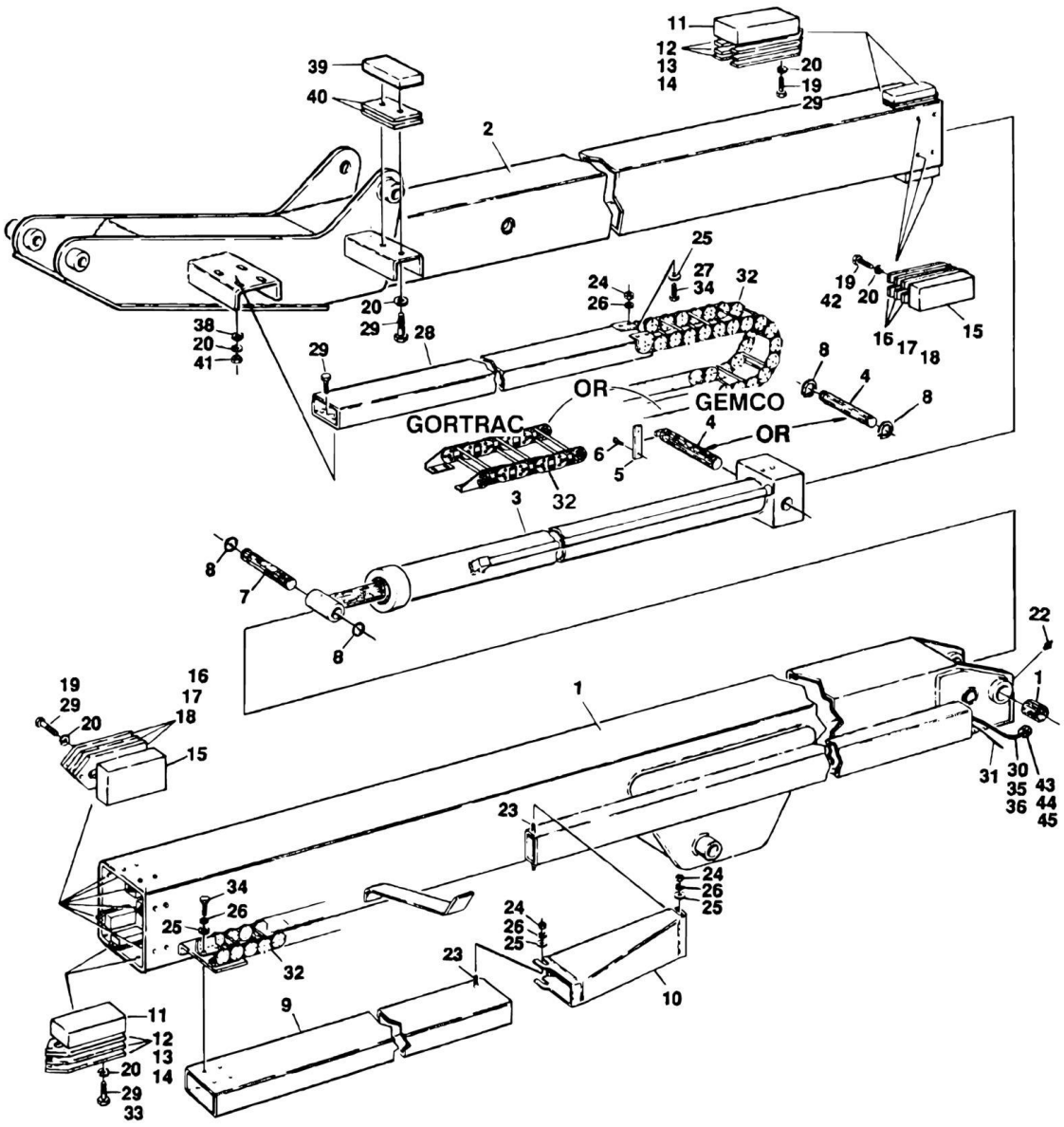


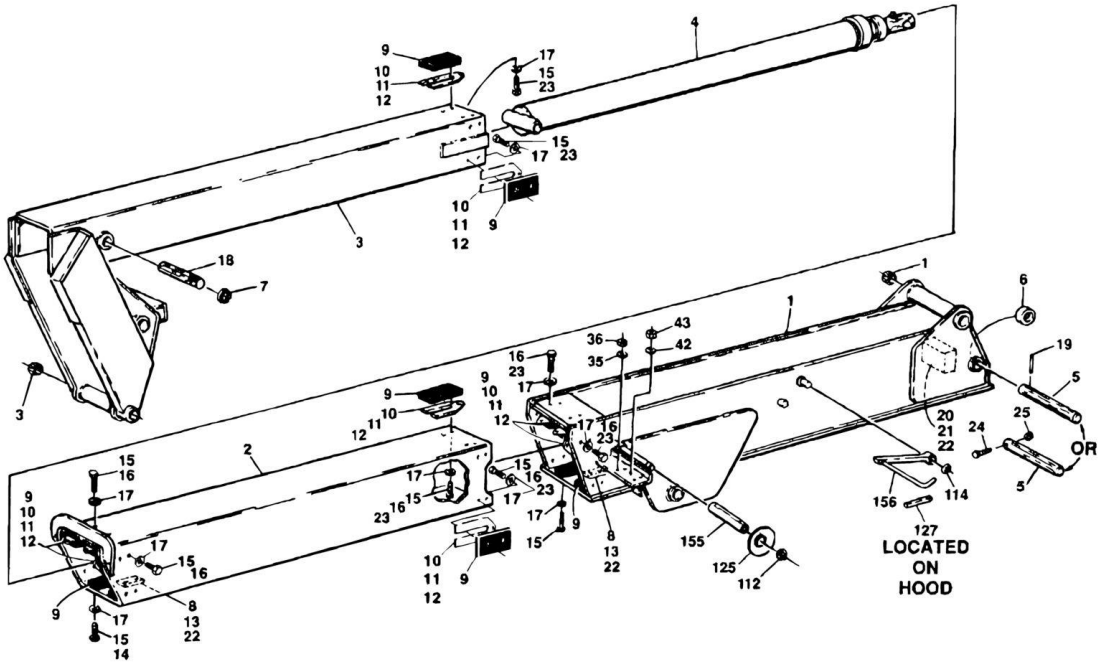
FIGURE 3-2. MAIN BOOM ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**MAIN BOOM ASSEMBLY**	
	0800537	Ref	**Machines with Electric Limit Switches Built (Prior to May 1988)**	B
	0800572	Ref	**Machines with Hydraulic Limit Switches Built (May 1988 to Present)**	13
1		Ref	Base Weldment Options:	
1	0800539	1	Base Weldment (Prior to May 1988)	
1	0800573	1	Base Weldment (May 1988 to Present)	
1	0961597	2	Bushing, Pivot	
2		Ref	Fly Weldment Options:	
2	0800538	1	Fly Weldment (Prior to May 1988)	
2	0800714	1	Fly Weldment (May 1988 to Present)	
3		Ref	Telescope Cylinder Assembly Options (See CYLINDER SECTION for Breakdown):	
3	1681880	1	Telescope Cylinder Assembly (Prior to June 1991)	
3	1682492	1	Telescope Cylinder Assembly (June 1991 to Present)	
4		Ref	Pin, Attach Options:	
4	3421493	1	Pin, Attach (Prior to February 1992)	
4	3421771	1	Pin, Attach (February 1992 to Present)	
5	3532054	1	Plate, Retainer (Machines Built Prior to February 1992 Only)	
6	0641506	2	Bolt 5/16in-18NC x 3/4in (Machines Built Prior to February 1992 Only)	
7	3421492	1	Pin, Attach	
8	3760133	AR	Ring, Retaining	
9		Ref	Tube, Hose Options:	
9	4842913	1	Tube, Hose (Prior to May 1988)	
9	4843076	1	Tube, Hose (May 1988 to Present)	
10		Ref	Cover, Hose Options:	
10	1670450	1	Cover, Hose (Prior to March 1990)	
10	1670576	1	Cover, Hose (March 1990 to Present)	
11	3340473	4	Pad, Wear	
12	4070676	AR	Shim - 1/8in	
13	4070677	AR	Shim - 1/16in	
14	4070678	AR	Shim - 1/32in	
15	3340552	12	Pad, Wear	
16	4070670	AR	Shim - 1/32in	
17	4070671	AR	Shim - 1/16in	
18	4070672	AR	Shim - 1/8in	
19	0641607	16	Bolt 3/8in-16NC x 7/8in	
20	4761600	46	Lockwasher 3/8in	
22	2160007	2	Fitting, Grease	
23	4300031	4	Stud (Welded on Part)	
24	3311405	8	Locknut 1/4in-20NC	
25	4751400	16	Flatwasher 1/4in	
26	4761400	16	Lockwasher 1/4in	
27	0641406	4	Bolt 1/4in-20NC x 3/4in (Prior to May 1988 Only)	
28		Ref	Cover, Hose Options:	
28	4842916	1	Cover, Hose (Prior to March 1990)	
28	4843068	1	Cover, Hose (March 1990 to Present)	
29	0641608	22	Bolt 3/8in-16NC x 1in	

SECTION 3 - BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
30	1060516	70 ft/21.4m	Cable, Ground - 16/30 (was p/n 1060229)	
31	4921063	1	Harness - 110 Volt	
32		Ref	Carrier Options:	
32	1180173	1	Carrier for Machines Built (Prior to May 1988):	
32	7004396	AR	1 Foot Repair Section	
32	7004397	2	1 Foot Repair Section with Mounting Feet	
32		Ref	Carrier for Machines Built (1990 to Present):	
		Ref	**Note: Original Equipment Power Track may have been replaced with a Service Replacement. Visually identify the power track before ordering parts.**	
32		Ref	Power Track Repair Components	
32	1180179	Ref	Gemco Replacement Parts	
32	7006187	AR	Powertrack - One Foot Section	
32	7006151	2 pr	Mounting Feet	
32	7006152	AR	Pin Kit (Includes 1 pin, 1 Retaining Ring and 4 Washers)	
32	1001119695	Ref	Gortrac Replacement Parts	
32	70003153	AR	Powertrack - 1 Section Repair Kit	
32	70003154	2 pr	Power Track - Bracket Kit	
33	0641609	6	Bolt 3/8in-16NC x 1 1/8in	
34	0641405	8	Bolt 1/4in-20NC x 5/8in	
35	1060018	40 ft/12.2m	Cable, Electrical - 16/10	
36	1060515	70 ft/21.4m	Cable, Electrical - 12/4 (was p/n 1060012)	
38	4751600	12	Flatwasher 3/8in (May 1988 to Present Only)	
39	0560923	1	Block (May 1988 to Present Only)	
40	4070559	AR	Shim (May 1988 to Present Only)	
41	3311605	8	Locknut 3/8in-16NC (May 1988 to Present Only)	
42	0641606	4	Bolt 3/8in-16NC x 3/4in (May 1988 to Present Only)	
43	4460052	1	Connector (May 1988 to Present Only)	
44	3300047	1	Nut, Conduit (May 1988 to Present Only)	
45	0960239	1	Bushing (May 1988 to Present Only)	
	0100019	AR	Loctite #271	

FIGURE 3-3. TOWER BOOM ASSEMBLIES



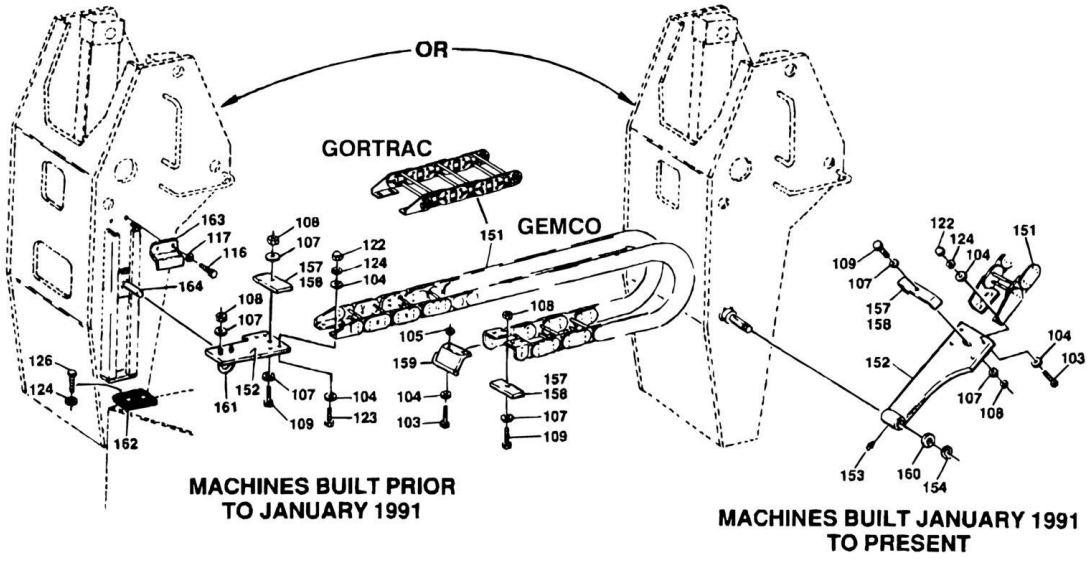


FIGURE 3-3. TOWER BOOM ASSEMBLIES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**TOWER BOOM ASSEMBLY**	
	0800530	Ref	**Machines with Electric Limit Switches Built (Prior to May 1988)**	A
	0800567	Ref	**Machines with Hydraulic Limit Switches Built (May 1988 to Present)**	F
1		Ref	Base Weldment Options:	
1	0800533	1	Base Weldment (Prior to May 1988)	
1	0800566	1	Base Weldment (May 1988 to Present)	
1	0961029	2	Bushing, Bronze	
2	0800532	1	Mid Weldment	
3		Ref	Fly Weldment Options:	
3	0800531	1	Fly Weldment (Prior to May 1988)	
3	0800701	1	Fly Weldment (May 1988 to Present)	
3	0961029	2	Bushing, Bronze	
4		Ref	Telescope Cylinder Assembly Options:	
4	Not Available	1	Dana Cylinder (Note: Dana cylinder no longer available. Replace with 1681980 cylinder.)	
4	1681980	1	Commercial Shearing Cylinder (See CYLINDER SECTION for Breakdown)	
4	3421991	1	Pin, Attach (Lower)	
6	0961268	2	Bushing, Spacer	
7	3760255	2	Ring, Retaining	
8	3531908	2	Plate, Stop	
9	3340550	32	Pad, Wear	
10	4070670	AR	Shim 1/32in	
11	4070854	AR	Shim 5/64in	
12	4070855	AR	Shim 1/8in	
13	0641807	4	Bolt 1/2in-13NC x 7/8in	
14	0100019	AR	Loctite #271 (Not Shown)	
15	0641607	32	Bolt 3/8in-16NC x 7/8in	
16	0641608	16	Bolt 3/8in-16NC x 1in	
17	4761600	64	Lockwasher 3/8in	
18	3421992	1	Pin, Attach (Upper)	
19	3421475	1	Pin, Grooved (Machines Built Prior to October 1991)	
20	0361645	1	Bar, Stop (May 1988 to Present Only)	
21	0641812	2	Bolt 1/2in-13NC x 1 1/2in (May 1988 to Present Only)	
22	4761800	6	Lockwasher 1/2in (May 1988 to Present Only)	
23	0641609	16	Bolt 3/8in-16NC x 1 1/8in (May 1988 to Present Only)	
24	0641522	1	Bolt 5/16in-18NC x 2 3/4in (Machines Built October 1991 to Present)	
25	3311505	1	Locknut 5/16in-18NC (Machines Built October 1991 to Present)	
		Ref	**LOWER CARRIER INSTALLATIONS**	
	0238650	Ref	**Lower Carrier Installations (Prior to May 1988)**	C
	0239039	Ref	**Lower Carrier Installations (May 1988 to January 1991)**	A
	0251524	Ref	**Lower Carrier Installations (January 1991 to Present)**	B
103	0641408	4	Bolt 1/4in-20NC x 1in	
104	4751400	16	Flatwasher 1/4in	
105	3311405	4	Locknut 1/4in-20NC	
107	4751600	6	Flatwasher 3/8in	
108	3311605	4	Locknut 3/8in-16NC	
109	0641616	2	Bolt 3/8in-16NC x 2in	

SECTION 3 - BOOM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
112	3760254	1	Ring, Retainer	
114	3300246	1	Nut, Push 1/2in	
116	0641506	2	Bolt 5/16in-18NC x 3/4in	
117	4751500	2	Flatwasher 5/16in	
122	3300151	4	Nut, Acorn 1/4in-20NC	
123	0630407	4	Screw, Cap Button 1/4in-20NC x 5/8in	
124	4761400	4	Lockwasher 1/4in	
125	1760131	1	Disc	
126	0741408	2	Screw, Machine 1/4in-20NC x 1in	
127	0360321	1	Bar, Spacer (Machines Built From March 1988 to April 1993)	
151		Ref	Carrier Options:	
151	1180174	1	Carrier for Machines Built (Prior to May 1988)	
151	7004396	AR	1 Foot Repair Section	
151	7004397	2	1 Foot Repair Section with Mounting Feet	
151		Ref	Carrier for Machines Built (May 1988 through 1989):	
		Ref	**Note: Original Equipment Power Track may have been replaced with a Service Replacement. Visually identify the power track before ordering parts.**	
151		Ref	Power Track Repair Components	
151	1180178	1`Ref	Gemco Replacement Parts	
151	7006139	AR	Powertrack - One Foot Section	
151	7006151	2 pr	Mounting Feet	
151	7006152	AR	Pin Kit (Includes 1 pin, 1 Retaining Ring and 4 Washers)	
151	1001119694	Ref	Gortrac Replacement Parts	
151	70003151	AR	Powertrack - 1 Section Repair Kit	
151	70003152	2 pr	Power Track - Bracket Kit	
152		Ref	Plate, Mounting Options:	
152	3532031	1	Plate, Mounting (Prior to May 1988)	
152	3532641	1	Plate, Mounting (May 1988 to January 1991)	
152	4843803	1	Plate, Mounting (January 1991 to Present)	
153	2160006	1	Fitting, Grease (January 1991 to Present Only)	
154	3760140	1	Ring, Retaining (January 1991 to Present Only)	
155		Ref	Roller, Tube Options:	
155	4563953	1	Roller, Tube (Prior to May 1988)	
155	4564034	1	Roller, Tube (May 1988 to Present)	
156		Ref	Bracket Options:	
156	4842912	1	Bracket (Prior to May 1988)	
156	4843071	1	Bracket (May 1988 to Present)	
157		Ref	Hose, Clamp Options:	
157	1320148	2	Hose, Clamp (Prior to May 1988)	
157	1320152	2	Hose, Clamp (May 1988 to Present)	
158		Ref	Shrink, Heat	
158	4420037	9.5 in/24cm	Shrink, Heat (Prior to January 1991)	
158	2820031	18 in/46cm	Shrink, Heat (January 1991 to Present)	
159		Ref	Shield, Hose Options:	
159	4843021	1	Shield, Hose (Prior to May 1988)	
159	4843075	1	Shield, Hose (May 1988 to Present)	
160	4740067	1	Washer, Thrust (January 1991 to Present)	
161	0630406	1	U-Bolt (Prior to January 1991 Only)	
162		Ref	Block, Stop Options:	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
162	0560772	1	Block, Stop (Prior to May 1988)	
162	0560807	1	Block, Stop (May 1988 to January 1991)	
162	Not Required	0	Block, Stop (January 1991 to Present)	
163	3532046	1	Plate, Cover (Prior to January 1991 Only)	
164	4842905	1	Support, Sliding (Prior to January 1991 Only)	

FIGURE 3-4. BOOM WIPERS INSTALLATION

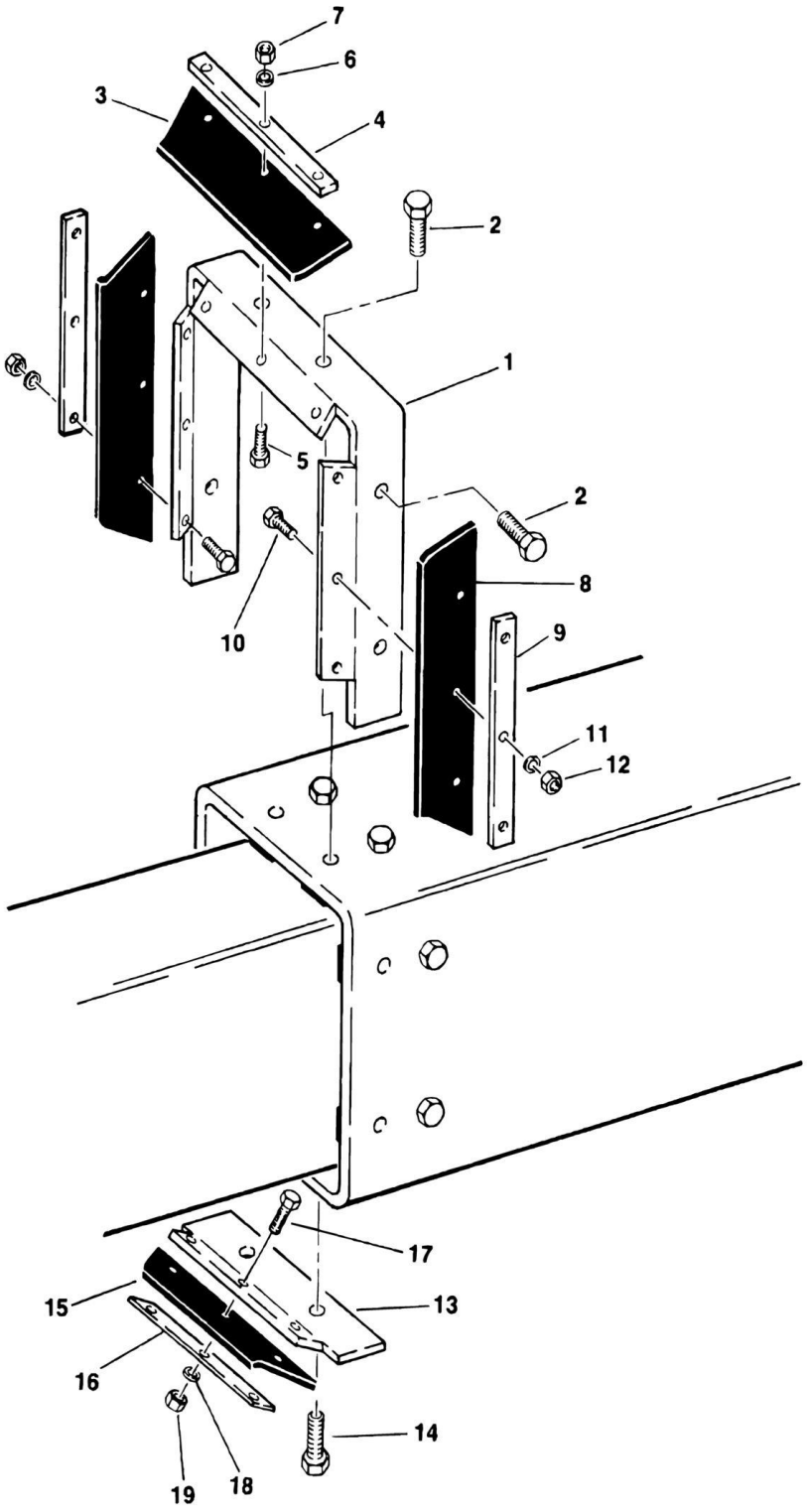


FIGURE 3-4. BOOM WIPERS INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0238888	Ref	**BOOM WIPERS INSTALLATION**	B
1	2660065	1	Holder, Boom Wiper (Top and Side)	
2	0641608	6	Bolt 3/8in-16NC x 1in (Replaces Standard Wear Pad Bolts)	
3	0540070	1	Blade, Wiper (Top)	
4	4280188	1	Retainer	
5	0641407	3	Bolt 1/4in-20NC x 7/8in	
6	4761400	3	Lockwasher 1/4in	
7	3311401	3	Nut 1/4in-20NC	
8	0540071	2	Blade, Wiper (Side)	
9	4280260	1	Retainer	
10	0641407	3	Bolt 1/4in-20NC x 7/8in	
11	4761400	3	Lockwasher 1/4in	
12	3311401	3	Nut 1/4in-20NC	
13	2660066	1	Holder, Boom Wiper (Bottom)	
14	0641610	2	Bolt 3/8in-16NC x 1 1/4in (Replaces Standard Wear Pad Bolts)	
15	0540072	1	Blade, Wiper (Bottom)	
16	4280188	1	Retainer	
17	0641407	3	Bolt 1/4in-20NC x 7/8in	
18	4761400	3	Lockwasher 1/4in	
19	3311401	3	Nut 1/4in-20NC	

SECTION 4 - PLATFORM

SECTION 4 - PLATFORM

FIGURE 4-1. STANDARD PLATFORM AND FOOTSWITCH INSTALLATION

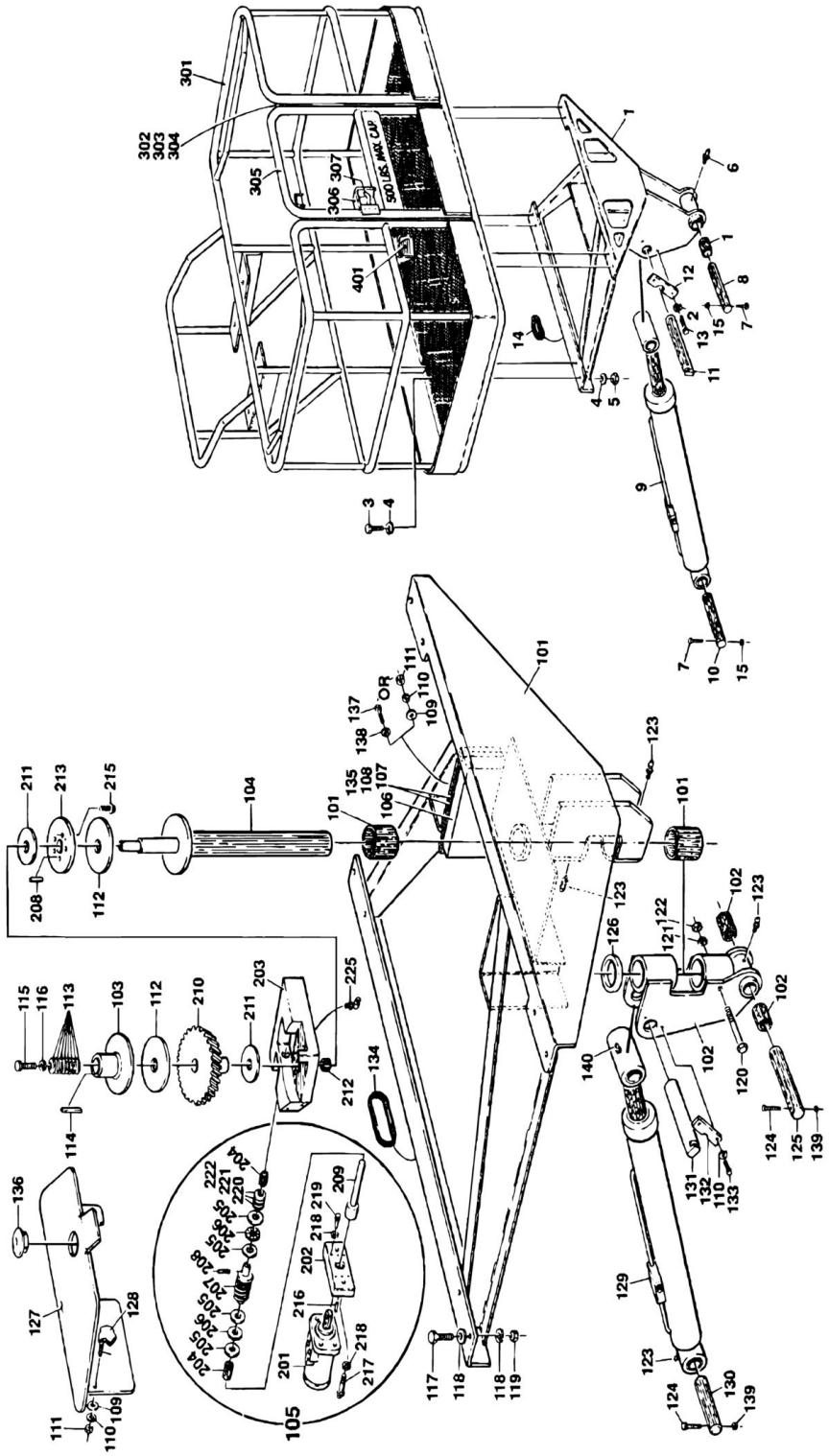


FIGURE 4-1. STANDARD PLATFORM AND FOOTSWITCH INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0238727	Ref	**FIXED SUPPORT INSTALLATION**	6
1	4842978	1	Support Weldment	
1	0961257	2	Bushing, Bronze	
2	4761500	2	Lockwasher 5/16in	
3	0681610	8	Bolt 3/8in-16NC x 1 1/4in (Grade 8)	
4	4751600	16	Flatwasher 3/8in	
5	3300143	8	Locknut 3/8in-16NC	
6	2160002	1	Fitting, Grease	
7	0641522	2	Bolt 5/16in-18NC x 2 3/4in	
8	3421490	1	Pin, Nose	
9		Ref	Platform Level Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
9	1681866	1	Platform Level Cylinder Assembly (Prior to January 1990)	
9	1682178	1	Platform Level Cylinder Assembly (January 1990 to October 1992)	
9	1682793	1	Platform Level Cylinder Assembly (October 1992 to SN 33104) (TUV Style)	
9	1683526	1	Platform Level Cylinder Assembly (TUV Style) **(SN 33105 to Present)**	
10	3421491	1	Pin, Attach (Lower)	
11	3421494	1	Pin, Attach (Upper)	
12	3532054	1	Plate, Retainer	
13	0641506	2	Bolt 5/16in-18NC x 3/4in	
14	4060804	10 in/26cm	Shield, Hose	
15	3311505	2	Locknut 5/16in-18NC	
		Ref	**ROTATING SUPPORT INSTALLATION**	
	0238568	Ref	**ANSI Spec**	14
	0252220	Ref	**CSA Spec**	5
101	4843636	1	Support Weldment	
101	0961259	2	Bushing, Bronze	
102		Ref	Pivot Attach Weldment Options:	
102	0238540	1	Pivot Attach Weldment (Prior to October 1992)	
102	0253730	1	Pivot Attach Weldment (October 1992 to Present) (TUV Style Cylinders)	
102	0961257	2	Bushing, Bronze	
103	1120299	1	Cap	
104		Ref	Shaft Weldment Options:	
104	4842915	1	Shaft Weldment ANSI Spec	
104	4040220	1	Shaft Weldment CSA Spec	
105	0235238	1	Rotator Assembly (See Item 201-225 for Breakdown)	
106		Ref	Block, Stop Options:	
106	4220114	1	Block, Stop with Studs (Prior to August 1988)	
106	0361675	1	Block, Stop with Tapped Holes (August 1988 to Present)	
107	4070705	AR	Shim 1/8in	
108	4070706	AR	Shim 1/16in	
109	4751500	2	Flatwasher 5/16in	
110	4761500	4	Lockwasher 5/16in	
111	3311501	2	Nut 5/16in-18NC	
112	3340454	2	Pad, Brake	
113	4160026	8	Washer, Bellville	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
114	2880404	1	Key, Square	
115	0652014	1	Bolt 5/8in-18NF x 1 3/4in	
116	4752000	1	Flatwasher 5/8in	
117	0681610	8	Bolt 3/8in-16NC x 1 1/4in	
118	4751600	16	Flatwasher 3/8in	
119	3300143	8	Locknut 3/8in-16NC	
120	0641836	1	Bolt 1/2in-13NC x 4 1/2in	
121	4751800	1	Flatwasher 1/2in	
122	3311805	1	Locknut 1/2in-13NC	
123	2160002	4	Fitting, Grease	
124	0641522	2	Bolt 5/16in-18NC x 2 3/4in	
125		Ref	Pin, Attach Options:	
125	3421490	1	Pin ANSI Spec	
125	3421968	1	Pin CSA Spec	
126	4740158	1	Washer, Thrust	
127	1670451	1	Cover, Rotator	
128	4300038	2	Stud (Welded on Part)	
129		Ref	Platform Level Cylinder Assembly (See CYLINDER SECTION for Breakdown)	
129	1681866	1	Platform Level Cylinder Assembly (Prior to January 1990)	
129	1682178	1	Platform Level Cylinder Assembly (January 1990 to October 1992)	
129	1682793	1	Platform Level Cylinder Assembly (October 1992 to SN 33104) (TUV Style)	
129	1683526	1	Platform Level Cylinder Assembly (TUV Style) **(SN 33105 to Present)**	
130	3421491	1	Pin, Attach (Lower)	
131	3421494	1	Pin, Attach (Upper)	
132	3532054	1	Plate, Retainer	
133	0641506	2	Bolt 5/16in-18NC x 3/4in	
134	4060804	10 in/26cm	Shield, Hose (1/2in Flexguard)	
135	4070707	AR	Shim 1/32in	
136	3520035	1	Plug	
137	0641816	2	Bolt 1/2in-13NC x 2in	
138	4761800	2	Lockwasher 1/2in	
139	3311505	2	Locknut 5/16in-18NC	
140	2160001	1	Fitting, Grease	
	0235238	Ref	**ROTATOR ASSEMBLY**	E
		Ref	**Note: For Machines Built (Prior to September 1991) refer to Service Information Bulletin #91-5 for required upgrade.**	
201	3160083	1	Rotator Motor Assy (See ROTATOR MOTOR ASSEMBLY for Breakdown)	
202	0080099	1	Adapter, Motor	
203	2760064	1	Housing, Gear	
204	0440134	2	Bearing, Sleeve	
205	4740199	4	Washer, Thrust	
206	0440120	2	Bearing, Thrust	
207	2440043	1	Gear, Worm	
208	3440816	4	Rollpin 1/4in x 1in	
209	0080098	1	Adapter, Motor to Worm Gear	
210	2440044	1	Gear, Worm	
211	4740256	2	Washer, Thrust	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
212	0440135	1	Bearing, Sleeve	
213	1760068	1	Disc, Brake	
215	3931010	5	Bolt, Socket Head #10-24NC x 5/8in	
216	3441228	2	Rollpin 3/8in x 1 3/4in	
217	3931620	2	Bolt, Socket Head 3/8in-16NC x 1 1/4in	
218	4761600	6	Lockwasher 3/8in	
219	3931612	4	Bolt, Socket Head 3/8in-16NC x 3/4in	
220	4070585	AR	Shim .010	
221	4070586	AR	Shim .005	
222	4070587	AR	Shim .002	
223	0100019	AR	Loctite #271 (Not Shown)	
224	0100021	AR	Primer (Not Shown)	
225	2160001	1	Fitting, Grease - 90	
226	3020025	AR	Grease (Not Shown)	
		Ref	**PLATFORM WELDMENTS**	
		Ref	**Note: Replacement Decals Must Be Ordered Separately - See DECALS SECTION for Breakdown.**	
301		Ref	Standard Platform Options:	
301		Ref	30in x 48in Platforms:	
301	3510236	1	Platform for Machines with Stepper Valves Built (Prior to October 1990) (Was p/n 3510176)	
301	3510236	1	Platform for Machines with Vickers Valves Built (Prior to October 1990) (Was p/n 3510180)	
301	3510236	1	Platform for Machines Built (October 1990 to Present)	
301	3510257	1	Platform for Ford Spec Machines Built (Prior to April 1991) (Was p/n 3510212)	
301	3510257	1	Platform for Ford Spec Machines Built (April 1991 to Present)	
301		Ref	30in x 60in Platforms:	
301	3510237	1	Platform for Machines with Stepper Valves Built (Prior to October 1990) (Was p/n 3510170)	
301	3510237	1	Platform for Machines with Vickers Valves Built (Prior to October 1990) (Was p/n 3510181)	
301	3510237	1	Platform for Machines Built (October 1990 to Present)	
301	3510256	1	Platform with Slide Bar Gate	
301	3510258	1	Platform for Ford Spec Machines Built (Prior to April 1991) (Was p/n 3510246)	
301	3510258	1	Platform for Ford Spec Machines Built (April 1991 to Present)	
301	3510252	1	Platform for Machines with Mesh to Mid-Rail Built (Prior to April 1991)	
301	3510260	1	Platform for Machines with Mesh from Kickplate to Mid-Rail Built (April 1991 to Present)	
301	3510481	1	Platform for Machines with Mesh from Bottom Rail to Midrail Built (April 1991 to Present)	
301	3510259	1	Platform for Machines with mesh to Top-Rail Built (Prior to April 1991) (Was p/n 3510216)	
301	3510259	1	Platform for Machines with Mesh from Kickplate to Top-Rail Built (April 1991 to Present)	
301	3510483	1	Platform for Machines with Mesh from Bottom Rail to Top-Rail Built (April 1991 to Present)	
301		Ref	30in x 72in Platforms:	
301	3510238	1	Platform for Machines with Stepper Valves Built (Prior to October 1990) (Was p/n 3510177)	
301	3510238	1	Platform for Machines with Vickers Valves Built (Prior to October 1990) (Was p/n 3510182)	
301	3510238	1	Platform for Machines Built (October 1990 to Present)	

SECTION 4 - PLATFORM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
301	3510656	1	Platform for Machines with Mesh from Bottom Rail to Top-Rail Built (April 1991 to Present)	
301		Ref	30in x 96in Platforms:	
301	3510288	1	Platform with Bumpers	
		Ref	Standard Platform Components	
302	2600143	2	Pin, Hinge	
303	3311805	2	Locknut 1/2in-13NC	
304	2160006	2	Fitting, Grease	
305		Ref	Door Weldment Options:	
305	1780224	1	Door Weldment (Prior to October 1990)	
305	1780250	1	Door Weldment (October 1990 to Present)	
306	2940006	1	Latch, Door	
307	2560010	1	Handle	
	0237963	Ref	**FOOTSWITCH INSTALLATION**	F
401	0641408	3	Bolt 1/4in-20NC x 1in	
401	3311405	3	Locknut 1/4in-20NC	
401	4740362	3	Washer, Fender	
401	4360031	1	Footswitch	
401	7000625	2	Block, Contact	
401	4460071	1	Connector, Strain Relief	

FIGURE 4-2. LOW MOUNT PLATFORM AND FOOTSWITCH INSTALLATIONS

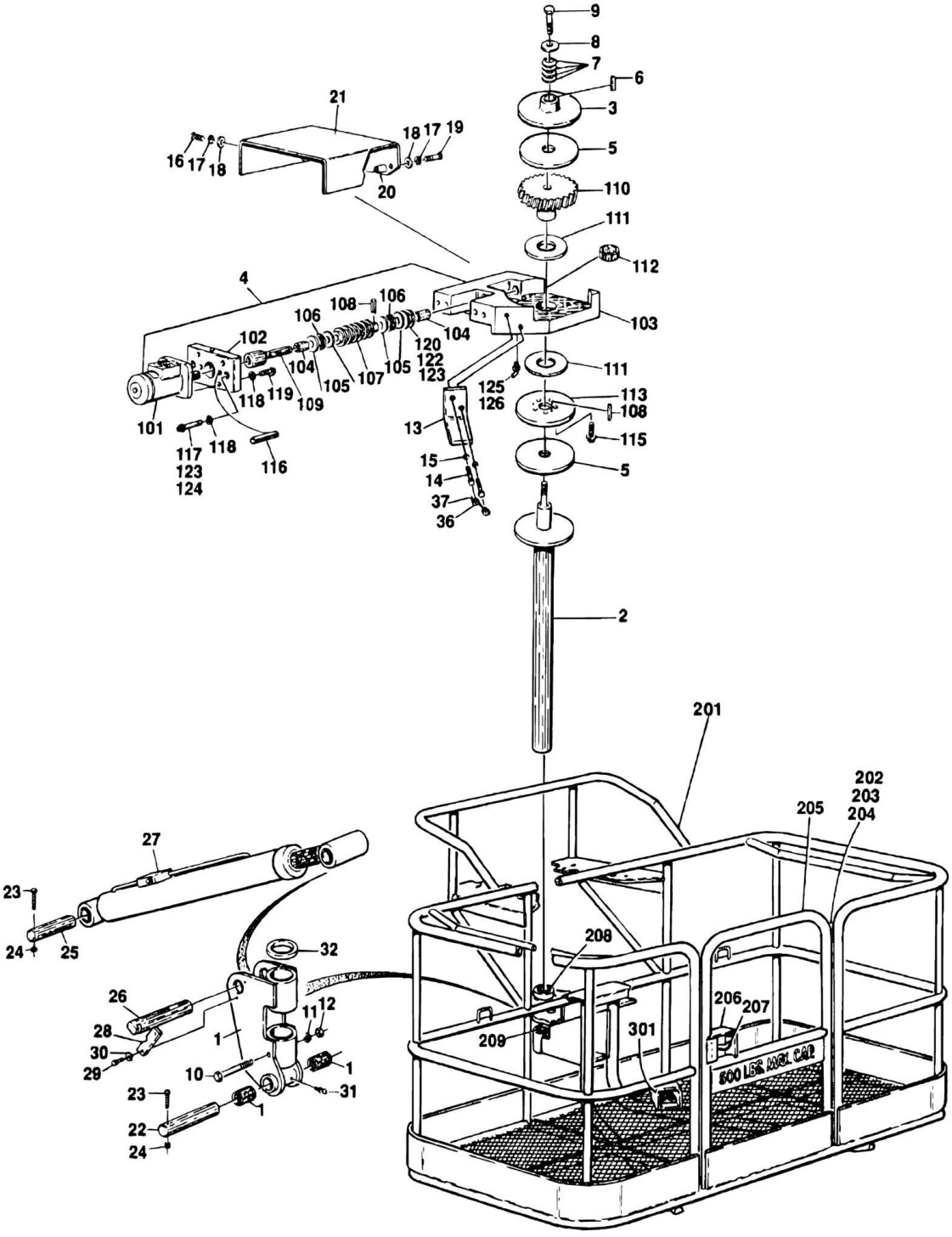


FIGURE 4-2. LOW MOUNT PLATFORM AND FOOTSWITCH INSTALLATIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**SUPPORT INSTALLATION - DOMESTIC**	
	0250593	Ref	**ANSI Spec with Rotating Platform**	9
	1281433	Ref	**ANSI Spec with Fixed Platform (Not Shown)**	B
	0252135	Ref	**CSA Spec with Rotating Platform**	4
	0252136	Ref	**CSA Spec with Fixed Platform (Not Shown)**	2
1	0238540	1	Pivot Attach Weldment	
1	0961257	2	Bushing, Bronze	
2		Ref	Shaft Weldment Options:	
2	4040215	1	Shaft Weldment ANSI Spec with Rotating Platform	
2	4564579	1	Shaft Weldment ANSI Spec with Fixed Platform	
2	4040222	1	Shaft Weldment CSA Spec with Rotating Platform	
2	4040227	1	Shaft Weldment CSA Spec with Fixed Platform	
3	1120299	1	Cap (Rotating Platform Only)	
4	0235238	1	Rotator Assembly (See Item 101-126 for Breakdown) (Rotating Platform Only)	
5	3340454	2	Pad, Brake (Rotating Platform Only)	
6	2880404	1	Key (Rotating Platform Only)	
7	4160026	8	Washer, Belleville (Rotating Platform Only)	
8	4752000	1	Flatwasher 5/8in (Rotating Platform Only)	
9	0652014	1	Bolt 5/8in-18NF x 1 3/4in (Rotating Platform Only)	
10	0641836	1	Bolt 1/2in-13NC x 4 1/2in	
11	4751800	3	Flatwasher 1/2in	
12	3311805	1	Locknut 1/2in-13NC	
13	0901756	1	Bracket (Rotating Platform Only)	
14	0641811	2	Bolt 1/2in-13NC x 1 3/8in (Rotating Platform Only)	
15	4761800	2	Lockwasher 1/2in (Rotating Platform Only)	
16	0641404	1	Bolt 1/4in-20NC x 1/2in (Rotating Platform Only)	
17	4761400	2	Lockwasher 1/4in (Rotating Platform Only)	
18	4751400	2	Flatwasher 1/4in (Rotating Platform Only)	
19	0641408	1	Bolt 1/4in-20NC x 1in (Rotating Platform Only)	
20	4562083	1	Tube, Spacer (Rotating Platform Only)	
21	1670630	1	Cover (Rotating Platform Only)	
22		Ref	Pin, Nose Options:	
22	3421490	1	Pin ANSI Spec	
22	3421968	1	Pin CSA Spec	
23	0641522	2	Bolt 5/16in-18NC x 2 3/4in	
24	3311505	2	Locknut 5/16in-18NC	
25	3421491	1	Pin, Attach (Lower)	
26	3421494	1	Pin, Attach (Upper)	
27		Ref	Platform Level Cylinder Assy (See CYLINDER SECTION for Breakdown)	
27	1682178	1	Platform Level Cylinder Assy (Prior to October 1992)	
27	1682793	1	Platform Level Cylinder Assy (October 1992 to SN 33104) (TUV Style)	
27	1683526	1	Platform Level Cylinder Assy (TUV Style) **(SN 33105 to Present)**	
28	3532054	1	Plate, Retainer	
29	0641506	2	Bolt 5/16in-18NC x 3/4in	
30	4761500	2	Lockwasher 5/16in	
31	2160002	3	Fitting, Grease	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
32	4740158	1	Washer, Thrust	
33	4220137	2	Bar, Stop (Fixed Platform Only)	
34	1320160	1	Clamp (Fixed Platform Only) (Not Shown)	
35	3520035	1	Plug (Fixed Platform Only)	
36	1380137	1	Clip Retainer (Rotating Platform Only)	
37	4920986	1 ft/.3m	Wire, Mechanics (Rotating Platform Only)	
	0235238	Ref	**ROTATOR ASSEMBLY:**	E
		Ref	**Note: For Machines Built (Prior to September 1991) refer to Service Information Bulletin #91-5 for required upgrade.**	
101	3160083	1	Rotator Motor Assy (See ROTATOR MOTOR ASSEMBLY for Breakdown)	
102	0080099	1	Adapter, Motor	
103	2760064	1	Housing, Gear	
104	0440134	2	Bearing, Sleeve	
105	4740199	4	Washer, Thrust	
106	0440120	2	Bearing, Thrust	
107	2440043	1	Gear, Worm	
108	3440816	4	Rollpin 1/4in x 1in	
109	0080098	1	Adapter, Motor to Worm Gear	
110	2440044	1	Gear, Worm	
111	4740256	2	Washer, Thrust	
112	0440135	1	Bearing, Sleeve	
113	1760068	1	Disc, Brake	
115	3931010	5	Bolt, Socket Head #10-24NC x 5/8in	
116	3441228	2	Rollpin 3/8in x 1 3/4in	
117	3931620	2	Bolt, Socket Head 3/8in-16NC x 1 1/4in	
118	4761600	6	Lockwasher 3/8in	
119	3931612	4	Bolt, Socket Head 3/8in-16NC x 3/4in	
120	4070585	AR	Shim .010	
121	4070586	AR	Shim .005	
122	4070587	AR	Shim .002	
123	0100019	AR	Loctite #271	
124	0100021	AR	Primer	
125	2160001	1	Fitting, Grease - 90	
126	3020025	AR	Grease	
		Ref	**PLATFORM WELDMENTS**	
		Ref	**Note: Replacement Decals Must Be Ordered Separately - See DECALS SECTION for Breakdown.**	
201		Ref	Low Mount Platform Options:	
201		Ref	30in x 48in Platforms:	
201	3510239	1	Platform for Machines Built (Prior to April 1990) (Was p/n 3510233)	
201	3510239	1	Platform for Machines Built (April 1990 to Present)	
201	3510323	1	Platform with Bumpers	
201		Ref	30in x 60in Platforms:	
201	3510240	1	Platform	
201	3510261	1	Platform with Bumpers	
201	3510480	1	Platform with Mesh to Mid-Rail	
201	3510482	1	Platform with Mesh to Top Rail	
201		Ref	30in x 72in Platforms:	
201	3510241	1	Platform	
201		Ref	30in x 96in Platforms:	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
201	3510315	1	Platform with Bumpers	
		Ref	Standard Platform Components	
202	2600143	2	Pin, Hinge	
203	3311805	2	Locknut 1/2in-13NC	
204	2160006	2	Fitting, Grease	
205		Ref	Door Weldment Options:	
205	1780224	1	Door with no Mesh (Prior to April 1990)	
205	1780250	1	Door with no Mesh (April 1990 to Present)	
205	1780285	1	Door With Mesh to Mid Rail	
205	1780286	1	Door With Mesh to Top Rail	
206	2940006	1	Latch, Door	
207	2560010	1	Handle	
208	0961450	1	Bushing, Bronze (Top)	
209	0961259	1	Bushing, Bronze (Bottom)	
	0237963	Ref	**FOOTSWITCH INSTALLATION**	F
301	0641408	3	Bolt 1/4in-20NC x 1in	
301	3311405	3	Locknut 1/4in-20NC	
301	4740362	3	Washer, Fender 1/4in	
301	4360031	1	Footswitch	
301	7000625	2	Block, Contact	
301	4460071	1	Connector, Strain Relief	

FIGURE 4-3. FIBERGLASS PLATFORM INSTALLATION

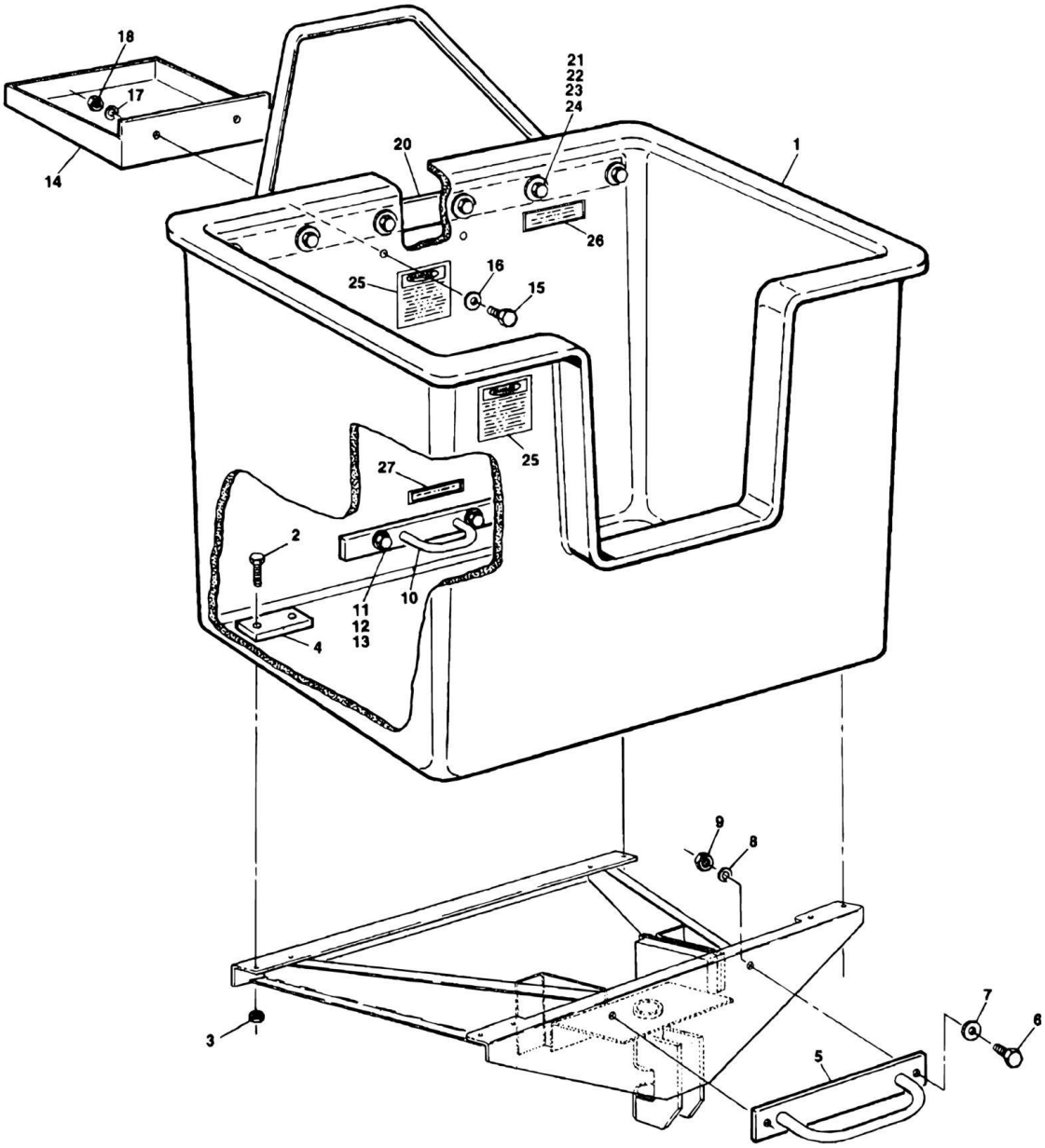


FIGURE 4-3. FIBERGLASS PLATFORM INSTALLATION

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0250510	Ref	**FIBERGLASS PLATFORM INSTALLATION**	D
1	3510117	1	Bucket, Fiberglass - 36in x 48in	
2	0681622	8	Bolt 3/8in-16NC x 2 3/4in (Grade 8)	
3	3300143	8	Locknut 3/8in-16NC (Grade 8)	
4	3533949	4	Plate	
5	4843523	1	Step Weldment	
6	0641812	2	Bolt 1/2in-13NC x 1 1/2in	
7	4751800	2	Flatwasher 1/2in	
8	4761800	2	Lockwasher 1/2in	
9	3311801	2	Nut 1/2in-13NC	
10	0230472	1	Support, Safety Belt	
11	0642018	2	Bolt 5/8in-11NC x 2 1/4in	
12	4752000	4	Flatwasher 5/8in	
13	3312005	2	Locknut 5/8in-11NC	
14	4340593	1	Support, Console	
15	0642016	2	Bolt 5/8in-11NC x 2in	
16	4752000	2	Flatwasher 5/8in	
17	4762000	2	Lockwasher 5/8in	
18	3312001	2	Nut 5/8in-20NC	
20	4844196	1	Support Plate/Tube Guard Weldment	
21	0641816	6	Bolt 1/2in-13NC x 2in	
22	4751800	6	Flatwasher 1/2in	
23	4761800	6	Lockwasher 1/2in	
24	3311801	6	Nut 1/2in-13NC	
25	3250894	2	Nameplate - Danger	
26	3251980	1	Nameplate - Warning	
27	1700477	1	Decal - "Attach Safety Belt Here"	
29	4420039	8 ft	Tape, Safety (Not Shown)	
30	3251981	1	Nameplate - 430 Lbs Capacity (Located on Control Console - Not Shown)	
31	3251982	1	Nameplate - 430 Lbs Capacity (Located on Control Console - Not Shown)	

FIGURE 4-4. ROTATOR MOTOR ASSEMBLY

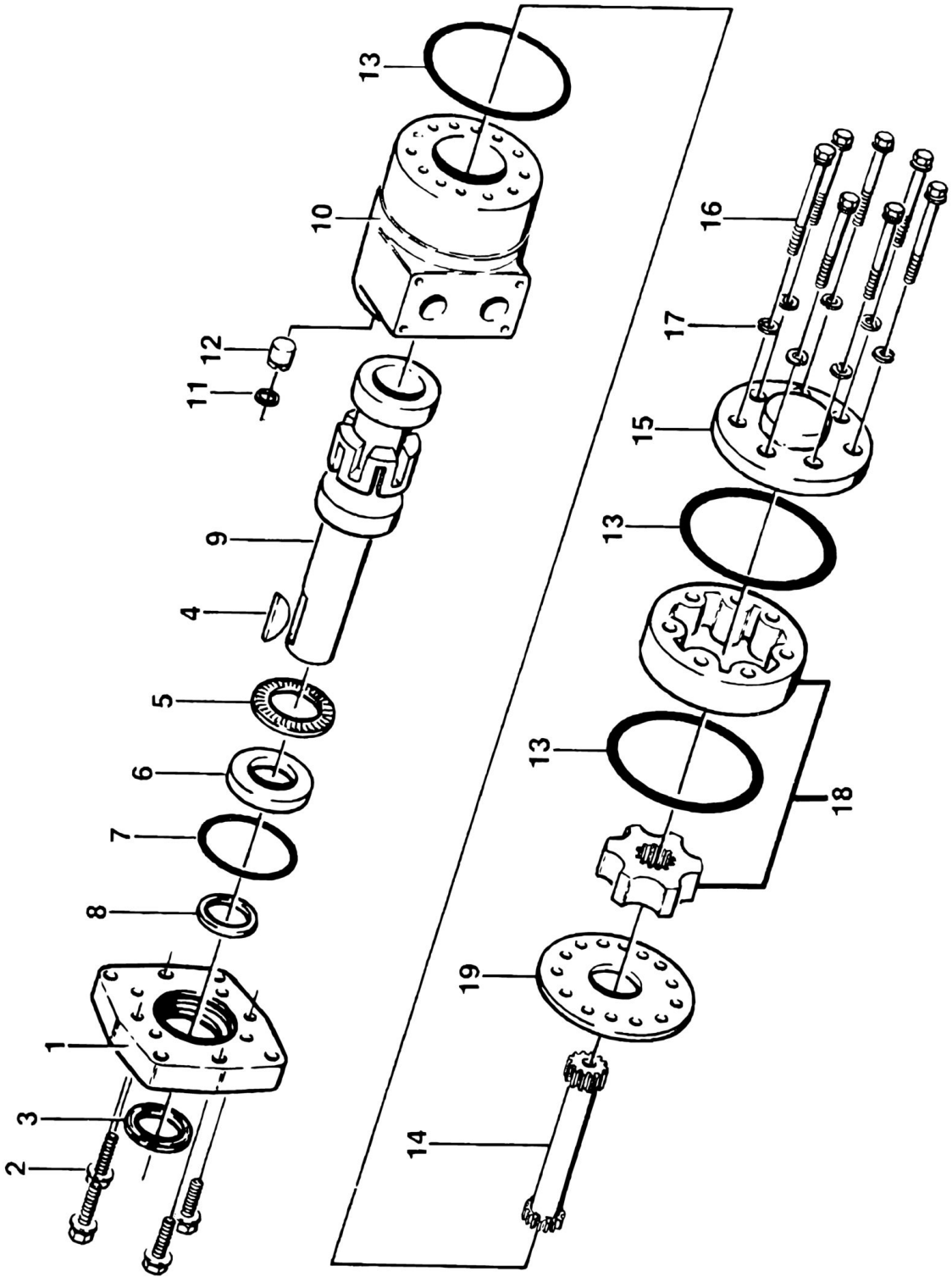


FIGURE 4-4. ROTATOR MOTOR ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3160083	Ref	**ROTATOR MOTOR ASSEMBLY**	A
1	7002105	1	Flange, Mounting	
2	7002123	4	Screw, Cap	
3	Kit	1	Seal, Dust	
4	7002104	1	Key, Woodruff	
5	7002111	1	Bearing, Thrust Needle	
6	7002117	1	Thrust, Bearing Race	
7	Kit	1	Seal, O-Ring	
8	Kit	1	Seal, Pressure	
9	7002116	1	Shaft, Output	
10	7002103	1	Housing	
11	Kit	1	Seal	
12	7009992	1	Plug, Housing	
13	Kit	3	Seal, O-Ring	
14	7002112	1	Drive	
15	7002107	1	Cap, End	
16	7002100	7	Screw, Cap	
17	7000166	7	Lockwasher	
18	7002125	1	Gerotor Sub-Assembly	
19	7002110	1	Plate, Spacer	
		Ref	Seal Kit Options (Includes Items 3, 7, 8, 11 & 13):	
	2900455	1	Seal Kit Rotator P/N 101-1009-007	
	2900733	1	Seal Kit Rotator P/N's 101-1009-008 & 101-1009-009	
		Ref	**Note: Identify by P/N stamped on nameplate located on Item 10.**	

FIGURE 4-5. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND STEPPER VALVES

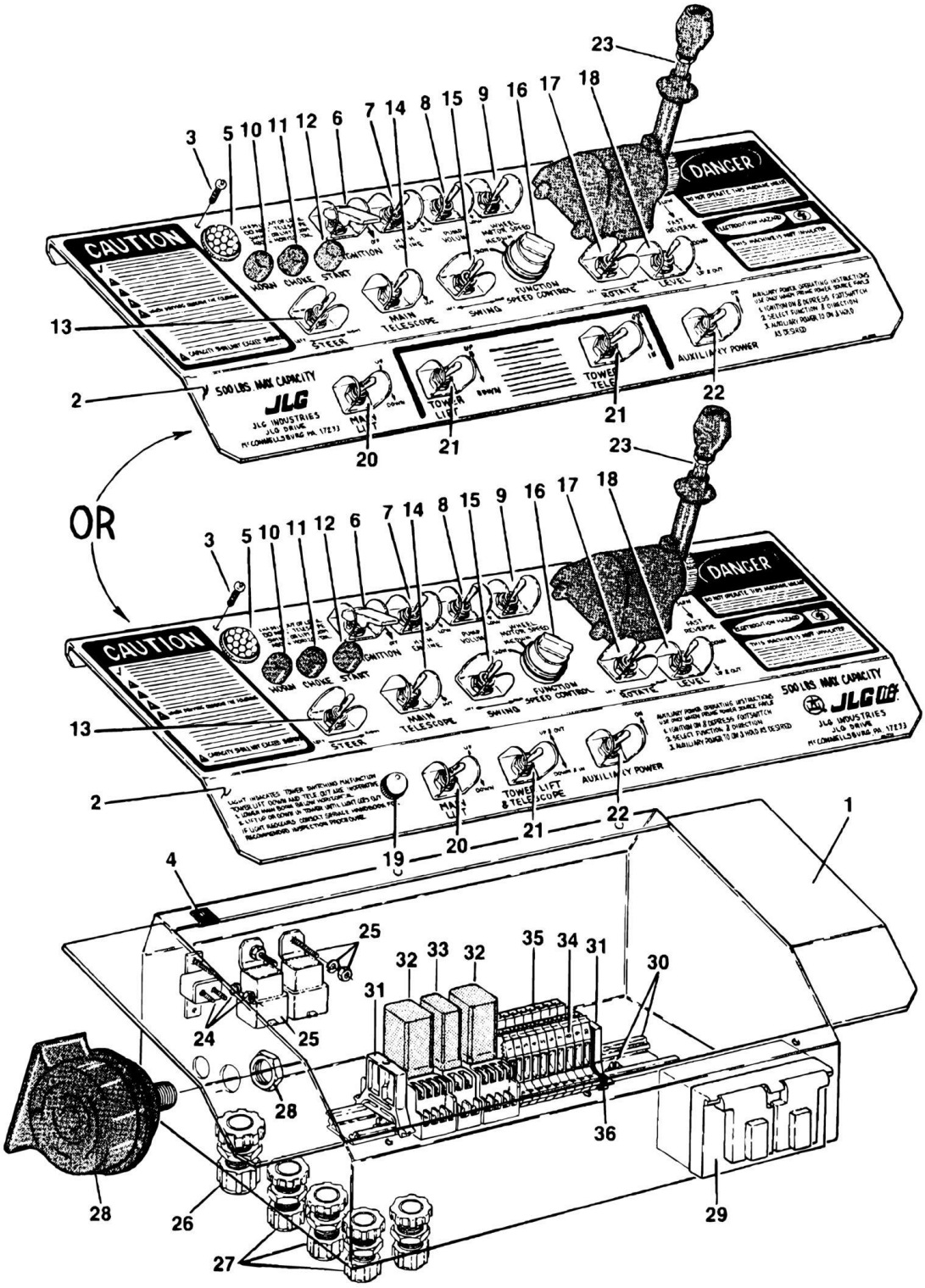


FIGURE 4-5. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND STEPPER VALVES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND STEPPER VALVES**	
	0238495	Ref	**Gas Machines With Electric Boom Limit Switches - Built (Prior To May 1988)**	B
	0239029	Ref	**Gas Machines With Hydraulic Boom Limit Switches (May 1988 to Present)**	D
	0238496	Ref	**Electric Machines With Electric Boom Limit Switches - Built (Prior To May 1988)**	B
	0239030	Ref	**Electric Machines With Hydraulic Boom Limit Switches (May 1988 to Present)**	F
	0254438	Ref	**Receptacle Installation - 110V**	3
1	4842892	1	Box, Console	
2		Ref	Decal/Lid Plate Components:	
2	3538390	1	Plate, Lid (Top Lid) (Hydraulic Boom Limit Switches - November 1994 to Present)	
2	1702400	1	Decal (Top Lid) (Hydraulic Boom Limit Switches - November 1994 to Present)	
2	3252368	1	Lid, Box (Top Lid) (Hydraulic Boom Limit Switches - May 1994 to November 1994)	
2	3251842	1	Lid, Box (Top Lid) (Hydraulic Boom Limit Switches- Prior to May 1994)	
2	3251773	1	Lid, Box (Bottom Lid) (Electric Boom Limit Switches)	
3	0751006	6	Screw, Pan Head #10-24NC x 3/4in	
4	3300177	6	Nut, Tinnerman	
5	2920015	1	Lamp	
6	4360199	1	Switch, Toggle (Ignition)	
6	4360141	1	Guard, Switch	
6	3790012	1	O-Ring	
7	4360199	1	Switch, Toggle (High Engine) (Gas Machines)	
7	3790012	1	O-Ring	
7	3520028	1	Plug, Hole (Electric Machines)	
8	4360199	1	Switch, Toggle (Pump Volume)	
8	3790012	1	O-Ring	
9	4360199	1	Switch, Toggle (Wheel Motor Speed)	
9	3790012	1	O-Ring	
10	4360274	1	Switch, Pushbutton (Horn)	
11	4360274	1	Switch, Pushbutton (Choke) (Gas Machines)	
11	3520026	1	Plug, Hole (Electric Machines)	
12	4360274	1	Switch, Pushbutton (Start) (Gas Machines)	
12	3520026	1	Plug, Hole (Electric Machines)	
13	4360198	1	Switch, Toggle (Steer)	
13	4060087	1	Shield, Switch	
13	3790012	1	O-Ring	
14	4360202	1	Switch, Toggle (Main Telescope)	
14	4060087	1	Shield, Switch	
14	3790012	1	O-Ring	
15	4360202	1	Switch, Toggle (Swing)	
15	4060087	1	Shield, Switch	
15	3790012	1	O-Ring	
16	4360234	1	Switch, 3 Position (Function Speed Control)	
16	4360233	1	Block, Contact	
17	4360202	1	Switch, Toggle (Rotate)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
17	4060087	1	Shield, Switch	
17	3790012	1	O-Ring	
18	4360202	1	Switch, Toggle (Level)	
18	4060087	1	Shield, Switch	
18	3790012	1	O-Ring	
19	2920028	1	Light, Indicator (Tower Operation) (Electric Boom Limit Switches Only)	
19	2920029	1	Lamp, Bulb (Electric Boom Limit Switches Only)	
20	4360202	1	Switch, Toggle (Main Lift)	
20	4060087	1	Shield, Switch	
20	3790012	1	O-Ring	
21	4360202	1	Switch, Toggle (Tower Lift and Telescope)	
21	4060087	1	Shield, Switch	
21	3790012	1	O-Ring	
22	4360229	1	Switch, Toggle (Auxiliary Power)	
22	4060087	1	Shield, Switch	
22	3790012	1	O-Ring	
23	1600079	1	Controller (Drive) (Note: Refer to JLG Manual 3120351 for more information)	
23	7003750	1	Electrical Assembly	
23	7003714	5	Switch, Micro	
23	2560041	1	Knob	
24	4360209	1	Breaker, Circuit - 20 Amp	
24	3311001	1	Nut #10-24NC	
24	4761000	1	Lockwasher #10	
25	3740049	2	Relay - SPDT	
25	3311001	1	Nut #10-24NC	
25	4761000	1	Lockwasher #10	
26	4460051	1	Connector	
26	3300048	1	Nut, Pipe 3/4in	
26	0960238	1	Bushing, Plastic	
27	4460052	4	Connector	
27	3300047	4	Nut, Pipe 1/2in	
27	0960239	4	Bushing, Plastic	
28	0140001	1	Horn (Includes Attaching Hardware)	
29	0860038	1	Box, Electrical	
29	4460190	1	Receptacle - 110 VAC	
29	4060092	1	Cover - 110 VAC	
29	4460071	1	Connector, Strain Relief	
29	3910608	4	Screw, Pan Head #6-32NC x 1/2in	
29	4760600	4	Lockwasher #6	
29	1060514	70 ft/21.3m	Cable, Electric - 12/3 (Was p/n 1060268)	
30	3640536	1	Rail, Mounting	
30	3910606	2	Screw, Machine #6-32NC x 3/8in	
30	4760600	2	Lockwasher #6	
30	3310601	2	Nut #6-32NC	
31	4460299	2	Stop, Terminal	
32	3740058	2	Relay (Cutout and Upper Select) (Electric Boom Limit Switches)	
32	4120013	2	Socket, Relay (Electric Boom Limit Switches)	
32	3740063	2	Spring, Relay (Electric Boom Limit Switches)	
32	3740058	1	Relay (Upper Select) (Hydraulic Boom Limit Switches)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
32	4120013	1	Socket, Relay (Hydraulic Boom Limit Switches)	
32	3740063	1	Spring, Relay (Hydraulic Boom Limit Switches)	
33	3740057	1	Relay (Step Cutout)	
33	4120012	1	Socket, Relay	
33	3740066	1	Spring, Relay	
34	4460298	10	Block, Terminal	
34	4460301	1	Strip, Marking	
35	4460309	3	Bar, Buss	
35	4460307	3	Sleeve	
35	4460305	3	Screw, Special	
35	4460306	3	Washer, Special	
36	4460300	1	Barrier, Terminal	

FIGURE 4-6. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVES

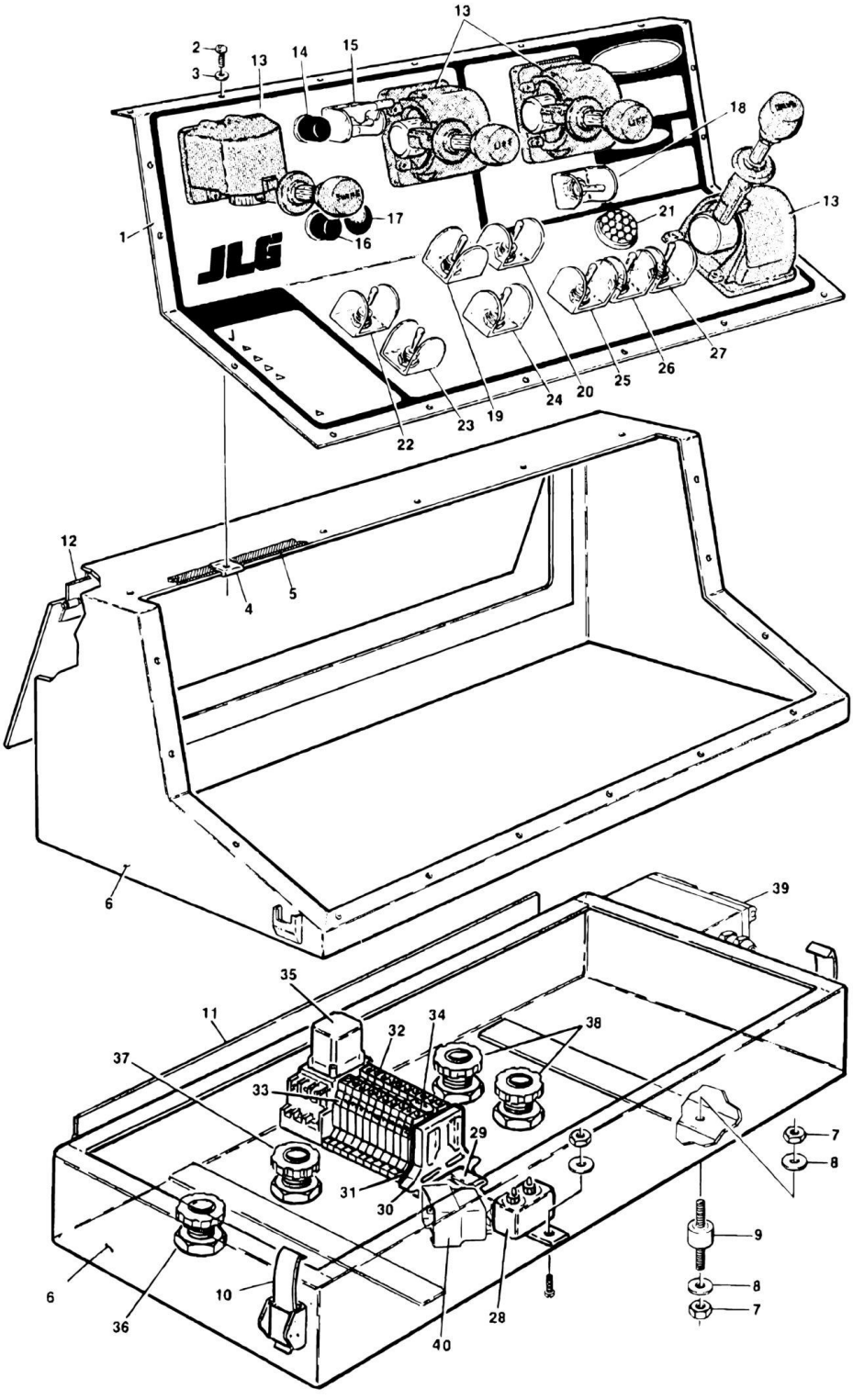


FIGURE 4-6. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVES

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVES**	
	0250203	Ref	**Gas, Diesel and Dual Fuel Machines Built (Prior To April 1990)**	8
	0250607	Ref	**All Electric Machines Built To Present**	E
	0254438	Ref	**Receptacle Installation - 110V**	3
1		Ref	Lid Options:	
1	3251894	1	Lid (Prior to May 1994)	
1	3252392	1	Lid (May 1994 to Present)	
2	0751006	18	Screw, Pan Head #10-24NC x 3/4in	
3	4740120	18	Washer, Nylon	
4	3300177	18	Nut, Tinnerman	
5	4420038	3 1/4ft	Tape, Insulation	
5	0100001	AR	Adhesive	
6	0860538	1	Box, Control Includes Items 10-12	
7	3311505	AR	Nut 5/16in-18NC	
8	4751500	8	Flatwasher 5/16in	
9	4320002	AR	Stud, Mounting	
9	0641508	AR	Bolt 5/16in-18NC x 1in	
10	2940052	2	Latch	
11	2600132	1	Hinge (Top to Bottom)	
12	2600105	1	Hinge (Access Door)	
13	1600094	4	Controller, PQ (Note: Refer to JLG Manual 3120351 for more information)	
13	7003737	4	Electrical Assembly	
14	4360274	1	Switch, Push Button (Horn)	
14	3790015	1	O-Ring	
15	4360199	1	Switch, Toggle (Ignition)	
15	3790012	1	O-Ring	
15	4360141	1	Guard, Switch	
16	4360274	1	Switch, Push Button (Start) (Gas, Diesel and Dual Fuel Only)	
16	3790015	1	O-Ring	
16	3520026	1	Plug, Hole (Electric)	
17	3520026	1	Plug, Hole	
18	4360202	1	Switch, Toggle (Tower Tele)	
18	4060229	1	Shield	
18	3790012	1	O-Ring	
19	4360202	1	Switch, Toggle (Rotate)	
19	4060229	1	Shield	
19	3790012	1	O-Ring	
20	4360202	1	Switch, Toggle (Level)	
20	4060229	1	Shield	
20	3790012	1	O-Ring	
21	2920015	1	Lamp (Chassis Out of Level)	
22		Ref	Switch, Toggle Options (Auxiliary Power):	
22	4360200	1	Switch, Toggle (Prior to October 1991)	
22	4360229	1	Switch, Toggle (October 1991 to Present)	
22	4060229	1	Shield	
22	3790012	1	O-Ring	
23	4360202	1	Switch, Toggle (Steer)	
23	4060229	1	Shield	

SECTION 4 - PLATFORM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
23	3790012	1	O-Ring	
24	4360202	1	Switch, Toggle (Main Tele)	
24	4060229	1	Shield	
24	3790012	1	O-Ring	
25	4360199	1	Switch, Toggle (High Engine) (Gas, Diesel and Dual Fuel Only)	
25	3790012	1	O-Ring	
26	4360199	1	Switch, Toggle (Pump Volume)	
26	3790012	1	O-Ring	
27	4360199	1	Switch, Toggle (Wheel Motor Speed)	
27	3790012	1	O-Ring	
28	4360209	1	Breaker, Circuit - 20 Amp	
28	3910608	1	Screw #6-32NC x 1/2in	
28	4750600	1	Flatwasher #6	
28	4760600	1	Lockwasher #6	
28	3310601	1	Nut #6-32NC	
29	3640555	1	Rail, Mounting	
29	3910608	2	Screw, Round Head #6-32NC x 1/2in	
29	4750600	2	Flatwasher #6	
29	4760600	2	Lockwasher #6	
29	3310601	2	Nut #6-32NC	
30	4460299	2	Stop, Terminal Strip	
31	4460300	1	Barrier, Terminal End	
32	4460298	10	Block, Terminal	
33	4460301	1	Strip, Marking	
34	4460309	1	Bar, Buss	
34	4460305	3	Screw, Terminal Block	
34	4460306	3	Washer, Terminal Block	
34	4460307	3	Sleeve, Terminal Block	
35	3440058	1	Relay	
35	4120013	1	Socket, Relay	
35	3740063	1	Spring	
36	4460052	1	Connector	
36	0960239	1	Bushing	
36	3300047	1	Nut	
37	4460051	1	Connector	
37	0960238	1	Bushing	
37	3300048	1	Nut	
38	4460052	2	Connector	
38	0960238	2	Bushing	
38	3300048	2	Nut	
39	0860038	1	Box, Receptacle	
39	4460190	1	Receptacle - 110 VAC	
39	3900294	4	Screw, Self-Tapping #10-16NC x 1in	
39	4761000	4	Lockwasher #10	
39	4060092	1	Shield, Weatherproof - 110 VAC	
39	1060514	70 ft/21.3m	Cable, Electric - 12/3 (Was p/n 1060268)	
40	3740049	1	Relay - SPDT	
40	1060309	8 ft	Cable, Control 12/4 (To Footswitch)	
	1281056	Ref	**OPTIONAL LIGHTS SWITCH INSTALLATION (NOT SHOWN)**	C
	4360199	1	Switch, Toggle (Located on Front of Item 6)	

FIGURE 4-7. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVE

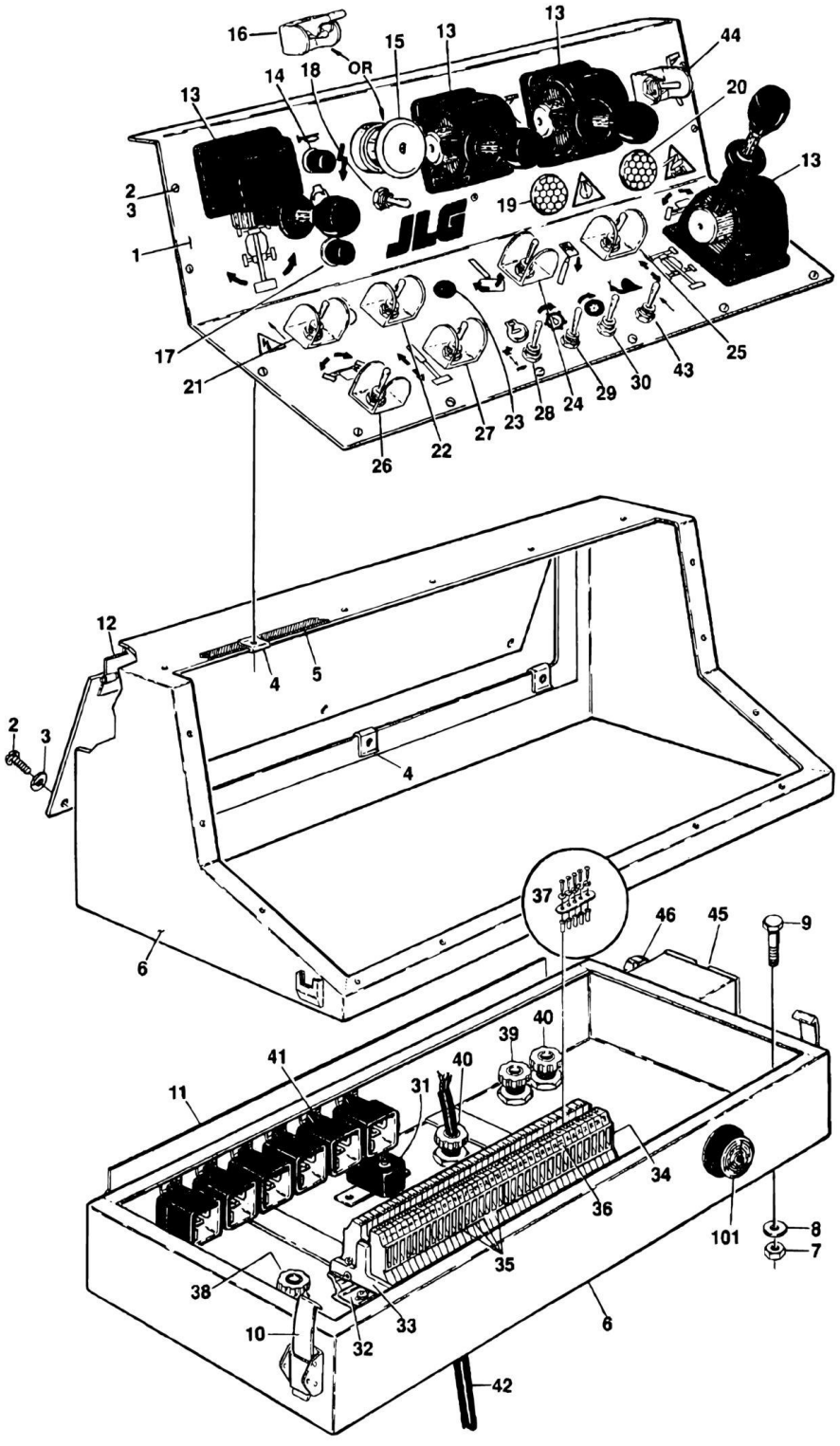


FIGURE 4-7. CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVE

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**CONSOLE BOX ASSEMBLY - PQ CONTROLLERS AND VICKERS VALVE**	
	0860659	Ref	**Gas, Diesel and Dual Fuel Machines Built (April 1990 to January 1993)**	D
	0860837	Ref	**Gas, Diesel and Dual Fuel Machines Built (January 1993 to Present) without Steer In Drive Controller**	5
	0860850	Ref	**Gas, Diesel and Dual Fuel Machines Built (January 1993 To Present) with Steer In Drive Controller**	5
	0254438	Ref	**Receptacle Installation - 110V**	2
1		Ref	Decal/Lid Plate Options:	
1	3251894	1	Lid (English Language) (Prior to January 1993)	
1	3252224	1	Lid (International Symbols) (January 1993 to May 1994)	
1	3252382	1	Lid (International Symbols) (May 1994 to November 1994)	
1	3538392	1	Plate, Lid (November 1994 to Present)	
1	1702402	1	Decal, Console (November 1994 to Present)	
2	0751006	18	Screw, Pan Head #10-24NC x 3/4in	
3	4740120	18	Washer, Nylon	
4	3300177	18	Nut, Tinnerman	
5	4420037	14 ft	Tape, Insulation	
6	0860538	1	Box, Control (Includes Items 10, 11 & 12)	
7	3311505	4	Nut 5/16in-18NC	
8	4751500	4	Flatwasher 5/16in	
9	0641508	4	Bolt 5/16in-18NC x 1in	
10	2940052	2	Latch	
11	2600132	1	Hinge (Top to Bottom)	
12	2600105	1	Hinge (Access Door)	
13		Ref	Controller Assembly Options (Note: Refer to JLG Manual 3120351 for more information):	
13	1600094	4	Controller, PQ (April 1990 to January 1993)	
13	7003737	4	Electric Assembly	
13	1600141	3	Controller, PQ (Switch and Lift Machines Built January 1993 to Present)	
13	7011907	1	Electrical Assembly	
13	7003751	1	Potentiometer	
13	1600140	1	Controller, PQ - With Steer Switch in Controller (Drive) (Machines Built January 1993 to Present)	
13	7011903	1	Electrical Assembly	
13	7003751	1	Potentiometer	
13	7003789	1	Switch, Roller	
13	1600141	4	Controller, PQ - Without Steer Switch in Controller (Drive) (Machines Built January 1993 to Present)	
13	7011907	1	Electrical Assembly	
13	7003751	1	Potentiometer	
13	2560038	AR	Knob (Lift)	
13	2560040	AR	Knob (Swing)	
13	2560041	AR	Knob (Drive)	
13	2560112	AR	Knob (Plain)	
14	4360274	1	Switch, Push Button (Horn)	
14	3790015	1	O-Ring	
15	4360289	1	Switch, Push-Pull (Emergency Stop) (Machines Built January 1993 to Present)	
15	7012611	1	Mushroom Head	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
15	7012612	1	Boot	
15	4360282	1	Block, Contact - 2 P.N.C. (Machines Built January 1993 to Present)	
16	4360199	1	Switch, Toggle (Emergency Stop) (Machines Built Prior to January 1993)	
16	3790012	1	O-Ring	
16	4060229	1	Shield	
16	4360141	1	Guard	
17	4360274	1	Switch, Push Button (Start)	
17	3790015	1	O-Ring	
18	3520026	1	Plug, Hole (Standard)	
18	4360199	1	Switch, Toggle (Glow Plug - Optional)	
18	3790012	1	O-Ring (Glow Plug - Option)	
18	3251872	1	Nameplate (Glow Plug Option)	
19		Ref	Lamp Options (Engine Distress) (Optional):	
19	2920015	1	Lamp (January 1993 to Present)	
19	2920026	1	Lamp (Prior to January 1993)	
19	2920029	1	Bulb	
19	3252074	1	Nameplate	
19	3740049	1	Relay	
19	4921361	1	Harness (Deutz Only)	
20	2920015	1	Lamp (Chassis Out of Level)	
21	4360200	1	Switch, Toggle (Auxiliary Power)	
21	3790012	1	O-Ring	
21	4060229	1	Shield	
22	4360199	1	Switch, Toggle (Lights) (Optional)	
22	3790012	1	O-Ring	
23	3520028	1	Plug, Hole	
24	4360202	1	Switch, Toggle (Rotate) (Optional)	
24	4060229	1	Shield	
24	3790012	1	O-Ring	
25	4360202	1	Switch, Toggle (Level)	
25	4060229	1	Shield	
25	3790012	1	O-Ring	
26		Ref	Switch, Toggle (Steer) Options:	
26	4360198	1	Switch, Toggle (Prior to January 1993)	
26	4360202	1	Switch, Toggle (January 1993 to Present)	
26	4060229	1	Shield	
26	3790012	1	O-Ring	
27	4360202	1	Switch, Toggle (Main Tele)	
27	4060229	1	Shield	
27	3790012	1	O-Ring	
28	4360199	1	Switch, Toggle (Engine Speed)	
28	3790012	1	O-Ring	
29	4360199	1	Switch, Toggle (Pump Volume)	
29	3790012	1	O-Ring	
30	4360199	1	Switch, Toggle (Wheel Speed)	
30	3790012	1	O-Ring	
31	4360209	1	Breaker, Circuit - 20 Amp	
32	3640500	1	Rail, Mounting	
32	3910608	2	Screw, Round Head #6-32NC x 1/2in	
32	4750600	2	Flatwasher #6	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
32	4760600	2	Lockwasher #6	
32	3310601	2	Nut #6-32NC	
33	4460299	2	Stop, Terminal Strip	
34	4460300	1	Barrier, Terminal End	
35	4460298	AR	Block, Terminal	
36	4460301	1	Strip, Marking	
37	4460311	1	Bar, Buss	
37	4460305	3	Screw, Terminal Block	
37	4460306	3	Washer, Terminal Block	
37	4460307	3	Sleeve, Terminal Block	
38	4460052	1	Connector	
38	0960239	1	Bushing, Insulating	
38	3300047	1	Nut, Conduit	
39	4460244	1	Connector	
39	0960238	1	Bushing, Insulating	
39	3300048	1	Nut, Conduit	
40	4460071	2	Connector	
40	0960238	2	Bushing, Insulating	
40	3300048	2	Nut, Conduit	
41	3740049	AR	Relay - SPDT	
41	3311001	1	Nut #10-24NC	
41	4761000	1	Lockwasher #10	
42	1060309	2.4 m	Cable, Control - 12/4 (To Footswitch)	
43	4360199	1	Switch, Toggle - SPST (Creep) (Machines Built January 1993 to Present Only)	
43	4060229	1	Shield	
43	3790012	1	O-Ring	
44		Ref	Switch, Toggle (Tower Tele) Options:	
44	4360198	1	Switch, Toggle (Prior to January 1993)	
44	4360202	1	Switch, Toggle (January 1993 to Present)	
44	4060229	1	Shield	
44	3790012	1	O-Ring	
45	0860038	1	Box, Receptacle	
45	4460190	1	Receptacle - 110VAC	
45	4060092	1	Cover, Weatherproof - 110VAC	
45	3900294	2	Screw, Self-Tapping #10-16NC x 1in	
45	3311001	2	Nut #10-24NC	
45	4761000	2	Lockwasher #10	
45	1060514	70 ft/21.3m	Cable, Electric - 12/3 (Was p/n 1060268)	
46	4460071	1	Connector, Strain Relief	
	0253077	Ref	**TILT ALARM INSTALLATION**	-
101	0140026	1	Alarm	

FIGURE 4-8. CONSOLE BOX ASSEMBLY - OEM CONTROLS AND VICKERS VALVE (MACHINES BUILT PRIOR TO OCTOBER 1990)

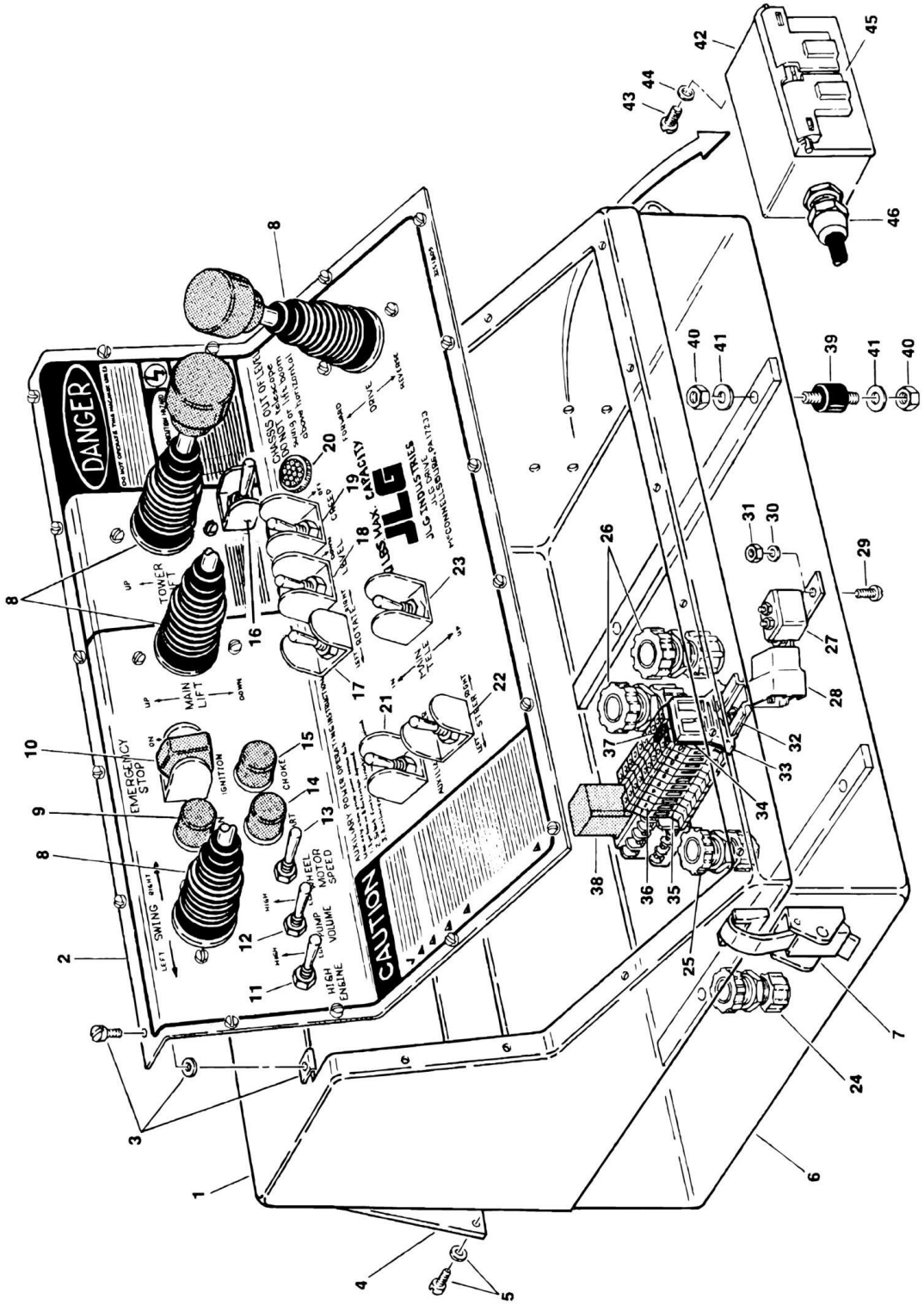


FIGURE 4-8. CONSOLE BOX ASSEMBLY - OEM CONTROLS AND VICKERS VALVE (MACHINES BUILT PRIOR TO OCTOBER 1990)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0239049	Ref	**CONSOLE BOX ASSEMBLY - OEM CONTROLS AND VICKERS VALVE (MACHINES BUILT PRIOR TO OCTOBER 1990)**	5
	0254438	Ref	**RECEPTACLE INSTALLATION - 110V**	2
1	0860538	1	Box Weldment	
1	4420038	AR	Tape, Insulation	
1	0100001	AR	Adhesive, Weatherstrip	
2	3251843	1	Nameplate	
3	0751006	18	Screw, Pan Head #10-24NC x 3/4in	
3	4740120	18	Washer, Nylon	
3	3300177	18	Nut, Tinnerman	
4	3531023	1	Plate, Backing	
5	0751006	3	Screw, Pan Head #10-24NC x 3/4in	
5	4740120	3	Washer, Nylon	
5	3300177	3	Nut, Tinnerman	
6	0860535	1	Box, Bottom	
7	2940052	2	Latch	
8	1600247	4	Controller - OEM (Swing, Main Lift, Tower Lift and Tele and Drive) (Was p/n 1600092)	
9	4360274	1	Switch, Pushbutton (Horn)	
9	3790015	1	O-Ring	
10	4360199	1	Switch, Toggle (Emergency Stop)	
10	3790012	1	O-Ring	
10	4360141	1	Guard	
11	4360199	1	Switch, Toggle (High Engine)	
11	3790012	1	O-Ring	
12	4360199	1	Switch, Toggle (Pump Volume)	
12	3790012	1	O-Ring	
13	4360199	1	Switch, Toggle (Wheel Motor Speed)	
13	3790012	1	O-Ring	
14	4360274	1	Switch, Pushbutton (Start)	
14	3790015	1	O-Ring	
15	4360274	1	Switch, Pushbutton (Choke)	
15	3790015	1	O-Ring	
16	4360202	1	Switch, Toggle (Tower Tele)	
16	3790012	1	O-Ring	
16	4060229	1	Shield	
17	4360202	1	Switch, Toggle (Rotate)	
17	3790012	1	O-Ring	
17	4060229	1	Shield	
18	4360202	1	Switch, Toggle (Level)	
18	3790012	1	O-Ring	
18	4060229	1	Shield	
19	4360199	1	Switch, Toggle (Creep)	
19	3790012	1	O-Ring	
19	4060229	1	Shield	
20	2920015	1	Lamp (Out of Level)	
21	4360200	1	Switch, Toggle (Aux Power)	
21	3790012	1	O-Ring	
21	4060229	1	Shield	

SECTION 4 - PLATFORM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
22	4360198	1	Switch, Toggle (Steer)	
22	3790012	1	O-Ring	
22	4060229	1	Shield	
23	1600092	1	Controller - OEM (Main Tele) (Optional - Not Shown)	
23	4360202	1	Switch, Toggle (Main Tele) (Standard)	
23	3790012	1	O-Ring	
23	4060229	1	Shield	
24	4460052	1	Connector	
24	0960239	1	Bushing, Insulating	
24	3300047	1	Nut, Conduit	
25	4460051	1	Connector	
25	0960238	1	Bushing, Insulating	
25	3300048	1	Nut, Conduit	
26	4460071	2	Connector	
26	0960238	2	Bushing, Insulating	
26	3300048	2	Nut, Conduit	
27	4360209	1	Breaker, Circuit - 20 Amp	
28	3740049	1	Relay	
29	3911012	1	Screw, Round Head #10-24NC x 3/4in	
30	4761000	1	Lockwasher #10	
31	3311001	1	Nut #10-24NC	
32	3640555	1	Rail, Mounting	
32	3910608	2	Screw, Round Head #6-32NC x 1/2in	
32	4750600	2	Flatwasher #6	
32	4760600	2	Lockwasher #6	
32	3310601	2	Nut #6-32NC	
33	4460299	2	Stop, Terminal Strip	
34	4460300	1	Barrier, Terminal End	
35	4460298	10	Block, Terminal	
36	4460301	1	Strip, Marking	
37	4460309	1	Bar, Buss	
37	4460305	3	Screw, Terminal Block	
37	4460306	3	Washer, Terminal Block	
37	4460307	3	Sleeve, Terminal Block	
38	3740058	1	Relay (Upper Select)	
38	3740063	1	Spring	
38	4120013	1	Socket	
39	4320002	AR	Mount, Rubber	
39	0641508	AR	Bolt 5/16in-18NC x 1in	
40	3311505	AR	Locknut 5/16in-18NC	
41	4751500	8	Flatwasher 5/16in	
42	0860038	1	Box, Receptacle	
42	4460190	1	Receptacle (Not Shown)	
43	3911008	4	Screw, Round Head #10-24NC x 1/2in	
44	4761000	4	Lockwasher #10	
45	4060092	1	Shield, Weatherproof	
46	4460071	1	Connector, Terminal	
46	1060514	70 ft/21.3m	Cable, Electric - 12/3 (Was p/n 1060268)	

FIGURE 4-9. CONSOLE BOX ASSEMBLY - OEM CONTROLLERS AND VICKERS VALVE (MACHINES BUILT OCTOBER 1990 TO PRESENT)

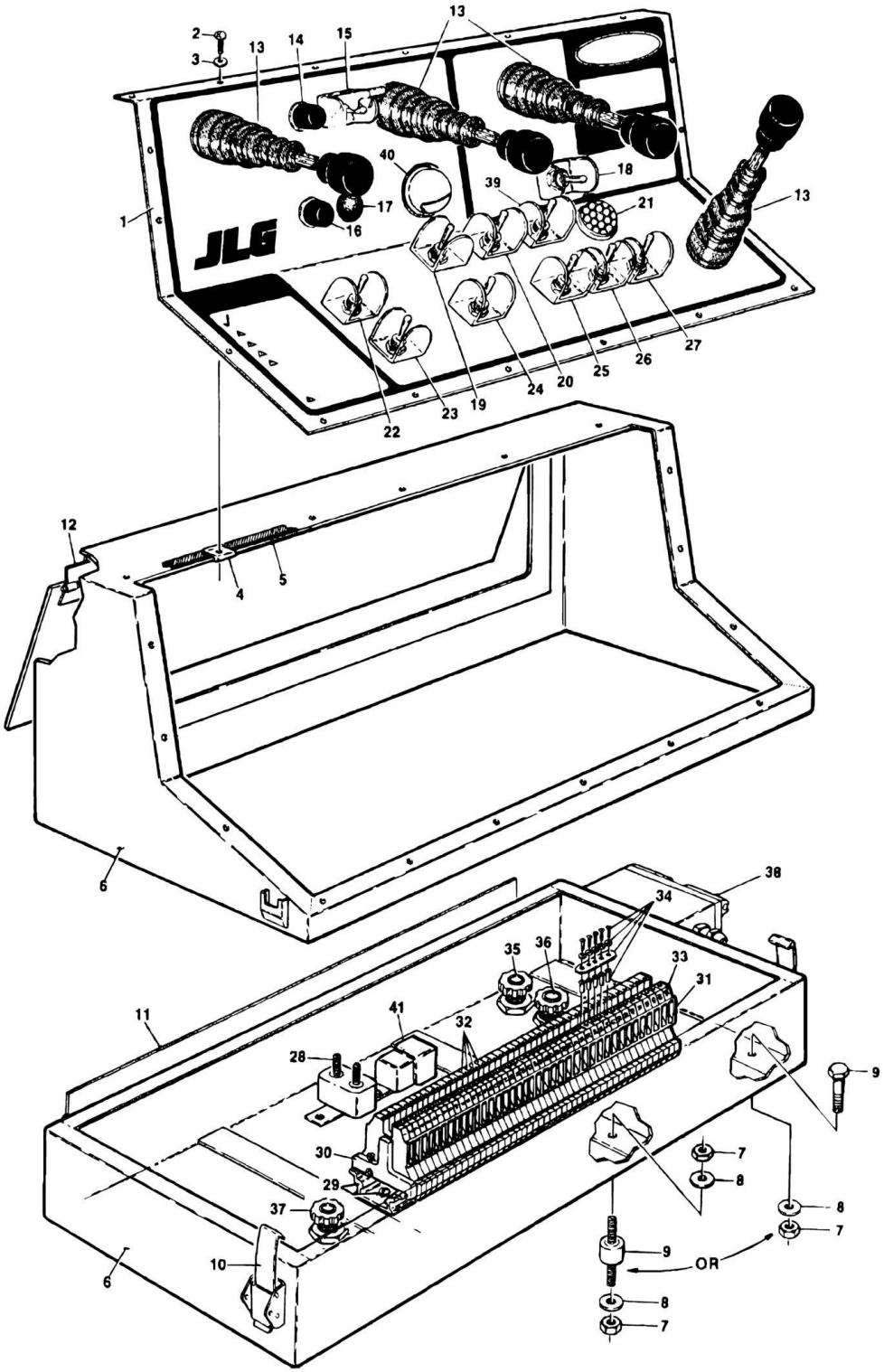


FIGURE 4-9. CONSOLE BOX ASSEMBLY - OEM CONTROLLERS AND VICKERS VALVE (MACHINES BUILT OCTOBER 1990 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0860691	Ref	**CONSOLE BOX ASSEMBLY - OEM CONTROLLERS AND VICKERS VALVE (MACHINES BUILT OCTOBER 1990 TO PRESENT)**	2
	0254438	Ref	**RECEPTACLE INSTALLATION - 110V**	2
1	3251843	1	Lid	
2	0751006	18	Screw, Pan Head #10-24NC x 3/4in	
3	4740120	18	Washer, Nylon	
4	3300177	18	Nut, Tinnerman	
5	4420038	3 1/4ft	Tape, Insulation	
5	0100001	AR	Adhesive	
6	0860538	1	Box, Control (Includes Items 10-12)	
7	3311505	8	Nut 5/16in-18NC	
8	4751500	8	Flatwasher 5/16in	
9	4320002	4	Stud, Mounting	
9	0641508	4	Bolt 5/16in-18NC x 1in	
10	2940052	2	Latch	
11	2600132	1	Hinge (Top to Bottom)	
12	2600105	1	Hinge (Access Door)	
13	1600247	4	Controller, OEM (Was p/n 1600092)	
14	4360274	1	Switch, Push Button (Horn)	
14	3790015	1	O-Ring	
15	4360199	1	Switch, Toggle (Ignition)	
15	3790012	1	O-Ring	
15	4360141	1	Guard, Switch	
16	4360274	1	Switch, Push Button (Start)	
16	3790015	1	O-Ring	
17	3520026	1	Plug, Hole	
17	2920026	1	Light, Indicator - Red (Engine Distress) (Optional) (Not Shown)	
17	3252074	1	Nametag - Engine Distress	
18	4360202	1	Switch, Toggle (Tower Tele)	
18	4060229	1	Shield	
18	3790012	1	O-Ring	
19	4360202	1	Switch, Toggle (Rotate)	
19	4060229	1	Shield	
19	3790012	1	O-Ring	
20	4360202	1	Switch, Toggle (Level)	
20	4060229	1	Shield	
20	3790012	1	O-Ring	
21	2920015	1	Lamp (Chassis Out of Level)	
22	4360200	1	Switch, Toggle (Auxiliary Power)	
22	4060229	1	Shield	
22	3790012	1	O-Ring	
23	4360202	1	Switch, Toggle (Steer)	
23	4060229	1	Shield	
23	3790012	1	O-Ring	
24	4360202	1	Switch, Toggle (Main Tele)	
24	4060229	1	Shield	
24	3790012	1	O-Ring	
25	4360199	1	Switch, Toggle (High Engine)	

SECTION 4 - PLATFORM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
25	3790012	1	O-Ring	
26	4360199	1	Switch, Toggle (Pump Volume)	
26	3790012	1	O-Ring	
27	4360199	1	Switch, Toggle (Wheel Motor Speed)	
27	3790012	1	O-Ring	
28	4360209	1	Breaker, Circuit - 20 Amp	
28	3910608	1	Screw #6-32NC x 1/2in	
28	4750600	1	Flatwasher #6	
28	4760600	1	Lockwasher #6	
28	3310601	1	Nut #6-32NC	
29	3640492	1	Rail, Mounting	
29	3910608	2	Screw, Round Head #6-32NC x 1/2in	
29	4750600	2	Flatwasher #6	
29	4760600	2	Lockwasher #6	
29	3310601	2	Nut #6-32NC	
30	4460299	2	Stop, Terminal Strip	
31	4460300	1	Barrier, Terminal End	
32	4460298	45	Block, Terminal	
33	4460301	1	Strip, Marking	
34	4460311	1	Bar, Buss	
34	4460305	3	Screw, Terminal Block	
34	4460306	3	Washer, Terminal Block	
34	4460307	3	Sleeve, Terminal Block	
35	4460244	1	Connector, Strain Relief	
35	0960238	1	Bushing, Insulating	
35	3300048	1	Nut, Conduit	
36	4460071	1	Connector, Strain Relief	
36	0960238	1	Bushing, Insulating	
36	3300048	1	Nut, Conduit	
37	4460052	1	Connector, Strain Relief	
37	0960239	1	Bushing, Insulating	
37	3300047	1	Nut, Conduit	
38	0860038	1	Box, Receptacle	
38	4460190	1	Receptacle (Not Shown)	
38	3911008	4	Screw, Round Head #10-24NC x 1/2in	
38	4761000	4	Lockwasher #10	
38	4060092	1	Shield, Weatherproof	
38	4460071	1	Connector, Terminal	
38	1060514	70 ft/21.3m	Cable, Electric - 12/3 (Was p/n 1060268)	
39	4360199	1	Switch, Toggle (Creep)	
39	4060229	1	Shield	
39	3790012	1	O-Ring	
39	1060309	8 ft	Cable, Control - 12/4 (To Footswitch)	
40	2920024	1	Light, Panel (Optional)	
41	3740049	1	Relay	

FIGURE 4-10. OPTIONAL COMMON PLATFORM MOUNTED COMPONENTS

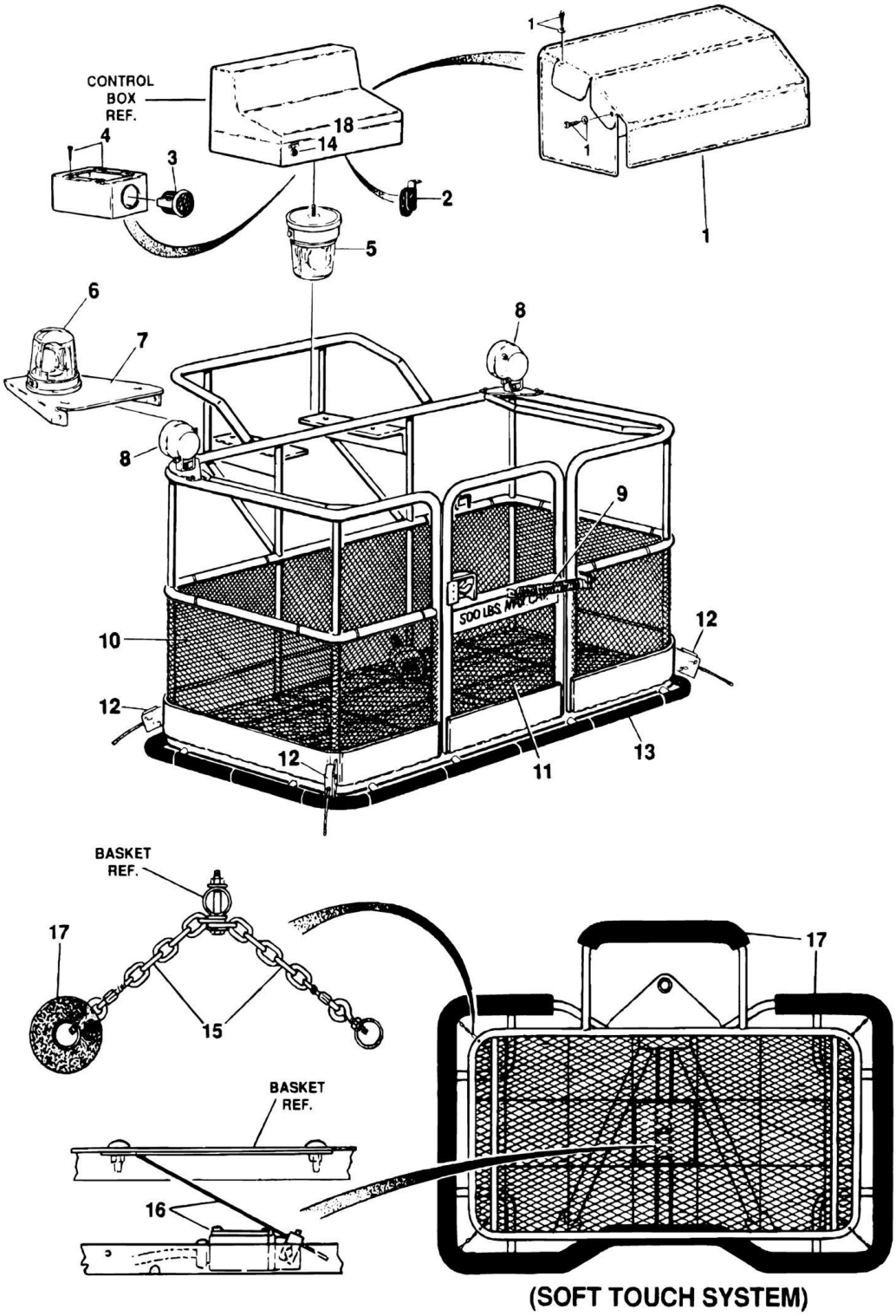


FIGURE 4-10. OPTIONAL COMMON PLATFORM MOUNTED COMPONENTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**CONSOLE BOX COVER INSTALLATION**	
	0252054	Ref	**Black Vinyl**	2
	0251203	Ref	**Yellow Vinyl**	2
	0252848	Ref	**Clear Plexiglass**	-
	0253634	Ref	**Metal**	-
1	1670607	1	Cover Options:	
1	1670607	1	Cover (Black Vinyl)	
1	1670526	1	Cover (Yellow Vinyl)	
1	1670641	1	Cover, Plexiglass (Not Shown)	
1	Not Available		Cover (Metal - Not Shown) (Purchase Individual Pieces)	
1	1670674	1	Cover, Top	
1	1670676	1	Cover, Hinged Mid	
1	1670677	1	Cover, Bottom	
1	3252369	1	Nameplate - Caution/Danger	
1	3941406	4	Screw, Self-Tapping 1/4inx20	
1	4751400	4	Flatwasher 1/4in	
1	0901842	1	Bracket (Right Side) (Use with Plexiglass Cover Only)	
1	0901843	1	Bracket (Left Side) (Use with Plexiglass Cover Only)	
	0239762	Ref	**HORN INSTALLATION (OEM CONTROLLERS)**	-
2	0140001	1	Horn	
		Ref	**BATTERY CAPACITY GAGE INSTALLATION ELECTRIC MACHINES**	
	0238951	Ref	**Gage Installation - Standard**	
	0239195	Ref	**Gage Installation - With Interrupt**	
	0251425	Ref	**Gage Installation - U/L**	
3		Ref	Gage Options:	
3	2420075	1	Gage - Battery Capacity	
3	2420049	1	Gage - Battery Capacity with Interrupt	
3	2420106	1	Gage - Battery Capacity (U/L)	
4	0860530	1	Box, Mounting	
		Ref	**BEACON LIGHT OPTIONS**	
	0252210	Ref	**Beacon Mounted Under Console (September 1991 to Present)**	3
	0252211	Ref	**Beacon Mounted Under Console (September 1991 to Present)**	3
5		Ref	Beacon Options:	
5	2920009		Beacon (Red)	
5	2920018		Beacon (Amber)	
		Ref	**Beacon Mounted in Front of Console (Prior to September 1991)**	
	0238864	Ref	**Amber Beacon (Gas/Diesel Machines)**	
	0238865	Ref	**Red Beacon (Gas/Diesel Machines)**	
	0238868	Ref	**Amber Beacon (Electric Machines)**	
	0238869	Ref	**Red Beacon (Electric Machines)**	
	0251609	Ref	**Red Beacon (U/L Electric Machines)**	
6		Ref	Beacon Options:	
6	2920009		Beacon (Red)	
6	2920100		Beacon (Red) (U/L)	
6	2920018		Beacon (Amber)	
6	2920096		Beacon (Amber) (U/L)	
7	0901449		Bracket, Mounting	
		Ref	**WORKLIGHT INSTALLATIONS (OPTIONAL)**	

SECTION 4 - PLATFORM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2900068	Ref	**Worklight Installations (Prior to November 1992)**	F
	0253987	Ref	**Worklight Installations (November 1992 to Present)**	C
	0254748	Ref	**Worklight Options With Padding**	-
8		Ref	Floodlight Options:	
8	2920013	2	Floodlight (Electric/Gas/Diesel Machines)	
8	2920111	2	Halogen Light (Electric/Gas/Diesel Machines) (Uses P/N 3536089 Mounting Plate)	
	0250143	Ref	**SELF-CLOSING GATE INSTALLATION (WELDED-ON)**	A
	0256829	Ref	**SELF-CLOSING GATE INSTALLATION (BOLT-ON)**	A
9	4160028	1	Spring	
9	0900232	1	Bracket (Door Mounted) (Welded-On Models)	
9	0901056	1	Bracket (Platform Mounted) (Welded-On Models)	
9	4220007	1	Stop, Door	
9	0630515	2	Eyebolt (Bolted-On Model)	
9	3300151	2	Nut, Acorn (Bolted-On Model)	
		Ref	**MESH TO MIDRAIL INSTALLATION**	
	0253846	Ref	**Mesh to Midrail Installation (Low Mount Platform)**	-
	0254130	Ref	**Mesh to Midrail Installation (Standard 30in X 60in Platform)**	-
	0254796	Ref	**Mesh to Midrail Installation (Standard 30in X 48in Platform)**	-
10		Ref	Mesh (Sides) Options:	
10	0480083	2	Mesh (Sides) (Low-Mount Platform)	
10	0480086	2	Mesh (Sides) (Standard 30in x 60in Platform)	
10	0480088	1	Mesh (Sides) (Standard 30in x 48in Platform)	
11	0480084	1	Mesh (Door)	
		Ref	**PLATFORM BUMPERS INSTALLATION**	
	0251611	Ref	**Platform Bumpers Installation (30in X 48in Platform)**	
	0254178	Ref	**Platform Bumpers Installation (30in X 60in Fixed Platform)**	
	0251024	Ref	**Platform Bumpers Installation (30in X 60in Rotating Platform)**	
		Ref	**Platform Bumpers Installation (30in X 96in Platform)**	
12		Ref	Switch, Proximity Options	
12	4360305	4	Switch, Proximity - U/L Machines	
12	4360215	4	Switch, Proximity - Standard Machines	
12	4460521	4	Connector, Strain Relief	
13	0940038	AR	Padding, Bumper	
14	4360274	1	Switch, Push Button (Override)	
14	3251596	1	Nameplate - Override	
14	3740049	1	Relay (Not Shown)	
		Ref	**PLATFORM BUMPERS INSTALLATION - SOFT TOUCH SYSTEM (CHAIN MOUNTED TYPE)**	
	0254728	Ref	**Platform Bumpers Installation (30in X 96in Platform)**	B
	0254948	Ref	**Platform Bumpers Installation (30in X 72in Platform)**	-
15	0630440	8	Eyebolt	
15	3010088	8	Link, Quick	
15	1260136	AR	Chain	
16	4360057	1	Switch, Limit	
16	0200048	1	Arm, Actuator	
17		Ref	Padding Components:	
17	0940038	AR	Padding (Bottom Rail)	
17	1670663	1	Padding (Rail Behind Console Box)	
17	1670733	1	Padding (LH Top Rail - 36in x 72in Platform)	
17	1670699	1	Padding (LH Top Rail - 36in x 96in Platform)	
17	1670665	4	Padding (Vertical Rails)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
17	1670666	1	Padding (Gate)	
17	1670734	1	Padding (RH Top Rail - 36in x 72in Platform)	
17	1670700	1	Padding (RH Top Rail - 36in x 96in Platform)	
17	1670735	1	Padding (LH Mid Rail - 36in x 72in Platform)	
17	1670701	1	Padding (LH Mid Rail - 36in x 96in Platform)	
17	1670736	1	Padding (RH Mid Rail - 36in x 72in Platform)	
17	1670702	1	Padding (RH Mid Rail - 36in x 96in Platform)	
17	1670737	1	Padding (Bumper Rail - 36in x 72in Platform)	
17	1670703	1	Padding (Bumper Rail - 36in x 96in Platform)	
18	4360274	1	Switch, Push Button	
18	3252238	1	Decal - Soft Touch System	

SECTION 5 - CYLINDER

FIGURE 5-1. ACCUMULATOR ASSEMBLY (MACHINES WITH STEPPER VALVES)

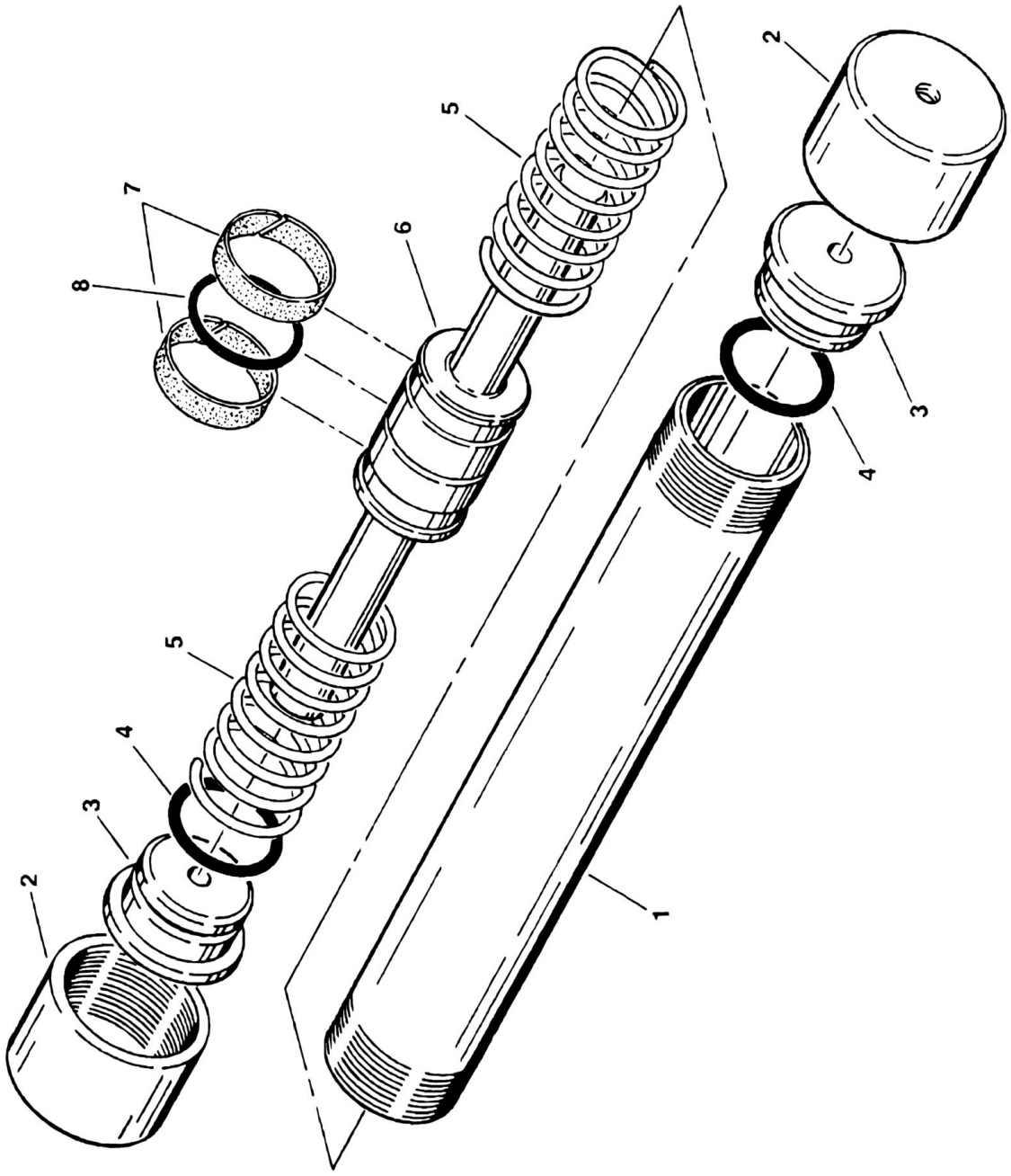


FIGURE 5-1. ACCUMULATOR ASSEMBLY (MACHINES WITH STEPPER VALVES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0234960	Ref	**ACCUMULATOR ASSEMBY (MACHINES WITH STEPPER VALVES)**	-
1	4560718	1	Tube	
2	1120110	2	Cap, End	
2	0100011	AR	Loctite #242	
3	1680851	2	Head	
4	3790326	2	O-Ring	
5	4160029	2	Spring	
6	3480081	1	Piston	
7	3780132	2	Ring, Wear	
8	3960016	1	Seal	

FIGURE 5-2. AXLE LOCKOUT CYLINDER ASSEMBLY

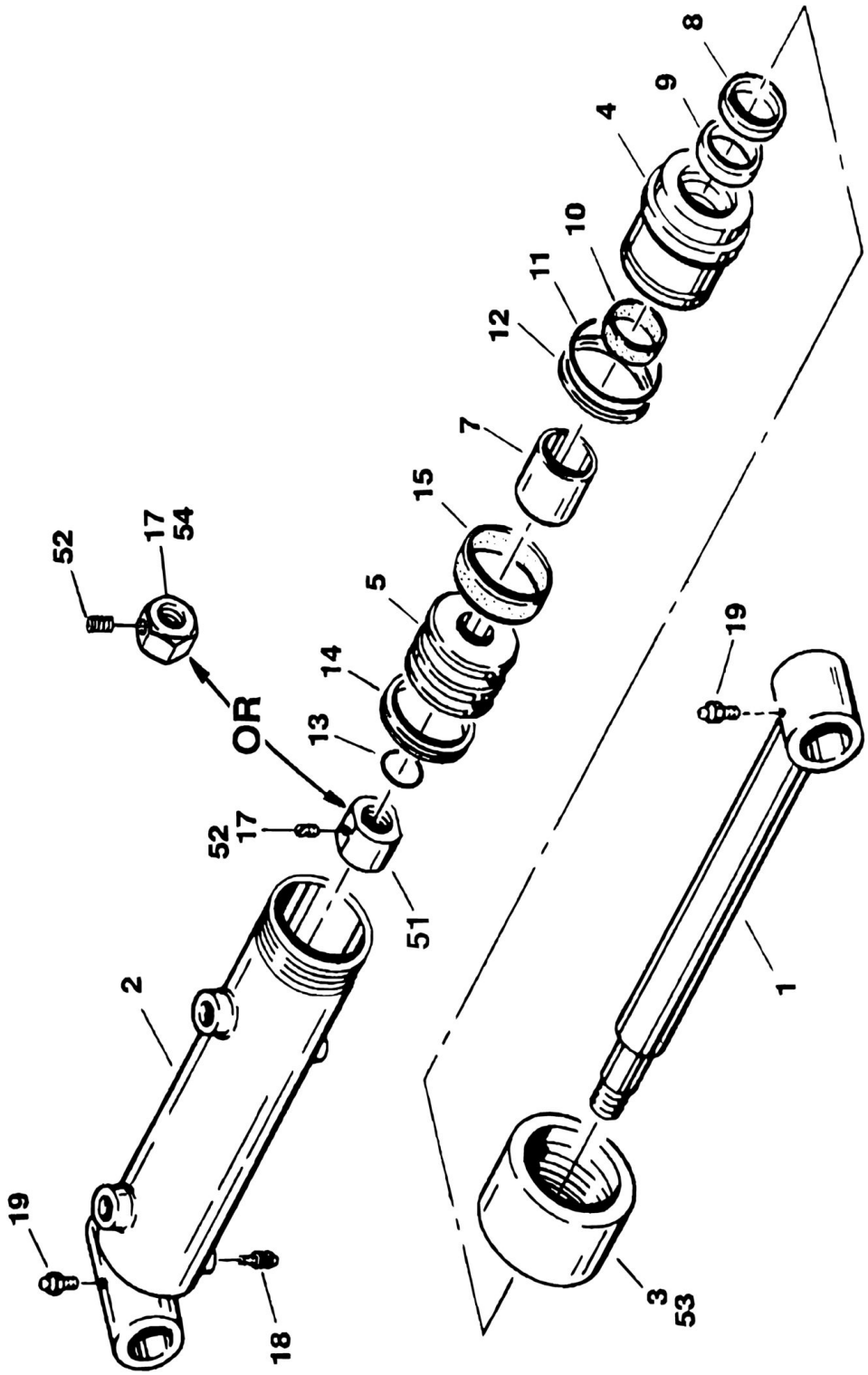


FIGURE 5-2. AXLE LOCKOUT CYLINDER ASSEMBLY

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681785	Ref	**AXLE LOCKOUT CYLINDER ASSEMBLY**	D
1	1681787	1	Rod	
2	1681788	1	Barrel	
3	1120179	1	Retainer	
4	1680892	1	Head	
5	3480120	1	Piston	
7	4563647	1	Tube, Spacer	
8	Kit	1	Seal, Wiper	
9	Kit	1	Seal, Rod	
10	Kit	1	Ring, Wear	
11	Kit	1	O-Ring	
12	Kit	2	Ring, Back-up	
13	Kit	1	O-Ring	
14	Kit	1	Seal, Piston	
15	Kit	1	Ring, Wear	
17	0100011	AR	Loctite	
18	3900175	2	Setscrew 1/4in-28NF x 3/4in	
18	3960416	2	Seal, Thread	
18	3321401	2	Nut 1/4in-28NF	
		Ref	Note: Replace existing bleeders with these components when ordering parts.	
19	2160002	2	Fitting, Grease	
51		Ref	Nut Options:	
51	3300187	1	Nut (Prior to April 1992 to Present)	
51	3300273	1	Nut (April 1992 to Present)	
52		Ref	Setscrew Options:	
52	3900141	Ref	Setscrew (Prior to April 1992 to Present)	
52	3900170	1	Setscrew (April 1992 to Present)	
53	0100035	AR	Compound, Locking	
54	0100038	AR	Primer, Locking	
	2900381	1	Seal Kit (Includes Items 8-15)	

FIGURE 5-3. LEVEL CYLINDER ASSEMBLY (TOWER BOOM)

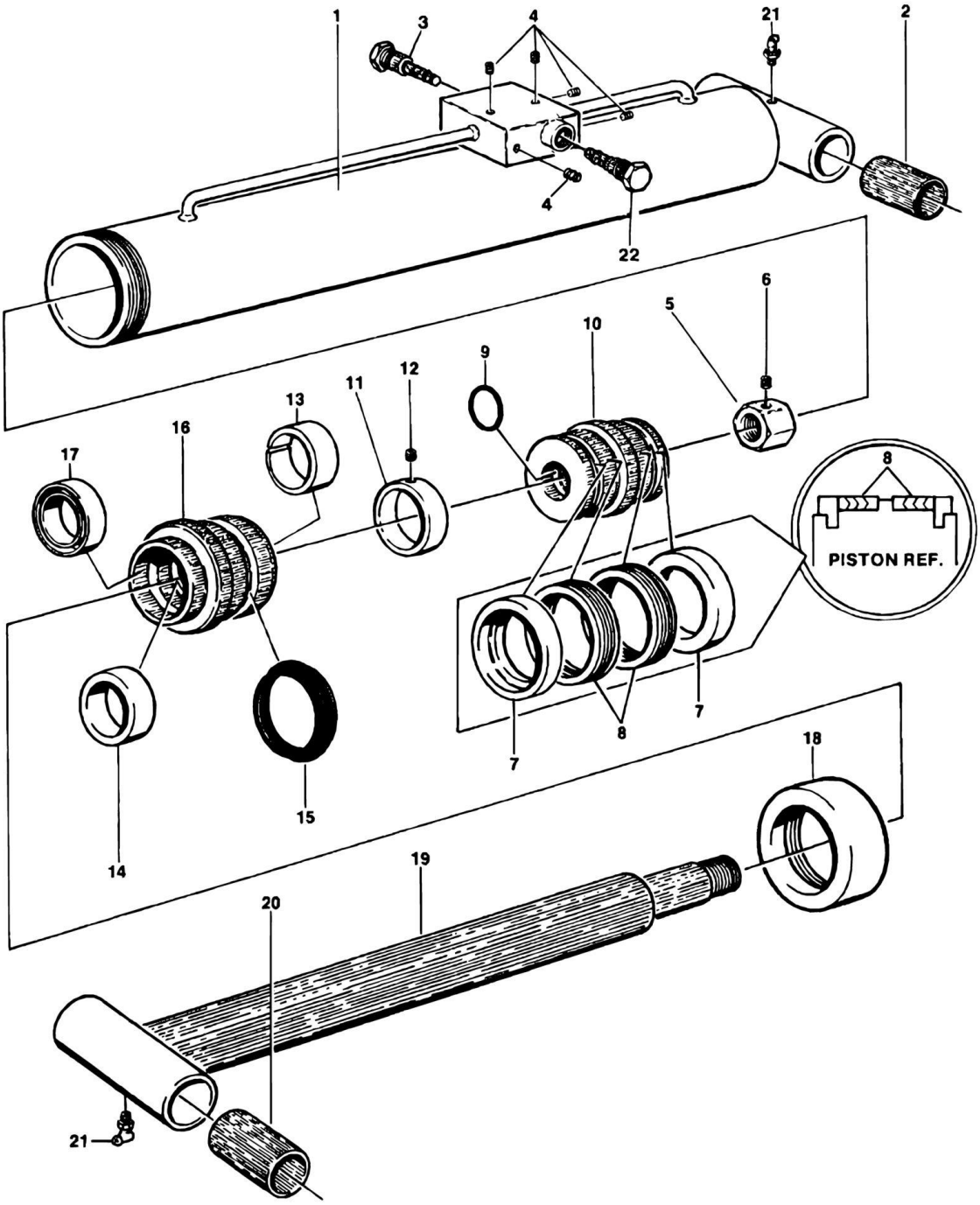


FIGURE 5-3. LEVEL CYLINDER ASSEMBLY (TOWER BOOM)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681962	Ref	**LEVEL CYLINDER ASSEMBLY (TOWER BOOM)**	E
1	1681962	1	Barrel Assembly	
2	0960946	2	Bushing, Bronze	
3	4640509	1	Valve	
3	2900792	1	Seal Kit - 4640509 Valve	
4	2200202	2	Plug 1/4in	
4	2200201	4	Plug 1/8in	
4	0100020	AR	Sealant	
5	3300281	1	Nut, Hex	
5	0100011	AR	Loctite #242	
5	0100038	AR	Primer, Locking	
6	3900170	1	Setscrew 3/8in-16NC x 3/8in	
6	0100011	AR	Loctite	
7	Kit	2	Ring, Guidelock	
8	Kit	2	Seal	
9	Kit	1	O-Ring	
10	3480102	1	Piston	
11	4563828	1	Spacer	
12	3900141	1	Setscrew 1/4in-20NC x 3/8in	
12	0100011	AR	Loctite	
13	Kit	1	Ring, Wear	
14	Kit	1	Seal	
15	Kit	1	T-Seal	
16	1681843	1	Head	
17	Kit	1	Ring, Wiper	
18	1120336	1	Cap	
18	0100011	AR	Loctite	
19	1681848	1	Rod Assembly	
20	0960946	2	Bushing, Bronze	
21	2160003	2	Fitting, Grease	
22	4640509	1	Valve	
22	2900792	1	Seal Kit - 4640509 Valve	
	2901102	1	Seal Kit (Includes Items 7, 8, 9, 13, 14, 15 & 17)	

FIGURE 5-4. LIFT CYLINDER ASSEMBLY (MAIN BOOM)

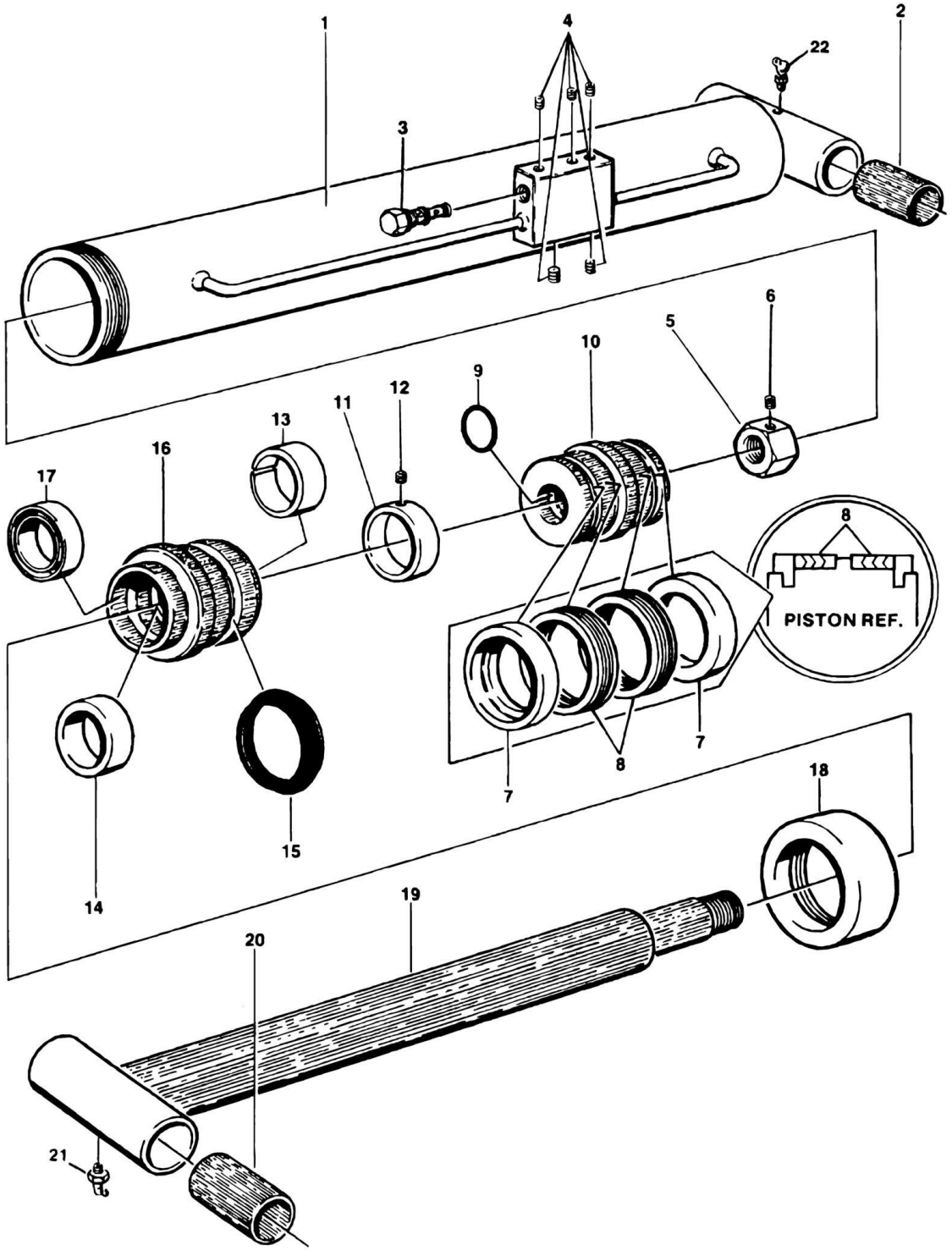


FIGURE 5-4. LIFT CYLINDER ASSEMBLY (MAIN BOOM)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681840	Ref	**LIFT CYLINDER ASSEMBLY (MAIN BOOM)**	I
1	1681844	1	Barrel Assembly	
2	0960946	2	Bushing, Bronze	
3	4640634	1	Valve, Holding	
3	2900792	1	Seal, Kit - 4640634 Valve	
4	2200202	1	Plug 1/4in **(Prior to SN 27346)**	
4	2200222	1	Plug 1/4in **(SN 27346 to Present)**	
4	2200213	4	Plug 3/8in **(Prior to SN 27346)**	
4	2200233	4	Plug 3/8in **(SN 27346 to Present)**	
4	2180448	1	Fitting, Orifice (.062) (MO Port) **(Prior to SN 27346)**	
4	2180380	1	Fitting, Orifice (.062) (MO Port) **(SN 27346 to Present)**	
4	0100034	AR	Loctite	
4	0100020	AR	Sealant	
5	3300281	1	Nut, Hex	
6	3900170	1	Setscrew 3/8in-16NC x 3/8in	
6	0100011	AR	Loctite #242	
6	0100038	AR	Primer, Locking	
7	Kit	2	Ring, Guidelock	
8	Kit	2	Seal	
9	Kit	1	O-Ring	
10	3480102	1	Piston	
11	4563769	1	Spacer	
12	3900141	1	Setscrew 1/4in-20NC x 3/8in	
12	0100011	AR	Loctite	
13	Kit	1	Ring, Wear	
14	Kit	1	Seal	
15	Kit	1	T-Seal	
16	1681843	1	Head	
17	Kit	1	Ring, Wiper	
18	1120340	1	Cap	
18	0100011	AR	Loctite	
19	1681841	1	Rod Assembly	
20	0960946	2	Bushing, Bronze	
21	2160001	1	Fitting, Grease - 90	
22	2160003	1	Fitting, Grease - 45	
	2901102	1	Seal Kit (Includes Items 7, 8, 9, 13, 14, 15 & 17)	

FIGURE 5-5. LIFT CYLINDER ASSEMBLY (TOWER BOOM)

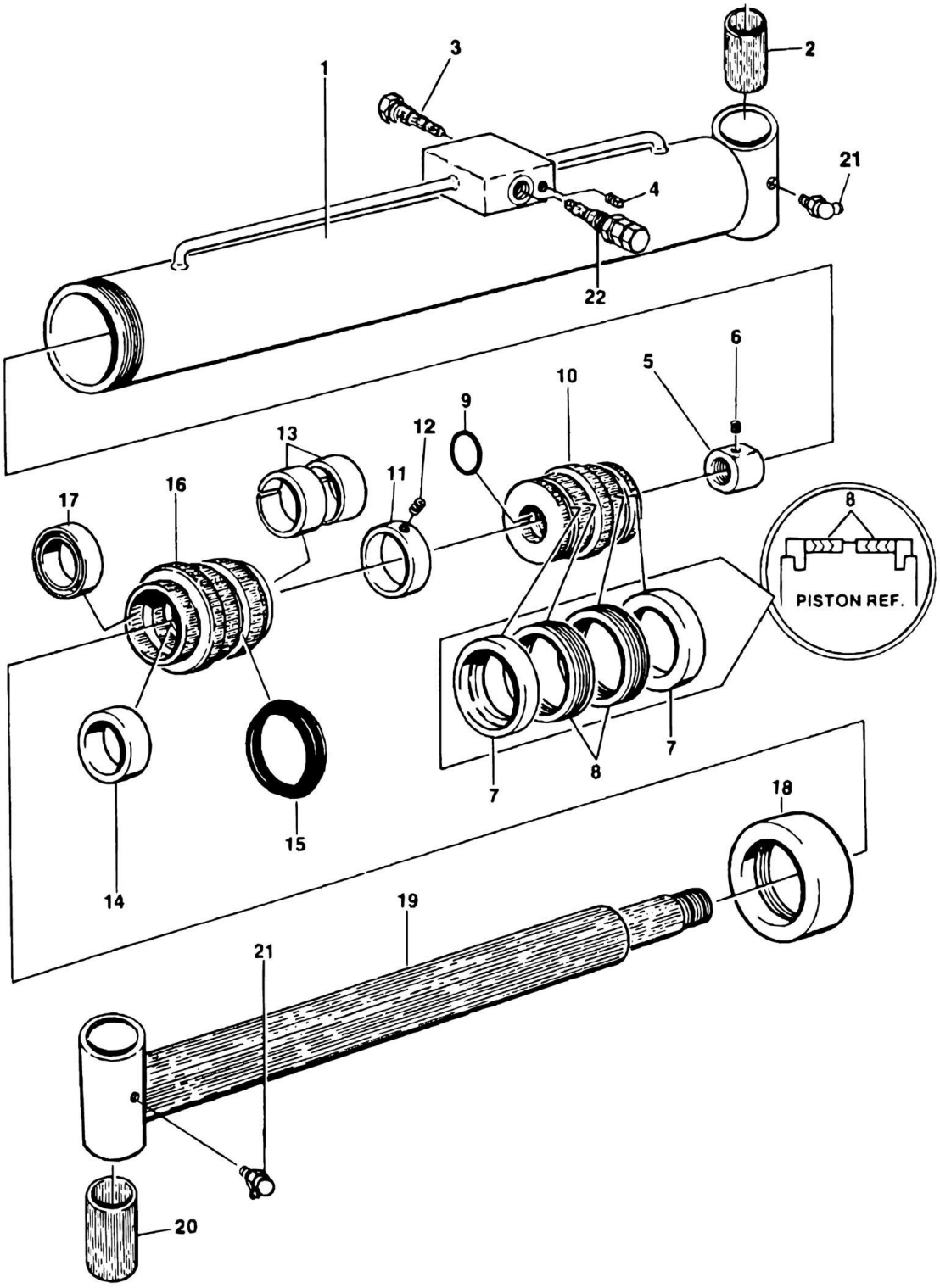


FIGURE 5-5. LIFT CYLINDER ASSEMBLY (TOWER BOOM)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681960	Ref	**LIFT CYLINDER ASSEMBLY (TOWER BOOM)**	E
1	1681961	1	Barrel Assembly	
2	0960946	2	Bushing, Bronze	
3	4640509	1	Valve	
3	2900792	1	Seal Kit - 4640509 Valve	
4	2200202	2	Plug 1/4in	
4	2200201	4	Plug 1/8in	
4	0100020	AR	Sealant	
5	3300283	1	Nut, Hex	
5	0100011	AR	Loctite #242	
5	0100038	AR	Primer, Locking	
6	3900170	1	Setscrew 3/8in-16NC x 3/8in	
6	0100011	AR	Loctite	
7	Kit	2	Ring, Guidelock	
8	Kit	2	Seal	
9	Kit	1	O-Ring	
10	3480102	1	Piston	
11	4563769	1	Spacer	
12	3900141	1	Setscrew 1/4in-20NC x 3/8in	
12	0100011	AR	Loctite	
13	Kit	1	Ring, Wear	
14	Kit	1	Seal	
15	Kit	1	T-Seal	
16	1681843	1	Head	
17	Kit	1	Ring, Wiper	
18	1120340	1	Cap	
18	0100035	AR	Loctite	
19	1681841	1	Rod Assembly	
20	0960946	2	Bushing, Bronze	
21	2160001	1	Fitting, Grease - 90	
21	2160003	1	Fitting, Grease - 45	
22	4640605	1	Valve, Vented	
22	2900792	1	Seal Kit - 4640605 Valve	
	2901102	1	Seal Kit (Includes Items 7, 8, 9, 13, 14, 15 & 17)	

FIGURE 5-6. PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM) (PRIOR TO OCTOBER 1992)

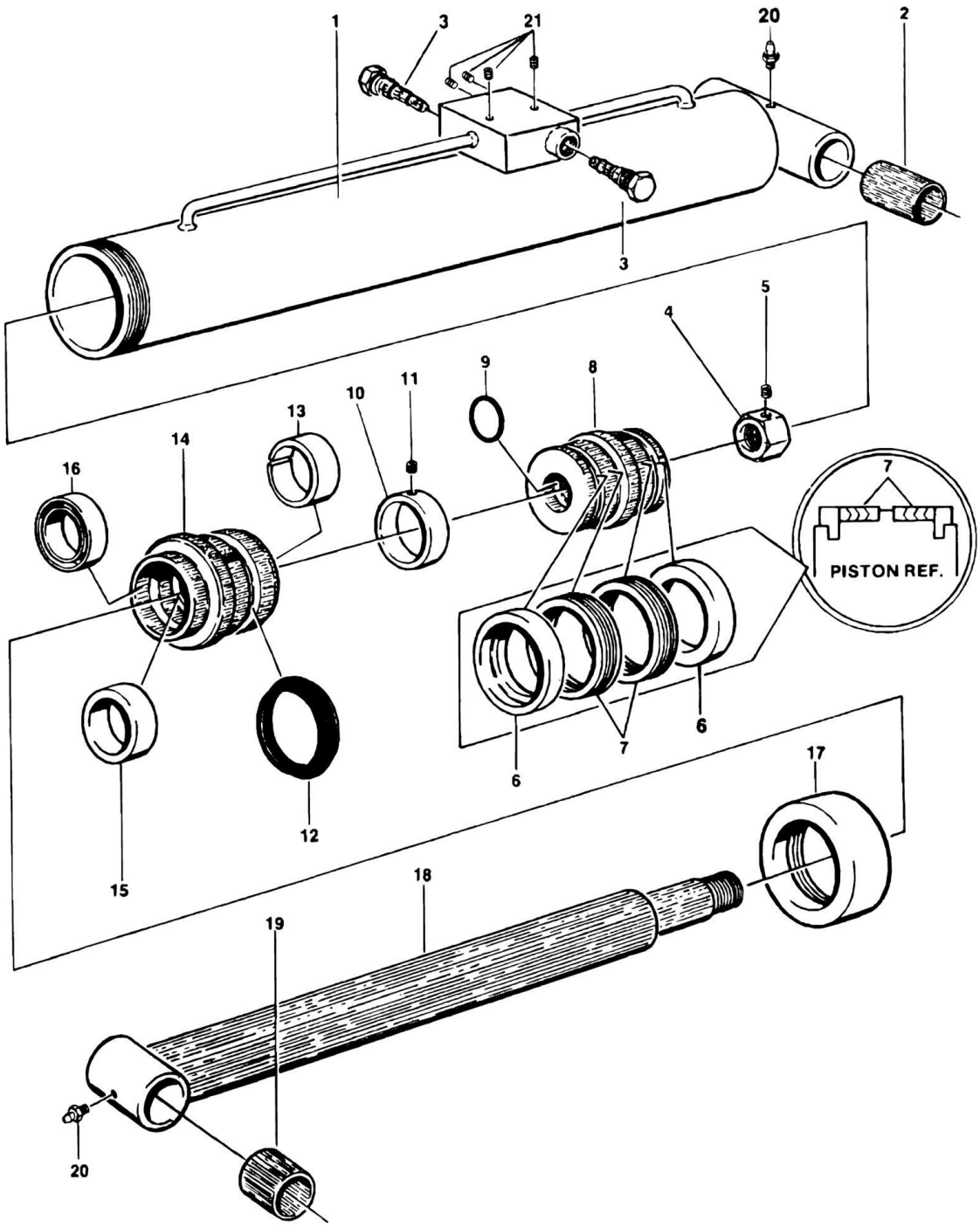


FIGURE 5-6. PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM) (PRIOR TO OCTOBER 1992)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM)**	
	1681866	Ref	**Platform Level Cylinder Assembly (Main Boom) (Prior to January 1990)**	C
	1682178	Ref	**Platform Level Cylinder Assembly (Main Boom) (January 1990 to October 1992)**	C
1	1681869	1	Barrel Assembly	
2	0960613	2	Bushing, Bronze	
3	4640509	2	Valve	
3	2900792	1	Seal Kit - 4640509 Valve	
4		Ref	Nut, Hex Options:	
4	3300271	1	Nut, Hex (Prior to January 1990)	
4	3300284	1	Nut, Hex (January 1990 to October 1992)	
4	0100011	AR	Loctite #242	
4	0100038	AR	Primer, Locking	
5	3900170	1	Setscrew 3/8in-16NC x 3/8in	
5	0100011	AR	Loctite #242	
6	Kit	2	Lock-Ring	
7	Kit	2	Seal, Piston	
8		Ref	Piston Options:	
8	3480130	1	Piston (Prior to January 1990)	
8	3480141	1	Piston (January 1990 to October 1992)	
9	Kit	1	O-Ring	
10	4563771	1	Spacer, Tube	
11	3900141	1	Setscrew 1/4in-20NC x 3/8in	
11	0100011	AR	Loctite	
12	Kit	1	T-Seal	
13	Kit	1	Ring, Wear	
14	1681847	1	Head	
15	Kit	1	Seal, Rod	
16	Kit	1	Wiper, Rod	
17	1120336	1	Cap	
17	0100035	AR	Loctite	
18		Ref	Rod Assembly Options:	
18	1681867	1	Rod Assembly (Prior to January 1990)	
18	1682177	1	Rod Assembly (January 1990 to October 1992)	
19	0961254	2	Bushing, Bronze	
20	2160002	2	Fitting, Grease	
21	2200202	2	Plug 1/4in	
21	2200201	2	Plug 1/8in	
21	0100020	AR	Sealant, Pipe	
	2901103	1	Seal Kit (Includes Items 6, 7, 9, 12, 13, 15 & 16.)	
		Ref	**Note: Refer to number stamped on barrel for identification.**	

FIGURE 5-7. PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM) (OCTOBER 1992 TO PRESENT)

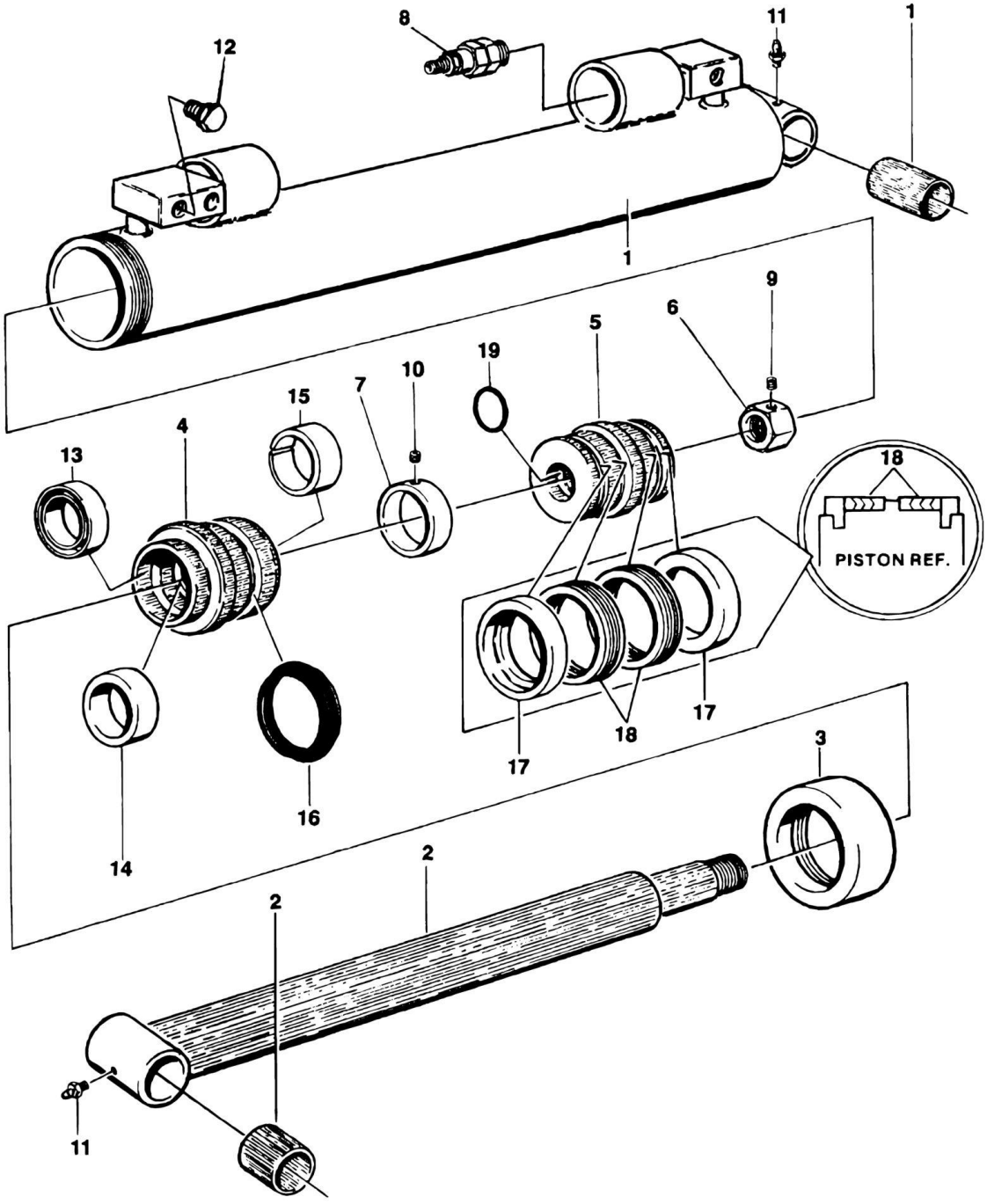


FIGURE 5-7. PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM) (OCTOBER 1992 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**PLATFORM LEVEL CYLINDER ASSEMBLY (MAIN BOOM)**	
	1682793	Ref	**Platform Level Cylinder Assembly (Main Boom) (October 1992 to SN 33104)**	A
	1683526	Ref	**Platform Level Cylinder Assembly (Main Boom) (SN 33105 to Present)**	A-1
1		Ref	Barrel Weldment (Machine Built) **(Prior to SN 33105)**	
1	1682794	1	Barrel Weldment (October 1992 to SN 33104)	
1	1683525	1	Barrel Weldment (Machine Built) **(SN 33105 to Present)**	
1	0960613	2	Bushing, Bronze	
2	1682177	1	Rod Weldment	
2	0961254	2	Bushing, Bronze	
3	1120336	1	Cap	
3	0100035	AR	Loctite #222	
4	1681847	1	Head	
5	3480141	1	Piston	
6	3300284	1	Nut, Hex	
6	0100011	AR	Loctite #242	
6	0100038	AR	Primer, Loctite	
7	4563771	1	Spacer	
8	4640634	2	Cartridge, Vented Valve	
8	2900770	2	Seal Kit - 4640634 Valve (1 Per Cartridge)	
9	3900170	1	Setscrew 3/8in-16NC x 3/8in	
10	3900141	1	Setscrew 1/4in-20NC x 3/8in	
10	0100011	AR	Loctite #242	
11	2160002	2	Fitting, Grease	
12	2220885	2	Plug, O-Ring	
13	Kit	1	Wiper, Rod	
14	Kit	1	Seal, Rod	
15	Kit	1	Ring, Wear	
16	Kit	1	T-Seal	
17	Kit	2	Ring, Lock	
18	Kit	2	Seal	
19	Kit	1	O-Ring	
	2901103	1	Seal Kit - Cylinder (Includes Items 13-19)	

FIGURE 5-8. STEER CYLINDER ASSEMBLY (2WD - DOUBLE ACTING ROD)

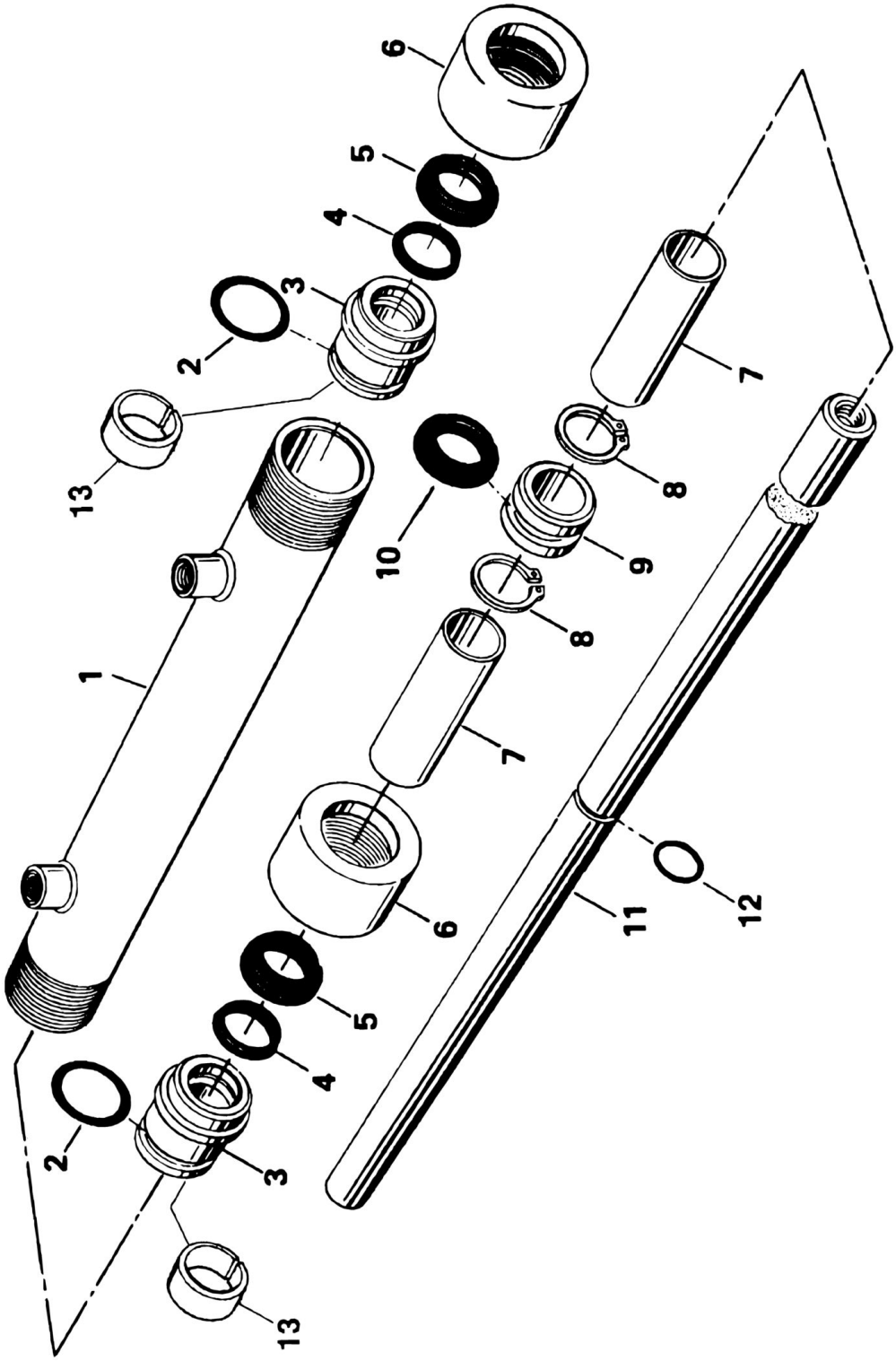


FIGURE 5-8. STEER CYLINDER ASSEMBLY (2WD - DOUBLE ACTING ROD)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**STEER CYLINDER ASSEMBLY (2WD - DOUBLE ROD)**	
	1681814	Ref	**Steer Cylinder Assembly (2wd - Double Rod) (Prior to SN 31941)**	A
	1683511	Ref	**Steer Cylinder Assembly (2wd - Double Rod) (SN 31941 to Present)**	2-B
1	1680654	1	Barrel	
2	Kit	2	O-Ring	
3		Ref	Head Options:	
3	1120229	2	Head **(Prior to SN 31941)**	
3	1682364	2	Head **(SN 31941 to Present)**	
4	Kit	2	Seal	
5	Kit	2	Seal, Wiper	
6		Ref	Head, Retainer	
6	1120228	2	Head, Retainer **(Prior to SN 31941)**	
6	1120387	2	Head, Retainer **(SN 31941 to Present)**	
6	0100011	AR	Loctite	
7	4563681	2	Spacer, Tube	
8	3760141	2	Ring, Retaining	
9	3480098	1	Piston	
10	Kit	1	T-Seal	
11	3840561	1	Rod	
12	Kit	1	O-Ring	
13		Ref	Ring, Wear Options:	
13	Not Required	0	Ring, Wear **(Prior to SN 31941)**	
13	Kit	2	Ring, Wear **(SN 31941 to Present)**	
		Ref	Repair Kit Options:	
	2900099	1	Repair Kit (Includes Item 2, 4, 5, 10 & 12) **(Prior to SN 31941)**	
	2901178	1	Repair Kit (Includes Items 2, 4, 5, 10, 12 & 13) (Was p/n 2901508) **(SN 31941 to Present)**	

FIGURE 5-9. STEER CYLINDER ASSEMBLY (2WD SINGLE ACTING ROD)

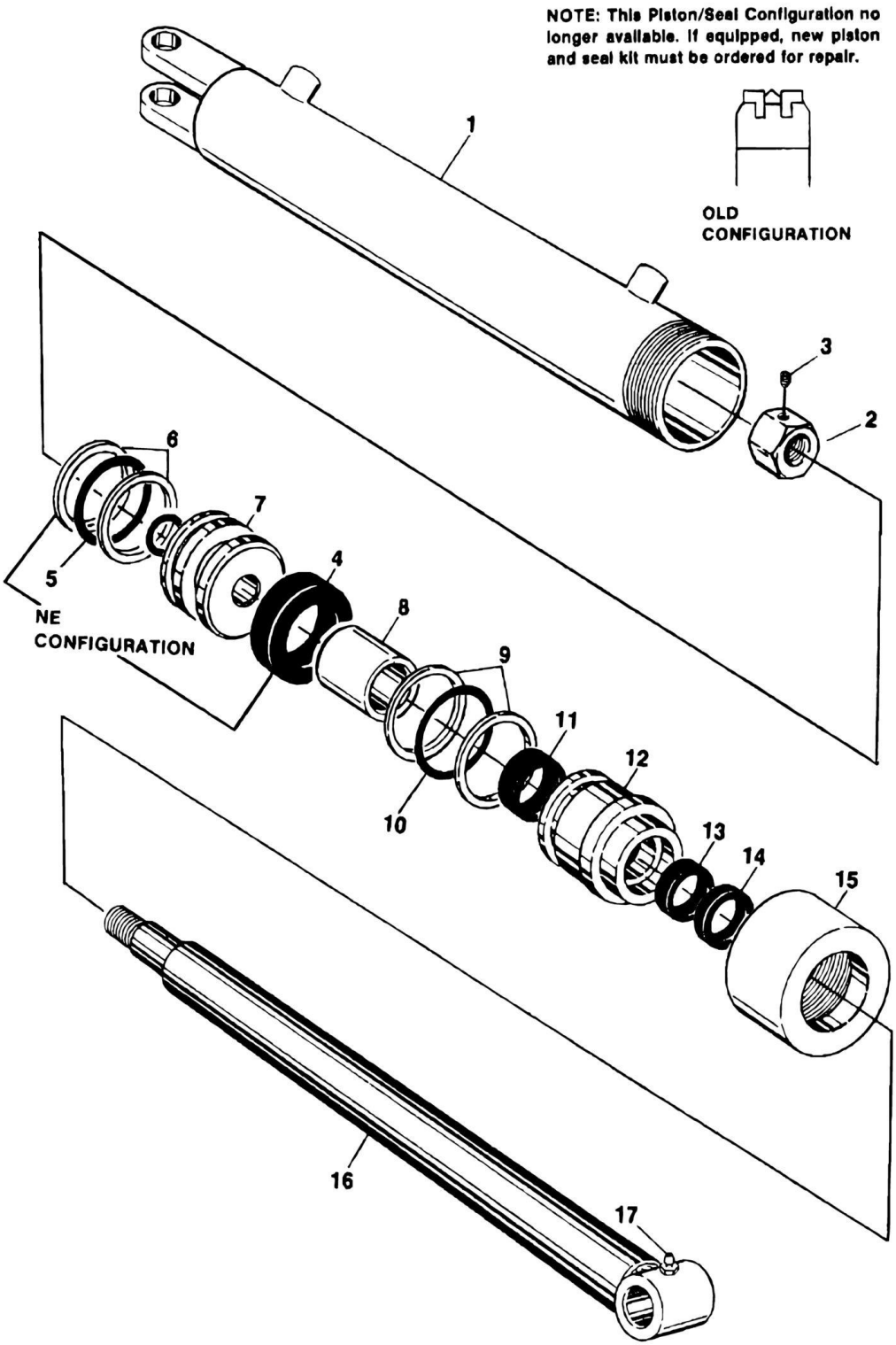


FIGURE 5-9. STEER CYLINDER ASSEMBLY (2WD SINGLE ACTING ROD)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1682020	Ref	**STEER CYLINDER ASSEMBLY - 2WD SINGLE ROD**	C
1	1682084	1	Barrel	
2	3300273	1	Nut, Hex	
2	0100011	AR	Loctite #242	
2	0100038	AR	Primer, Locking	
3	3900170	2	Setscrew 3/8in-16NC x 3/8in	
3	0100011	AR	Loctite	
4	Kit	2	Ring, Wear	
5	Kit	1	T-Seal	
6	Kit	1	O-Ring	
7	3480120	1	Piston	
8	4564134	1	Spacer	
9	3760176	2	Ring	
10	Kit	1	O-Ring	
11	Kit	1	Ring, Wear	
12	1680892	1	Head, Cylinder	
13	Kit	1	Seal, Rod	
14	Kit	1	Wiper, Rod	
15	1120179	1	Cap	
15	0100038	AR	Loctite #222	
16	1680739	1	Rod	
17	2160002	1	Fitting, Grease	
	2901119	1	Kit, Seal (Includes Items 4, 5, 6, 9, 10, 11, 13 & 14)	

FIGURE 5-10. STEER CYLINDER ASSEMBLY (4WD)

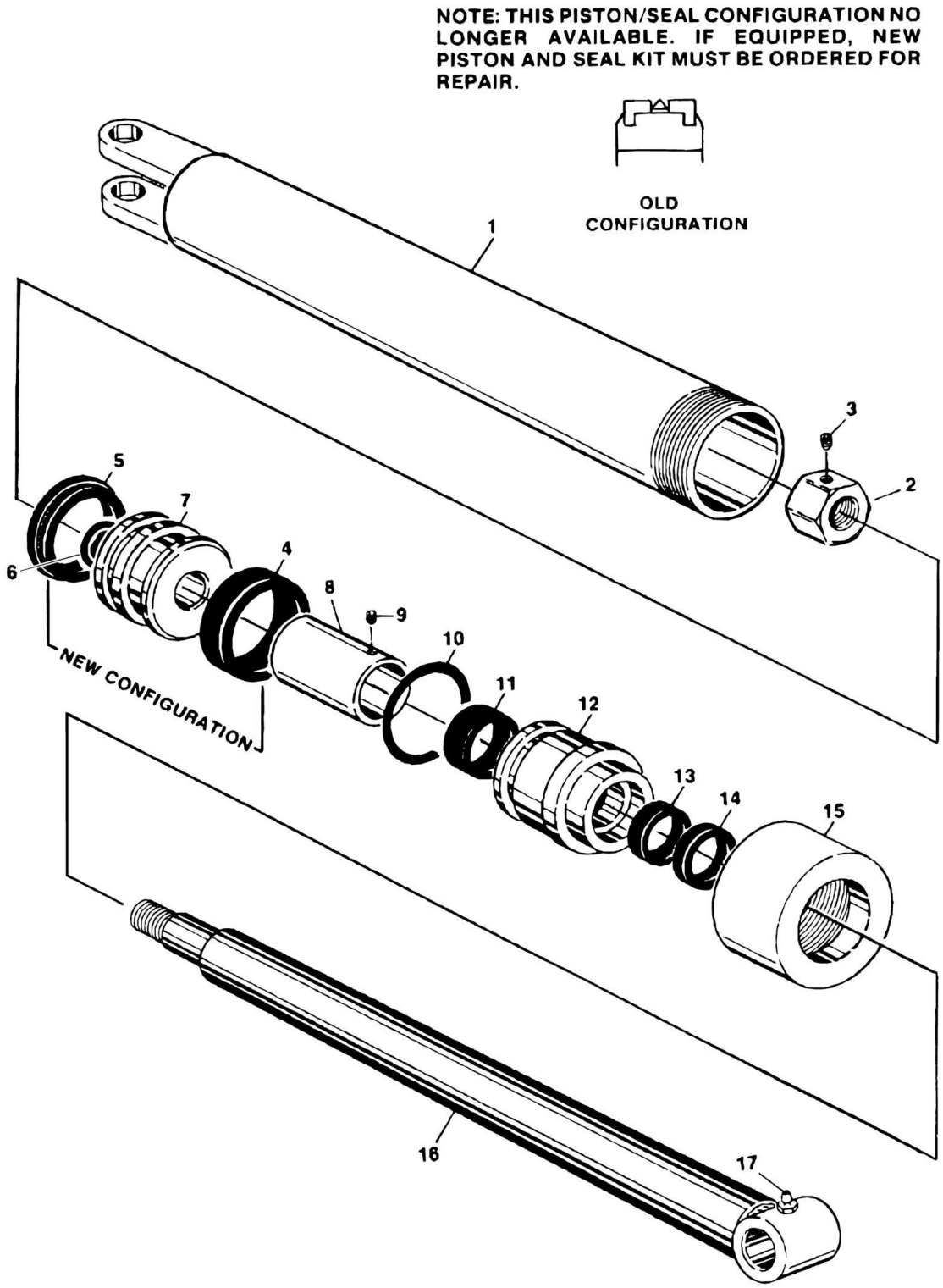


FIGURE 5-10. STEER CYLINDER ASSEMBLY (4WD)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681892	Ref	**STEER CYLINDER ASSEMBLY (4WD)**	B
1	1681413	1	Barrel	
2	3300273	1	Nut	
2	0100011	AR	Loctite #242	
2	0100038	AR	Primer, Locking	
3	3900170	1	Setscrew 3/8in-16NC x 3/8in	
3	0100011	AR	Loctite	
4	Kit	1	Ring, Wear	
5	Kit	1	Seal	
6	Kit	1	O-Ring	
7	3480134	1	Piston	
8	4563864	1	Spacer	
9	3900141	1	Setscrew 1/4in-20NC x 3/8in	
9	0100011	1	Loctite #242	
10	Kit	1	O-Ring	
11	Kit	1	Ring, Wear	
12	1681344	1	Head, Cylinder	
13	Kit	1	Seal, Rod	
14	Kit	1	Wiper, Rod	
15	1120108	1	Cap	
15	0100035	AR	Loctite #222	
16	1681411	1	Rod	
17	2160006	1	Fitting, Grease **(Prior to SN 27513)**	
17	2160002	1	Fitting, Grease **(SN 27513 to Present)**	
	2901123	1	Kit, Seal (Includes Items 4, 5, 6, 9, 10, 11, 13 & 14)	

FIGURE 5-11. TELESCOPE CYLINDER ASSEMBLY (MAIN BOOM) (PRIOR TO JUNE 1991)

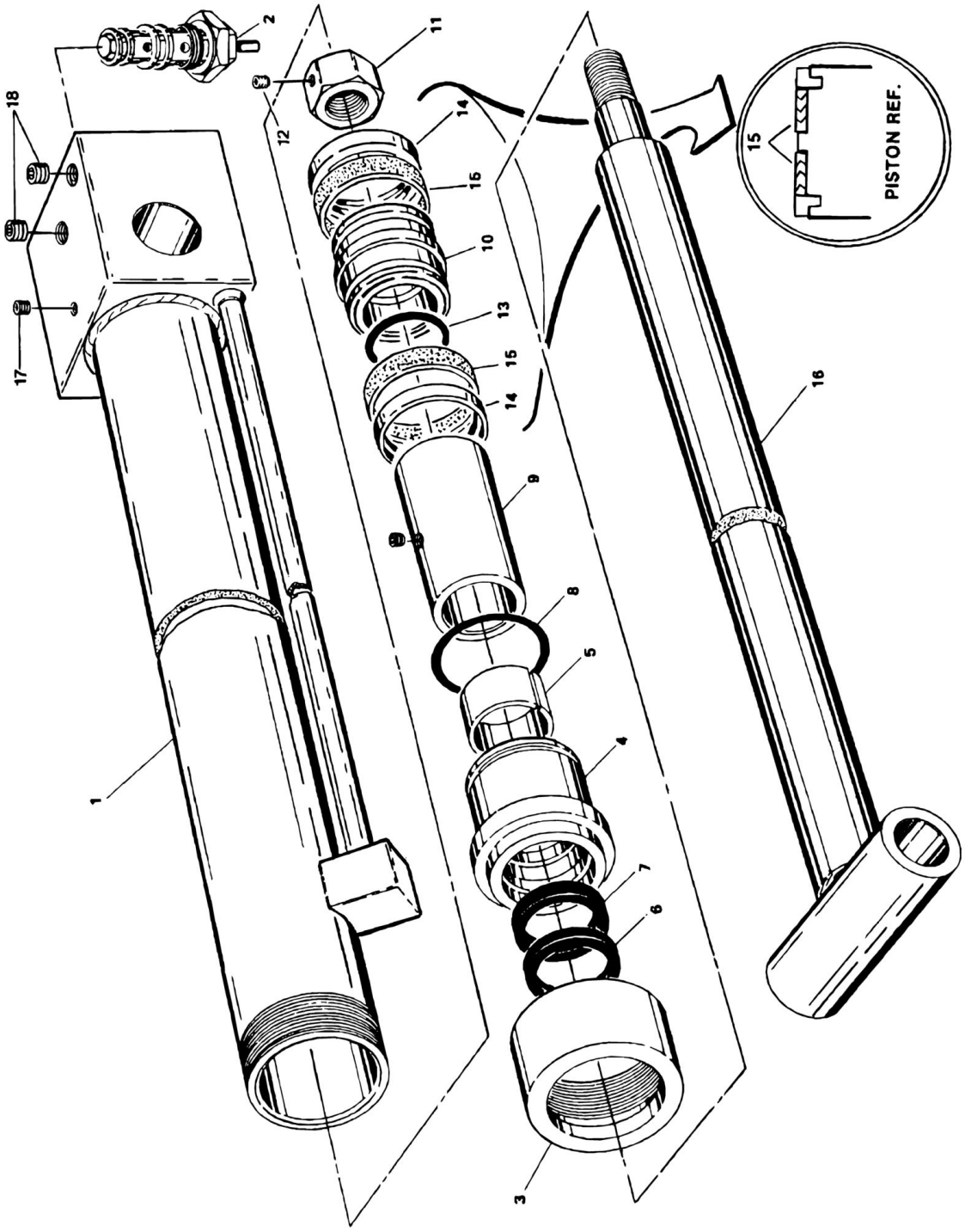


FIGURE 5-11. TELESCOPE CYLINDER ASSEMBLY (MAIN BOOM) (PRIOR TO JUNE 1991)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681880	Ref	**TELESCOPE CYLINDER ASSEMBLY (MAIN BOOM) (PRIOR TO JUNE 1991)**	B
1	1681881	1	Barrel Assembly	
2		Ref	Cartridge, Valve Options:	
2	4640495	1	Cartridge Used (Prior to June 1990)	
2	4640634	1	Cartridge Used (June 1990 to Present)	
2	2900770	1	Seal Kit - 4640495 & 4640634 Valves	
3	1120108	1	End Cap	
3	0100035	AR	Loctite #222	
4	1681283	1	Head	
5	Kit	1	Ring, Wear	
6	Kit	1	Seal, Wiper	
7	Kit	1	Seal, Rod	
8	Kit	1	O-Ring	
9	4563330	1	Spacer, Tube	
9	3951603	2	Setscrew 3/8in-16NC x 3/8in	
9	0100011	AR	Loctite #242	
10	3480092	1	Piston	
11	3300282	1	Nut, Hex	
11	0100011	AR	Loctite #242	
11	0100038	AR	Primer, Locking	
12	3900170	2	Setscrew 1/4in-20NC x 3/8in	
13	Kit	1	O-Ring	
14	Kit	2	Ring, Guidelock	
15	Kit	2	Seal, Piston	
16	1681883	1	Rod Assembly	
17	2200201	1	Plug 1/8in	
18	2200222	2	Plug 1/4in	
18	0100020	AR	Sealant, Pipe	
	2900396		Seal Kit (Includes Items 5, 6, 7, 8, 13, 14 & 15)	
		Ref	**Note: Refer to number stamped on cylinder barrel for identification.**	

FIGURE 5-12. TELESCOPE CYLINDER ASSEMBLY - MAIN BOOM (JUNE 1991 TO PRESENT)

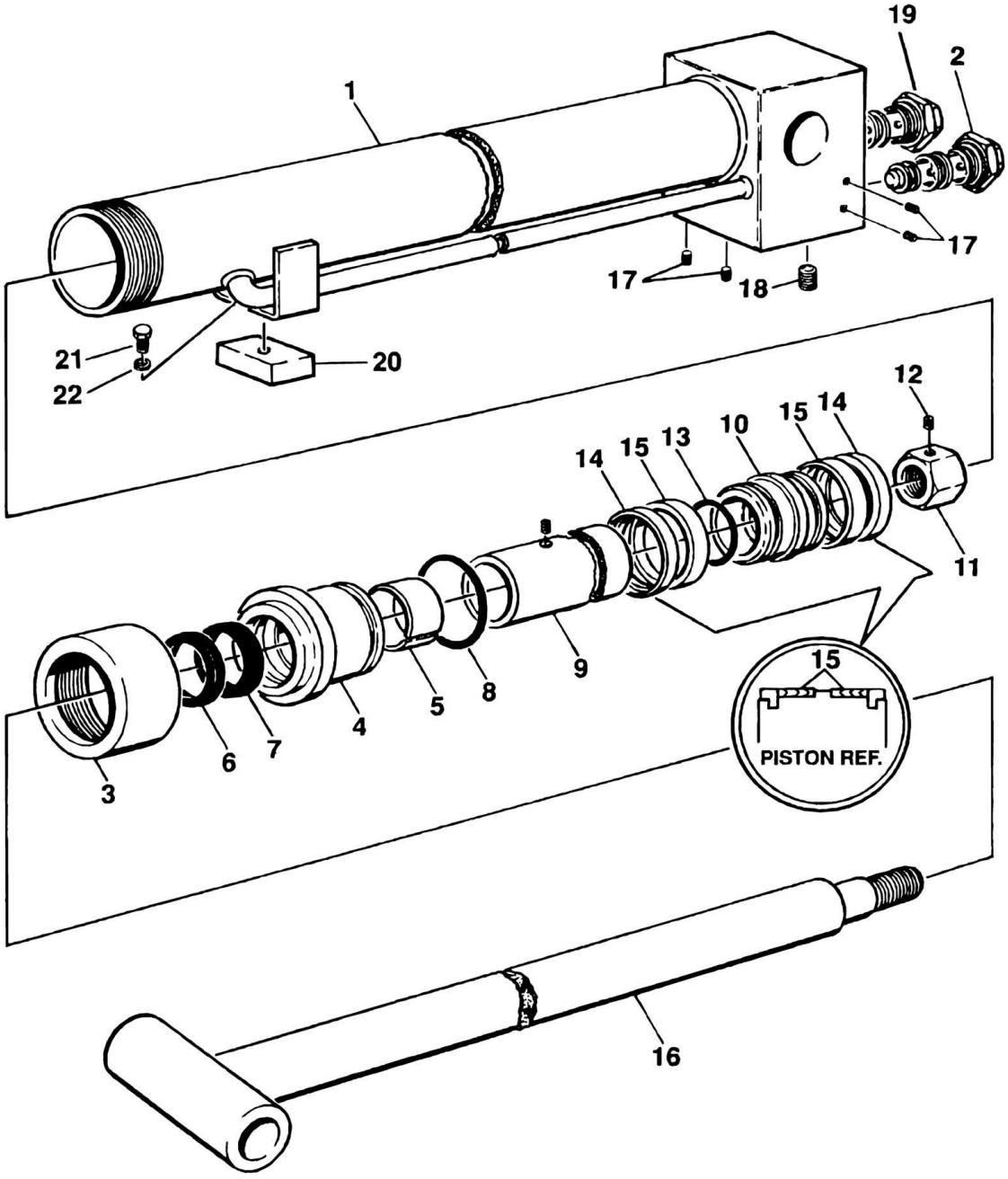


FIGURE 5-12. TELESCOPE CYLINDER ASSEMBLY - MAIN BOOM (JUNE 1991 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1682492	Ref	**TELESCOPE CYLINDER ASSEMBLY (MAIN BOOM) (JUNE 1991 TO PRESENT)**	A
1	1682493	1	Barrel Assembly	
2	4640634	1	Valve, Vented Counterbalance	
2	2900770	1	Seal Kit - Cartridge Valve	
3	1120108	1	End Cap	
3	0100035	AR	Loctite #222	
4	1681283	1	Head	
5	Kit	1	Ring, Wear	
6	Kit	1	Seal, Wiper	
7	Kit	1	Seal, Rod	
8	Kit	1	O-Ring	
9	4563330	1	Spacer, Tube	
9	3951603	2	Setscrew 3/8in-16NC x 3/8in	
9	0100011	AR	Loctite #242	
10	3480092	1	Piston	
11	3300286	1	Nut, Hex	
11	0100011	AR	Loctite #242	
11	0100038		Primer	
12	3900170	1	Setscrew 3/8in-16NC x 3/8in	
13	Kit	1	O-Ring	
14	Kit	2	Ring, Guidelock	
15	Kit	2	Seal, Piston	
16	1681883	1	Rod Assembly	
17	2180527	4	Plug 1/16in	
18	2200222	2	Plug 1/4in	
18	0100020	AR	Sealant, Pipe	
19	4640495	1	Valve, Counterbalance	
19	2900770	1	Seal Kit - Cartridge Valve	
20	3340545	1	Pad, Wear (May 1994 to Present Only)	
21	0641604	1	Bolt 3/8in-16NC x 1/2in	
22	4761600	1	Lockwasher 3/8in	
	2900396	1	Seal Kit (Includes Items 5, 6, 7, 8, 13, 14 & 15)	

FIGURE 5-13. TELESCOPE CYLINDER ASSEMBLY (TOWER BOOM) (JULY 1988 TO PRESENT)

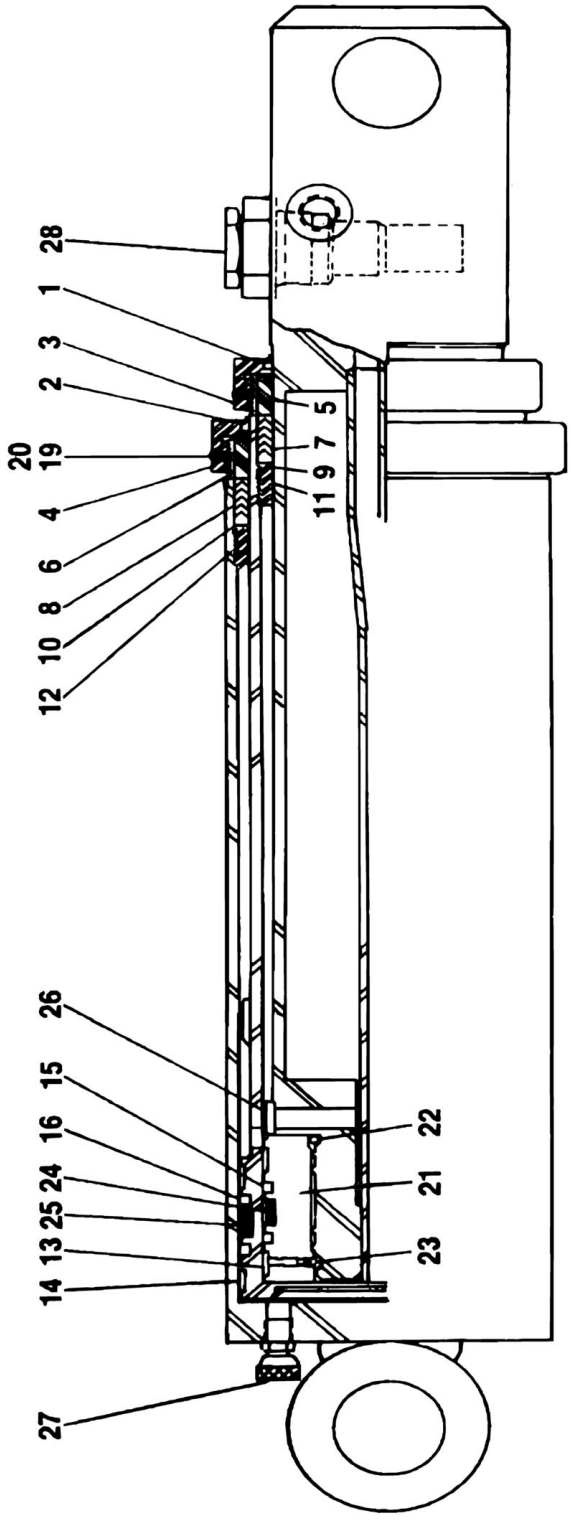


FIGURE 5-13. TELESCOPE CYLINDER ASSEMBLY (TOWER BOOM) (JULY 1988 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1681980	Ref	**TELESCOPE CYLINDER ASSEMBLY - TOWER BOOM**	-
		Ref	**Note: Dana Telescope Cylinder (used prior to July 1988) and associated repair parts are no longer available. When replacing complete cylinder use p/n 1681980 Commercial Shearing Cylinder (used July 1988 to present).**	
1	Kit	1	Ring, Wiper	
2	Kit	1	Ring, Wiper	
3	7009564	1	Nut, Packing	
4	7009563	1	Nut, Packing	
5	7009562	1	Ring, Bearing	
6	7009561	1	Ring, Bearing	
7	Kit	1	Packing Assembly	
8	Kit	1	Packing Assembly	
9	7009558	1	Spring, Wave	
10	7009557	1	Spring, Wave	
11	7009556	1	Ring, Stop	
12	7009555	1	Ring, Stop	
13	7009554	2	Bearing, Piston	
14	7009553	2	Bearing, Piston	
15	7009552	2	Ring, Piston	
16	7009551	2	Ring, Piston	
19	7009550	2	Ball, Nylon	
20	7009549	2	Setscrew 1/4in-20NC	
21	7009548	1	Piston	
22	Kit	2	O-Ring	
23	7009546	1	Setscrew	
24	Kit	1	Seal, O-Ring Piston	
25	Kit	1	Seal, O-Ring Piston	
26		Ref	Pin	
27	7009537	1	Release, Air	
28	4640509	1	Valve, Holding	
28	2900792	1	Seal Kit - 4640509 Valve	
28	7009569	1	Plunger Assembly	
28	7009568	1	1st Sleeve Assembly	
28	7009567	1	Cylinder, Main	
	2900693	1	Seal Kit (Includes Items 1, 2, 7, 8, 22, 24 & 25)	

FIGURE 5-14. CYLINDER BELLOWS INSTALLATION (OPTIONAL)

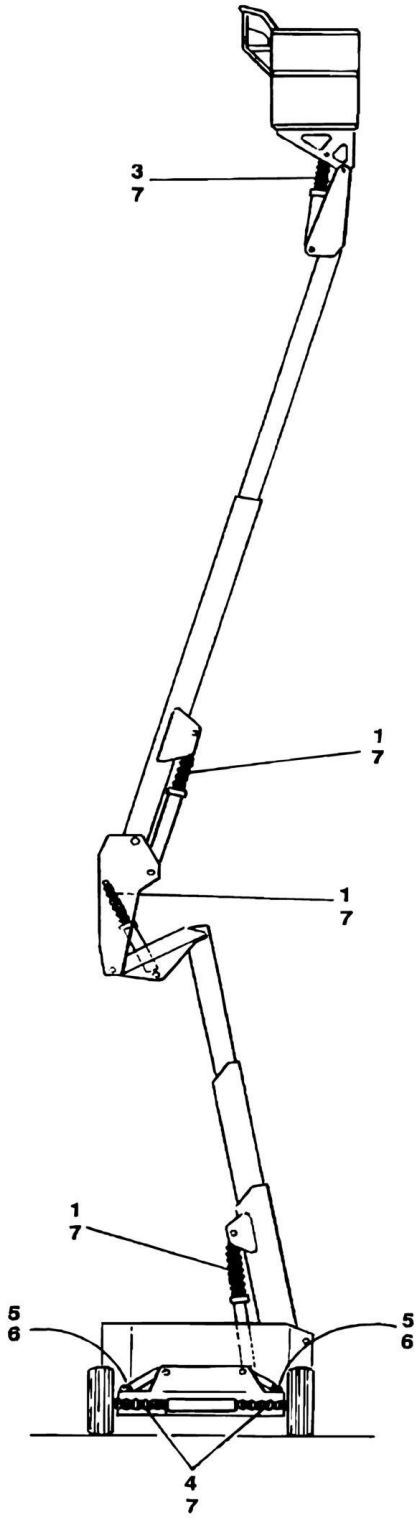


FIGURE 5-14. CYLINDER BELLOWS INSTALLATION (OPTIONAL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**CYLINDER BELLOWS INSTALLATION (OPTIONAL)**	
	0238887	Ref	**2WD 6ft-6in/2M Machines with Fixed Axle**	C
	0238950	Ref	**2WD 6ft-6in/2M Machines with Oscillating Axle**	C
	0239000	Ref	**2WD 5ft-9in/1.75M Machines with Fixed Axle**	C
	0238889	Ref	**2WD 5ft-9in/1.75M Machines with Oscillating Axle**	C
	0239000	Ref	**4WD Machines with Fixed Axle**	C
	0238999	Ref	**4WD Machines with Oscillating Axle**	C
1	0460093	3	Bellows (With Zipper) (Tower Lift, Main Lift and Slave Cylinders)	
3	0460084	1	Bellows (With Zipper) (Slave Cylinder)	
4		Ref	Bellows (With Zipper) (Steer Cylinder) Options:	
4	0460082	2	2WD 6ft-6in/2M Machines	
4	0460075	2	2WD 5ft-9in/1.75M Machines	
4	0460075	2	4WD Machines	
5		Ref	Bellows (With Zipper) (Lockout Cylinder)	
5	Not Required	0	Fixed Axle	
5	0460083	2	Oscillating Axle	
6	1320037	2	Clamp, Worm Gear (3in- 4 1/8in Dia) (Oscillating Axle Machines Only)	
7	1320122	6	Clamp, Worm Gear (5 1/8in- 6in Dia)	

SECTION 6 - HYDRAULIC

FIGURE 6-1. HYDRAULIC DIAGRAM - AXLE LOCKOUT

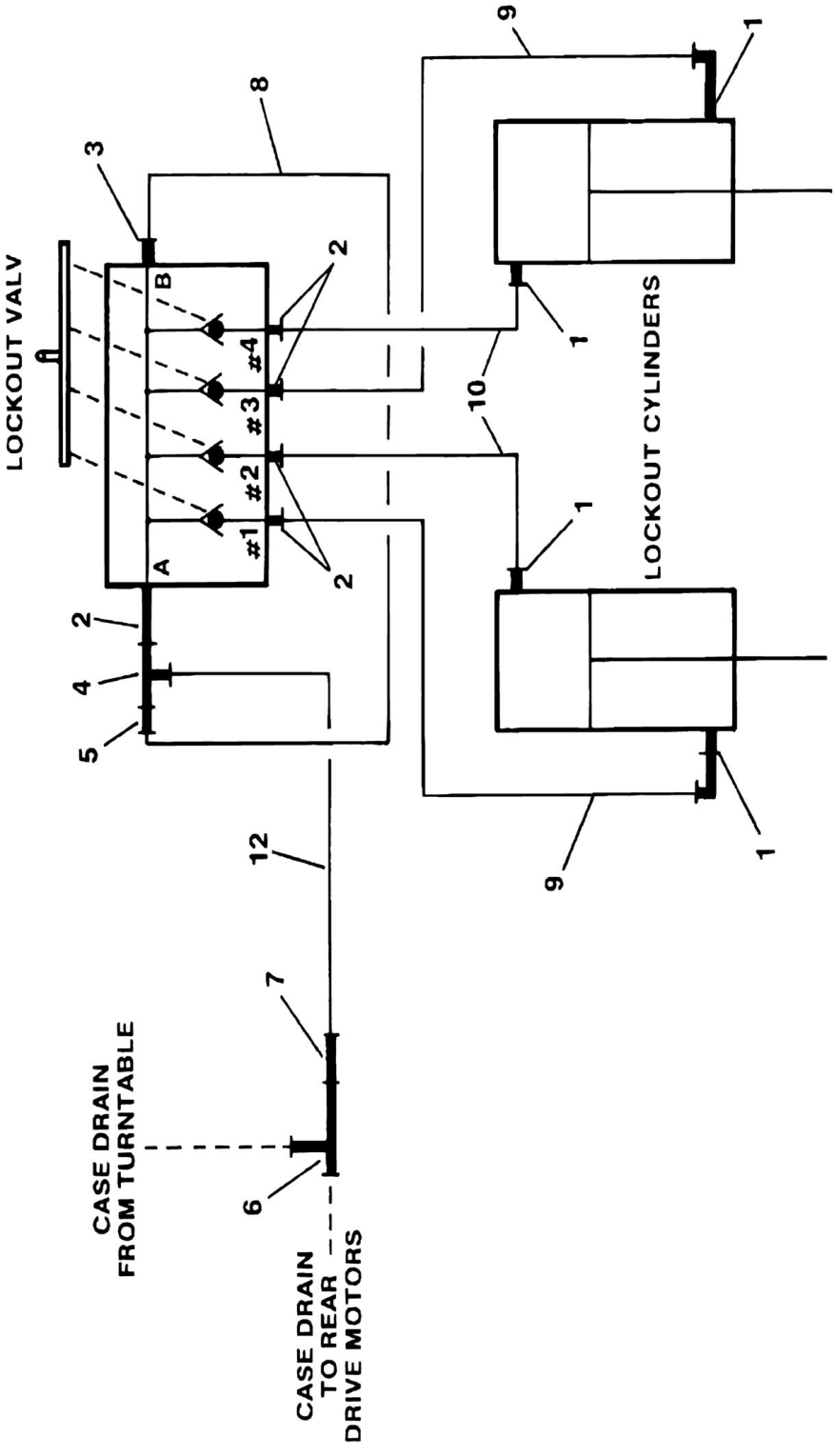


FIGURE 6-1. HYDRAULIC DIAGRAM - AXLE LOCKOUT

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791883	Ref	**HYDRAULIC DIAGRAM - AXLE LOCKOUT WITH SWIVEL**	-
1	2220773	4	Fitting, 90	
2	2220371	5	Fitting, Straight	
3	2220582	1	Fitting, Straight	
4	2220635	1	Fitting, Tee	
5	2220609	1	Fitting, Reducer	
6	2220385	1	Fitting, Tee	
7	2220619	1	Fitting, Reducer	
8	2750900	1	Hose	
9	2751006	2	Hose	
10	2751005	2	Hose	
12	2751004	1	Hose	
	0100020	AR	Sealant	

FIGURE 6-2. DRIVE HYDRAULIC DIAGRAM (2WD WITH SWIVEL AND WITH VICKERS VALVES)

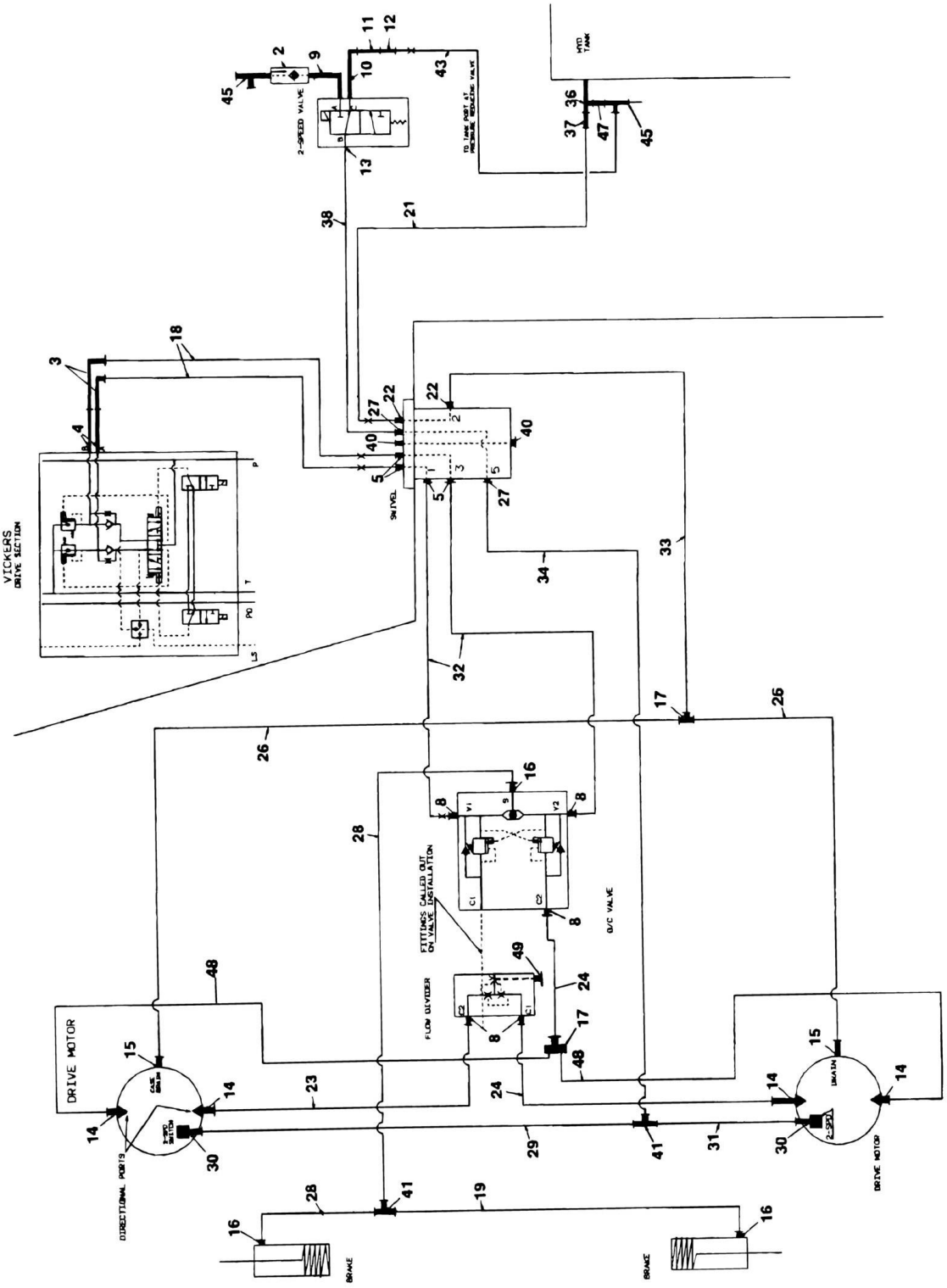


FIGURE 6-2. DRIVE HYDRAULIC DIAGRAM (2WD WITH SWIVEL AND WITH VICKERS VALVES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DRIVE HYDRAULIC DIAGRAM (2WD WITH SWIVEL AND WITH VICKERS VALVES)**	
	2791976	Ref	**Gas and Diesel Machines**	B
	2791391	Ref	**Electric Machines**	F
2	4640780	1	Valve, Check	
3	2220500	2	Fitting, 45 (Electric Machines)	
3	2220386	1	Fitting, 90 (Gas and Diesel)	
3	2220471	1	Fitting, Long 90 (Gas and Diesel)	
4	2220811	2	Fitting, Reducer (Electric Machine)	
4	2220375	2	Fitting, Straight (Gas and Diesel)	
5	2220346	4	Fitting, Straight	
8	2220375	5	Fitting, Straight	
9	2220609	1	Fitting, Reducer	
10	2220582	1	Fitting, Straight	
11	2220909	1	Fitting, Orifice (.015)	
13	2220472	1	Fitting, 90	
14	2220800	4	Fitting, Straight	
15	2220374	2	Fitting, Straight	
16	2220466	3	Fitting, 90	
17	2220362	2	Fitting, Tee	
18	2751492	2	Hose (Electric Machines)	
18	2750927	1	Hose 52in (Gas and Diesel Machines)	
18	2750757	1	Hose 36in (Gas and Diesel Machines)	
19	2751013	1	Hose	
21	2750972	1	Hose	
22	2220345	2	Fitting, Straight	
23	2750929	1	Hose	
24	2750976	2	Hose	
26	2751502	2	Hose	
27	2220414	2	Fitting, Straight	
28	2751015	2	Hose	
29	2751018	1	Hose (Electric Machines)	
29	2750889	1	Hose (Gas and Diesel)	
30	2220415	2	Fitting, Straight	
31	2750889	1	Hose	
32	2750928	2	Hose	
33	2750777	1	Hose	
34	2751021	1	Hose	
36	2220679	1	Fitting, Tee (Electric Machines)	
36	2220659	1	Fitting, Straight (Gas and Diesel Machines)	
37	2220386	1	Fitting, 90 (Electric Machines Only)	
38	2751010	1	Hose	
40	2200222	2	Plug (Electric Machines)	
40	2200102	2	Plug (Gas and Diesel Machines)	
41	2220504	2	Fitting, Tee	
43	2751018	1	Hose (Electric Machines)	
43	2751427	1	Hose (Gas and Diesel Machines)	
45	2220605	2	Fitting, Tee	
47	2220618	1	Fitting, Reducer	
48	2751502	2	Hose	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
49	2220236	1	Plug	
	0100020	AR	Sealant	

FIGURE 6-3. DRIVE HYDRAULIC DIAGRAM (4WD WITH SWIVEL AND WITH VICKERS VALVES)

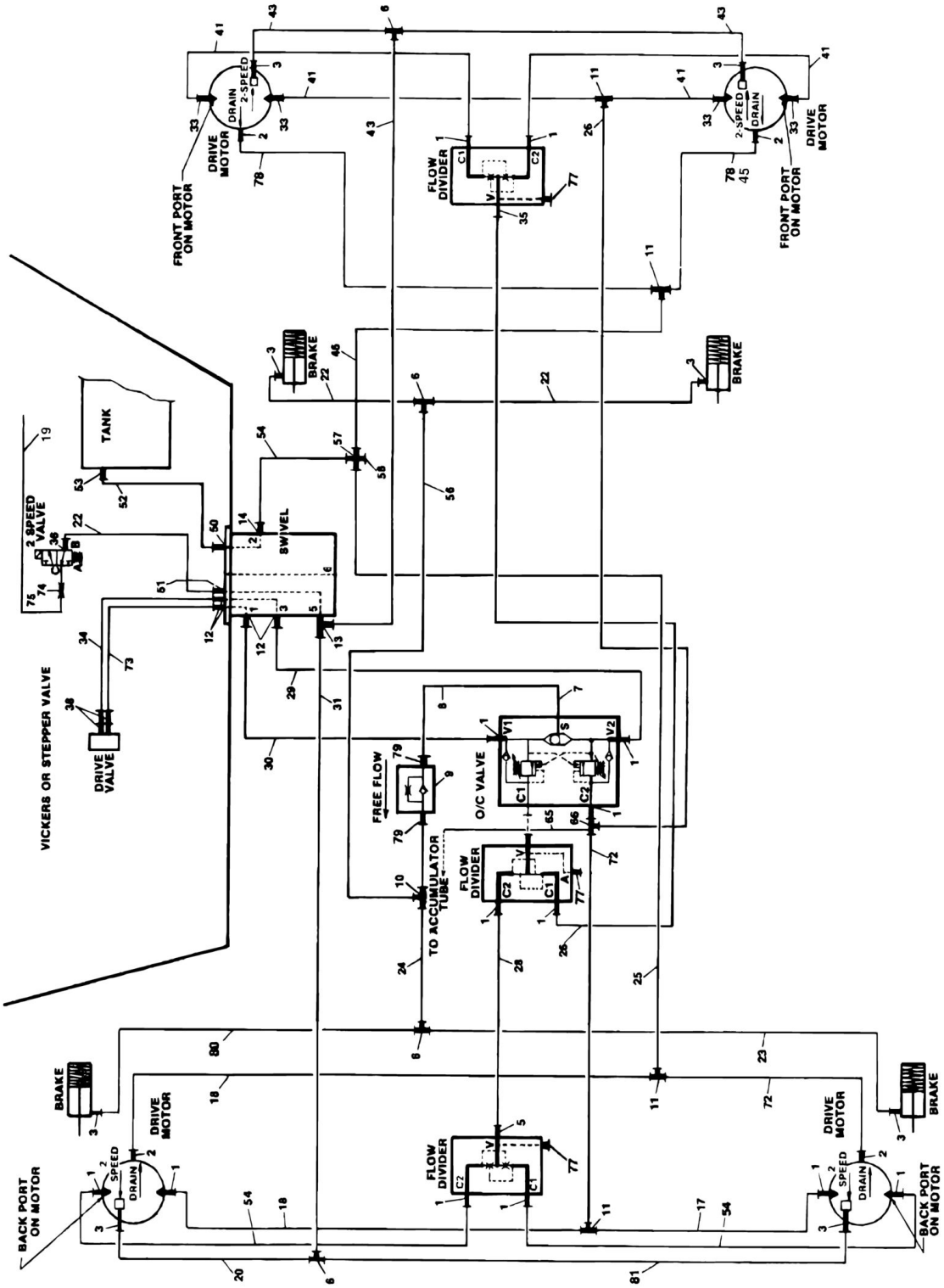


FIGURE 6-3. DRIVE HYDRAULIC DIAGRAM (4WD WITH SWIVEL AND WITH VICKERS VALVES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791971	Ref	**DRIVE HYDRAULIC DIAGRAM (4WD WITH SWIVEL AND WITH VICKERS VALVES)**	C
1	2220375	13	Fitting, Straight	
2	2220596	4	Fitting, 90	
3	2220415	8	Fitting, Straight	
5	2220800	1	Fitting, Straight	
6	2220504	4	Fitting, Tee	
10	2220711	1	Fitting	
11	2220362	4	Fitting, Tee	
12	2220346	4	Fitting, Straight	
13	2220684	1	Fitting, Tee	
14	2220345	1	Fitting, Swivel	
17	2750791	1	Hose	
18	2750976	2	Hose	
19	2751412	1	Hose	
20	2750889	1	Hose	
22	2751899	3	Hose	
23	2751017	1	Hose	
24	2751409	1	Hose	
25	2750777	1	Hose	
26	2750759	2	Hose	
28	2751490	1	Hose	
29	2751494	1	Hose	
30	2750968	1	Hose	
31	2751021	1	Hose	
33	2220366	4	Fitting, 90	
34	2750927	1	Hose	
35	2220367	1	Fitting, 90	
36	2220472	1	Fitting, 90	
38	2220375	1	Fitting, Straight	
41	2750766	4	Hose	
43	2751026	3	Hose	
45	2750773	2	Hose	
46	2750762	1	Hose	
50	2220345	1	Fitting, Straight	
51	2220417	1	Fitting, Straight	
52	2750972	1	Hose	
53	2220659	1	Fitting, 90	
54	2750928	3	Hose	
56	2750756	1	Hose	
57	2220469	1	Fitting, Cross	
58	2220619	1	Fitting, Reducer	
66 to 71	2220385	1	Fitting, Tee	
72	2750929	2	Hose	
73	2750757	1	Hose	
74	2220582	1	Fitting	
75	2220909	1	Fitting, Orifice (.015)	
77	2220235	3	Fitting	
78	4100026	2	Sleeve, Nylon	
80	2751010	1	Hose	

SECTION 6 - HYDRAULIC

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
81	2750889	1	Hose	

FIGURE 6-4. LIFT AND LEVEL (TOWER BOOM) HYDRAULIC DIAGRAM (VICKERS VALVES AND HYDRAULIC BOOM LIMIT SWITCHES)

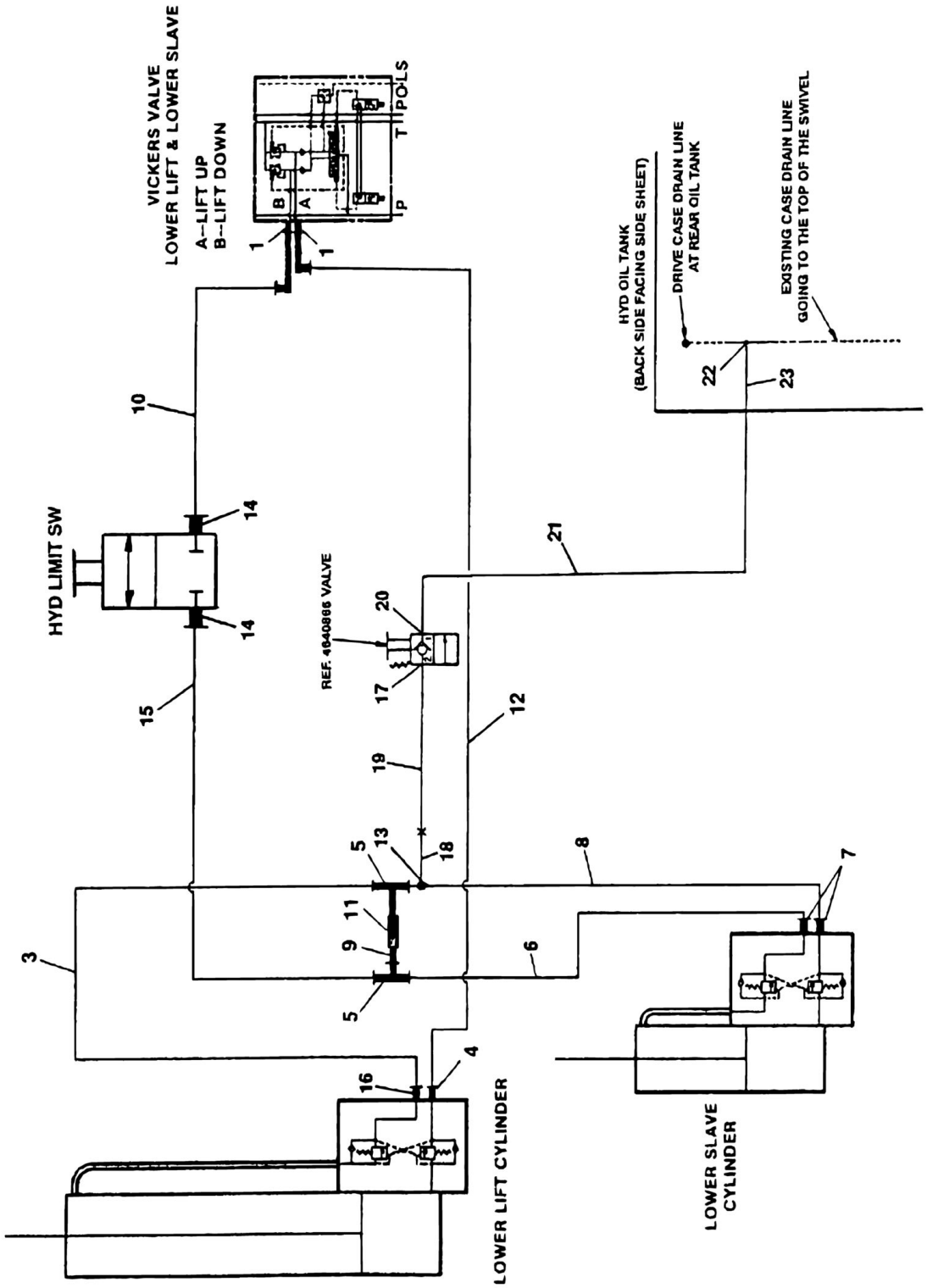


FIGURE 6-4. LIFT AND LEVEL (TOWER BOOM) HYDRAULIC DIAGRAM (VICKERS VALVES AND HYDRAULIC BOOM LIMIT SWITCHES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**LIFT AND LEVEL (TOWER BOOM) HYDRAULIC DIAGRAM (VICKERS VALVES AND HYDRAULIC BOOM LIMIT SWITCHES)**	
	2791487	Ref	**Gas and Diesel Machines**	D
	2791387	Ref	**Electric Machines**	E
1	2220577	2	Fitting, Straight	
3	2750991	1	Hose	
4	2220343	1	Fitting, Straight (Gas and Diesel Machines)	
4	2180423	1	Fitting, Orifice (.078) (Electric Machines)	
4	2180548	1	Fitting, Modified Straight (Electric Machines)	
5	2220604	2	Fitting, Tee	
6	2751163	1	Hose	
7	2220399	2	Fitting, Straight	
8	2751164	1	Hose	
9	2200283	1	Fitting, Coupling	
10	2751133	1	Hose	
11	4640160	1	Valve, Relief	
12	2751110	1	Hose	
13	2220635	1	Fitting, Tee (Gas and Diesel Machines)	
14	2220703	2	Fitting, 90	
15	2750911	1	Hose	
16	2220343	1	Fitting, Straight	
17	2220582	1	Fitting, Straight (Gas and Diesel Machines)	
18	2220609	1	Fitting, Reducer (Gas and Diesel Machines)	
19	2750891	1	Hose (Gas and Diesel Machines)	
20	2220472	1	Fitting, 90 (Gas and Diesel Machines)	
21	2751899	1	Hose (Gas and Diesel Machines)	
22	2220385	1	Fitting, Tee (Gas and Diesel Machines)	
23	2220618	1	Fitting, Reducer (Gas and Diesel Machines)	
	0100020	AR	Sealant, Pipe	
	2901310	1	Resynchronizing Kit (Standard January 1995 to Present)	

FIGURE 6-5. LIFT AND SLAVE (MAIN BOOM) HYDRAULIC DIAGRAM

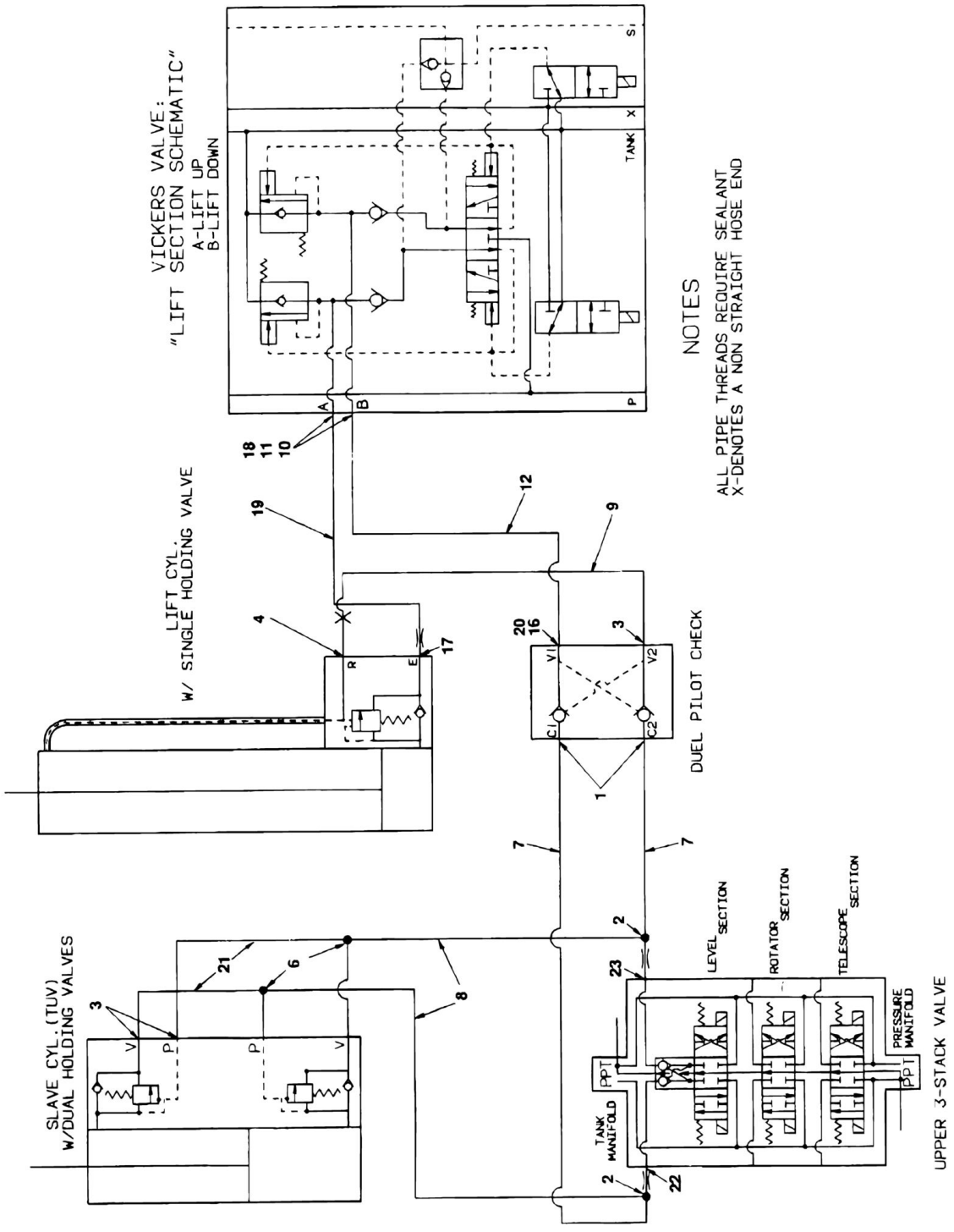


FIGURE 6-5. LIFT AND SLAVE (MAIN BOOM) HYDRAULIC DIAGRAM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**LIFT AND SLAVE (MAIN BOOM) HYDRAULIC DIAGRAM**	
	2792009	Ref	**Gas and Diesel Machines**	-
	2792011	Ref	**Electric Machines**	B
1	2220371	2	Fitting, Straight	
2	2220579	2	Fitting, Tee	
3	2220473	3	Fitting, 90	
4	2180548	1	Fitting, Modified (Gas and Diesel Machines)	
4	2180448	1	Fitting, Orifice (.062) (Gas and Diesel Machines) **(Prior to SN 27346)**	
4	2180380	1	Fitting, Orifice (.062) (Gas and Diesel Machines) **(SN 27346 to Present)**	
4	2220343	1	Fitting, Straight (Electric Machines)	
6	2220899	2	Fitting, Tee	
7	2751113	2	Hose	
8	2751161	2	Hose	
9	2750910	1	Hose	
10	2220501	2	Fitting, Reducer (Gas and Diesel Machines Only)	
11	2220221	2	Fitting, Reducer	
12	2751912	1	Hose (Gas and Diesel Machines)	
12	2751911	1	Hose (Electric Machines)	
16	2220472	1	Fitting, 90	
17	2220585	1	Fitting, 90 (Gas and Diesel Machines)	
17	2180630	1	Fitting, 90 Modified (Electric Machines)	
17	2180631	1	Fitting, Orifice (.062) (Electric Machines)	
18	2220609	2	Fitting, Reducer (Gas and Diesel Machines)	
18	2220582	2	Fitting, Straight (Electric Machines)	
19	2751911	1	Hose (Gas and Diesel Machines)	
19	2751912	1	Hose (Electric Machines)	
20	2220654	1	Fitting, 90	
21	2750918	2	Hose	
22	2220473	1	Fitting, 90 (Gas and Diesel Machines)	
22	2180480	1	Fitting, Modified Straight (Electric Machines)	
22	2180724	1	Fitting, Orifice (Electric Machines)	
23	2220371	1	Fitting, Straight (Gas and Diesel Machines)	
23	2180480	1	Fitting, Modified Straight (Electric Machines)	
23	2180615	1	Fitting, Orifice (.047) (Electric Machines)	

FIGURE 6-6. PUMP HYDRAULIC DIAGRAM (VICKERS VALVES - FORD GAS AND DEUTZ DIESEL MACHINES)

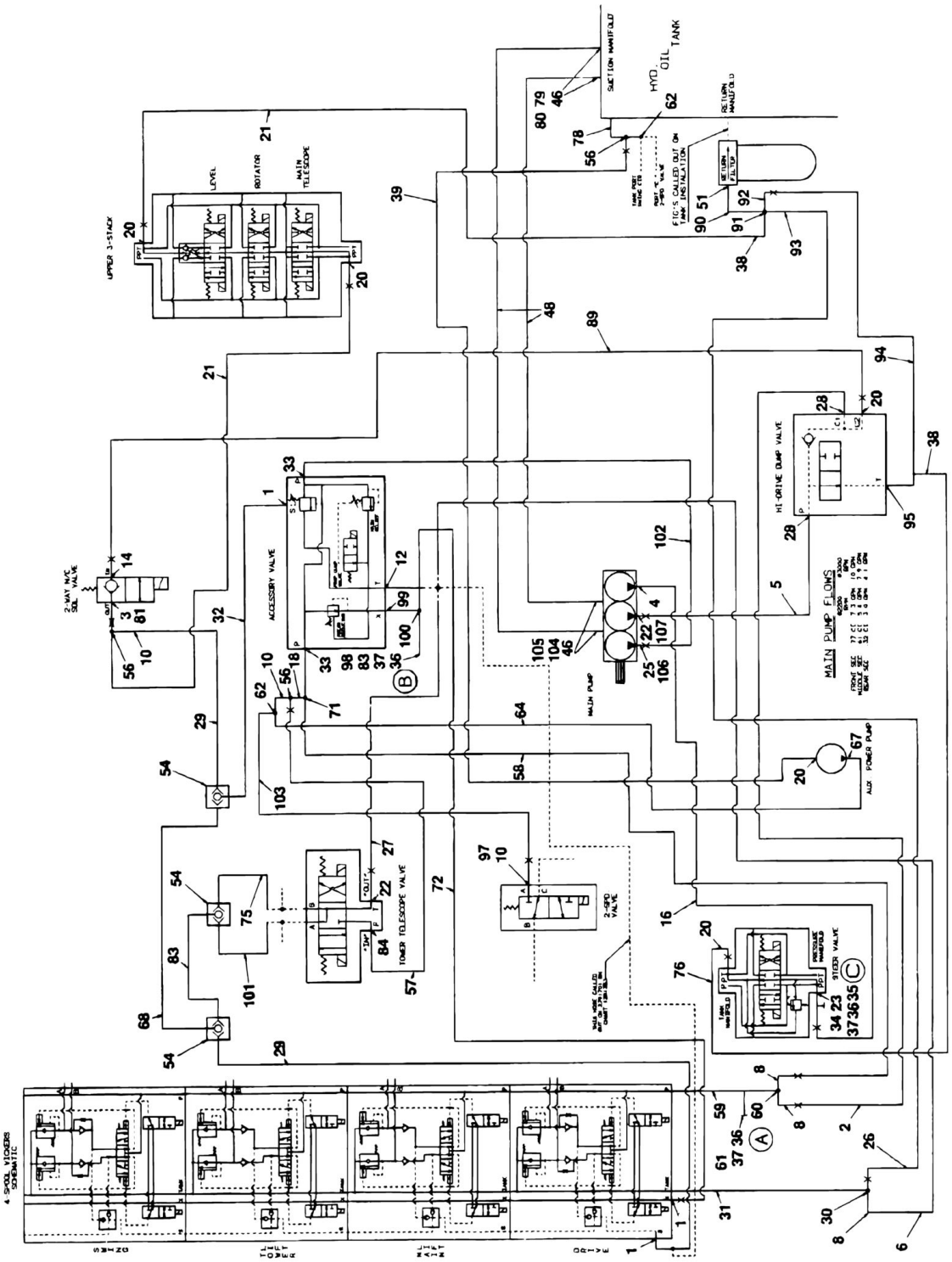


FIGURE 6-6. PUMP HYDRAULIC DIAGRAM (VICKERS VALVES - FORD GAS AND DEUTZ DIESEL MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791977	Ref	**HYDRAULIC DIAGRAM - PUMP (VICKERS VALVES FORD GAS AND DEUTZ DIESEL MACHINES)**	B
1	2220582	3	Fitting, Straight	
2	2750972	1	Hose	
3	2180479	1	Fitting, Straight (Modified)	
4	2220372	1	Fitting, Straight	
5	2751467	1	Hose	
6	2750970	1	Hose	
8	2220622	3	Fitting, Reducer	
10	2220609	4	Fitting, Reducer	
12	2220375	1	Fitting, Straight	
14	2220628	1	Fitting, 90	
16	2751004	1	Hose	
18	2220619	1	Fitting, Reducer	
20	2220371	5	Fitting, Straight	
21	2751165	2	Hose	
22	2220373	1	Fitting, Straight	
23	2220399	1	Fitting	
25	4640744	1	Valve, Check	
26	2751341	1	Hose	
27	2750968	1	Hose	
28	2220596	2	Fitting, 90	
29	2751015	2	Hose	
30	2220682	1	Fitting, Tee	
31	2220435	1	Fitting, Straight	
32	2750900	1	Hose	
33	2220366	2	Fitting, 90	
34	2220052	1	Fitting, Swivel	
35	2220752	1	Fitting, Tee	
36	2220428	3	Fitting, Coupling	
37	2220429	3	Cap, Dust	
38	2220773	2	Fitting, 90	
39	2750991	1	Hose	
46	1320033	8	Clamp	
48	2720343	138 in/3.5m	Hose (2 Lengths 69in Each)	
51	2220275	1	Fitting, Reducer	
54	4640574	3	Valve, Shuttle	
56	2220635	3	Fitting, Tee	
57	2750990	1	Hose	
58	2750928	1	Hose	
59	2220451	1	Fitting, Straight	
60	2180663	1	Fitting, Modified Tee	
61	2220820	1	Fitting, 90	
62	2220605	2	Fitting, Tee	
64	2751021	1	Hose	
67	2220582	1	Fitting, Straight	
68	2751020	1	Hose	
71	2220385	1	Fitting, Tee	

SECTION 6 - HYDRAULIC

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
72	2751010	1	Hose	
75	2750902	1	Hose	
76	2750916	1	Hose	
78	2220703	1	Fitting, Nipple	
79	2220377	2	Fitting, Modified	
80	2210003	2	Fitting, Straight Barbed	
81	2180682	1	Fitting, Orifice (.109)	
83	2751394	2	Hose	
84	2220473	1	Fitting, 90	
89	2751002	1	Hose	
90	2220403	1	Fitting, Straight	
91	2180642	1	Fitting, Modified Tee	
92	2220624	1	Fitting, Reducer	
93	2220710	1	Fitting, Reducer	
94	2750757	1	Hose	
95	2180491	1	Fitting, Modified	
97	4640780	1	Valve, Check	
98	2220414	1	Fitting	
99	2220727	1	Fitting	
100	2220584	1	Fitting, Tee	
101	2750901	1	Hose	
102	2750759	1	Hose	
103	2751017	1	Hose	
104	2220376	2	Fitting	
105	2210014	2	Fitting	
106	2220810	1	Fitting	
107	2220374	1	Fitting	
	0100020	AR	Sealant, Thread	

FIGURE 6-7. PUMP HYDRAULIC DIAGRAM (VICKERS VALVES - ELECTRIC MACHINES)

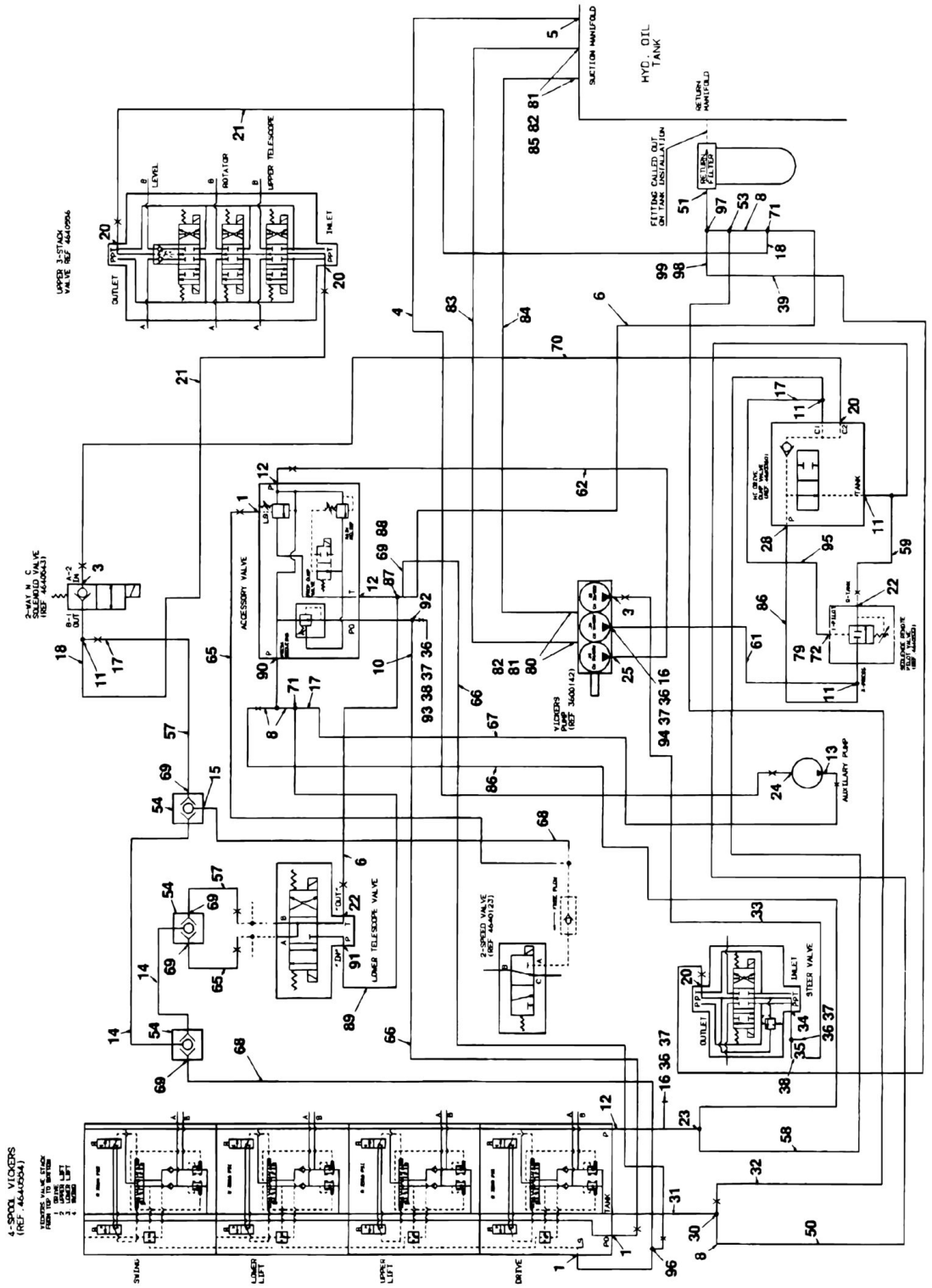


FIGURE 6-7. PUMP HYDRAULIC DIAGRAM (VICKERS VALVES - ELECTRIC MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791607	Ref	**HYDRAULIC DIAGRAM - PUMP (VICKERS VALVES - ELECTRIC MACHINES)**	C
1	2220582	3	Fitting, Straight	
3	2220372	2	Fitting, Straight	
4	2751003	1	Hose	
5	2220703	1	Fitting, 90	
6	2750970	2	Hose	
8	2220622	4	Fitting, Reducer	
10	2220609	1	Fitting, Reducer	
11	2220602	4	Fitting, Tee	
12	2220375	3	Fitting, Straight	
13	2220472	1	Fitting, 90	
14	2220261	2	Fitting, Nipple	
15	2220414	1	Fitting, Straight	
16	2220820	2	Fitting, 90	
17	2220618	3	Fitting, Reducer	
18	2220619	2	Fitting, Tee	
20	2220371	4	Fitting, Straight	
21	2751165	2	Hose	
22	2220373	2	Fitting, Straight	
23	2180325	1	Fitting, Modified Tee	
24	2220473	1	Fitting, 90	
25	4640744	1	Valve, Check	
28	2220596	1	Fitting, 90	
30	2220682	1	Fitting, Tee	
31	2220435	1	Fitting, Straight	
32	2750834	1	Hose	
33	2750910	1	Hose	
34	2220052	1	Fitting, Straight	
35	2220752	1	Fitting, Tee	
36	2220428	4	Fitting, Coupling	
37	2220429	4	Cap, Dust	
38	2220399	2	Fitting, Straight	
39	2750990	1	Hose	
50	2750976	1	Hose	
51	2220696	1	Fitting, Reducer	
53	2220700	1	Fitting, Tee	
54	4640013	3	Valve, Shuttle	
57	2750889	2	Hose	
58	2750763	1	Hose	
59	2750977	1	Hose	
61	2751502	1	Hose	
62	2750972	1	Hose	
65	2751018	2	Hose	
66	2751412	2	Hose	
67	2751017	1	Hose	
68	2751020	2	Hose	
69	2220416	5	Fitting, 90	
70	2751003	1	Hose	
71	2220385	2	Fitting, Tee	

SECTION 6 - HYDRAULIC

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
72	2180540	1	Fitting, Modified Straight	
79	2180660	1	Fitting, Orifice (.047)	
80	2220408	2	Fitting, Straight	
81	2210005	4	Fitting, Barbed	
82	1320030	4	Clamp	
83	2720292	23 in	Hose, Suction	
84	2720298	18 in	Hose, Suction	
85	2220356	2	Fitting, 45	
86	2750757	2	Hose	
87	2180325	1	Fitting, Modified	
88	2220909	1	Fitting, Modified	
89	2750968	1	Hose	
90	2220695	1	Fitting, Tee	
91	2220600	1	Fitting	
92	2220606	1	Fitting, Tee	
93	2751851	1	Hose	
94	2180491	1	Fitting, Modified	
95	2751010	1	Hose	
96	2220605	1	Fitting	
97	2220681	1	Fitting	
98	2220621	1	Fitting	
99	2220507	1	Fitting	
	0100020	AR	Sealant	

FIGURE 6-8. ROTATION HYDRAULIC DIAGRAM

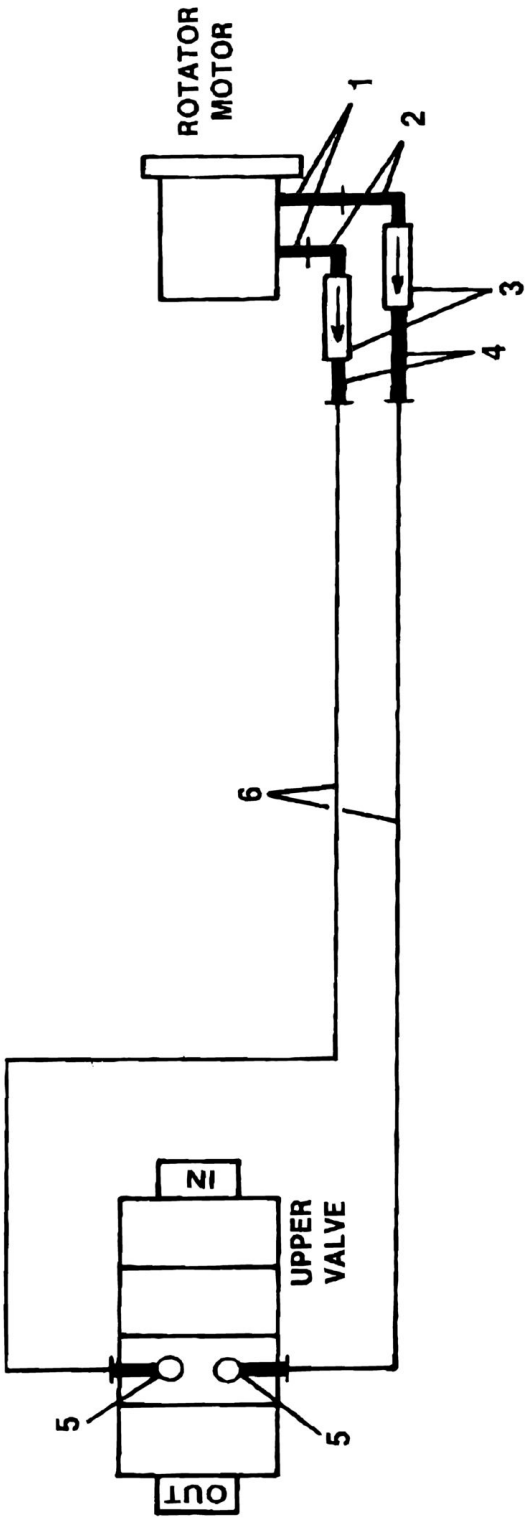


FIGURE 6-8. ROTATION HYDRAULIC DIAGRAM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791361	Ref	**HYDRAULIC DIAGRAM - ROTATION**	-
1	2220816	2	Fitting, Adapter	
2	2220261	2	Fitting, Nipple	
3	4640383	2	Valve, Restrictor	
4	2220416	2	Fitting, 90	
5	2220582	2	Fitting, Straight	
6	2751897	2	Hose	
	0100020	AR	Sealant	

FIGURE 6-9. STEER WITH SWIVEL HYDRAULIC DIAGRAM

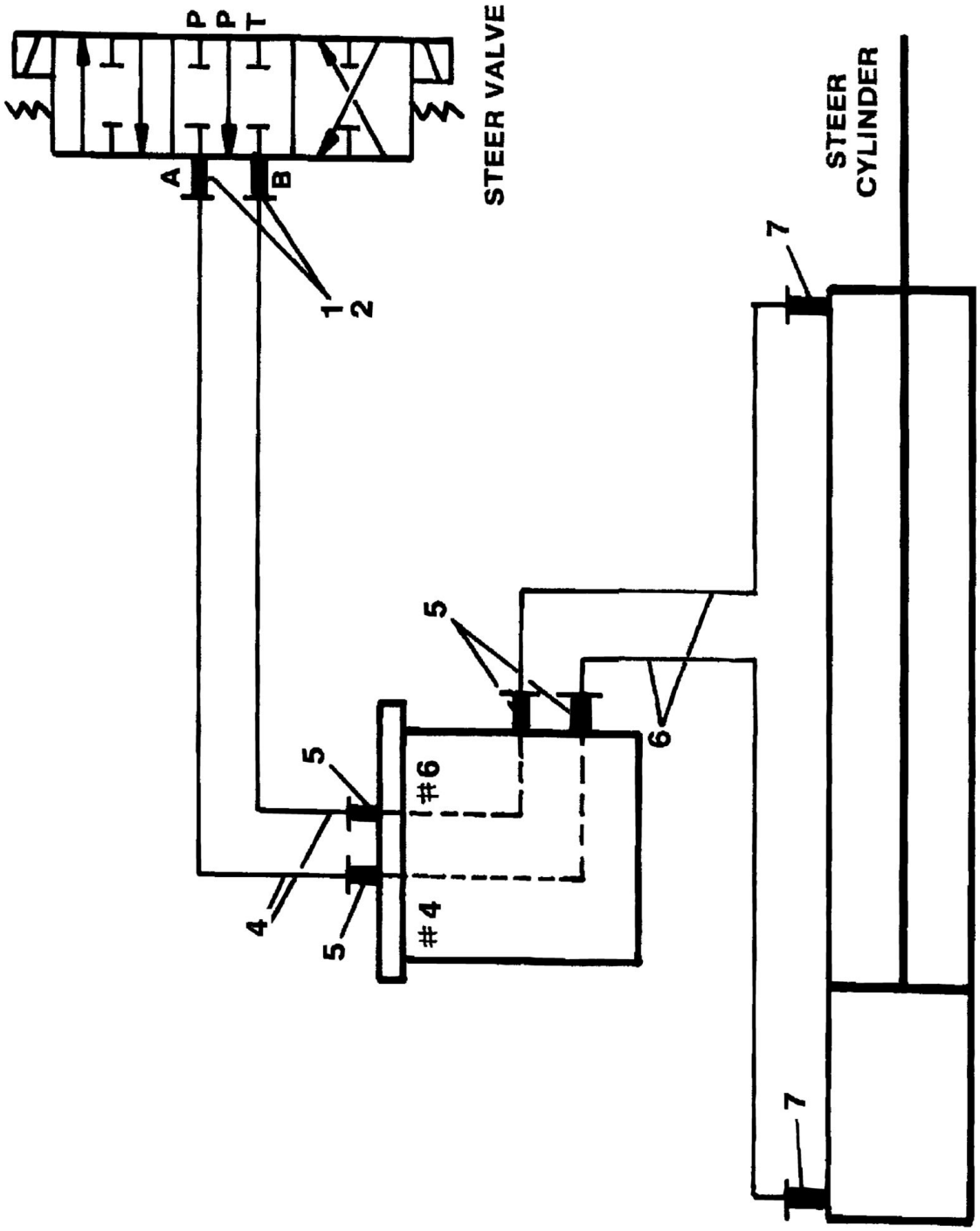


FIGURE 6-9. STEER WITH SWIVEL HYDRAULIC DIAGRAM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**HYDRAULIC DIAGRAM - STEER WITH SWIVEL**	
	2791383	Ref	**2WD 6ft-6in Wide Machines with Fixed Axle**	B
	2791473	Ref	**2WD 5ft-9in Wide Machines With Fixed Axle**	-
	2791382	Ref	**2WD 6ft-6in Wide Machines With Oscillating Axle**	B
	2791474	Ref	**2WD 5ft-9in Wide Machines With Oscillating Axle**	-
	2791397	Ref	**4WD 6ft-6in Wide Machines With Oscillating Axle**	A
1	2180699	2	Fitting, 90 Modified (2WD 6ft-6in Wide Machines)	
2	2180660	2	Orifice (.0469) (2WD 6ft-6in Wide Machines)	
2	0100011	AR	Loctite	
2	2220472	2	Fitting, 90 (2WD 5ft-9in Wide Machines and all 4WD)	
4	2750899	2	Hose (4WD)	
4	2750760	2	Hose (2WD)	
5	2220414	4	Fitting, Straight	
6	2751428	2	Hose (2WD with Fixed Axle)	
6	2751026	2	Hose (2WD with Fixed oscillating Axle)	
6	2750756	2	Hose (4WD - All Machines)	
7	2220414	2	Fitting, Straight (2WD with Fixed Axle)	
7	2220416	2	Fitting, 90 (2WD With Oscillating Axle and all 4WD)	
	0100020	AR	Sealant	

FIGURE 6-10. SWING HYDRAULIC DIAGRAM (WITH VICKERS VALVES)

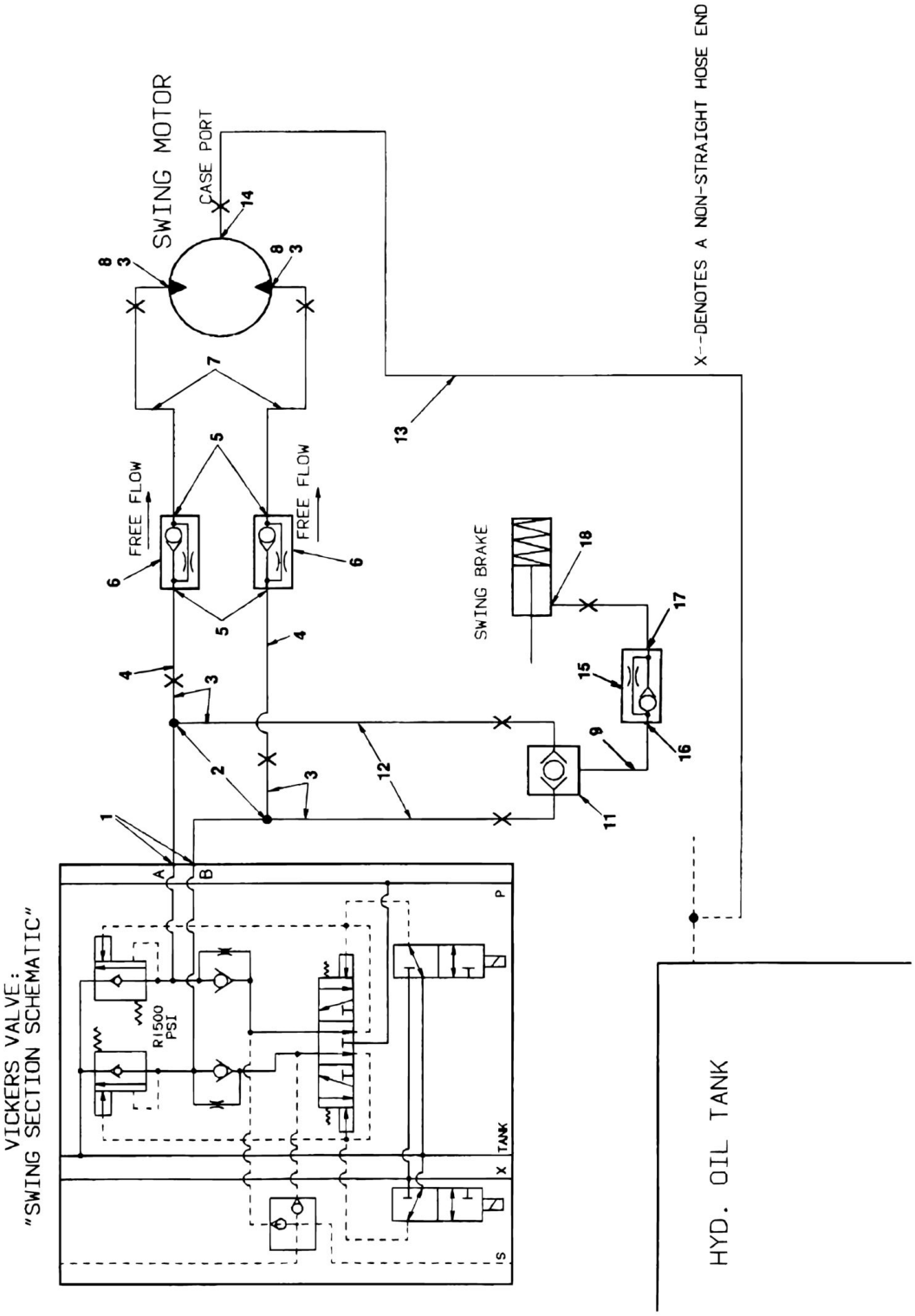


FIGURE 6-10. SWING HYDRAULIC DIAGRAM (WITH VICKERS VALVES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**SWING HYDRAULIC DIAGRAM (WITH VICKERS VALVES)**	
	2791964	Ref	**Gas and Diesel Machines**	A
	2791965	Ref	**Electric Machines**	C
1	2220221	2	Fitting, Reducer	
2	2220606	2	Fitting, Tee	
3	2220609	6	Fitting, Reducer	
4	2752436	2	Hose (Electric Machines)	
4	2752435	2	Hose (Gas and Diesel Machines)	
5	2220415	5	Fitting, Straight	
6	4640752	2	Valve, Restrictor (Electric Machines)	
6	4640778	2	Valve, Restrictor (Gas and Diesel Machines)	
7	2752445	2	Hose	
8	2220497	2	Fitting, Straight	
9	2752437	1	Hose	
11	4640574	1	Valve, Shuttle	
12	2752433	2	Hose	
13	2750899	1	Hose (Electric Machines)	
13	2752437	1	Hose (Gas and Diesel Machines)	
14	2220415	1	Fitting, Straight (Electric Machines)	
14	2220466	1	Fitting, 90 (Gas and Diesel Machines)	
15	4640213	1	Valve, Restrictor (.015)	
16	2220414	1	Fitting, Straight	
17	2220261	1	Fitting, Straight	
18	2220110	1	Fitting, 90	

FIGURE 6-11. TELESCOPE (MAIN BOOM) HYDRAULIC DIAGRAM

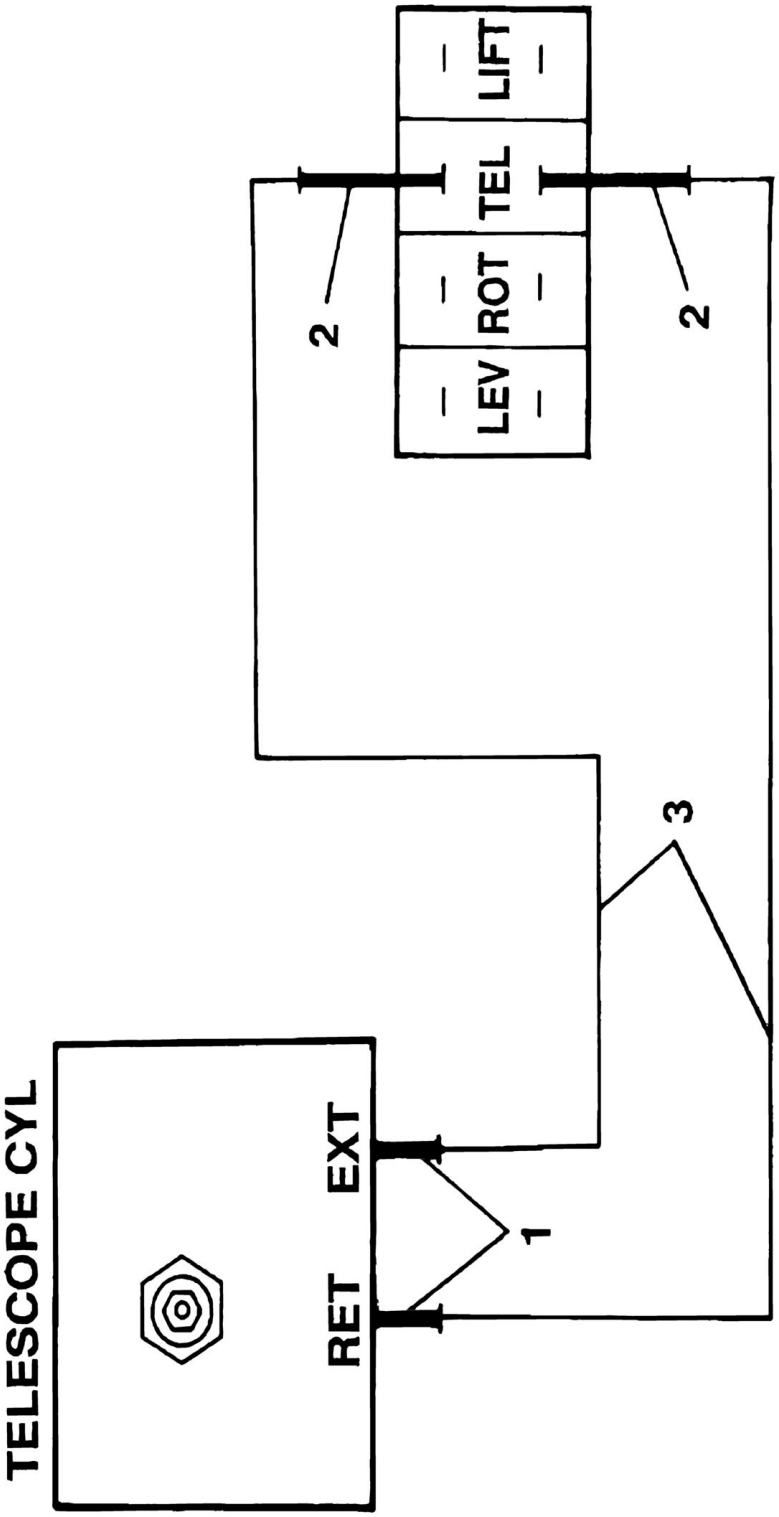


FIGURE 6-11. TELESCOPE (MAIN BOOM) HYDRAULIC DIAGRAM

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791370	Ref	**TELESCOPE (MAIN BOOM) HYDRAULIC DIAGRAM**	A
1	2220416	2	Fitting, 90	
2	2220582	2	Fitting, Straight	
3	2750889	2	Hose	
	0100020	AR	Sealant	

FIGURE 6-12. TELESCOPE (TOWER BOOM) HYDRAULIC DIAGRAM (FORD GAS AND DEUTZ DIESEL)

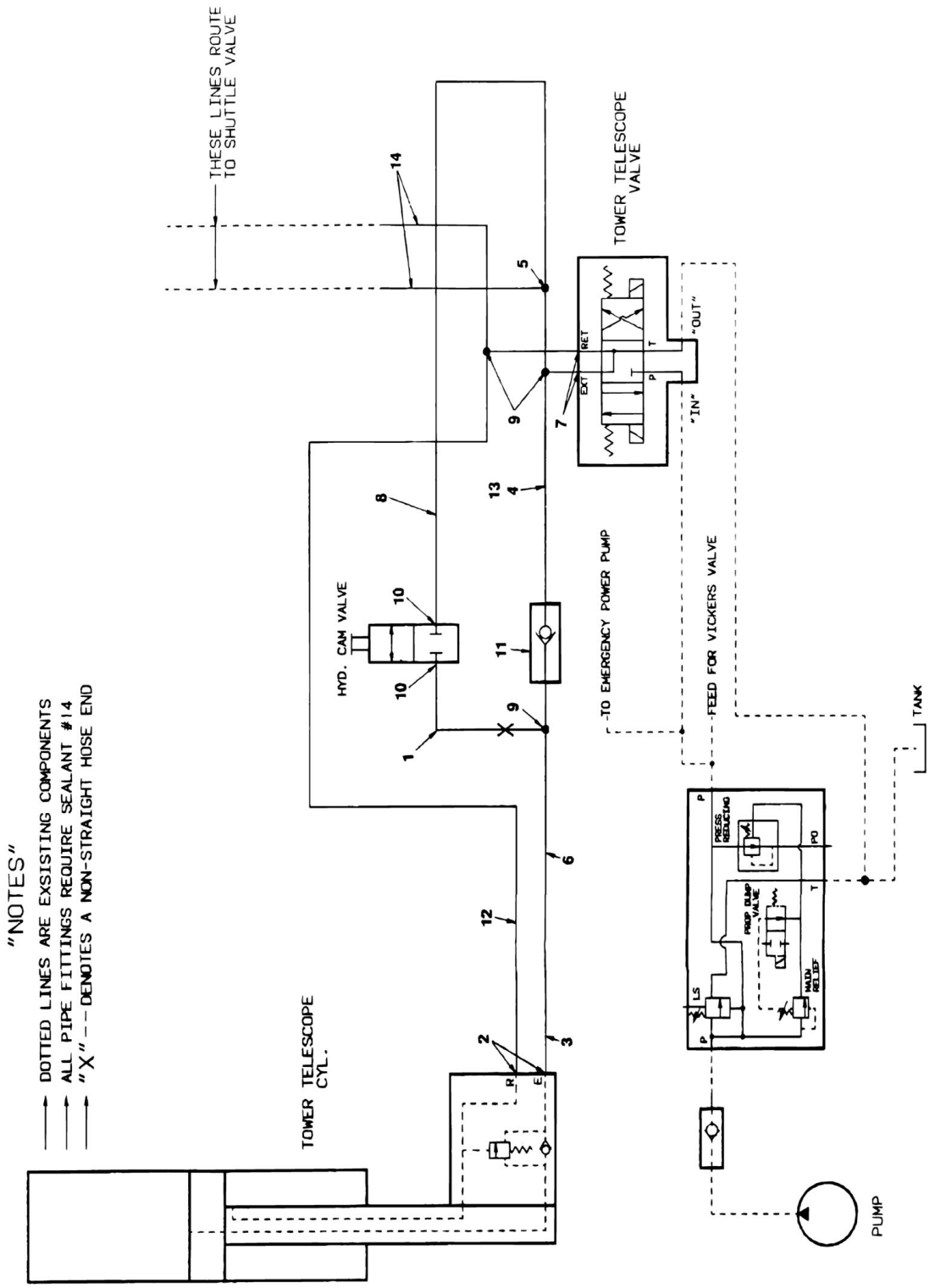


FIGURE 6-12. TELESCOPE (TOWER BOOM) HYDRAULIC DIAGRAM (FORD GAS AND DEUTZ DIESEL)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791489	Ref	**TELESCOPE (TOWER BOOM) HYDRAULIC DIAGRAMS**	D
1	2751006	1	Hose	
2	2220473	2	Fitting, 90	
3	2220507	1	Fitting, 90	
4	2220741	1	Fitting	
5	2220635	1	Fitting, Tee	
6	2751111	1	Hose	
7	2220446	2	Fitting	
8	2751155	1	Hose	
9	2220604	3	Fitting, Tee	
10	2220703	2	Fitting, 90	
11	4640037	1	Valve, Check	
12	2750911	1	Hose	
13	2220280	1	Fitting, Nipple	
14	2220609	2	Fitting, Reducer	
	0100020	AR	Sealant, Pipe	

FIGURE 6-13. TELESCOPE (TOWER BOOM) HYDRAULIC DIAGRAM (ELECTRIC MACHINES)

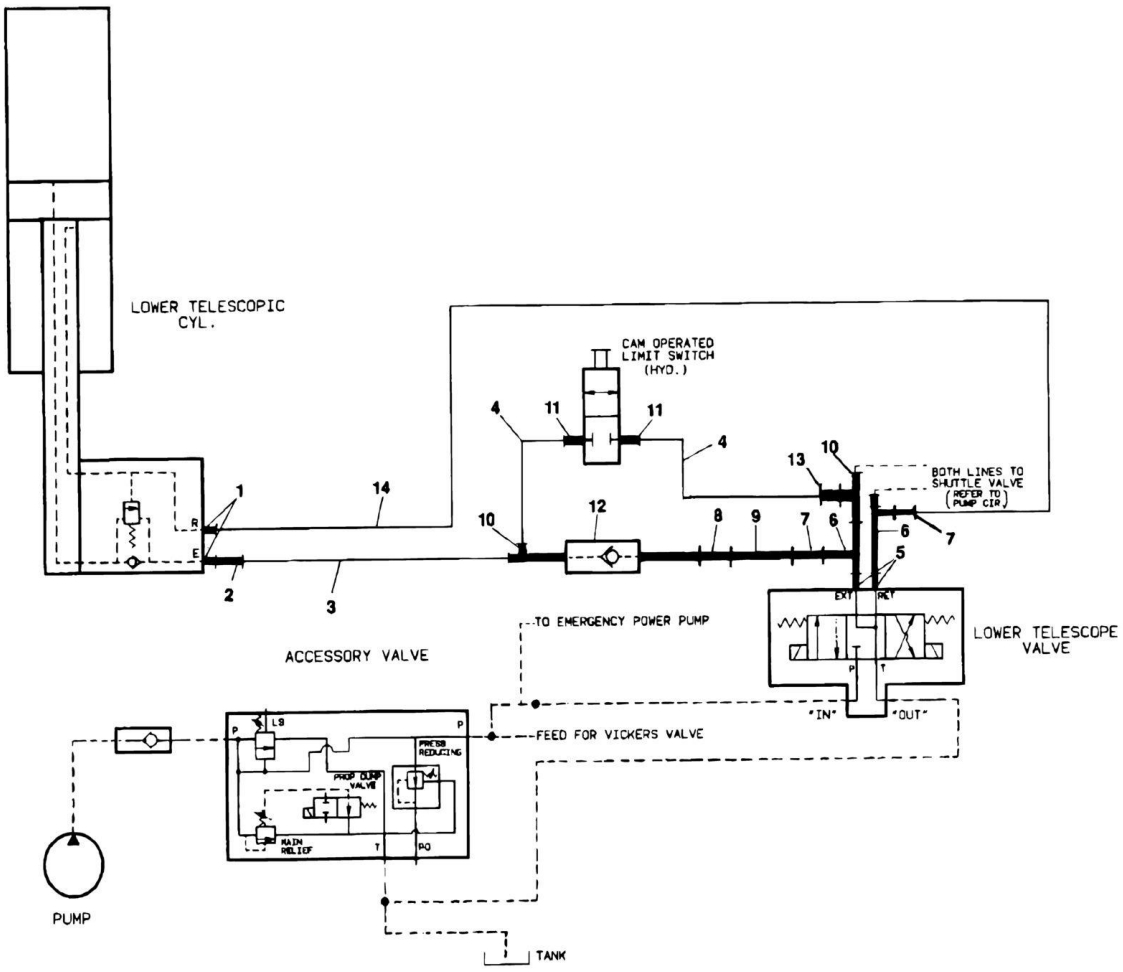


FIGURE 6-13. TELESCOPE (TOWER BOOM) HYDRAULIC DIAGRAM (ELECTRIC MACHINES)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791419	Ref	**HYDRAULIC DIAGRAM - TELESCOPE - TOWER BOOM (ELECTRIC MACHINES)**	D
1	2220473	2	Fitting, 90	
2	2220507	1	Fitting, 90	
3	2750916	1	Hose	
4	2751834	2	Hose	
5	2220446	2	Fitting	
6	2220604	2	Fitting, Tee	
7	2220619	2	Fitting, Reducer	
8	2220741	2	Fitting, Adapter	
9	2220280	1	Fitting, Nipple	
10	2220608	2	Fitting, Tee	
11	2220703	2	Fitting, 90	
12	4640037	1	Valve, Check	
13	2220609	1	Fitting, Reducer	
14	2750911	1	Hose	
	0100020	AR	Sealant	

FIGURE 6-14. HYDRAULIC DIAGRAM LIST

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**NOTE: DIAGRAMS NOT SHOWN IS AVAILABLE FROM JLG SERVICE/PARTS DEPARTMENTS.**	
		Ref	**Axle Lockout Hydraulic Diagrams:**	
		Ref	**With Swivel:**	
	2791400	Ref	2WD 6ft-6in Wide Machines (Prior to June 1997)	
	2791883	Ref	2WD 6ft-6in Wide Machines (June 1997 to Present)	
	2791475	Ref	2WD 5ft-9in Wide Machines	
	2791394	Ref	4WD 6ft-6in Wide Machines (Prior to June 1991)	
	2791400	Ref	4WD 6ft-6in Wide Machines (June 1991 to June 1997)	
	2791883	Ref	4WD 6ft-6in Wide Machines (June 1997 to Present)	
		Ref	**Without Swivel:**	
	2791384	Ref	2WD 6ft-6in Wide Machines	
	2791470	Ref	2WD 5ft-9in Wide Machines	
		Ref	**Brake With Pressure Reducing Valve Hydraulic Diagrams:**	
	2791547	Ref	**2WD (Prior to January 1992)**	
	2791547	Ref	**4WD (September 1989 to August 1992)**	
	4640522	Ref	Valve, Pressure Reducing	
	4640523	Ref	Cartridge	
	2900698	Ref	Seal Kit	
		Ref	**Drive Hydraulic Diagrams - Stepper Valves:**	
		Ref	**With Swivel:**	
	2791363	Ref	2WD 6ft-6in Wide Machines (Kohler, Ford, Deutz and Electric Machines)	
	2791457	Ref	2WD 6ft-6in Wide Machines (Kubota Machines)	
	2791468	Ref	2WD 5ft-9in Wide Machines	
	2791970	Ref	2WD 5ft-9in Wide Machines	
	2791972	Ref	4WD 6ft-6in Wide Machines	
	1281915	Ref	4WD 6ft-6in Wide Machines	
		Ref	**Drive Hydraulic Diagrams - Vickers Valves:**	
		Ref	**With Swivel:**	
	2791391	Ref	2WD 6ft-6in Wide Machines (Kohler and Electric Machines)	
	2791485	Ref	2WD 6ft-6in Wide Machines (Ford and Deutz Machines Built Through 1992)	
	2791976	Ref	2WD 6ft-6in Wide Machines (Ford and Deutz Machines Built 1993 to Present)	
	2792057	Ref	2WD 5ft-9in Wide Machines (Electric Machines)	
	2791888	Ref	2WD 5ft-9in Wide Machines (Ford and Deutz Machines Built Through 1992)	
	2791975	Ref	2WD 5ft-9in Wide Machines (Ford and Deutz Machines Built 1993 to Present)	
	2791375	Ref	4WD 6ft-6in Wide Machines (Built Through 1992)	
	1280923	Ref	4WD 6ft-6in Wide Machines (Built Through 1992)	
	2791971	Ref	4WD 6ft-6in Wide Machines with 8.75in & 9.5in Tires (Built 1993 to Present)	
	1281915	Ref	4WD 6ft-6in Wide Machines with 8.75in & 9.5in Tires (Built 1993 to Present)	
	2792173	Ref	4WD 6ft-6in Wide Machines with 12.5in Tires (Built 1993 to Present)	
	1281915	Ref	4WD 6ft-6in Wide Machines with 12.5in Tires (Built 1993 to Present)	
		Ref	**Drive Hydraulic Diagrams - Vickers Valves:**	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Without Swivel:**	
	2791392	Ref	2WD 6ft-6in Wide Machines (Kohler and Electric Machines)	
	2791486	Ref	2WD 6ft-6in Wide Machines (Ford and Deutz Machines)	
	2791378	Ref	4WD 6ft-6in Wide Machines (Ford and Deutz Machines)	
	1280924	Ref	4WD 6ft-6in Wide Machines (Ford and Deutz Machines)	
		Ref	**Lift and Level (Tower Boom) Hydraulic Diagrams:**	
	2791367	Ref	Stepper Valves and Electric Boom Limit Switches (Prior to April 1988)	
	2791417	Ref	Stepper Valves and Electric Boom Limit Switches (April 1988 to May 1988)	
	2791407	Ref	Stepper Valves and Hydraulic Boom Limit Switches (May 1988 to Present)	
	2791387	Ref	Vickers Valves and Hydraulic Boom Limit Switches (Kohler and Electric Machines)	
	2791487	Ref	Vickers Valves and Hydraulic Boom Limit Switches (Ford and Deutz Machines)	
		Ref	**Lift and Slave (Main Boom) Hydraulic Diagrams:**	
	2791364	Ref	Stepper Valves (Prior to October 1992)	
	2792010	Ref	Stepper Valves and TUV Cylinders (October 1992 to Present)	
	2791390	Ref	Vickers Valves (Kohler and Electric Machines Built Prior to October 1992)	
	2792011	Ref	Vickers Valves and TUV Cylinders (Kohler and Electric Machines Built October 1992 to Present)	
	2791488	Ref	Vickers Valves (Ford and Deutz Machines Built Prior to October 1992)	
	2792009	Ref	Vickers Valves and TUV Cylinders (Ford and Deutz Machines Built October 1992 to Present)	
		Ref	**Lift-Up Relief Hydraulic Diagrams:**	
	2791658		Ford Powered Machines (Ford Spec Only)	
	2791543		Kohler Powered Machines (Ford Spec Only)	
		Ref	**Manual Descent Hydraulic Diagrams:**	
	2791846	Ref	Domestic Option	
	0251953	Ref	Japanese Standard	
	0251664	Ref	**Oil Cooler Hydraulic Diagram**	
	2791597	Ref	**Power Tool Hydraulic Diagram**	
		Ref	**Pump Hydraulic Diagrams - Stepper Valves:**	
	2791365	Ref	Kohler Machines	
	2791455	Ref	Kubota Machines	
	2791366	Ref	Electric Machines	
		Ref	**Pump Hydraulic Diagrams - Vickers Valves:**	
	2791484	Ref	Ford and Kubota Machines (Prior to March 1990)	
	2791674	Ref	Ford and Deutz Machines (March 1990 Through 1992)	
	2791977	Ref	Ford and Deutz Machines (1993 to Present)	
	2791386	Ref	Kohler Machines	
	2791607	Ref	Electric Machines	
	2792079	Ref	Electric U/L Machines	
	2791361	Ref	**Rotate Hydraulic Diagram**	
	2791701	Ref	**Sequence Line Hydraulic Diagram (Ford Machines)**	
	1281353	Ref	**Sequence Line Hydraulic Diagram (Ford Machines)**	
		Ref	**Steer Hydraulic Diagrams:**	
		Ref	**With Swivel:**	
	2791383	Ref	2WD 6ft-6in Wide Machines with Fixed Axle	
	128026	Ref	2WD 6ft-6in Wide Machines with Fixed Axle	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2791382	Ref	2WD 6ft-6in Wide Machines with Oscillating Axle	
	128026	Ref	2WD 6ft-6in Wide Machines with Oscillating Axle	
	2791473	Ref	2WD 5ft-9in Wide Machines with Fixed Axle	
	128026	Ref	2WD 5ft-9in Wide Machines with Fixed Axle	
	2791474	Ref	2WD 5ft-9in Wide Machines with Oscillating Axle	
	128026	Ref	2WD 5ft-9in Wide Machines with Oscillating Axle	
	2791397	Ref	4WD 6ft-6in Wide Machines with 8.75in & 9.5in Tires	
	2792172	Ref	4WD 6ft-6in Wide Machines with 12in Tires	
		Ref	**Without Swivel:**	
	2791381	Ref	2WD 6ft-6in Wide Machines with Fixed Axle	
	128025	Ref	2WD 6ft-6in Wide Machines with Fixed Axle	
	2791380	Ref	2WD 6ft-6in Wide Machines with Oscillating Axle	
	128025	Ref	2WD 6ft-6in Wide Machines with Oscillating Axle	
	2791471	Ref	2WD 5ft-9in Wide Machines with Fixed Axle	
	128025	Ref	2WD 5ft-9in Wide Machines with Fixed Axle	
	2791472	Ref	2WD 5ft-9in Wide Machines with Oscillating Axle	
	128025	Ref	2WD 5ft-9in Wide Machines with Oscillating Axle	
	2791396	Ref	4WD 6ft-6in Wide Machines	
		Ref	**Swing Hydraulic Diagrams:**	
		Ref	**With Stepper Valves**	
	2791368	Ref	Ford, Kohler and Kubota Machines	
	2791398	Ref	Electric Machines Built Through 1992	
	2791966	Ref	Electric Machines Built (1993 to Present)	
		Ref	**With Vickers Valves**	
	2791389	Ref	Kohler and Electric Machines Built Through 1992	
	2791965	Ref	Electric Machines Built (1993 to Present)	
	2791491	Ref	Ford and Deutz Machines Built Through 1992	
	2791964	Ref	Ford and Deutz Machines Built (1993 to Present)	
	2791370	Ref	**Telescope (Main Boom) Hydraulic Diagram**	
		Ref	**Telescope (Tower Boom) Hydraulic Diagrams:**	
		Ref	**With Stepper Valves:**	
	2791418	Ref	Machines with Electric Boom Limit Switches (Prior to May 1988)	
	2791408 Rev A	Ref	Machines with Hydraulic Boom Limit Switches and Dana Cylinder (May 1988 to July 1988)	
	2791408 Rev B & C	Ref	Machines with Hydraulic Boom Limit Switches and Commercial Cylinder (July 1988 to Present)	
		Ref	**Telescope (Tower Boom) Hydraulic Diagrams:**	
		Ref	**With Vickers Valves:**	
	2791419	Ref	Kohler and Electric Machines	
	2792078	Ref	Electric U/L Machines	
	2791489	Ref	Ford and Deutz Machines	
	2791388	Ref	Special for SNs 11407, 11416 & 11418	
		Ref	**Tow Hydraulic Diagrams:**	
	2791789	Ref	2WD 6ft-6in Wide Machines without Stop Blocks	
	2791788	Ref	2WD 5ft-9in Wide Machines without Stops Blocks	
	2791295	Ref	2WD 6ft-6in Wide Machines with Stop Blocks	
	2791764	Ref	4WD 6ft-6in Wide Machines	

SECTION 7 - ELECTRICAL

FIGURE 7-1. ELECTRICAL DIAGRAM LIST

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**Note: Diagrams not shown are available from the JLG Service Department.**	
	4931797	Ref	**ACCESSORY VALVE WIRING DIAGRAM**	A
	0250697	Ref	**AC MOTOR CONTROL WIRING DIAGRAM - 440V ELECTRIC MACHINES**	A
	4360270	1	Starter	
	1060343	17 ft	Cable, Electrical - 10/4	
	1060331	70 ft	Cable, Electrical - 16/4	
	2400028	1	Fuse - 20 Amp	
	4360271	1	Heater	
	3160169	1	Motor	
		Ref	**ALARMS WIRING DIAGRAM OPTIONS**	
		Ref	**Machines Built (Prior to May 1990):**	
	4931778	Ref	**Descent Alarm Wiring Diagram**	A
	3990001	3	Diode - 1 Amp	
	4360089	1	Flasher	
	3740049	1	Relay	
	4932098	Ref	**Motion Alarm Wiring Diagram**	A
	3990010	3	Diode 6 Amp	
	4931780	Ref	**Tilt Alarm Wiring Diagram**	A
	3740049	1	Relay	
	4360089	1	Flasher	
	4931779	Ref	**Travel Alarm Wiring Diagram**	A
		Ref	**Machines Built (May 1990 to October 1992):**	
	4932595	Ref	**Motion Alarm Wiring Diagram**	A
	1281985	Ref	**Motion Alarm Wiring Diagram**	A
	3740049	1	Relay	
	3990010	2	Diode - 6 Amp	
	4931947	Ref	**Travel/Back-up/Swing/Descent Wiring Diagram**	G
	1281985	Ref	**Travel/Back-up/Swing/Descent Wiring Diagram**	G
	3740049	1	Relay	
		Ref	**Machines Built (October 1992 to Present):**	
	4932639	Ref	**Motion Alarm Wiring Diagram (All except Electric Machines with Stepper Valves)**	2
	3740049	1	Relay	
	3990010	1	Diode 6 Amp	
	1060341	8 ft	Cable, Electrical - 16/2	
	4932640	Ref	**Motion Alarm Wiring Diagram (Electric Machines with Stepper Valves Only)**	-
	0253077	Ref	**Tilt Alarm Wiring Diagram**	-
	0140026	1	Alarm	
	4932637	Ref	**Travel Alarm Wiring Diagram (All except Electric Machines with Stepper Valves)**	-
	0610104	1	Card, Circuit	
	4932639	Ref	**Travel Alarm Wiring Diagram (Electric Machines with Stepper Valves Only)**	-
	4931735	Ref	**BATTERY CAPACITY INDICATOR WIRING DIAGRAM**	B
	4931824	Ref	**BATTERY CAPACITY INDICATOR WITH INTERRUPT WIRING DIAGRAM**	B
	3740058	1	Relay - 4PDT	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4120013	1	Base, Relay - 4PDT	
	3740066	1	Spring	
		Ref	**BEACON LIGHT WIRING DIAGRAM**	
	4931740	Ref	**Gas and Diesel Machines**	A
	4931703	Ref	**Electric Machines**	B
	4931942	Ref	**BEACON/STROBE LIGHT WIRING DIAGRAM - ELECTRIC MACHINES**	5
		Ref	**CONTACTOR BOX WIRING DIAGRAM**	B
	0239003	Ref	**Standard Electric Machines**	B
	4932341	Ref	**U/L Electric Machines**	B
		Ref	**DUAL FUEL WIRING DIAGRAM**	
	4931749	Ref	**Kohler Machines**	-
	4931749	Ref	**Ford Machines Built through Early 1990**	-
	4932047	Ref	**Ford Machines Built 1990 to Present**	B
	1281479	Ref	**Ford Machines Built 1990 to Present**	B
	4360201	1	Switch, Toggle (Select)	
	4921305	1	Harness, Dual Fuel	
	4932335	Ref	**Straight LP Wiring Diagram**	-
	1281479	Ref	**Straight LP Wiring Diagram**	-
	4931888	Ref	**ELECTRIC FUEL PUMP WIRING DIAGRAM - FORD MACHINES**	-
	4931992	Ref	**ENGINE WIRING DIAGRAM - DEUTZ F2L1011**	-
		Ref	**ENGINE DISTRESS / SHUTDOWN WIRING DIAGRAMS:**	
	0251537	Ref	**Engine Distress Wiring Diagram - Deutz Machines**	D
	1281525	Ref	**Engine Distress Wiring Diagram - Deutz Machines**	D
	4921361	1	Harness	
	4360065	1	Switch, Pressure	
	0250008	Ref	**Engine Distress Wiring Diagram - Ford Machines (Built Prior to November 1991) (Hood Mounted Distress Light)**	B
	4931598	Ref	**Engine Distress Wiring Diagram - Ford Machines (Built Prior to November 1991) (Hood Mounted Distress Light)**	B
	3740013	1	Relay	
	4360089	1	Flasher	
	2920034	1	Light	
	4360182	1	Switch, Oil Pressure	
	4360157	1	Switch, Water Temperature	
	0252625	Ref	**Engine Distress Wiring Diagram - Ford Machines (Built November 1991 to Present) (Platform Console Mounted Distress Light)**	5-E
	2920026	1	Light	
	4360182	1	Switch, Oil Pressure	
	4360157	1	Switch, Water Temperature	
	3740049	1	Relay	
	2920029	1	Bulb	
	0251682	Ref	**Engine Shutdown Wiring Diagram - Deutz Machines**	-
	3740049	1	Relay	
	4360065	1	Switch, Pressure	
	0251048	Ref	**FUEL INDICATOR AT PLATFORM WIRING DIAGRAM**	A
	4360265	1	Switch, LPG	
	2920026	1	Light, Indicator	
	2920029	1	Bulb	
		Ref	**GENERATOR WIRING DIAGRAM - 110V**	
	4931945	Ref	**Deutz**	A

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4931934	Ref	**Ford**	C-4
	4931770	Ref	**Kohler**	-
	3990001	1	Diode - 3.5 Amp (Deutz)	
	3990010	4	Diode - 6 Amp (Ford)	
	3740049	2	Relay, Bosch	
	4360294	1	Breaker, Circuit (Deutz)	
	4460027	1	Receptacle, Twist Lock (Ford)	
		Ref	**HEADLIGHT/TAILLIGHT WIRING DIAGRAM**	
	4931913	Ref	**12VDC**	A-2
	4932647	Ref	**48VDC**	A
		Ref	**HEATERS WIRING DIAGRAM**	
	4931998	Ref	**Ford/Deutz Machines**	
	4931784	Ref	**Kohler Machines**	
	1060016	AR	Cable, Electrical - 16/3	
	1060012	AR	Cable, Electrical - 12/4	
	4931867	Ref	**INVERTOR/DOUBLE BATTERY PACK WIRING DIAGRAM**	-
	4932490	Ref	**JAPANESE SPEC WIRING MODIFICATION**	
	0251664	Ref	**OIL COOLER WIRING DIAGRAM**	B
	4360181	1	Switch, Temperature	
	3740080	1	Relay, Sealed	
	4360287	1	Breaker, Circuit	
	0251619	Ref	**PANEL LIGHTS WIRING DIAGRAM**	A
	1281525	Ref	**PANEL LIGHTS WIRING DIAGRAM**	A
	2920024	3	Light, Panel	
		Ref	**PLATFORM WIRING DIAGRAMS OPTIONS**	
		Ref	**Stepper Valve Machines:**	
	4931743	Ref	**Gas/Diesel Machines with Electric Boom Limit Switches (Built Prior to May 1988)**	B
	4931786	Ref	**Gas/Diesel Machines with Hydraulic Boom Limit Switches (Built May 1988 to Present)**	B
	4931744	Ref	**Electric Machines with Electric Boom Limit Switches (Built Prior to May 1988)**	B
	4931788	Ref	**Electric Machines with Hydraulic Boom Limit Switches (Built May 1988 to Present)**	
	3990010	9	Diode - 6 Amp	
	1060012	9 ft	Cable, Electrical - 12/4	
		Ref	**PLATFORM WIRING DIAGRAMS OPTIONS**	
		Ref	**Vickers Valve Machine with PQ Controllers:**	
	4931984	Ref	**Gas/Diesel Machines (Built Prior to April 1990)**	A
	4932070	Ref	**Gas/Diesel Machines (Built April 1990 to January 1993)**	D
	4932598	Ref	**Gas/Diesel Machines (Built January 1993 to Present)**	B/-
	1282002	Ref	**Gas/Diesel Machines (Built January 1993 to Present)**	B/-
	3990010	AR	Diode - 6 Amp	
	1540002	1	Capacitor - 1000mf 25V (April 1990 to Present)	
	1060309	8 ft	Cable, Electrical - 12/4 (Prior to July 1995)	
	1060515	8 ft	Cable, Electrical - 12/4 (July 1995 to Present)	
	4931793	Ref	**Electric Machines (Standard)**	C
	4932338	Ref	**Electric Machines (U/L)**	B
	4932092	Ref	**Electric machines (440 VAC)**	-
	3990010	3	Diode - 6 Amp	
	1060012	7 ft	Cable, Electrical - 12/4 (Standard)	
	1060316	7 ft	Cable, Electrical - 16/5 (U/L)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**PLATFORM WIRING DIAGRAMS OPTIONS**	
		Ref	**Vickers Valve Machine with OEM Controllers:**	
	4931791	Ref	**Machines Built (Prior to October 1990)**	B
	4932325	Ref	**Machines Built (October 1990 to Present)**	-
	1060012	9 ft	Cable, Electrical - 12/4	
	3990010	3	Diode - 6 Amp	
	2400026	1	Fuse - 5 Amp	
		Ref	**PLATFORM BUMPER PROXIMITY SWITCHES ELECTRICAL DIAGRAM OPTIONS:**	
	1282190	Ref	**Chain Attach Bumper Proximity Switch (Soft Touch System) (Electrical Diagram)**	B
	4360057	1	Switch, Limit	
	4360274	1	Switch, Push-Button (Override)	
	3740049	2	Relay	
	4932075	Ref	**Welded-on Bumper Proximity Switch Electrical Diagram**	B
	3740045	1	Relay	
	4360274	1	Switch, Push Button (Override)	
		Ref	**PLATFORM WORKLIGHT WIRING DIAGRAM OPTIONS:**	
	2900068	Ref	**Machines Built (Prior to November 1992)**	F
	0253987	Ref	**Machines Built (November 1992 to Present)**	C
	0251610	Ref	**Machines with 48V U/L Options**	-
	2920095	2	Worklight	
	4931887	Ref	**POWER TOOL WIRING DIAGRAM**	-
	4932025	Ref	**POWER TOOL WIRING DIAGRAM**	-
		Ref	**PROXIMITY WIRING DIAGRAM**	
	4932075	Ref	**Standard Machines**	B
	4932661	Ref	**U/L Machines**	A
	0250698	Ref	**RECEPTACLE BOX WIRING DIAGRAM - 120VAC (440 VAC MACHINES)**	-
		Ref	**STANDARD WIRING DIAGRAMS - DEUTZ:**	
	4932056	Ref	**STANDARD WIRING DIAGRAMS - DEUTZ (Prior to January 1993)**	G
	4932613	Ref	**STANDARD WIRING DIAGRAMS - DEUTZ (January 1993 to Present)**	D
	4921265	1	Engine and Valve Harness	
	3990010	5	Diode - 6 Amp	
	3730095	1	Resistor 7.5 Ohm 10 Watt	
	1060016	20 ft	Cable, Electrical - 16/3	
		Ref	**STANDARD WIRING DIAGRAMS - FORD:**	
	4931926	Ref	**STANDARD WIRING DIAGRAMS - FORD (Prior to March 1990)**	B
	4932071	Ref	**STANDARD WIRING DIAGRAMS - FORD (March 1990 to January 1993)**	D
	4932614	Ref	**STANDARD WIRING DIAGRAMS - FORD (January 1993 to October 1994)**	D
	4932755	Ref	**STANDARD WIRING DIAGRAMS - FORD (October 1994 to Present)**	B
	4921167	1	Engine and Valve Harness (Prior to March 1990)	
	4921282	1	Engine and Valve Harness (March 1990 to Present)	
	1060016	20 ft	Cable, Electrical - 16/3	
	3990010	6	Diode - 6 Amp	
	3730095	1	Resistor 7.5 Ohm 10 Watt	
		Ref	**STANDARD WIRING DIAGRAMS - KOHLER:**	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4931741	Ref	**Stepper Valve Machines Built (Prior to May 1988)**	D
	4931785	Ref	**Stepper Valve Machine Built (May 1988 to Present)**	A
	4931789	Ref	**Vickers Valve Machines Built (May 1988 to Present)**	-
	3990010	10	Diode - 6 Amp	
	3990001	10	Diode - 3.5 Amp (Prior to May 1988)	
	4921054	1	Harness - Boom Angle (Prior to May 1988)	
	4921055	1	Harness - Length (Prior to May 1988)	
	4921056	1	Harness - Engine and Valve (Prior to May 1988)	
	4921118	1	Harness - Engine and Valve (May 1988 to Present - Stepper Valves)	
	4921122	1	Harness - Engine and Valve (May 1988 to Present - Vickers Valves)	
	1060016	20 ft	Cable, Electrical - 16/3	
	3730095	1	Resistor 7.5 Ohm 10 Watt (Vickers Valves)	
		Ref	**STANDARD WIRING DIAGRAMS - KUBOTA MACHINES:**	
	4931795	Ref	**Stepper Valve Machines**	A
	4931796	Ref	**Vickers Valve Machines**	B
	4921143	1	Harness - Engine and Valves (Stepper Valves)	
	4921144	1	Harness - Engine and Valves (Vickers Valves)	
	1060016	20 ft	Cable, Electrical - 16/3	
	3990010	9	Diode - 6 Amp	
	3730095	1	Resistor - 7.5 Ohm 10 Watt (Vickers Valves)	
		Ref	**STANDARD WIRING DIAGRAMS - ELECTRIC MACHINES:**	
	4931742	Ref	**Standard Electric Machines with Stepper Valves (Built Prior to May 1988)**	A
	4931787	Ref	**Standard Electric Machines with Stepper Valves (Built May 1988 to October 1989)**	A
	4931964	Ref	**Standard Electric Machines with Stepper Valves (Built October 1989 to Present)**	B
	3990010	9	Diode - 6 Amp	
	3990001	10	Diode - 3.5 Amp (Prior to May 1988)	
	1540003	1	Capacitor - 1600mf 50VDC	
	4921054	1	Harness - Boom Angle (Prior to May 1988)	
	4921055	1	Harness - Length (Prior to May 1988)	
	4921057	1	Harness - Motor and Valves (Prior to May 1988)	
	4921119	1	Harness - Motor and Valves (May 1988 to October 1989)	
	4921192	1	Harness - Motor and Valves (October 1989 to Present)	
	1060016	20 ft	Cable, Electrical 16/3 (Prior to October 1989)	
	1060300	20 ft	Cable, Electrical - 16/13 (October 1989 to Present)	
	4931792	Ref	**Standard Electric Machines with Vickers Valves (Prior to October 1989)**	-
	4931967	Ref	**Standard Electric Machines with Vickers Valves (October 1989 to Present)**	B
	3990010	2	Diode - 6 Amp	
	3730095	1	Resistor 7.5 Ohm 10 Watt	
	4921123	1	Harness - Motor and Valves (Prior to October 1989)	
	4921193	1	Harness - Motor and Valves (October 1989 to Present)	
	1060016	20 ft	Cable, Electrical - 16/3 (Prior to October 1989)	
	1060300	20 ft	Cable, Electrical - 16/3 (October 1989 to Present)	
	4932336	Ref	**U/L Electric Machines with Vickers Valves**	D
	4921328	1	**Harness - Motor and Valves**	
	1060308	20 ft	Cable, Electrical - 12/3	
	3990010	2	Diode 6 Amp	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	3730095	1	Resistor 7.5 Ohm 10 Watt	
	2400033	1	Fuse - 20 Amp	
	4932036	Ref	**440 VAC Electric Machines**	C
	4932008	Ref	**Start Lockout Wiring Diagram - Kohler Machines**	-

FIGURE 7-2. ACCESSORY VALVE WIRING DIAGRAM

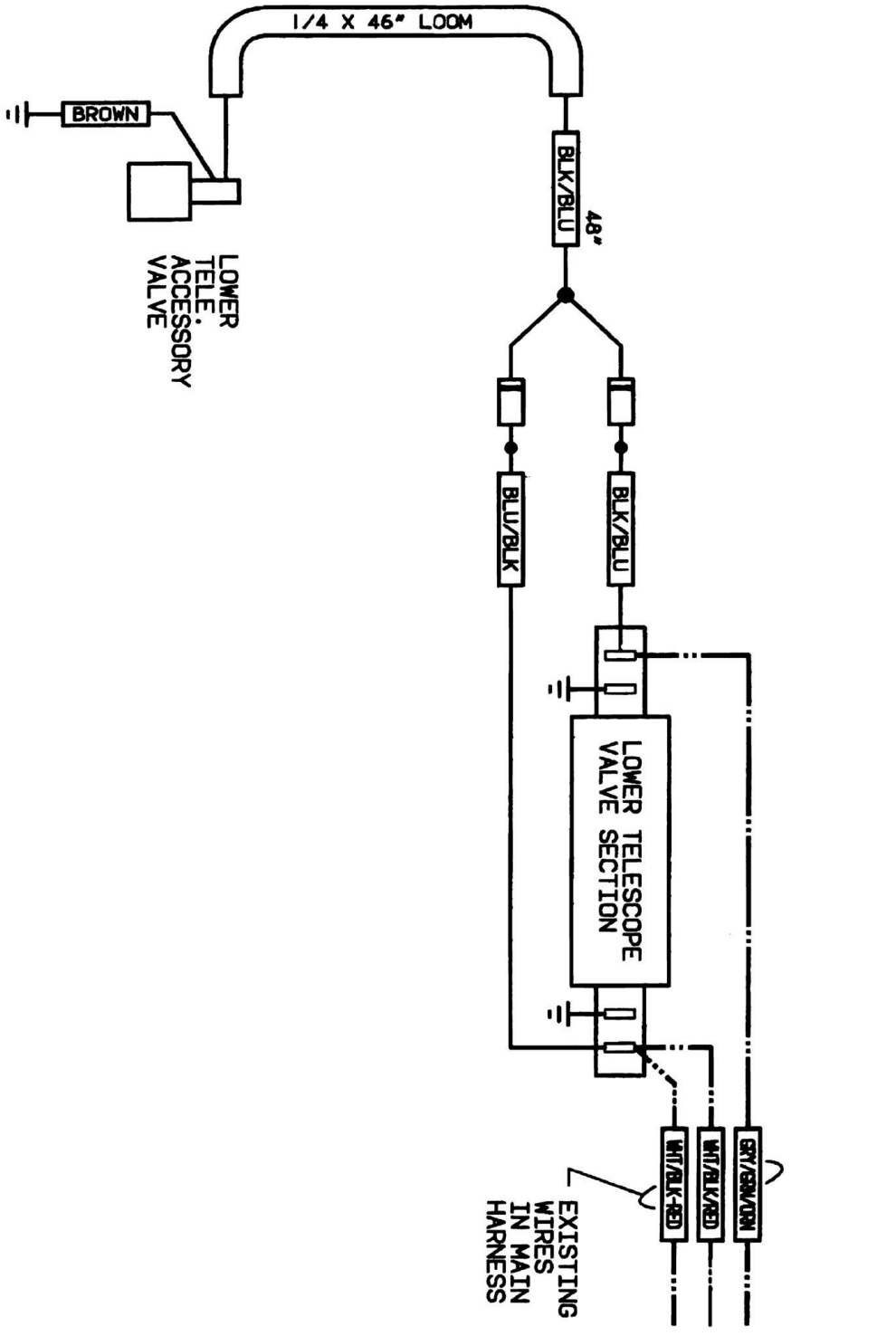


FIGURE 7-3. CONTACTOR BOX WIRING DIAGRAM (ELECTRIC MACHINES)

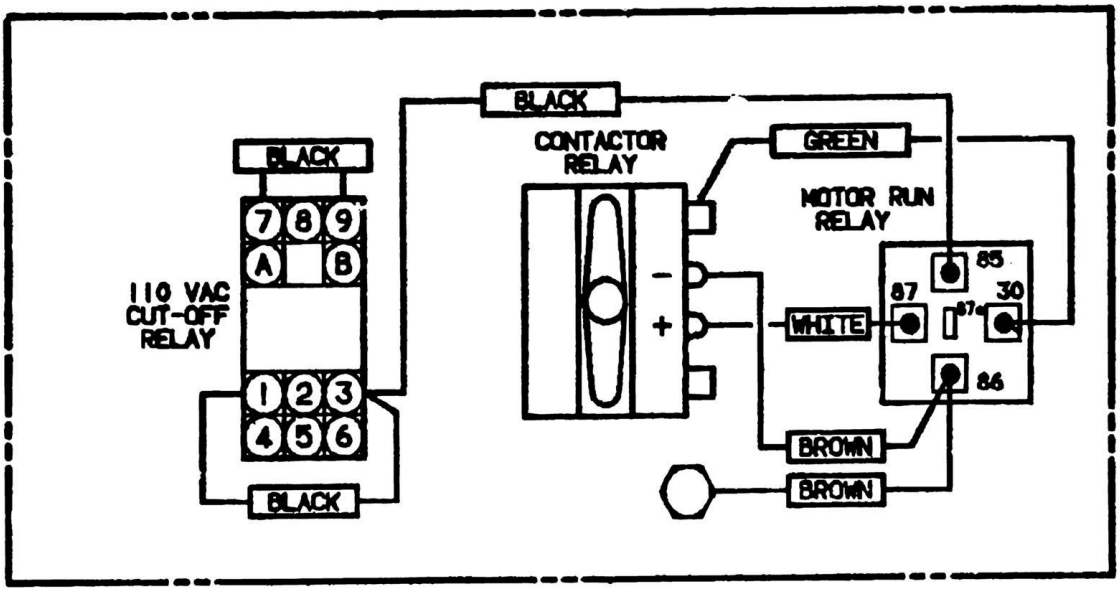


FIGURE 7-4. DUEL FUEL WIRING DIAGRAM (FORD MACHINES OPTION)

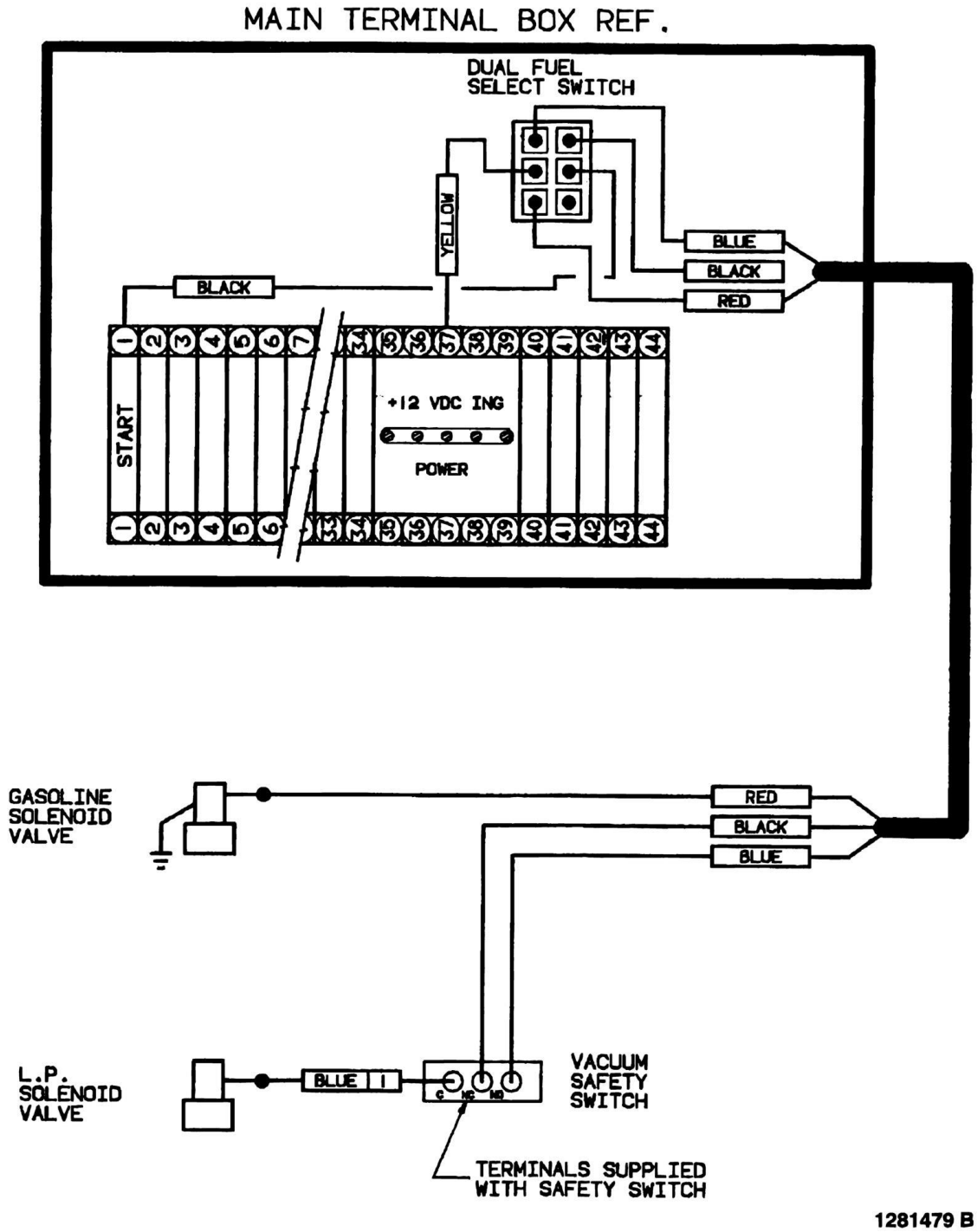


FIGURE 7-5. GENERATOR WIRING DIAGRAM (DEUTZ MACHINES OPTION)

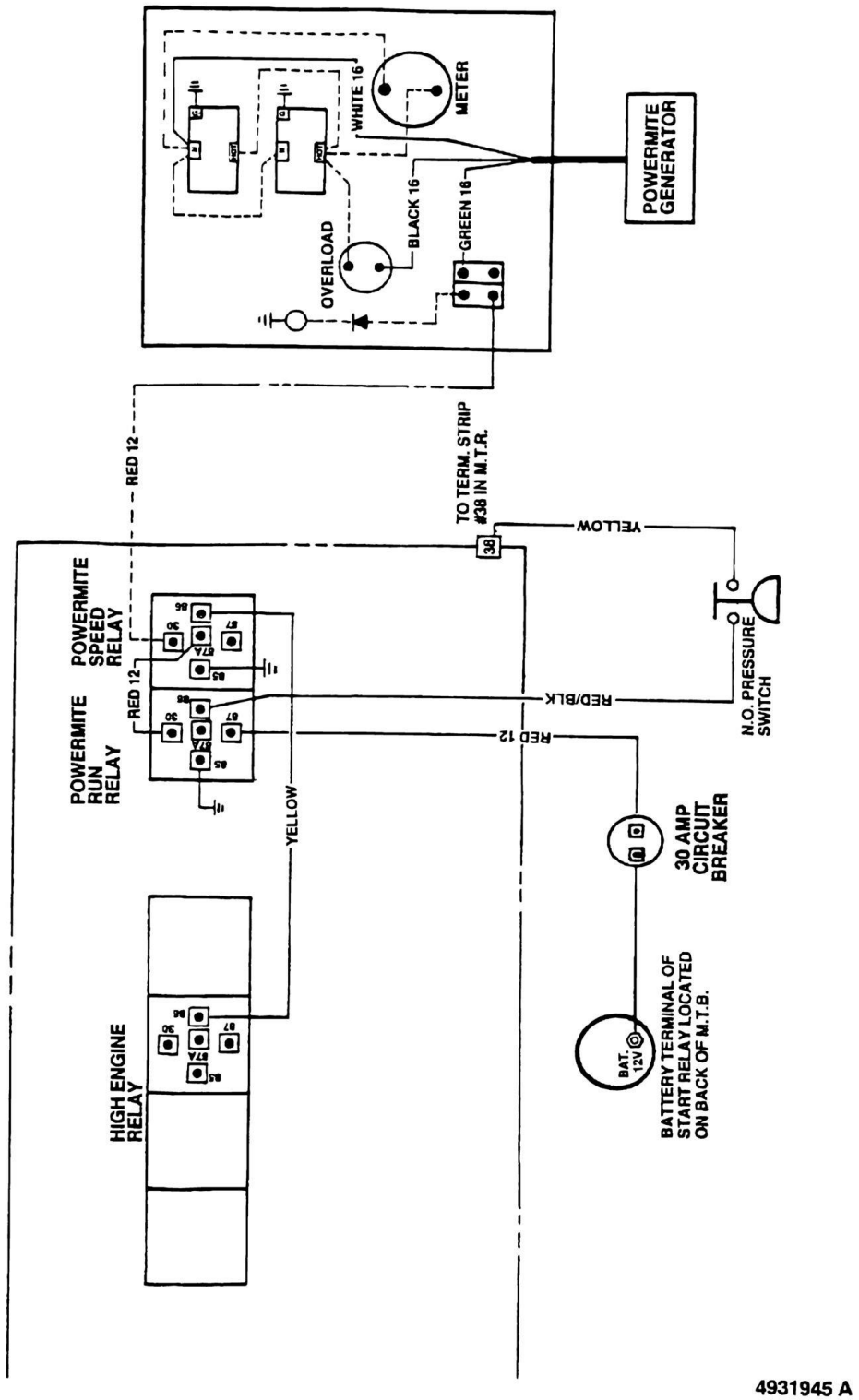


FIGURE 7-6. GENERATOR WIRING DIAGRAM (FORD MACHINES OPTION)

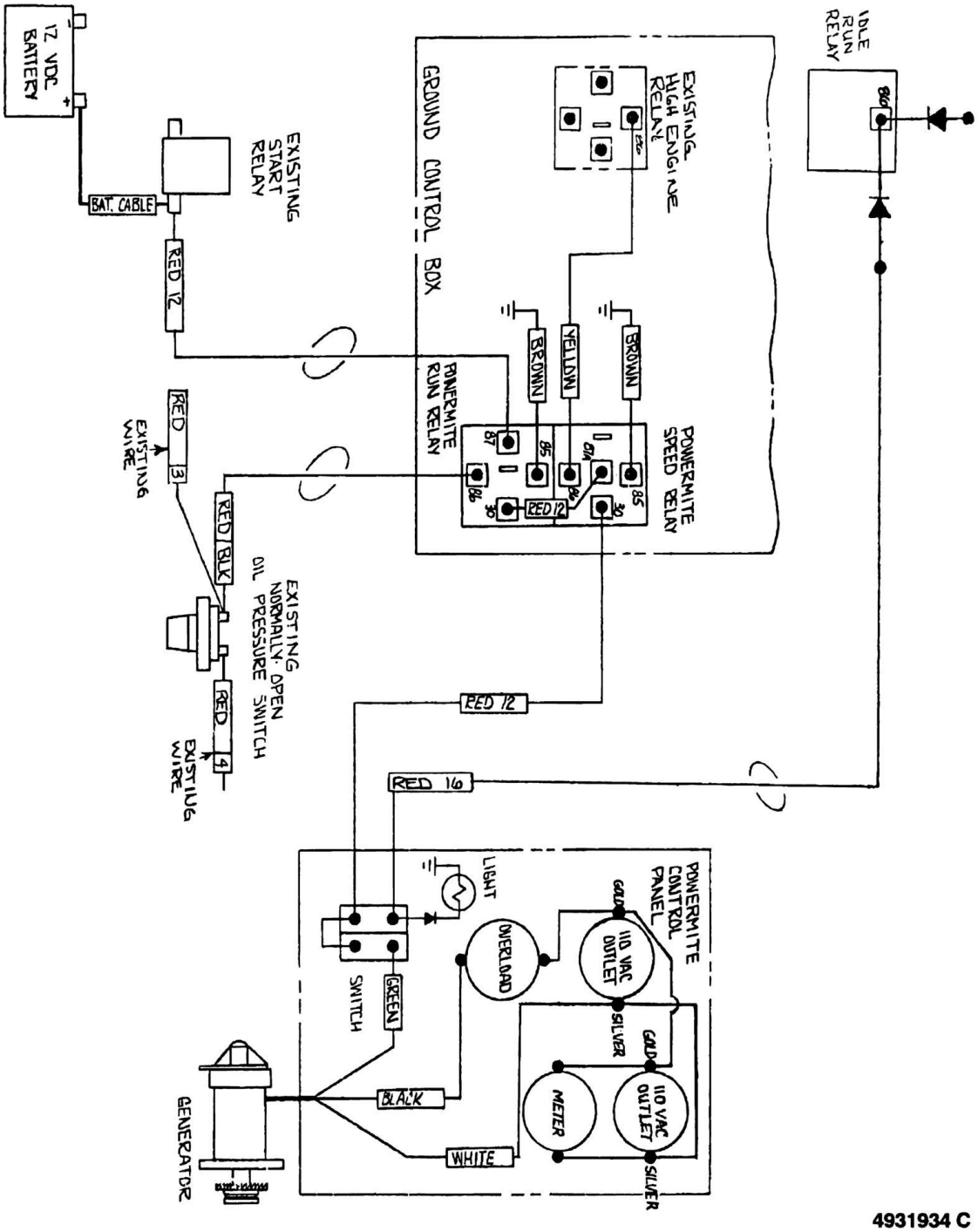


FIGURE 7-7. PLATFORM WIRING DIAGRAM (GAS AND DIESEL MACHINES)

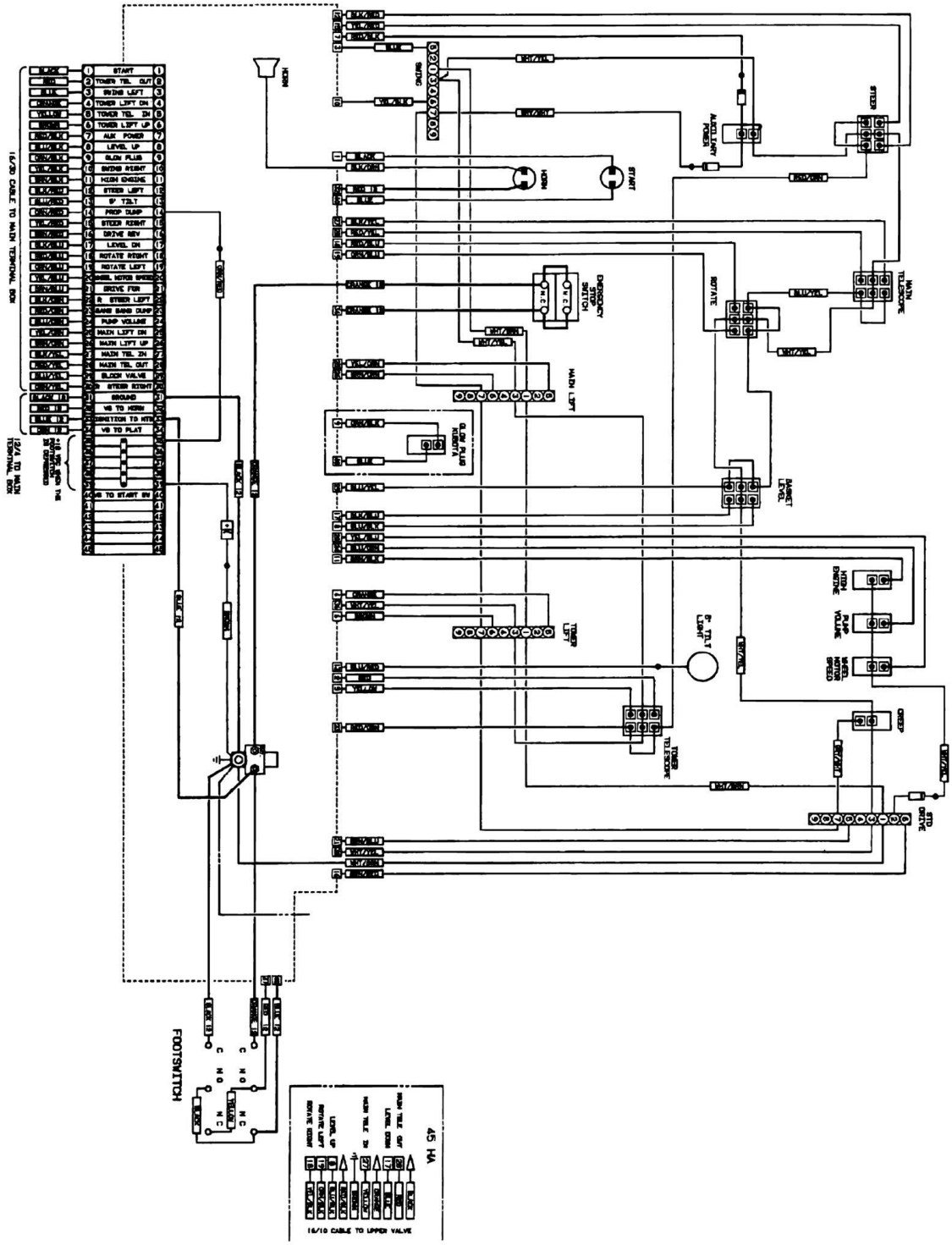


FIGURE 7-8. PLATFORM WIRING DIAGRAM (ELECTRIC MACHINES)

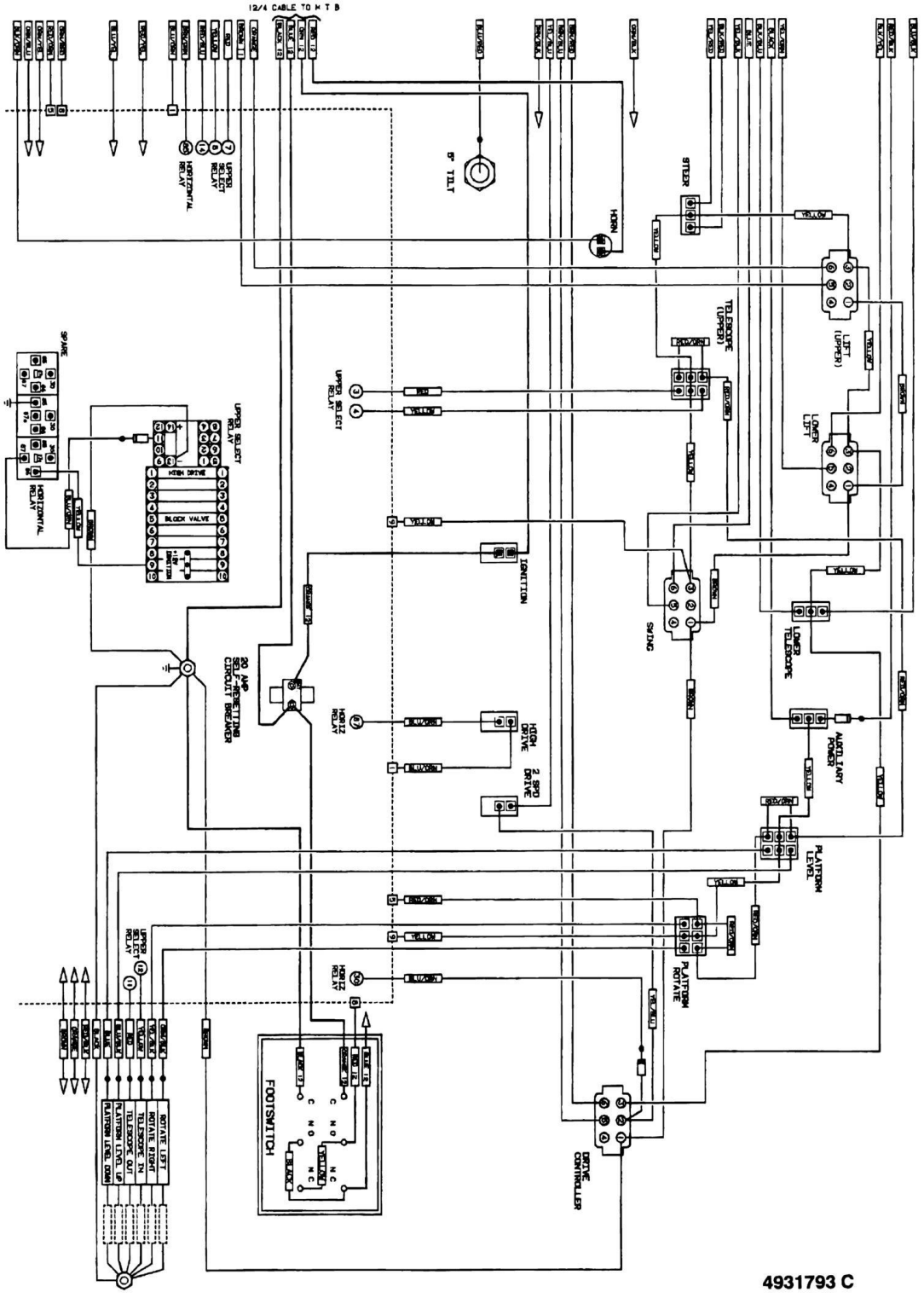
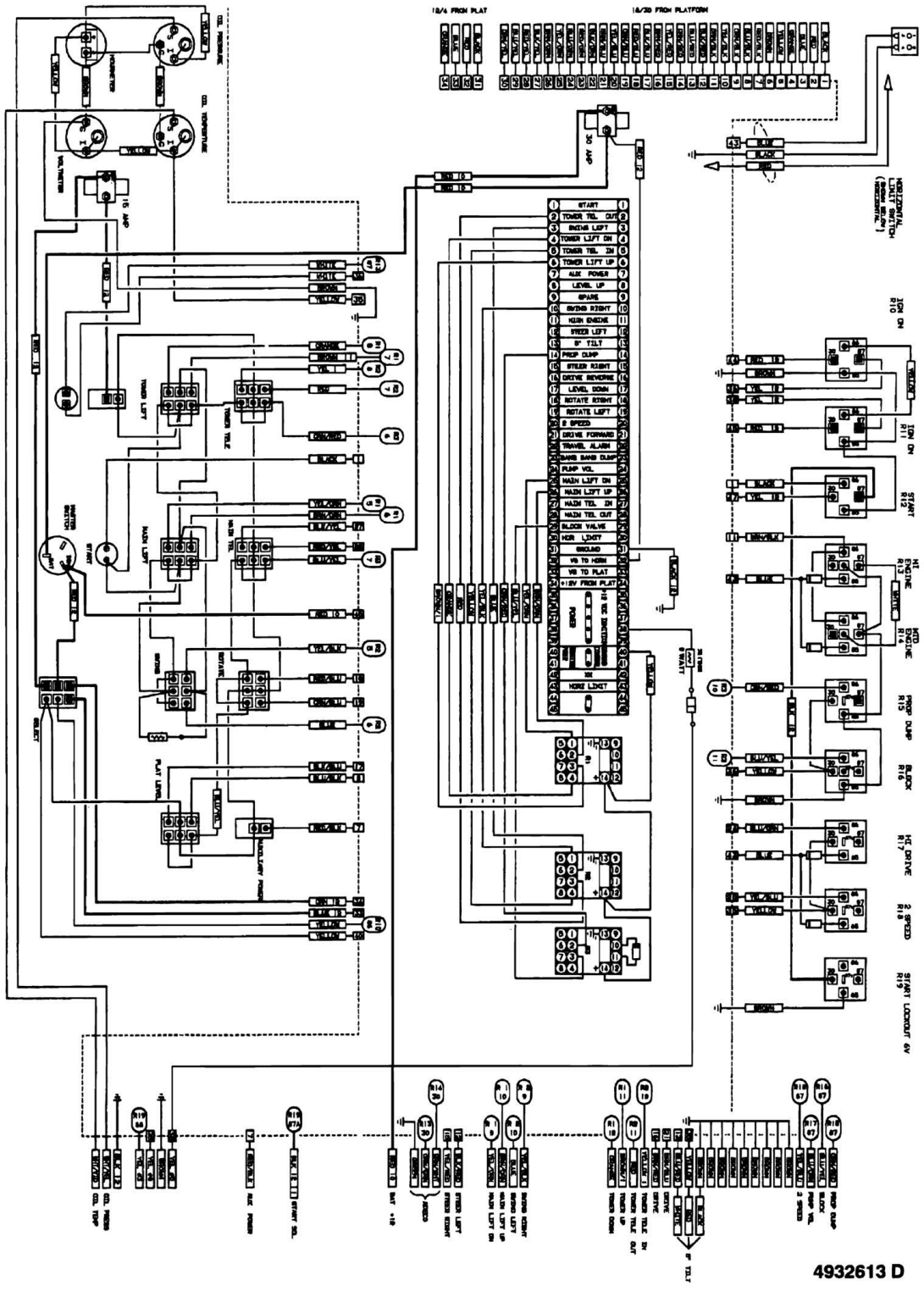
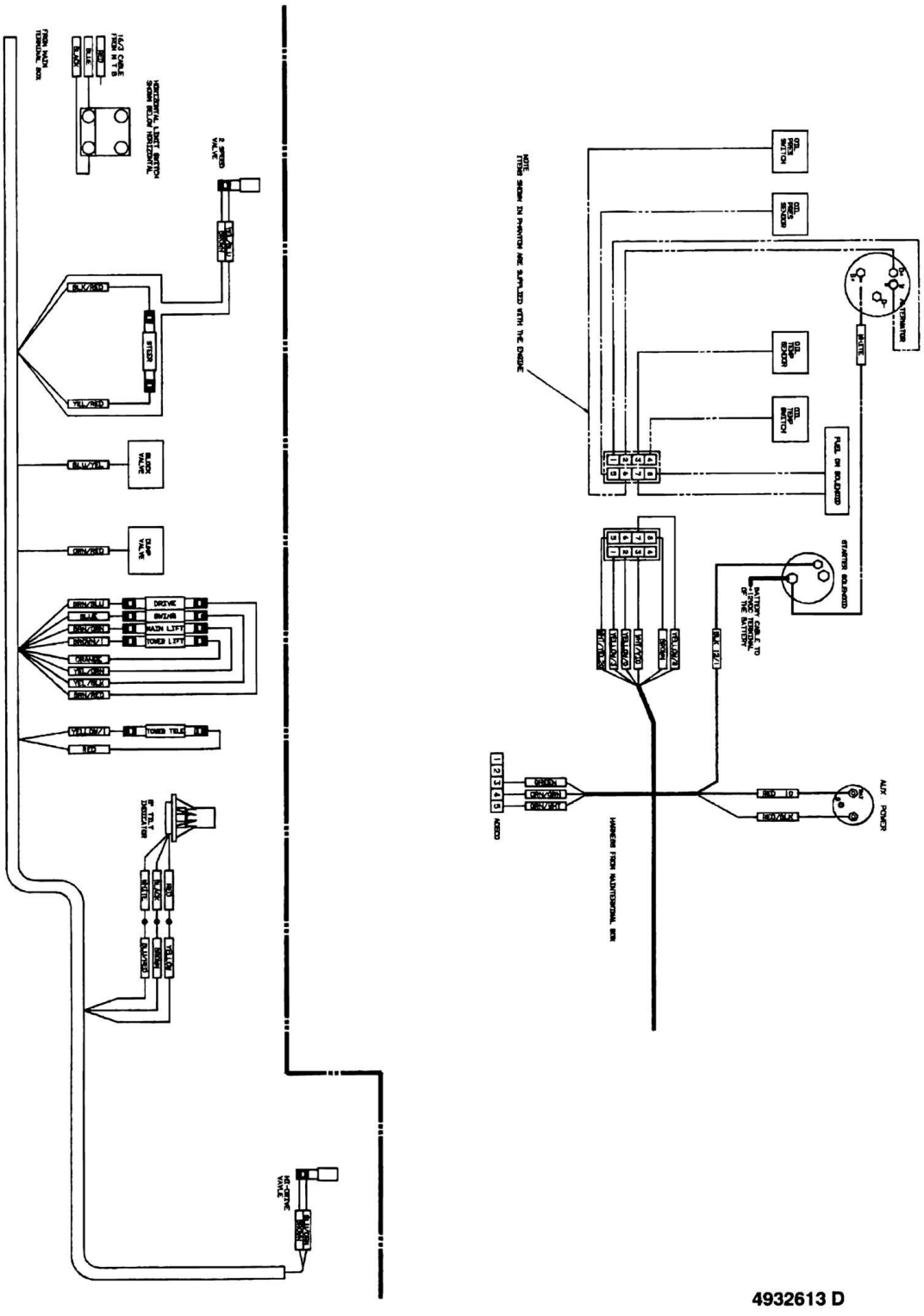


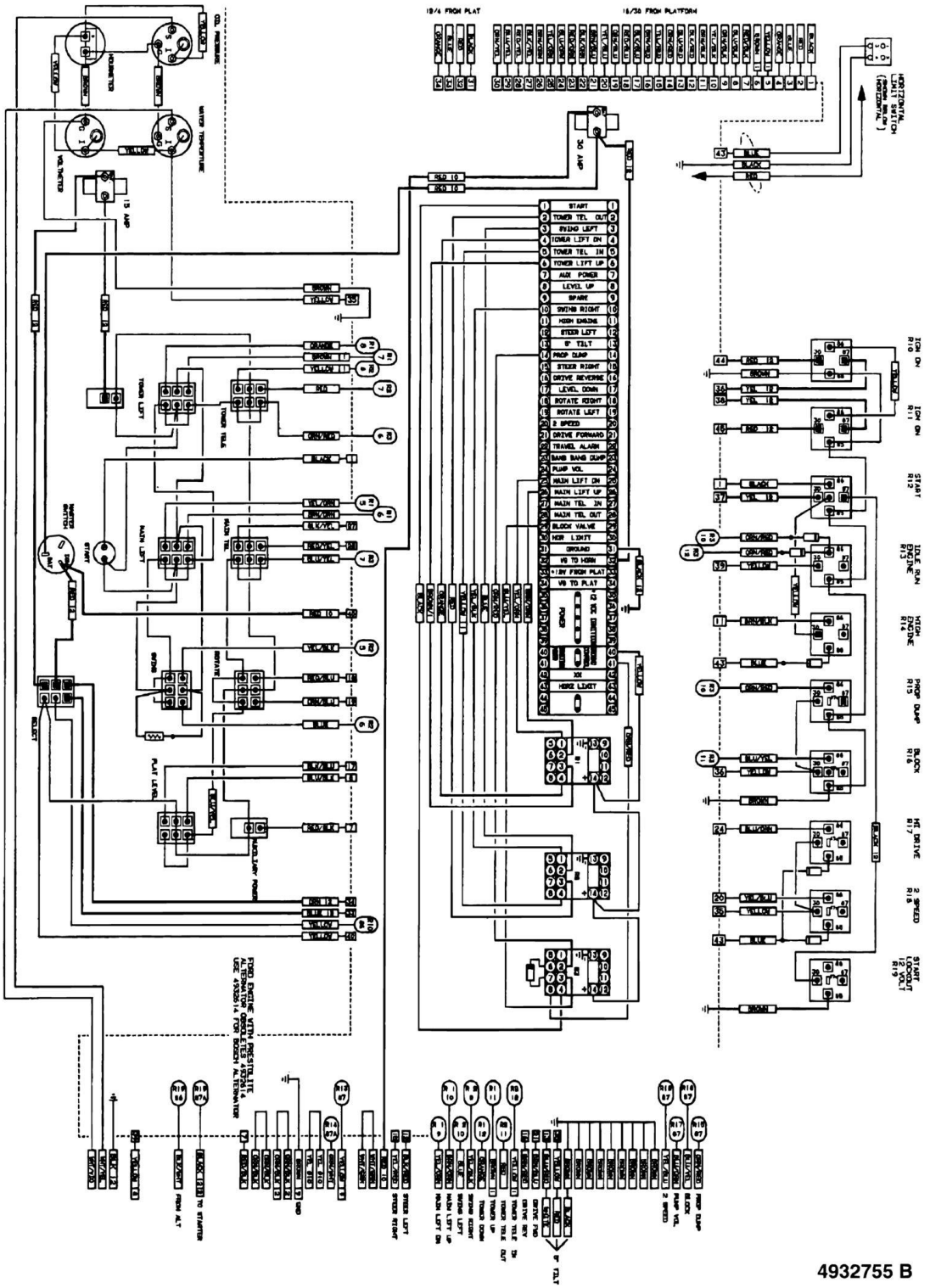
FIGURE 7-9. STANDARD WIRING DIAGRAM (DEUTZ DIESEL MACHINES)





4932613 D

FIGURE 7-10. STANDARD WIRING DIAGRAM (FORD GAS MACHINES)



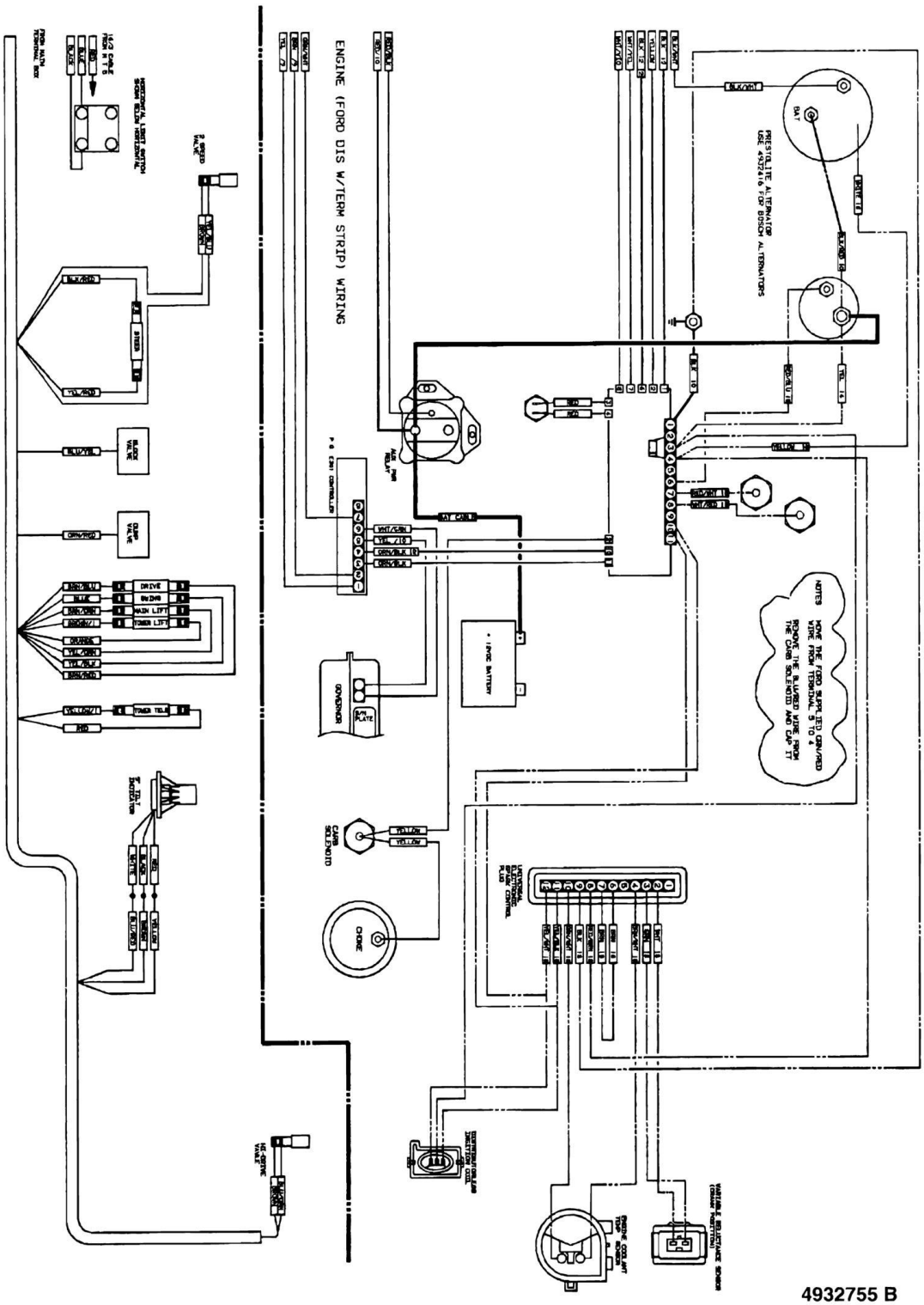
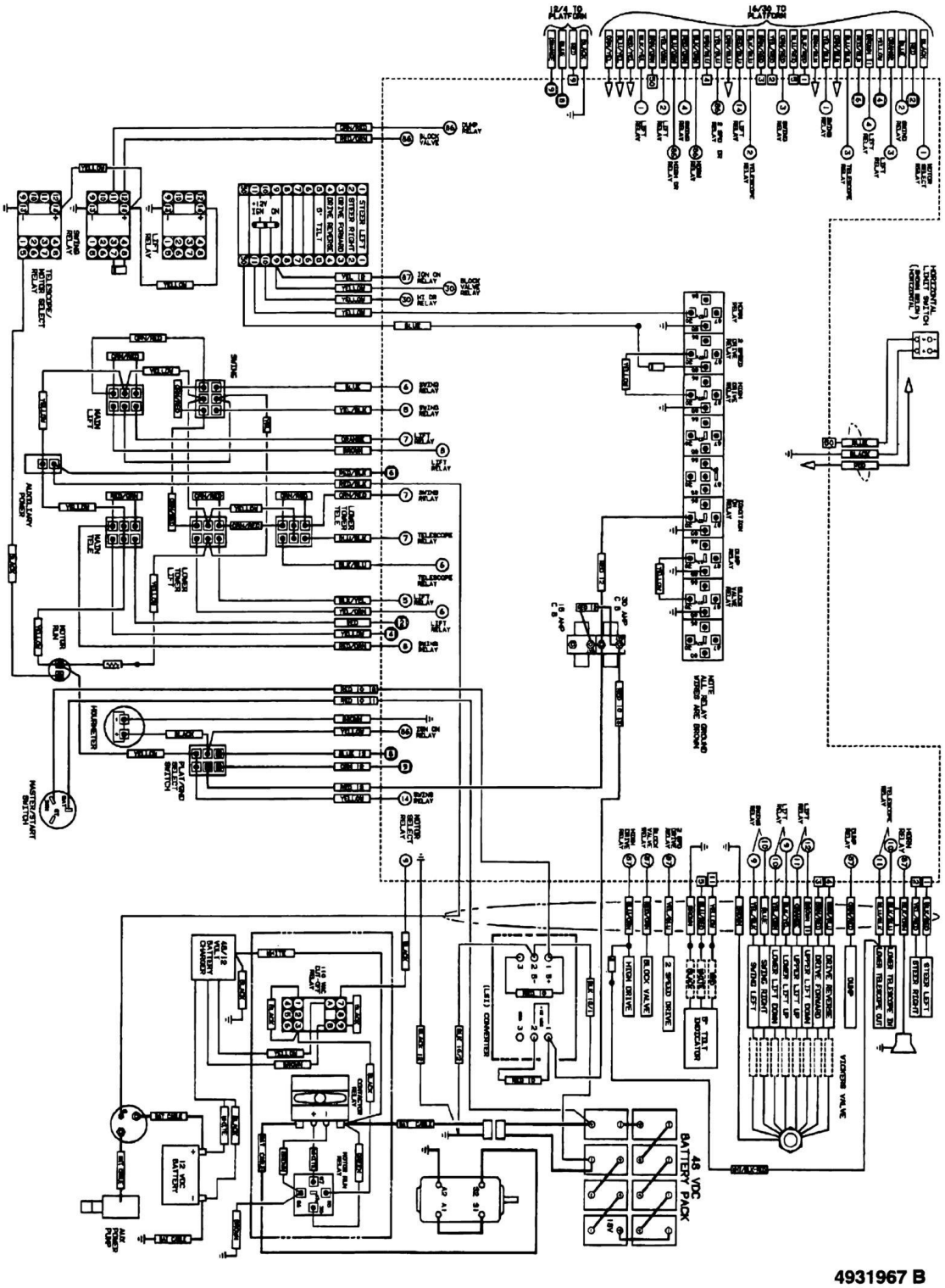

ENGINE (FORD DIS W/TERM STRIP) WIRING
PRESTOLITE ALTERNATOR USE 4932416 FOR BOSCH ALTERNATORS
NOTES
MOVE THE FORD SUPPLIED ORN/RED WIRE FROM TERMINAL 5 TO 4
REMOVE THE BLANKED WIRE FROM THE CARB SOLENOID AND CAP IT!
4932755 B

FIGURE 7-11. STANDARD WIRING DIAGRAM (ELECTRIC MACHINES)



SECTION 8 - DECALS

FIGURE 8-1. DECALS INSTALLATIONS (45HA PRIOR TO AUGUST 1991)

NOTE: LOCATION OF ITEMS MAY VARY.

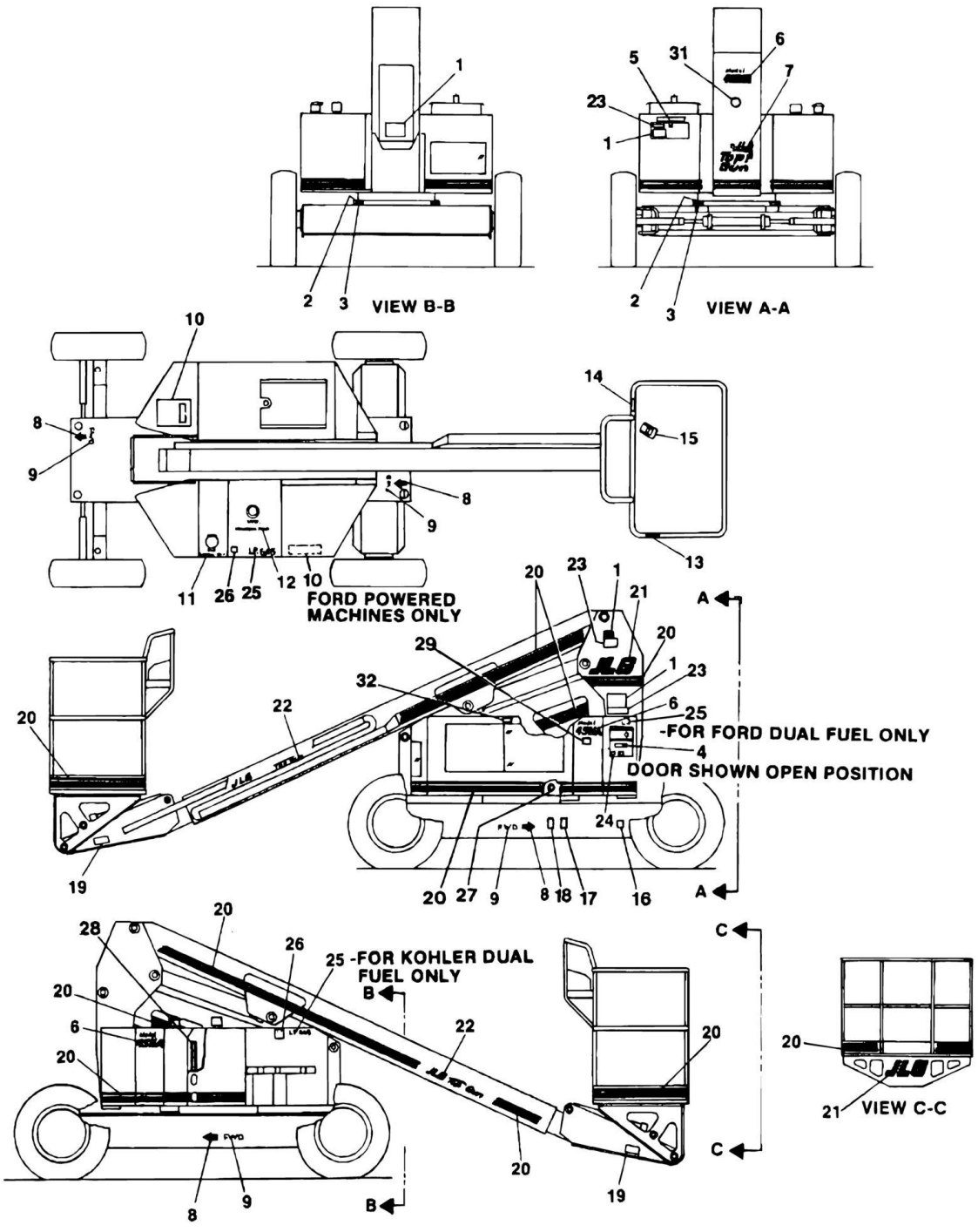


FIGURE 8-1. DECALS INSTALLATIONS (45HA PRIOR TO AUGUST 1991)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DECAL INSTALLATION**	
	0238618	Ref	**Gas and Diesel Machines (Brown)**	E
	0239577	Ref	**Gas and Diesel Machines (Black and White)**	A
	0238659	Ref	**Electric Machines**	E
1	1700585	3	Decal - Crushing	
2		Ref	Decal - Tie Down Lug Options:	
2	1700976	4	Brown Decals	
2	1700743	4	White Decals	
3		Ref	Decal - Lift Here Options:	
3	1700975	4	Brown Decals	
3	1700536	4	White Decals	
4	1700643	1	Decal - Caution	
4	1700582	1	Decal - Ground Control Operation	
5	1700037	1	Decal - Ground Control	
6		Ref	Decal - 45HA Options:	
6	1700982	3	Brown Decals	
6	1701193	3	Black Decals	
7		Ref	Decal Options:	
7	1700980	1	Decal - Top Gun (Brown Decals)	
7	1701199	1	Decal - 45HA (Black Decals)	
8		Ref	Decal, Arrow Options:	
8	1700978	4	Brown Decals	
8	1700401	4	White Decals	
9		Ref	Decal - FWD Options:	
9	1700977	4	Brown Decals	
9	1700107	4	White Decals	
10	0860520	1	Box, Manual Storage	
10	3311405	4	Locknut 1/4in-20NC	
10	4751400	4	Flatwasher 1/4in	
10	1060279	1	Lanyard	
10	0641408	1	Bolt 1/4in-20NC x 1in	
10	4751400	2	Flatwasher 1/4in	
10	3311405	1	Locknut 1/4in-20NC	
10	1700157	1	Decal - Manual	
10	3251569	1	Nameplate - Handbook Location	
11		Ref	Decal - Fuel Options:	
11	1700430	1	Gasoline Petro (Brown)	
11	1700194	1	Gasoline Petro (Black)	
11	1700428	1	Diesel (Brown)	
11	1700196	1	Diesel (Black)	
12		Ref	Decal - Hydraulic Fluid Options:	
12	1700419	1	Brown Decals	
12	1700195	1	Black Decals	
13	1700476	2	Decal - No Hands	
14	1700477	2	Decal - Attach Belt	
15	3251766	1	Nameplate, Footswitch	
15	3820001	4	Rivet	
16	1700593	1	Decal, Inspection	
17	Not Available	1	Nameplate - Serial Number	
17	3820001	4	Rivet	

SECTION 8 - DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
18	Not Available	1	Decal - Patent	
19	1700640	3	Decal - Crushing	
20	1700431	48 ft	Decal, Stripe	
21		Ref	Decal - JLG Options:	
21	1700981	2	Brown Decals	
21	1701196	2	Black Decals	
22		Ref	Decal - Top Gun Options:	
22	1700979	2	Brown Decals	
22	1701194	2	Black Decals	
23	1700580	2	Decal - Electrocution	
24	3251028	1	Decal - Caution (LP and Dual Machines Only)	
25		Ref	Decal - LP Gas Options:	
25	1700429	1	Brown Decals	
25	1700197	1	Black Decals	
26		Ref	Decal - LP Options (LP and Dual Fuel Only):	
26	1700819	1	Decal - LP Vapor Withdrawal System	
26	1700818	1	Decal - LP Liquid Withdrawal System	
27	0961127	1	Bushing	
27	0100010	AR	Loctite	
27	3251243	1	Nameplate - 120V	
28	1700756	1	Decal - Full/Add	
31	3251813	1	Decal - USA	
32	3250914	1	Nameplate - Caution "Fan Blade"	
		Ref	Decal Kit Options:	
	2900705	1	Brown Decals (Gas and Diesel Machines)	
	Not Available		Black Decals (Gas and Diesel Machines)	
	Not Available		Brown Decals (Electric Machines)	
	Not Available		Black Decals (Electric Machines)	

SECTION 8 - DECALS

FIGURE 8-2. DECALS INSTALLATIONS (45HA AUGUST 1991 TO PRESENT)

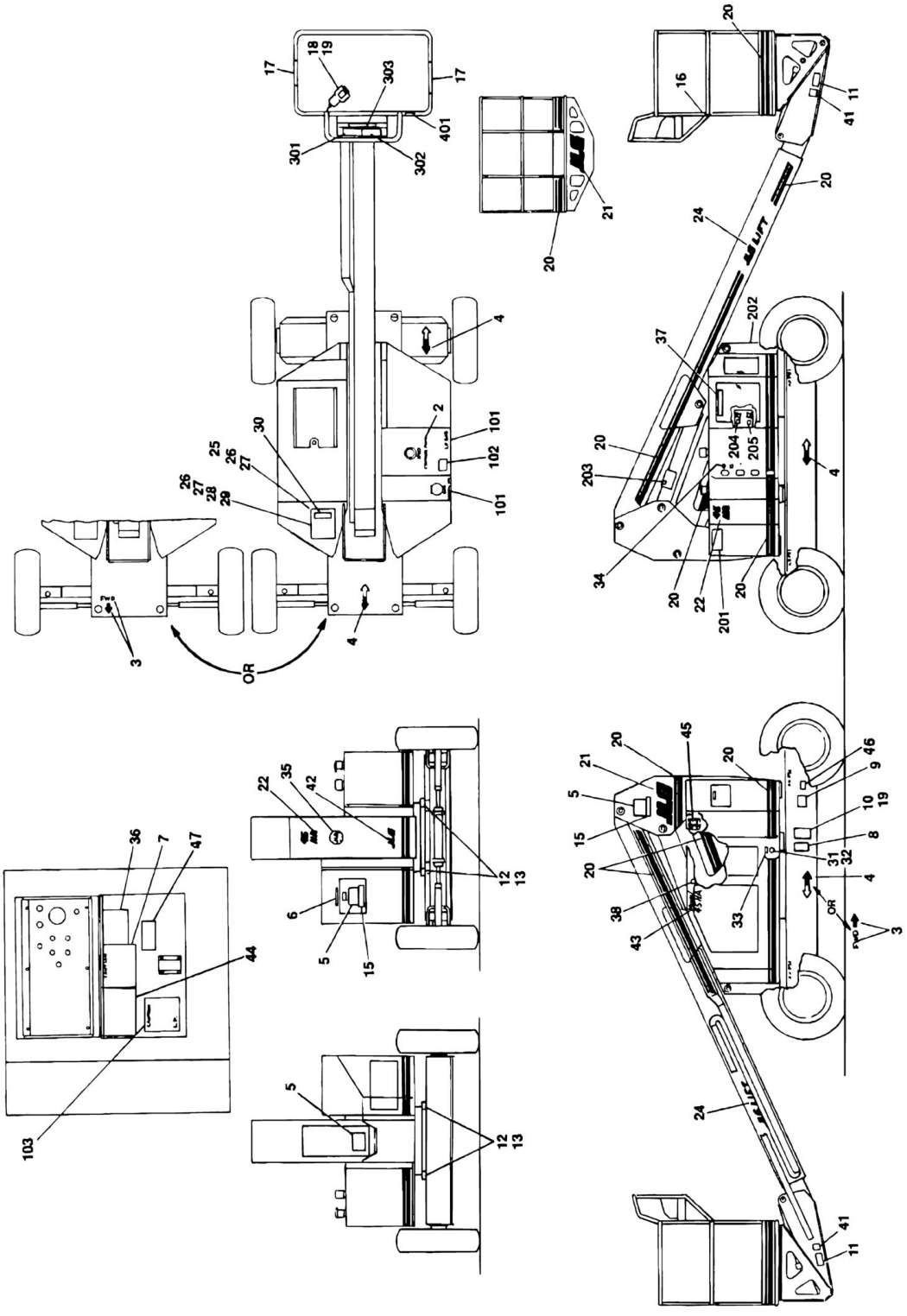


FIGURE 8-2. DECALS INSTALLATIONS (45HA AUGUST 1991 TO PRESENT)

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**DECALS INSTALLATION**	
	0238618	Ref	**Brown Decals (Gas and Diesel Machines)**	18
	0239577	Ref	**Black and White Decals (Gas and Diesel Machines)**	14
	0238659	Ref	**Brown Decals (Electric Machines)**	H
2		Ref	Decal - Hydraulic Fluid Options:	
2	1701504	1	Brown Decals (Was p/n 1700419)	
2	1701504	1	Black Decals (Was p/n 1700195)	
3		Ref	Decal - Forward Components (Prior to January 1993)	
3	1700977	4	Forward (Brown Decal)	
3	1700053	4	Forward (Black Decal)	
3	1700107	4	Forward (White Decal)	
3	1700978	4	Arrow	
4	1701529	4	Decal - Arrow (January 1993 to Present)	
5		Ref	Decal - Crushing Options:	
5	1700585	3	Decal - Crushing (Prior to May 1994)	
5	1702277	3	Decal - Crushing (May 1994 to Present)	
6	1700037	1	Decal - Ground Control	
7		Ref	Decal - Caution Options:	
7	1700643	1	Decal - Caution (Prior to May 1994)	
7	1702299	1	Decal - Caution (May 1994 to Present)	
8	1700584	1	Decal - Patent	
9		Ref	Decal - Inspection Options:	
9	1700593	1	Decal - Inspection (Prior to May 1994)	
9	1702153	1	Decal - Inspection (May 1994 to Present)	
10	Not Available	1	Nameplate - Serial Number	
11		Ref	Decal - Crushing Options:	
11	1700640	3	Decal - Crushing (Prior to May 1994)	
11	1702284	3	Decal - Crushing (May 1994 to Present)	
12		Ref	Decal - Lift Here Options:	
12	1700975	4	Decal - Lift Here (Brown Decal) **(Prior to SN 27521)**	
12	1700232	4	Decal - Lift Here (Black Decal) **(Prior to SN 27521)**	
12	1701500	4	Decal - Lift Here **(SN 27521 to Present)**	
13		Ref	Decal - Tie Down Options:	
13	1700976	4	Decal - Tie Down (Brown Decal) **(Prior to SN 27521)**	
13	1701326	4	Decal - Tie Down (Black Decal) **(Prior to SN 27521)**	
13	1702300	4	Decal - Tie Down **(SN 27521 to Present)**	
15		Ref	Decal - Electrocution Options:	
15	1700580	2	Decal - Electrocution (Prior to May 1994)	
15	1702292	2	Decal - Electrocution (May 1994 to Present)	
16		Ref	Decal - Attach Belt Options:	
16	1700477	2	Decal - Attach Belt (Prior to May 1994)	
16	1702276	2	Decal - Attach Belt (May 1994 to September 1995)	
16	1704277	2	Decal - Attach Belt (September 1995 to Present) (Was p/n 1702612)	
17		Ref	Decal - No Hands Options:	
17	1700476	2	Decal - No Hands (Prior to May 1994)	
17	1702294	2	Decal - No Hands (May 1994 to Present)	
18	3251766	1	Nameplate - Footswitch	
19	3820001	8	Rivet	
20		Ref	Decal - Strip Options:	

SECTION 8 - DECALS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
20	1700431	55 ft	Decal - Strip (Prior to September 1995) (Brown Decal)	
20	1701703	55 ft	Decal - Strip (September 1995 to Present) (Brown Decal)	
20	1701334	55 ft	All (Black Decal)	
21		Ref	Decal - JLG Options:	
21	1700981	2	Brown Decal	
21	1701196	2	Black Decal	
22		Ref	Decal - 45HA Options:	
22	1701469	2	Brown Decal	
22	1701549	2	Black Decal	
24		Ref	Decal - JLG Lift Options:	
24	1701441	2	Brown Decal	
24	1701550	2	Black Decal	
25	0860520	1	Box, Manual Storage	
26	4751400	6	Flatwasher 1/4in	
27	3311405	5	Locknut 1/4in-20NC	
28	1060279	1	Cable, Lanyard	
29	0641408	1	Bolt 1/4in-20NC x 1in	
30		Ref	Decal - Manual Options:	
30	1700157	1	Decal - Manual (Prior to May 1994)	
30	1701507	1	Decal - Manual (May 1994 to Present)	
31	0961127	1	Bushing, Snap	
32	0100010	AR	Loctite	
33	3251243	1	Nameplate - 120V	
34		Ref	Decal - Full/Add (Gas/Diesel Only) Options:	
34	1701502 & 1701503	1	Brown Decal (Was p/n 1700756)	
34	1701502 & 1701503	1	Black Decal (Was p/n 1701336)	
35	3251813	1	Decal - USA	
36		Ref	Decal - Ground Control Operation Options:	
36	1700582	1	Decal - Ground Control Operation (Prior to May 1994)	
36	1702293	1	Decal - Ground Control Operation (May 1994 to Present)	
37	3251569	1	Nameplate - Handbook Location	
38	3250914	1	Nameplate - Caution "Fan Blade" (Gas/Diesel Only)	
41		Ref	Decal - Caution Options:	
41	1701460	2	Decal - Caution (Prior to May 1994)	
41	1702280	1	Decal - Caution (May 1994 to Present)	
42		Ref	Decal - JLG Options:	
42	1701376	1	Brown Decal	
42	1701548	1	Black Decal	
43		Ref	Decal - Model 45HA Options:	
43	1700982	1	Decal - Model 45HA (Prior to May 1994) (Brown Decals)	
43	1701193	1	Decal - Model 45HA (Prior to May 1994) (Black Decals)	
43	1701469	1	Decal - Model 45HA (May 1994 to Present) (Brown Decals)	
43	1701549	1	Decal - Model 45HA (May 1994 to Present) (Black Decals)	
44	1702282	1	Decal - Warning (Machines Built May 1994 to Present Only)	
45	1702265	1	Decal - Important (Machines Built January 1995 to Present Only)	
46	Not Available	1	Decal - Bar Code (Machines Built September 1995 to Present Only)	
47	1702688	2	Decal - 500lbs Max Cap (Machines Built September 1995 to Present)	
		Ref	Decal Kit Options:	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	2900705	1	Brown	
	Not Available		Black and White	
		Ref	**DECAL INSTALLATION - OPTIONS**	
101		Ref	Decal - Fuel Options:	
101	1701505	1	Diesel (Brown) (Was p/n 1700428)	
101	1701505	1	Diesel (Black) (Was p/n 1700196)	
101	1701542	1	Gasoline (Brown) (Was p/n 1700430)	
101	1701542	1	Gasoline (Black) (Was p/n 1700194)	
101	1700429	1	LP Gas (Brown)	
101	1700197	1	LP Gas (Black)	
102	1700818	1	Decal - Liquid Withdrawal (LP Gas Only)	
102	3252356	1	Decal - Dual Fuel (Dual Fuel Machines Only)	
103	3251028	1	Decal - Caution (LP Gas Only)	
	0252119	Ref	**DECALS INSTALLATION - MANUAL DESCENT**	C
201	1701561	1	Decal - Manual Descent	
202	1701428	1	Decal - Tag #1 (Prior to July 1993 Only)	
203	1701494	1	Decal - Tag #2	
204	1701426	1	Decal - Tag #3	
205	1701463	1	Decal - Tag #4	
	0253639	Ref	**NAMEPLATE INSTALLATION (MACHINES BUILT JANUARY 1993 TO PRESENT)**	-
301	3536671	1	Plate, Mounting	
302	3252144	1	Nameplate - Caution/Danger	
303	1701881	1	Decal - Symbols	
		Ref	**PROP 65 DECAL INSTALLATION**	
	0256488	Ref	**Prop 65 Decal Installation - Gas Machines**	-
	0256487	Ref	**Prop 65 Decal Installation - Diesel Machines**	-
401		Ref	Decal - Prop 65 Options:	
401	1702961	1	Gas Machines	
401	1702962	1	Diesel Machines	

SECTION 9 - RECOMMENDED SERVICE PARTS STOCK

SECTION 9 - RECOMMENDED SERVICE PARTS STOCK

FIGURE 9-1. MODELS 45HA GAS AND DIESEL MACHINES WITH VICKERS VALVES STANDARD PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	Note	Ref	**Note: The following list will service fleets of machines (built to current production per date on the front cover) with emergency repair parts which can be installed in the field. Parts from the list should be replaced when inventory is depleted to keep service parts stock supplied. For further information, contact your JLG dealer or the JLG Industries Parts Department.**	
		Ref	**STANDARD PARTS**	
	7012906	1	Coil, (for fleets of 1 to 10)	
	7012906	1	Coil, (for fleets of 10 to 20)	
	7012906	1	Coil, (for fleets of 20 or more)	
	4640049	1	Coil, (for fleets of 1 to 10)	
	4640049	1	Coil, (for fleets of 10 to 20)	
	4640049	1	Coil, (for fleets of 20 or more)	
	7000418	1	Coil, (for fleets of 1 to 10)	
	7000418	1	Coil, (for fleets of 10 to 20)	
	7000418	1	Coil, (for fleets of 20 or more)	
	7012339	1	Coil, (for fleets of 1 to 10)	
	7012339	1	Coil, (for fleets of 10 to 20)	
	7012339	1	Coil, (for fleets of 20 or more)	
	7004214	12	Element, Air Cleaner, (for fleets of 1 to 10)	
	7004214	12	Element, Air Cleaner, (for fleets of 10 to 20)	
	7004214	12	Element, Air Cleaner, (for fleets of 20 or more)	
	2120110	4	Element, Hydraulic Oil, (for fleets of 1 to 10)	
	2120110	8	Element, Hydraulic Oil, (for fleets of 10 to 20)	
	2120110	12	Element, Hydraulic Oil, (for fleets of 20 or more)	
	1340046	1	Breather, Hydraulic Oil, (for fleets of 1 to 10)	
	1340046	1	Breather, Hydraulic Oil, (for fleets of 10 to 20)	
	1340046	1	Breather, Hydraulic Oil, (for fleets of 20 or more)	
	4360003	1	Switch, Key, (for fleets of 1 to 10)	
	4360003	1	Switch, Key, (for fleets of 10 to 20)	
	4360003	1	Switch, Key, (for fleets of 20 or more)	
	2860002	1	Key, Replacement, (for fleets of 1 to 10)	
	2860002	1	Key, Replacement, (for fleets of 10 to 20)	
	2860002	1	Key, Replacement, (for fleets of 20 or more)	
	4360073	1	Switch, Toggle, (for fleets of 1 to 10)	
	4360073	1	Switch, Toggle, (for fleets of 10 to 20)	
	4360073	1	Switch, Toggle, (for fleets of 20 or more)	
	4360199	1	Switch, Toggle, (for fleets of 1 to 10)	
	4360199	1	Switch, Toggle, (for fleets of 10 to 20)	
	4360199	1	Switch, Togglem, (for fleets of 20 or more)	
	4360202	1	Switch, Toggle, (for fleets of 1 to 10)	
	4360202	1	Switch, Toggle, (for fleets of 10 to 20)	
	4360202	1	Switch, Toggle, (for fleets of 20 or more)	
	4360200	1	Switch, Toggle, (for fleets of 1 to 10)	
	4360200	1	Switch, Toggle, (for fleets of 10 to 20)	
	4360200	1	Switch, Toggle, (for fleets of 20 or more)	
	3740049	1	Relay, (for fleets of 1 to 10)	
	3740049	1	Relay, (for fleets of 10 to 20)	
	3740049	1	Relay, (for fleets of 20 or more)	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	4360216	1	Breaker, Circuit, (for fleets of 1 to 10)	
	4360216	1	Breaker, Circuit, (for fleets of 10 to 20)	
	4360216	1	Breaker, Circuit, (for fleets of 20 or more)	
	4360232	1	Breaker, Circuit, (for fleets of 1 to 10)	
	4360232	1	Breaker, Circuit, (for fleets of 10 to 20)	
	4360232	1	Breaker, Circuit, (for fleets of 20 or more)	
	3740058	1	Relay, (for fleets of 1 to 10)	
	3740058	1	Relay, (for fleets of 10 to 20)	
	3740058	1	Relay, (for fleets of 20 or more)	
	3740077	1	Relay, (for fleets of 1 to 10)	
	3740077	1	Relay, (for fleets of 10 to 20)	
	3740077	1	Relay, (for fleets of 20 or more)	
	70003151	2	Powertrack - 1 Foot Section, (for fleets of 1 to 10)	
	70003151	2	Powertrack - 1 Foot Section, (for fleets of 10 to 20)	
	70003151	2	Powertrack - 1 Foot Section, (for fleets of 20 or more)	
	2940006	1	Latch, Platform Door, (for fleets of 1 to 10)	
	2940006	1	Latch, Platform Door, (for fleets of 10 to 20)	
	2940006	1	Latch, Platform Door, (for fleets of 20 or more)	
	7011907	1	Electrical Assembly - 1600141 Controller, (for fleets of 1 to 10)	
	7011907	1	Electrical Assembly - 1600141 Controller, (for fleets of 10 to 20)	
	7011907	1	Electrical Assembly - 1600141 Controller, (for fleets of 20 or more)	
	7003751	1	Potentiometer - 1600141 Controller, (for fleets of 1 to 10)	
	7003751	1	Potentiometer - 1600141 Controller, (for fleets of 10 to 20)	
	7003751	1	Potentiometer - 1600141 Controller, (for fleets of 20 or more)	
	4360274	1	Switch, Push Button, (for fleets of 1 to 10)	
	4360274	1	Switch, Push Button, (for fleets of 10 to 20)	
	4360274	1	Switch, Push Button, (for fleets of 20 or more)	
	4360289	1	Switch, Emergency Stop, (for fleets of 1 to 10)	
	4360289	1	Switch, Emergency Stop, (for fleets of 10 to 20)	
	4360289	1	Switch, Emergency Stop, (for fleets of 20 or more)	
	4360282	1	Block, Contact, (for fleets of 1 to 10)	
	4360282	1	Block, Contact, (for fleets of 10 to 20)	
	4360282	1	Block, Contact, (for fleets of 20 or more)	
	4360209	1	Breaker, Circuit, (for fleets of 1 to 10)	
	4360209	1	Breaker, Circuit, (for fleets of 10 to 20)	
	4360209	1	Breaker, Circuit, (for fleets of 20 or more)	
	3990010	2	Diode - 6 Amp, (for fleets of 1 to 10)	
	3990010	2	Diode - 6 Amp, (for fleets of 10 to 20)	
	3990010	2	Diode - 6 Amp, (for fleets of 20 or more)	

FIGURE 9-2. MODELS 45HA GAS AND DIESEL MACHINES WITH VICKERS VALVES VARIABLE PARTS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	Note	Ref	**Note: The following list will service fleets of machines (built to current production per date on the front cover) with emergency repair parts which can be installed in the field. Parts from the list should be replaced when inventory is depleted to keep service parts stock supplied. For further information, contact your JLG dealer or the JLG Industries Parts Department.**	
		Ref	**VARIABLE PARTS**	
	4360201	1	Switch, Toggle (With Dual Fuel), (for fleets of 1 to 10)	
	4360201	1	Switch, Toggle (With Dual Fuel), (for fleets of 10 to 20)	
	4360201	1	Switch, Toggle (With Dual Fuel), (for fleets of 20 or more)	
	4360212	1	Breaker, Circuit (Deutz Machines), (for fleets of 1 to 10)	
	4360212	1	Breaker, Circuit (Deutz Machines), (for fleets of 10 to 20)	
	4360212	1	Breaker, Circuit (Deutz Machines), (for fleets of 20 or more)	
	7014500	1 case	Engine Oil Filters (Ford Machines), (for fleets of 1 to 10)	
	7014500	1 case	Engine Oil Filters (Ford Machines), (for fleets of 10 to 20)	
	7014500	1 case	Engine Oil Filters (Ford Machines), (for fleets of 20 or more)	
	7014502	1 case	Engine Oil Filters (Deutz Machines), (for fleets of 1 to 10)	
	7014502	1 case	Engine Oil Filters (Deutz Machines), (for fleets of 10 to 20)	
	7014502	1 case	Engine Oil Filters (Deutz Machines), (for fleets of 20 or more)	
	7022174	1	Filter, Fuel (Ford Machines), (for fleets of 1 to 10)	
	7022174	1	Filter, Fuel (Ford Machines), (for fleets of 10 to 20)	
	7022174	1	Filter, Fuel (Ford Machines), (for fleets of 20 or more)	
	7012598	1	Filter, Fuel (Deutz Machines), (for fleets of 1 to 10)	
	7012598	1	Filter, Fuel (Deutz Machines), (for fleets of 10 to 20)	
	7012598	1	Filter, Fuel (Deutz Machines), (for fleets of 20 or more)	
	4360057	1	Switch, Limit, (for fleets of 1 to 10)	
	4360057	1	Switch, Limit, (for fleets of 10 to 20)	
	4360057	1	Switch, Limit, (for fleets of 20 or more)	

SECTION 10 - SPECIAL OPTIONS

SECTION 10 - SPECIAL OPTIONS

FIGURE 10-1. SPECIAL OPTIONS LIST

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	Note	Ref	**Note: This list is to accommodate machines ordered with special equipment. Options may not be applicable to all models. For more specific parts information contact JLG Parts Department.**	
		Ref	**MISCELLANEOUS SPECIAL OPTIONS**	
		Ref	**Airline Installations**	
	0238891	Ref	**1/2in Standard (Prior to November 1991)**	
	0252473	Ref	**1/2in Standard (November 1991 to Present)**	
	1281733	Ref	**1/2in Standard (November 1991 to Present)**	
	0251053	Ref	**1/2in Boeing Spec**	
	0252474	Ref	**3/4in Standard**	
	1281733	Ref	**3/4in Standard**	
	0251042	Ref	**Bubble Level Installation (At Platform)**	
	2420038	1	Gage, Level	
	0256789	Ref	**Camera Mount Assembly**	
	0251619	Ref	**Console Panel Light Installation**	
	0256384	Ref	**Cold Weather Package (Deutz Engine Machines)**	
		Ref	**Decal Installations**	
	1702788	1	Decal - Biodegradable Hydraulic Fluid (All except German Spec)	
	1704174	1	Decal - Biodegradable Synthetic Hydraulic Fluid (All except German Spec)	
	1703479	Ref	Decal - Biodegradable Hydraulic Fluid (German Spec Only)	
	1704175	Ref	Decal - Biodegradable Synthetic Hydraulic Fluid (German Spec Only)	
	0259706	Ref	Decal Installation - Brazilian Spec (Portuguese Language)	
	0257904	Ref	Brazilian Common Decals Installation	
	0257905	Ref	Brazilian Pictogram Decals Installation	
	2900941	Ref	Decal Kit (Brazilian Spec)	
	0250733	Ref	Decal Installation - Capacity - 500lbs	
	0253550	Ref	Decal Installation - CSA Spec	
	2910104	Ref	Decal Kit - Black and White (CSA Spec)	
	1702600	Ref	Decal - Diesel (Brown) (Latin American Spec)	
	1701542	Ref	Decal - Gasoline (Brazilian Spec)	
	1702722	Ref	Decal - Gasoline (Brown) (Latin American Spec)	
	0257195	Ref	Decal - Government Warranty Installation	
	1702669	Ref	Decal - Important (Latin American Dual Fuel Machines)	
	0255845	Ref	Decal Installation - Latin American Spanish Spec	
	1281623	Ref	Decal Installation - Latin American Spanish Spec	
	2910058	Ref	Decal Kit - Brown Decals (Latin American Spec)	
	0256956	Ref	Decal Installation - Lanyard Attach (GM Spec)	
	1282704	Ref	Decal Installation - Lanyard Attach (GM Spec)	
	1701543	Ref	Decal - LP Gas (Brazilian Spec)	
	1702721	Ref	Decal - LP Gas (Brown) (Latin American Spec)	
	1702720	Ref	Decal - LP Gas Liquid Withdrawal (Latin American Spec)	
	1282981	Ref	Decal Installation - Sunbelt	
	0257733	Ref	Decal Installation - Warning Stripes	
		Ref	**ELECTRICAL CONNECTOR KITS**	
	1001148902	Ref	Amp Connector Kit	
	1001148903	Ref	Deutsch DT Connector Kit	

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	1001148904	Ref	Deutsch HD Connector Kit	
	1001148905	Ref	Packard Connector Kit	
	1001148906	Ref	Various Connector Kit	
	0251049	Ref	**Emergency Stop Switch Installation (Machines Built Prior to January 1993)**	
	0250815	Ref	**Engine Heater Installation (Ford Engine Machines)**	
		Ref	**Exhaust Options (Deutz Machines):**	
	0254362	Ref	**Purifier Installation**	
	3220086	Ref	Purifier	
		Ref	**Spark Arrester Installation Options:**	
	0254073	Ref	**Spark Arrester Installation (Prior to April 1994)**	
	0254839	Ref	**Spark Arrester Installation (April 1994 to Present)**	
		Ref	**Filter Kits:**	
	Not Available		Ford Engine	
		Ref	Deutz Engine	
	1001110987	1	Combined Filter Kit (Hydraulic/Air and Fuel/Engine Oil)	
	1001109676	1	Hydraulic/Air Filter	
	1001110136	1	Engine - Fuel/Engine Oil Filter	
	Not Available		Kohler Engine	
		Ref	**Fixed Axle Conversion Kit (Converts Oscillating Axle to Fixed Axle)**	
	0251649	Ref	**2WD 6ft-6in Wide Frame**	
	0253234	Ref	**2WD 5ft-9in Wide Frame**	
	0251273	Ref	**4WD**	
	4060959	Ref	**Footswitch Shield**	
	0258780	Ref	**Ford VSG-413 Engine Assembly and Installation**	
	0258779	Ref	**Ford VSG-413 Engine Assembly and Installation**	
	0258781	Ref	**Ford VSG-413 Exhaust Installation**	
	0250666	Ref	**Fork Truck Tubes Installation**	
	0251048	Ref	**Fuel Indicator Installation (At Platform)**	
	0239085	Ref	**Glow Plug Installation (Kubota Engine Machines)**	
	1280972	Ref	**Glow Plug Installation (Kubota Engine Machines)**	
	0257908	Ref	**Ground Control Box Assembly and Installation (Brazilian Spec)**	
	0861153	Ref	**Ground Control Box Assembly and Installation (Brazilian Spec)**	
		Ref	**Lift Relief Valve Installation (Ford Motor Co Spec)**	
	0250890	Ref	**Ford Engine Machines**	
	0250046	Ref	**Kohler Engine Machines**	
	0258040		**Load Sensing Installation**	
	0251664		**Oil Cooler Installation**	
	0256436	Ref	**Pipe Rack Installation**	
	0256829	Ref	**Platform Door (Spring Loaded) Installation (GM Spec)**	
	0256956	Ref	**Platform Step Installation**	
	0250509	Ref	**Power Tool Installation**	
	0252890	Ref	**Power Track Installation - 8in Wide**	
	1281458	Ref	**Power Track Installation - 8in Wide**	
	0800788	Ref	Tower Boom Assembly	
	0800790	Ref	Main Boom Assembly	
	1281293	Ref	Main Boom Assembly	
	0254046	Ref	**Receptacle Installation - Russell Stoll**	
	0254793	Ref	**Receptacle Mounting Plate Installation (Argentina Spec)**	

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ITEM	PART NUMBER	QTY	DESCRIPTION	REV
	0253904	Ref	**Tool Tray Installation**	
	2660088	Ref	Tray	
		Ref	**Tools for Service**	
	7002828	1	Wire Stripper	
	7002821	1	Wire Crimper (To install wire ends to wires)	
	7002823	1	Pin/Socket Extractor - Universal (To Remove Pins/Sockets from Connectors)	
	4460467	1	Extractor - 16-18 Gauge (For Removal of Pin/Sockets from Deutsch Connectors)	
	4460510	1	Extractor - 12-14 Gauge (For Removal of Pin/Sockets from Deutsch Connectors)	
	7002822	1	Screwdriver, Potentiometer (To Adjust Drive Controllers)	
	7016654	1	Screwdriver, Magnetic	
	7004275	1	Seal Installation Tool - 1in	
	7004276	1	Seal Installation Tool - 1 1/2in	
	7002826	1	Seal Installation Tool - 2in	
	7016655	1	Wire Rope Sheave Gauge	
	0253988	Ref	**Transformer Installation - 380Volts**	
	4530008	Ref	Transformer	
	0257728	Ref	**Tube Rack Installation**	
	0252479	Ref	**Weld Leads Installation**	
	1281733	Ref	**Weld Leads Installation**	

FIGURE 10-2. U/L MACHINES SPECIAL OPTIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**U/L MACHINES SPECIAL OPTIONS:**	
	0251281	Ref	**Batteries Installation (Electric Machines)**	C
	0251282	Ref	**Boom Installation**	C
	1281458	Ref	**Boom Installation**	C
	0800567	Ref	Tower Boom Assembly (Same as Standard)	
	0800708	Ref	Main Boom Assembly (Special)	
		Ref	**Charger Installation Options:**	
	0251623	Ref	**Charger Installation Electric Machines (Prior to October 1991)**	
	0252530	Ref	**Charger Installation Electric Machines (October 1991 to Present)**	
	0400068	Ref	Electric Machines (Prior to October 1991)	
	0400077	Ref	Electric Machines (October 1991 to Present)	
		Ref	**Decal Installations**	
	0239794	Ref	**Diesel Machines**	
	1281094	Ref	**Diesel Machines**	
	0251284	Ref	**Electric Machines**	
	1281459	Ref	**Electric Machines**	
	0251838	Ref	**Fuse Holder Box Assembly (Electric Machines)**	
	0251419	Ref	**Ground Control Box Installation/Assembly (Electric Machines)**	
	0251418	Ref	**Ground Control Box Installation/Assembly (Electric Machines)**	
	0251285	Ref	**Hood Installation (Electric Machines)**	
	0251280	Ref	**Motor and Pump Installation (Electric Machines)**	
	3160161	Ref	Motor, Electric	
	1660179	Ref	Coupling	
	3600142	Ref	Pump Assembly (Prior to March 1993)	
	3600201	Ref	Pump Assembly (March 1993 to Present)	
	3600181	Ref	Auxiliary Pump Assembly	
	0251283	Ref	**Platform Console Box Assembly (Electric Machines)**	
	0254440	Ref	**Receptacle at Platform Installation**	
	0254244	Ref	**Static Straps Installation (Electric Machines)**	
	4400325	Ref	**Tank Assembly - Hydraulic (Electric Machines)**	
		Ref	**Valves Installation - Vickers Options:**	
	0251296	Ref	**Valves Installation Electric Machines Built Through 1992**	
	0253909	Ref	**Valves Installation Electric Machines Built (1993 to Present)**	

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FIGURE 10-3. 440V ELECTRIC PEDESTAL MACHINE SPECIAL OPTIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**440V ELECTRIC PEDESTAL MACHINES SPECIAL OPTIONS:**	
	0250566	Ref	**Decal Installations**	
	0250695	Ref	**Ground Control Box Installation/Assembly**	
	0250694	Ref	**Ground Control Box Installation/Assembly**	
	0250564	Ref	**Motor and Pump Installation**	
	0860683	Ref	**Platform Console Box Assembly**	
	1281414	Ref	**Platform Console Box Assembly**	
	0251186	Ref	**Valves Installation - Parker**	

FIGURE 10-4. JAPANESE MACHINE OPTIONS

ITEM	PART NUMBER	QTY	DESCRIPTION	REV
		Ref	**JAPANESE MACHINE OPTIONS:**	
	0253884	Ref	**Country Spec Installations**	
		Ref	**Decal Installations**	
	0253289	Ref	**Japanese Spec Decals**	
	0252080	Ref	**Common Decals Installation**	
	0255153	Ref	**Ground Control Box Assembly and Installation**	
	0861340	Ref	**Ground Control Box Assembly and Installation**	
	0251953	Ref	**Manual Descent Installation**	
	0251921	Ref	**Overload Protection Installation**	
		Ref	**Platform Assemblies**	
		Ref	Standard Platforms:	
	3510308	Ref	30in x 48in	
	3510309	Ref	30in x 60in	
	3510310	Ref	30in x 72in (6ft-6in Wide Machines Only)	
		Ref	Low Mount Platforms:	
	3510376	Ref	30in x 48in	
	3510377	Ref	30in x 60in	
	3510378	Ref	30in x 72in (6ft-6in Wide Machines Only)	
		Ref	**Platform Console Box Assembly and Installation (Japanese Spec)**	
	0860825	Ref	**2WD**	
	0860826	Ref	**4WD**	

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