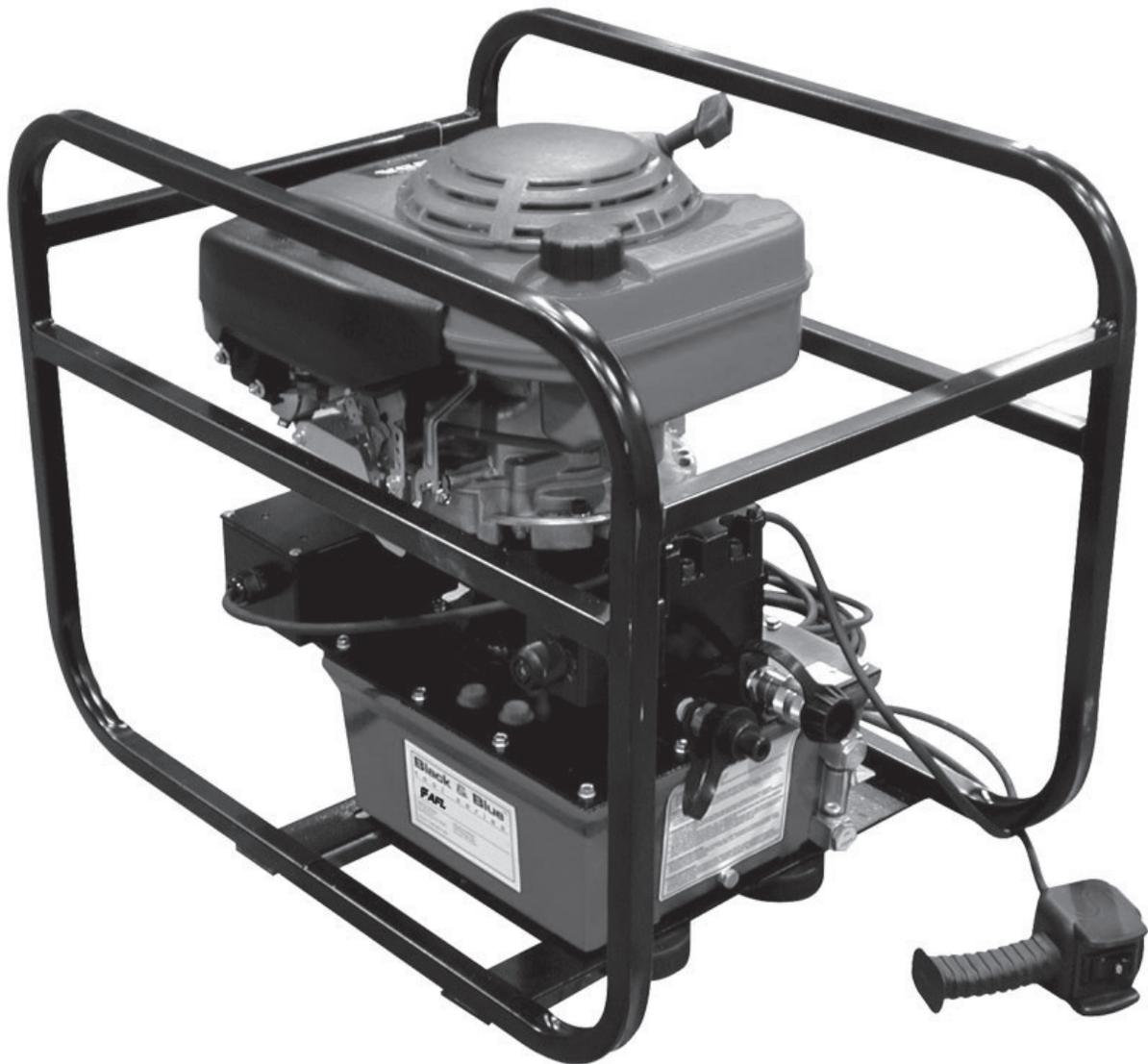




30GHR GASOLINE HYDRAULIC PUMP

OPERATING & MAINTENANCE INSTRUCTIONS

REVISION: B - 0413
Part Sheet: 54407



MAILING / SHIPPING
104 Hidden Lake Circle
Spartangreen Business Park
Duncan, SC 29334
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PARTS OR SERVICE
Enerpac National
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OPERATING INSTRUCTIONS AT A GLANCE

Before Operating Pump:

1. Use only cylinders , hoses and equipment rated at 10,000 psi.
2. Make sure all hose and fitting connections are tight and secure. Hoses cannot be kinked or twisted.
3. Oil level should be 1" from the top of the reservoir plate, with tool retracted and motor off.
4. Never operate the pump in advance at 10,000 psi without tool movement for more than 1 minute.
Continuing to operate the pump without tool movement will overheat the oil.

After Completing the Job:

1. Before disconnecting hoses, fittings, etc, be sure the tool is retracted and unloaded, then unplug the power cord.
2. Store the pump in a clean, dry area.

Periodic Maintenance:

1. Completely change the hydraulic oil and clean the oil filter screen and magnet (located in the reservoir) twice a year.
(Use SIMPLEX oil only - Part #A01). Change the oil more frequently when used in extremely dusty areas or when the oil has been overheated. Using oil other than the SIMPLEX brand, may void the pump warranty.

SECTION I

SAFETY

1-1.

Working Pressure

The pump's maximum working pressure is 10,000 psi (700 kg/cm²). Make sure that all hydraulic equipment, hoses , etc. used with this pump are rated at 10,000 psi operating pressure.

1-2.

Hydraulic Connections

Never disconnect or connect any hydraulic hoses or fittings without first unloading the tool. Unplug the electrical cord of the pump and open all hydraulic controls to ensure that the system has been depressurized. If the system includes a gauge, double check the gauge ensure pressure has been released.

When making connections with quick disconnect couplings , make sure the couplings are fully engaged. Threaded connections such as fittings , gauges , etc. must be securely tightened and leak free.



CAUTION: Loose or improperly threaded fittings can be potentially dangerous if pressurized, however, severe over tightening can cause premature thread failure. Fittings need to be tightened secure & leak free. Never hold or stand directly in line with any hydraulic connections while pressurizing. Never grab, touch or in any way come in contact with a hydraulic pressure leak. Escaping oil can penetrate the skin and a serious injury can result.

Do not subject the hose to potential hazard such as sharp surfaces , extreme heat or heavy impact. Do not allow the hose to kink & twist. Inspect each hose for wear before each use.

1-3.

Electrical Power for Solenoid valves is 12 VDC supplied by the engine and backed up by 2, 7.2 volt NICAD battery packs connected in series.

1. CHECK FOR PROPER ELECTRICAL SUPPLY BEFORE CONNECTING.
2. DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE OR IN THE PRESENCE OF CONDUCTIVE LIQUIDS.
 - a. Do not use a pendant control cord that is damaged or has exposed wiring.

SECTION II

INSTRUCTIONS BEFORE USE

Read carefully. Most malfunctions in new equipment are the result of improper operation and/or improper set-up assembly.

Preparation: Remove pump from shipping container -- but do not remove any plugs or valves until the unit is ready to be fully assembled to prevent dirt or foreign matter from contaminating system.

Inspection: Visually inspect all components for shipping damage. If any damage is found, notify carrier immediately.

2-1.

Gasoline, Oil and Fuel

1. Above 32 degrees Fahrenheit use S.A.E. 10 W 30 (Engine only)
2. Below 32 degrees Fahrenheit use S.A.E. 5 W 20 (Engine only)
3. Oil sump capacity - About 1.3 pints or check dip stick
4. Use clean, unleaded automotive gasoline (without alcohol)

2-2.

Hydraulic Connections:

Check hydraulic oil level to prevent possible pump burnout. Open the fill plug located at the top of the motor shroud. Remove inspection plug on cover plate. Oil level should be approximately 1" from top of reservoir plate with tools retracted and motor off. Add SIMPLEX oil as necessary. Do not mix different grades of oil.

Make sure all desired gauge, valve, hose and quick coupler connections are tight and secure before operating (**See Section 1-2**). The pumps pressure ports is 3/8 NPTF and are located just below the control valve. (**See Section 3-1**).

These pumps are equipped with a "popper" internal relief valve that makes an audible popping noise when 10,000 psi hydraulic pressure is reached.

The use of a pressure gauge is strongly recommended for normal operation of these pumps and required when the external adjustable relief valve pressures are changed. Mounted on a gauge adapter between the pump and cylinder, the gauge permits the operator to monitor tool operating pressures .

Do not exceed rated capacity of equipment connected to pump. Where shock loading or unsteady loads may cause overloading of cylinders, the operator must use larger capacity cylinders to provide additional operating margin.

2-3.

Starting Instructions (Gasoline Engine)

Throttle to choke position (extreme right): Grasp STARTER HANDLE and pull rope out slowly to engagement: Pull rope with a rapid, continuous full stroke and let rewind slowly, and do not allow to snap back. Move the control lever to "HIGH SPEED" position then to "RUN" as the engine warms.

SECTION III **OPERATION**

3-1.

Control Valves:

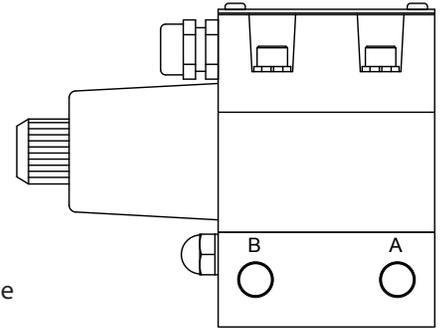
a. 4-Way Valve for Single and Double Acting Tools Pressing pendant control switch directs pump output to right-hand port.

Releasing pendant control switch directs pump output to left-hand port.

Left hand port output pressure is limited to 3,000 psi.

3-2.

Before starting the pump, make sure that the solenoid valve pendant control switch is not being accidentally pressed by storage position or wrapping of the control cord. The valve is designed to direct oil to the 3,000 psi side of the valve when the pendant switch is not being pressed. Attempting to start the engine with the pendant switch pressed increase the pull on the starting rope and make the engine hard to start.



3-3.

Bleeding the hydraulic system air can be removed from the system by fully operating and retracting the hydraulic tool several times with the pump elevated so its reservoir is higher than the tool. Single-acting tools should be inverted. When the trapped air is removed from the hydraulic circuit, the tool will advance and retract smoothly. Sluggish tool action is usually the first sign of air in the system.

3-4.

Press the pendant control switch to activate the tool. Releasing the switch automatically releases the tool.

3-5.

Never operate the pump at 10,000 psi without tool movement for more than 1 minute because this could overheat the oil.

SECTION IV **MAINTENANCE**

4-1.

Maintain Oil Level -- check hydraulic oil level every 30 hours of operation. Add SIMPLEX hydraulic oil when necessary. Oil level should be no more than 1" from top of reservoir plate with tool retracted and motor off.

Completely change oil at least twice a year. The following conditions require more frequent oil changes :

- a. Rigorous duty, where oil temperature may reach 140 F .
- b. High humidity environment and extreme changes in temperature that can result in condensation inside the reservoir.
- c. Dirty or dusty environments may contaminate the oil.

4-2.

Clean Oil Filter screen Once a Year

- a. Loosen and remove reservoir plate bolts . Lift pump unit off the reservoir, being careful not to damage the gasket.
- b. Remove debris from screen with a tooth brush.
- c. Blow dry and inspect, repeat cleaning as needed.

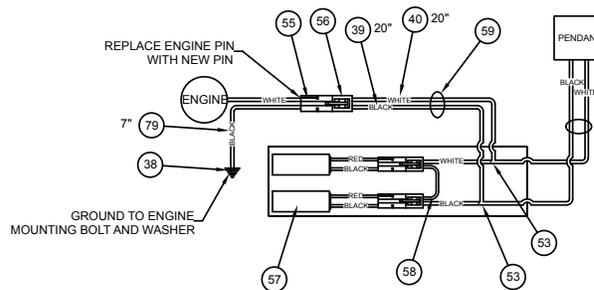
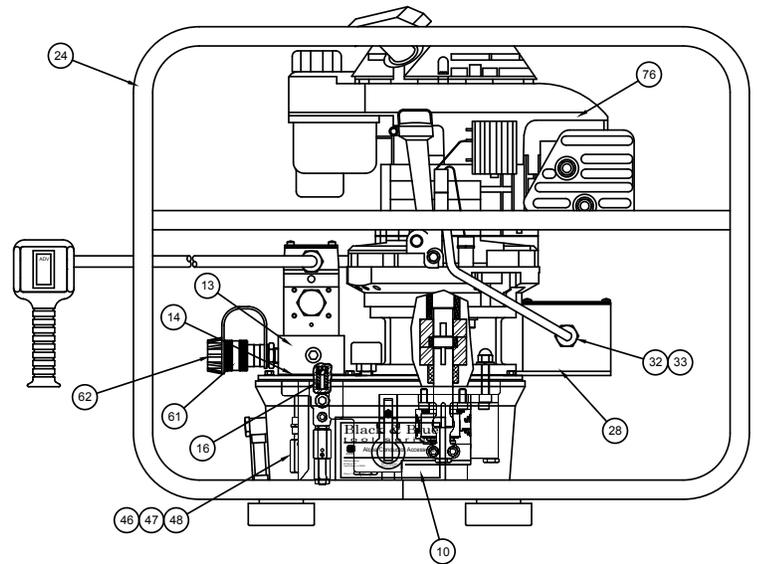
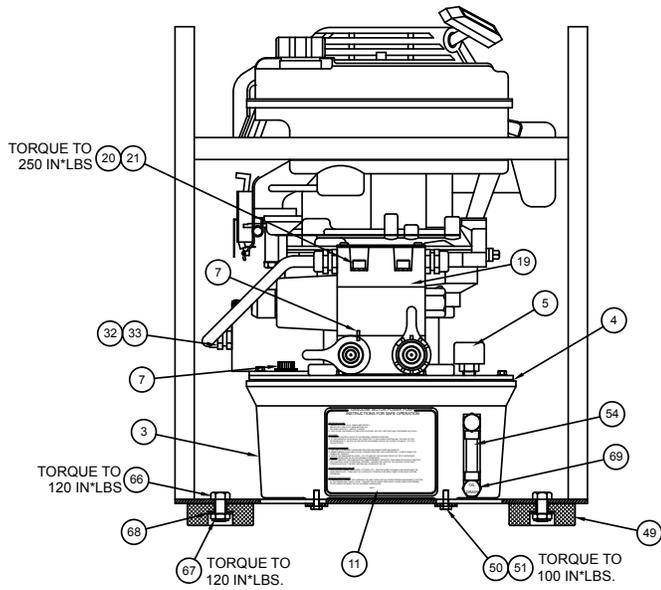
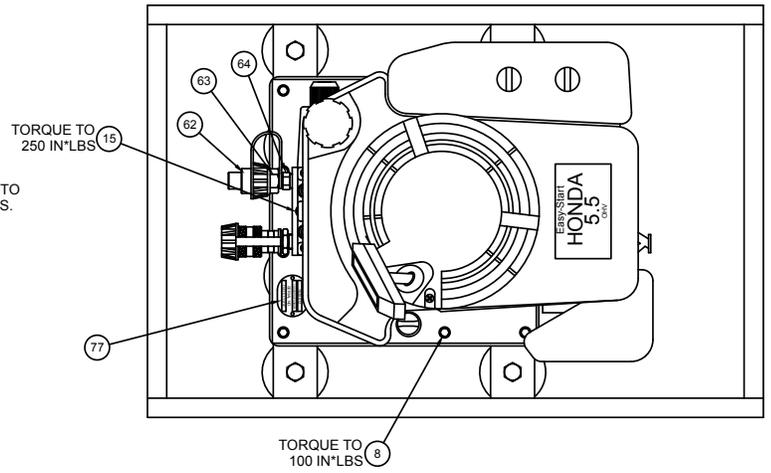
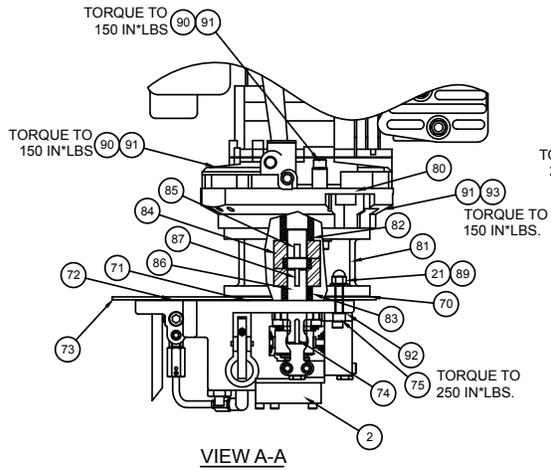
4-3. Keep areas around pump unobstructed to provide good air flow around the motor and pump. Keep the motor and pump as clean as possible.

SECTION V
TROUBLESHOOTING

If the procedures listed below do not remedy the problem, the pump will require service and should be taken to an Authorized SIMPLEX Service Center for repair.

PROBLEM	CAUSE - SOLUTION
<i>Sporadic Tool Action</i>	<ol style="list-style-type: none">1. Air in the hydraulic system. See Sec. 3-3 for correct bleeding procedure.2. Check reservoir oil level.
<i>Engine Will Not Start</i>	<ol style="list-style-type: none">1. Check manufacturers operating instructions.
<i>Noisy Operation</i>	<ol style="list-style-type: none">1. Air in system. (See Sec. 3-3 for bleeding procedure).2. Be sure the oil reservoir is filled to normal level.3. Check all points where air might leak into system.
<i>Pump Oil is Over Heating</i>	<ol style="list-style-type: none">1. Oil viscosity too high. Replace with SIMPLEX oil.2. Check for high pressure leakage at relief valve or plugs .3. Oil level is low. Fill reservoir to normal level or refit pump with larger reservoir.
<i>Pump Runs but Will Not Pump Oil or build full pressure</i>	<ol style="list-style-type: none">1. Pump is not primed. Run pump a few minutes tipping from side to side.2. Internal leakage. Take to SIMPLEX Authorized Service Center for repair.3. Damaged O-Rings. Take to nearest Simplex Authorized Service Center.4. Defective control valve. (Troubleshoot separately).

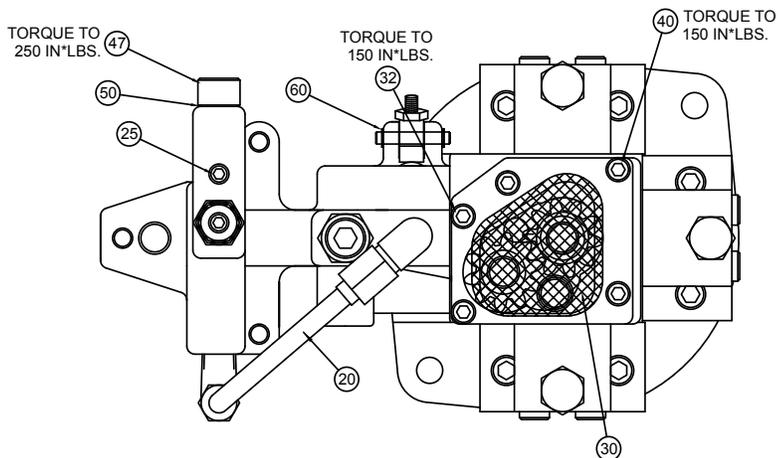
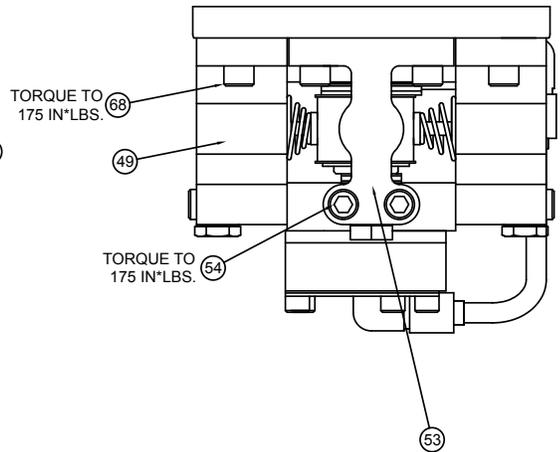
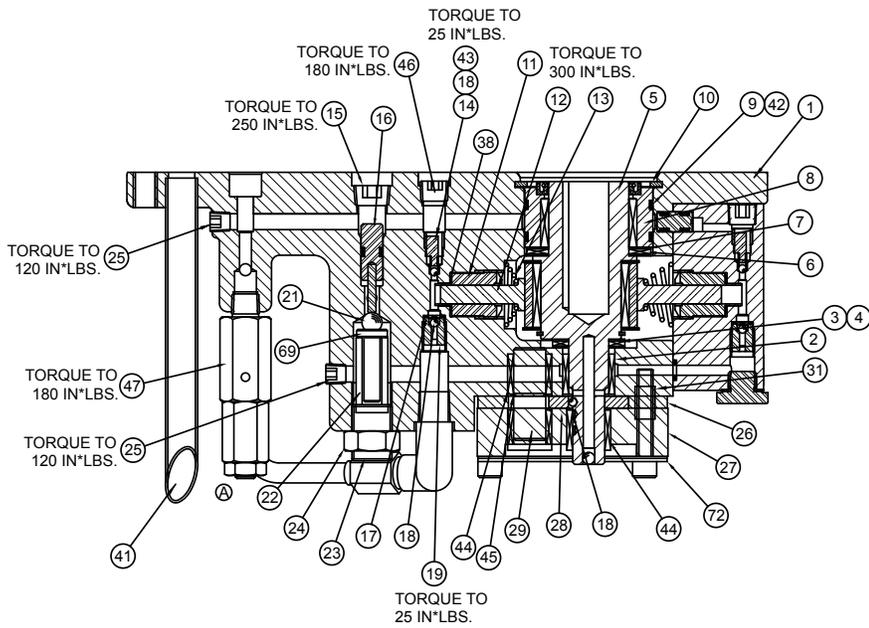
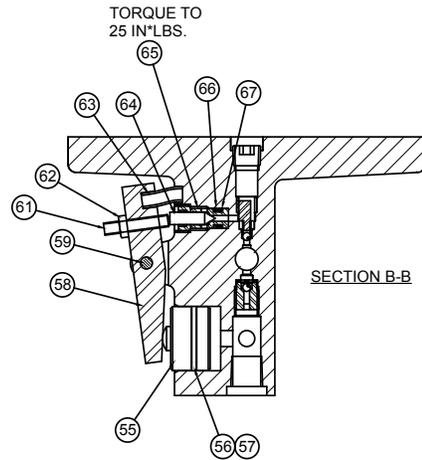
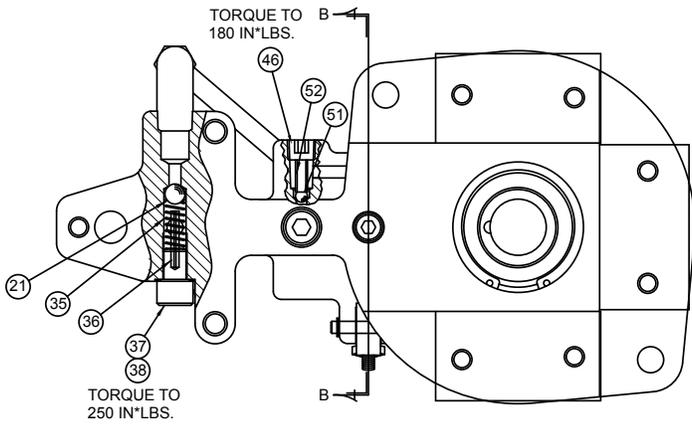
PUMP ASSEMBLY - 7630012



PUMP ASSEMBLY - 7630012

Item #	Part #	Name	Qty.	Item #	Part #	Name	Qty.
	44278	FUNNEL	1	58	44734	BATTERY PACK HARNESS	1
1	AO1	HYD OIL-1 GAL.	2	59	68107	HEAT SHRINK TUBE	1.67 Ft
2	44762SS	4 PISTON DUMP ASM.	1	61	40858	FEMALE COUPLER 3050-3	1
3	69285BSS	2 GAL RESVR. ALCOA	1	62	CR215	DUST CAP	2
4	66014	GASKET	1	63	18213	HI-FLOW COUPLER MALE	1
5	68000	BREATHER VENT BF-4	1	64	46379R	HEX NIPPLE 3/8" NPT	1
7	68571SS	FILLER PLUG	2	66	45746	HHCS 1/2-13 X 1.00 S.S	4
8	69249	SCREW 1/4-20 X 3/4 S.T.	12	67	45747	HEX NUT 1/2-13 W/NYLON THIN SS	4
10	44823Z	ALCOA DECAL	2	68	45748	SS FLAT WASHER 1/2	4
11	44815	GEN SAFE USE GAS LBL	1	69	44779	LEVEL GAUGE DECAL	1
13	44422SS	4 WAY MAN ASM W/REL	1	70	66012	GASKET-MOTOR	1
14	69242	VALVE GASKET	1	71	68231	GASKET-PUMP @ MOTOR	1
15	93599	SHCS 3/8-16 X 2 1/2	3	72	68551	GASKET-PUMP @ VALVE	1
16	69378SS	VAL ADP W/ CHECK ASM	1	73	44451	COVER PLT 2G W/REL	1
19	44780SS	VALVE 2P 12VDC	1	74	69026	PIN,DOWEL 3/16 1" LONG	1
20	88363	SHCS 3/8-16 X 3 1/2	4	75	84692	SHCS 3/8-16 X 1.75	4
21	93943	LOCK WASHER	8	76	44800	5.5HP HONDA ENGINE SPC	1
22	561604	SPRING PIN	1	77	44735	POWER PUMP METAL TAG	1
24	69131	ROLL CAGE	1	78	43248	TACK,METAL	2
28	44758	BOX WELDMENT	1	79	68261	WIRE #14 BLACK	1
32	68375	FITTING,CORD L-TIGHT	2	80	69593	GAS MOTOR ADAPTER	1
33	85510	LOCKNUT 1/2 INCH	2	81	44784	MOTOR ADAPTOR HONDA	1
38	DS2479199	VINYL INS RING TERM, 5/16 16-14 AWG	1	82	44773	SPACER COUPLING	1
39	69267	#4 JUMPER WIRE X 20"	1	83	44794	SPACER COUPLING 5HP	1
40	68262B	WIRE #14 WHITE	1.67 Ft	84	44812	COUPLER L090 7/8X7/8	1
46	68318SS	POPPER VALVE ASSEMBL	1	85	69864R	WOODRUFF KEY PURCHASED	1
47	68917	PIPE NIPPLE 1/8 NPT	1	86	69515	STUB SHAFT 3HP FMH	1
48	68918	PIPE COUPLING 1/8	1	87	88464	KEY 3/16 X 3/16 X 3/4LG	1
49	69133	RUBBER FOOT MACH.	4	89	44720	ACORN NUT 3/8-16 PLT	2
50	45751	HHCS 1/4-20 X .75 W/NYLON S.S	4	90	97268	SHCS 5/16-18X1.50	2
51	45185	1/4 FENDER WASHER	4	91	93942	5/16" LOCK WASHER ZINC PLATE	3
53	68657	WIRE NUT ORANGE	2	92	85726	GASKET 25/64X19/32	2
54	69284	GAGE LIQUID LEVEL	1	93	84188	SHCS 5/16-24 X 1" LG	1
55	44796F	TAMIYA FEMALE PLUG	1	94	46553	LABEL - THROTTLE CONTROL	1
56	44796M	KYOSHO MALE PLUG	1				
57	44736	7VDC BATTERY PACK	2				

SUB PUMP ASSEMBLY - 44762SS



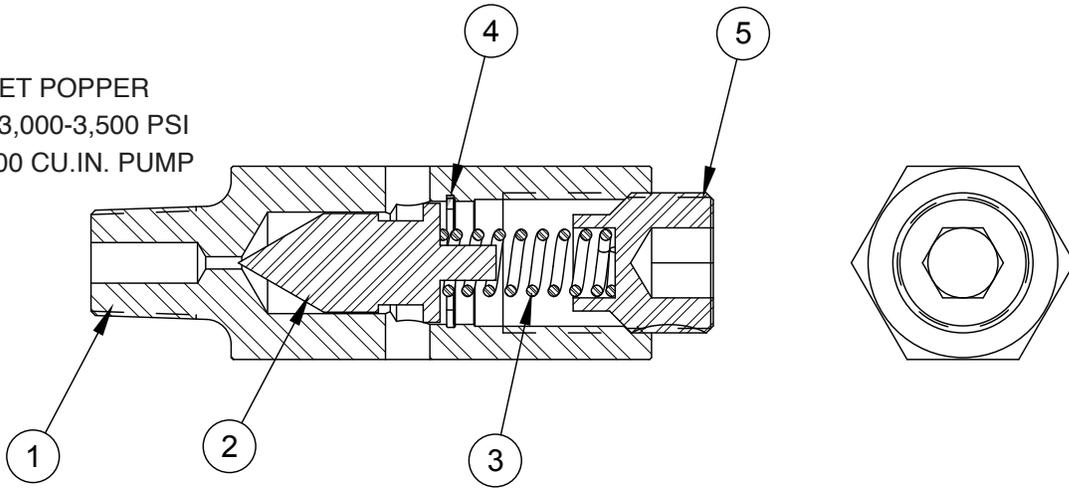
NOTES:
 SET UNLOADING VALVE @ 1,200 PSI

SUB PUMP ASSEMBLY - 44762SS

Item #	Part #	Name	Qty.	Item #	Part #	Name	Qty.
1	44918	PUMP BODY 4 PIS DUMP	1	37	68226	SCREW, BALL STOP	1
2	68360	BEARING ROLLER 5/8x13/16x5/8 WIDE	1	38	85726	GASKET 25/64X19/32	1
3	66033	THRUST BEARING	1	40	68255	CAP SCREW	4
4	66474	THRUST WASHER	2	41	68569	TUBE RETURN	1
5	68906	SHAFT-ECC ASM 7/8	1	42	69513	SHAFT ADP BACKUP WAS	2
6	66106	THRUST BEARING	1	43	66042	SPRING	1
7	66108	THRUST WASHER	2	44	68891	BEARING ROLLER 1/2x11/16x1/2 WIDE	3
8	68829SS	ADAPTER-SHAFT ASM	1	45	68892	RING-RETAINING	1
9	56020322	O-RING 1 7/8X2" URE	2	46	81093	1/8 FLUSH PLUG W/SEALANT	2
10	68978	RETAINING RING	1	47	68940	SHCS 7/16-20 x .50	1
11	68915	ADAPTER-.210 PISTON	1	48	45295SS	POPPER RELIEF VALVE ASSEMBLY	1
12	68830	PISTON-.210 DIA	1	49	68502SS	PISTON BLK .225	2
13	68340	SPRING, PISTON	1	50	86269	GASKET 29/64 X 5/8	1
14	68810	BALL STOP	1	51	90548	3/16" DIA. BALL REF WM581649	1
15	93950	1/4 SOC PIPE PLUG	1	52	68893	SPRING	1
16	43766SS	UNLOADING PISTON ASSEMBLY	1	53	68832SS	PISTON BLK .210	1
17	66043	BALL RETAINER	1	54	69392	SOCKET HEAD CAPSCREW	6
18	90906	1/8" DIA. BALL REF WM1584020	5	55	69321	DUMP PISTON	1
19	66046	INTAKE SEAT	1	56	68497	SEAL	1
20	68851	TUBE ASM	1	57	S5602017	O RING	1
21	91701	5/16" DIA. BALL REF S116	2	58	68494	LEVER-DUMP	1
22	43671	UNLOADING SPRING	1	59	68492	PIN-DUMP	1
23	43674	SET SCREW UNLOADING VALVE	1	60	68542	RETAINING RING	2
24	43675	HEX NUT UNLOADING VALVE	1	61	68543	SET SCREW #10-32 X 1.0 OVAL	1
25	97641	1/16 SOC PIPE PLUG	3	62	5757040	NUT- 10-32 SELF LOCKING	1
27	68849	PLATE-BOTTOM	1	63	68498	SPRING	1
28	68848S	GEAR SET 3/16" CLYDESDALE PUMP	1	64	68491	CONE, DUMP	1
29	68850	SHAFT-IDLER	1	65	68482	SEAT, INSERT	1
30	68921	SCREEN	1	66	56080087	BACKUP WASHER	1
31	68894	TUBE-GUIDE .11	2	67	S5602008	O-RING (.19x.31x.06)BUNA	1
32	89148	SHC SCREW	1	68	82687	SHCS 5/16-24 X 5/8	6
35	68225	SPRING	1	69	43673	SPRING CAP UNLOADING VALVE	1
36	S81332	PIN ROLL .13 X 15/16	1	72	68927	PLATE-SCREEN MTG.	1

POPPER VALVE ASSEMBLY - 68318SS

NOTES - SET POPPER VALVE TO 3,000-3,500 PSI USING A 100 CU.IN. PUMP

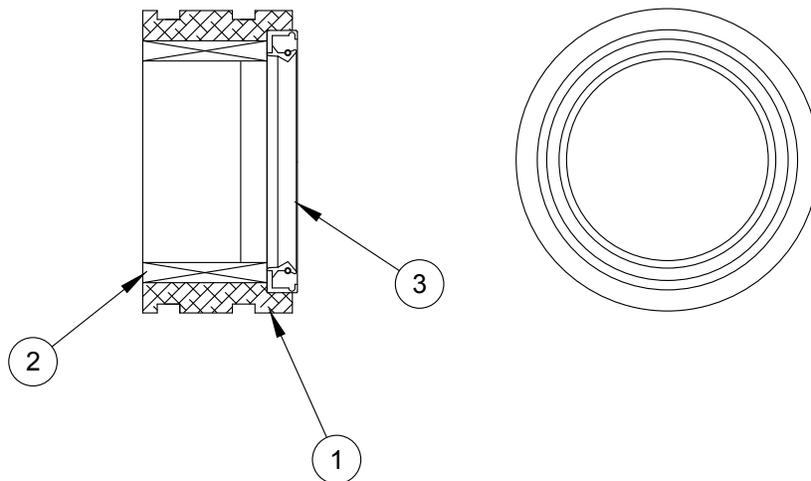


NOTES:

-SET POPPER VALVE TO 3,000-3,500 PSI USING A 100 CU.IN. PUMP.

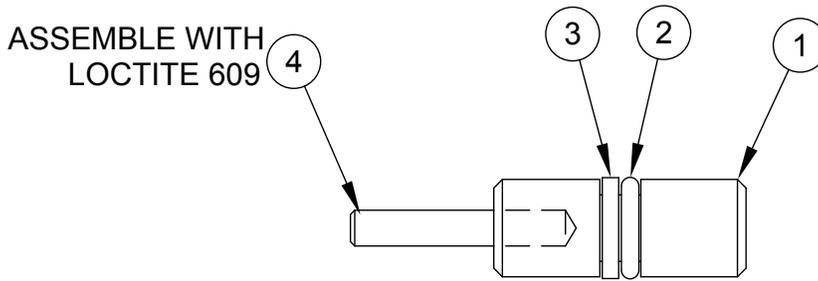
Item #	Part #	Name	Qty.
1	88762	CARTRIDGE	1
2	68320	CONE	1
3	88761	SPRING	1
4	88760	RETAINING RING	1
5	89064	SET SCREW 1/2-20 X 5/8 MODIFIED	1

ADAPTER SHAFT ASSEMBLY - 68829SS



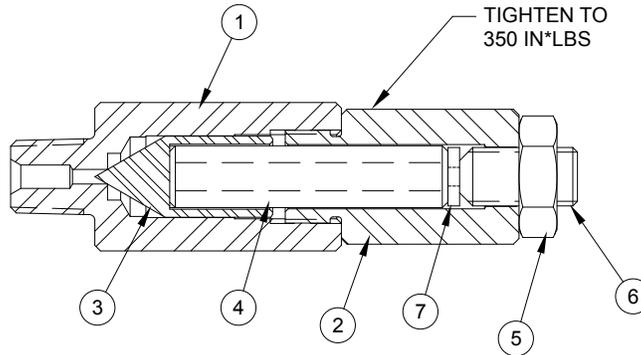
Item #	Part #	Name	Qty.
1	68912	ADAPTER-SHAFT	1
2	66030	BEARING ROLLER 1 1/4x1 1/2x3/4 WIDE	1
3	68901	SEAL-SHAFT	1

UNLOADING PISTON ASSEMBLY- 43766SS



Item #	Part #	Name	Qty.
1	43765	UNLOADING PISTON	1
2	S5602009	O RING	1
3	S43768	BACKUP WASHER	1
4	43686	DOWEL PIN 1/8 DIA X 3/4	1

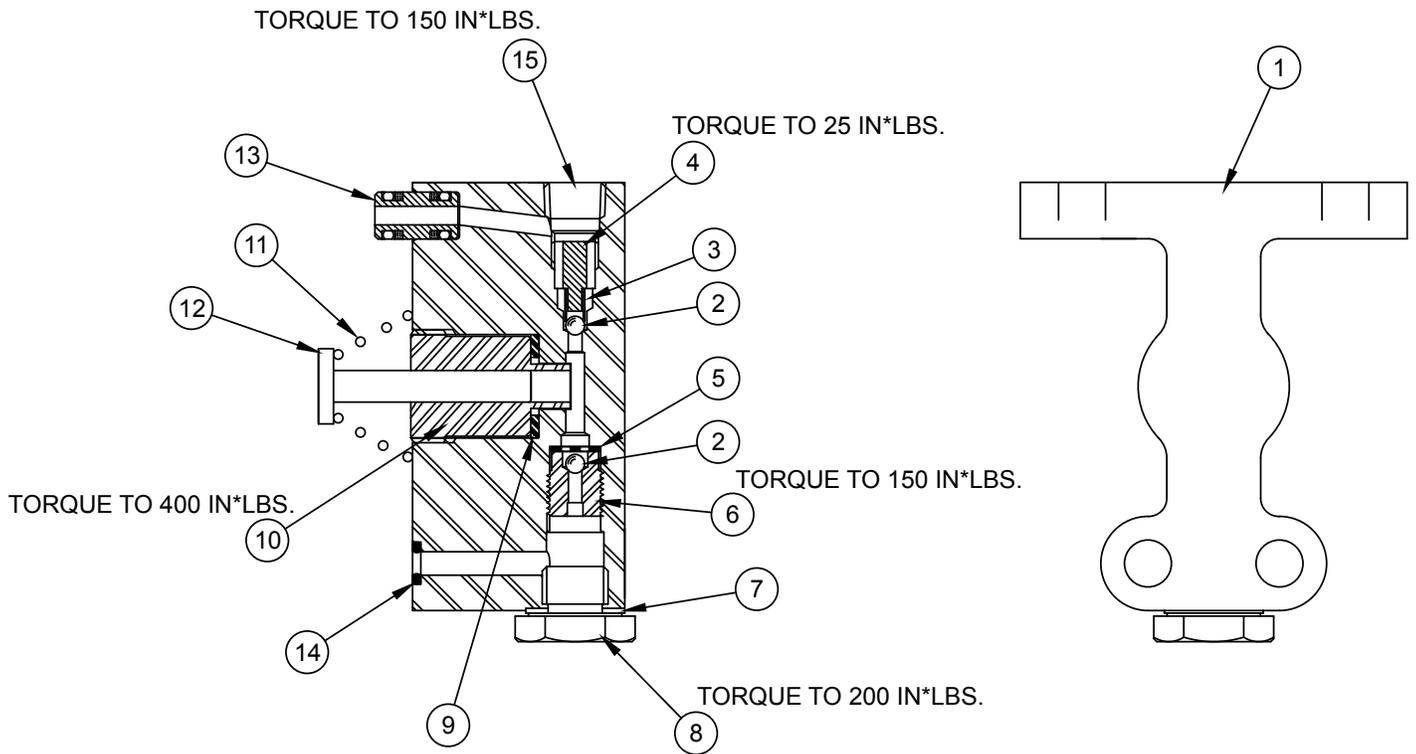
POPPER VALVE ASSEMBLY- 45295SS



NOTES:
 -POPPET SEAT ON CARTRIDGE, TO BE COINED PRIOR TO ASSEMBLY.
 -USE SPECIAL COINING TOOL OR 1/8" BALL BEARING.
 -SET POPPER VALVE TO 10,500-10,800 PSI USING A 100 CU.IN. PUMP.

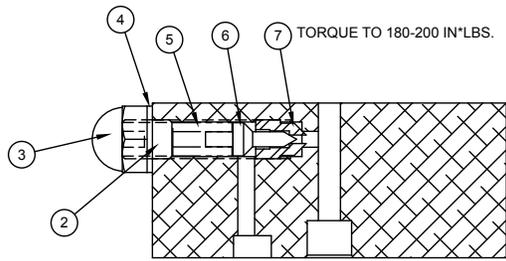
Item #	Part #	Name	Qty.
1	44764	POPPER BODY 1/8 NPT	1
2	45262	POPPER VALVE ADAPTER	1
3	69982	POPPET	1
4	45263	POPPER RELIEF SPRING	1
5	93872	HEX JAM NUT 5/16-24	1
6	45296	SET SCREW 5/16-24 X 5/8 CUP	1
7	46521	WASHER 5/16 O.D.	1

PISTON BLOCK ASSEMBLIES - 68502SS & 68832SS



Item #	68502SS Part #	68832SS Part #	Name	Qty.
1	68501	68501	PISTON BLOCK MACH'G	1
2	90906	90906	1/8" DIA. BALL REF WM1584020	2
3	66042	66042	SPRING	1
4	68810	68810	BALL STOP	1
5	66043	66043	BALL RETAINER	1
6	66046	66046	INTAKE SEAT	1
7	86269	86269	GASKET 29/64 X 5/8	1
8	68825	68825	PLUG PISTON BLOCK	1
9	85726	85726	GASKET 25/64X19/32	1
10	68945	68915	ADAPTER PISTON	1
11	68340	68340	SPRING, PISTON	1
12	67868	68830	PISTON	1
13	68970SS	68970SS	ADAPTER ASSY.	1
14	S5602008	S5602008	O-RING (.19x.31x.06)BUNA	1
15	81093	81093	1/8 FLUSH PLUG W/SEALANT	1

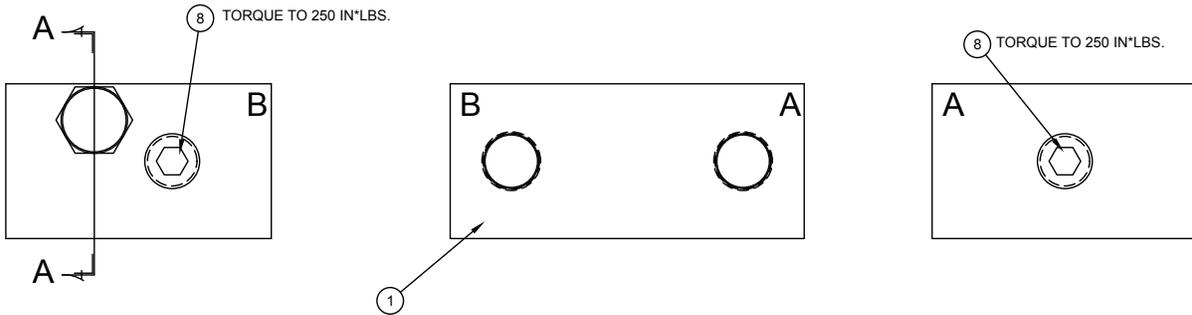
VALVE MANIFOLD ASSEMBLY - 44422SS



SECTION A-A

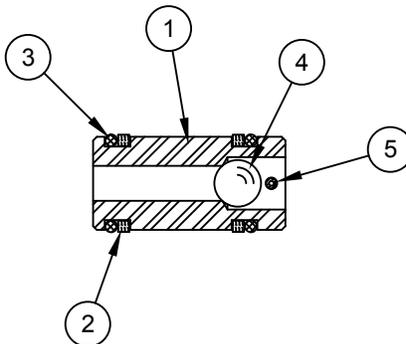
NOTES:

- SET RELIEF @ 12,000 - 12,100 PSI.



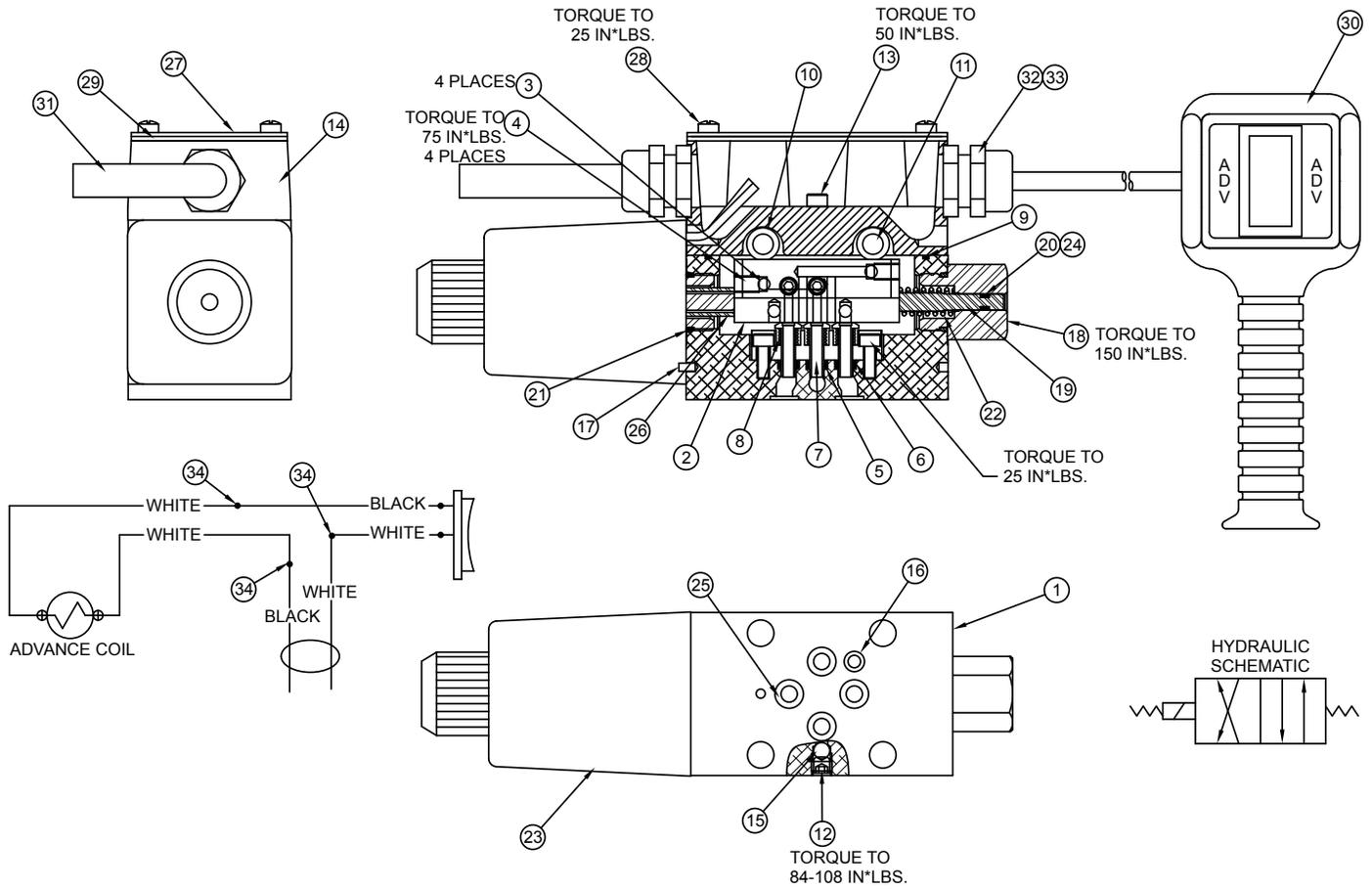
Item #	Part #	Name	Qty.
1	44420	4W MANIFOLD W/RELIEF	1
2	69104	ADJUSTING SCREW	1
3	69105	ACORN NUT 7/16-20 PL	1
4	69124	WASHER 7/16 NYLON	1
5	66085	SPRING - RELIEF VALVE	1
6	68003	CONE - EXT RELIEF	1
7	68004	SEAT - EXT RELIEF	1
8	84084	PIPE PLUG 3/8" FLUSH	2

VALVE ADAPTER ASSEMBLY - 69378SS



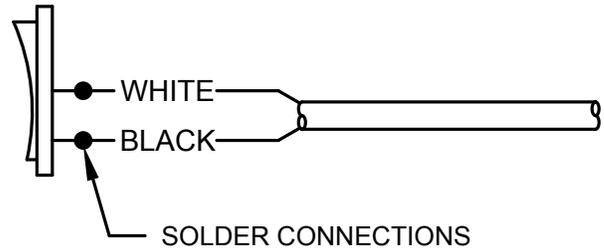
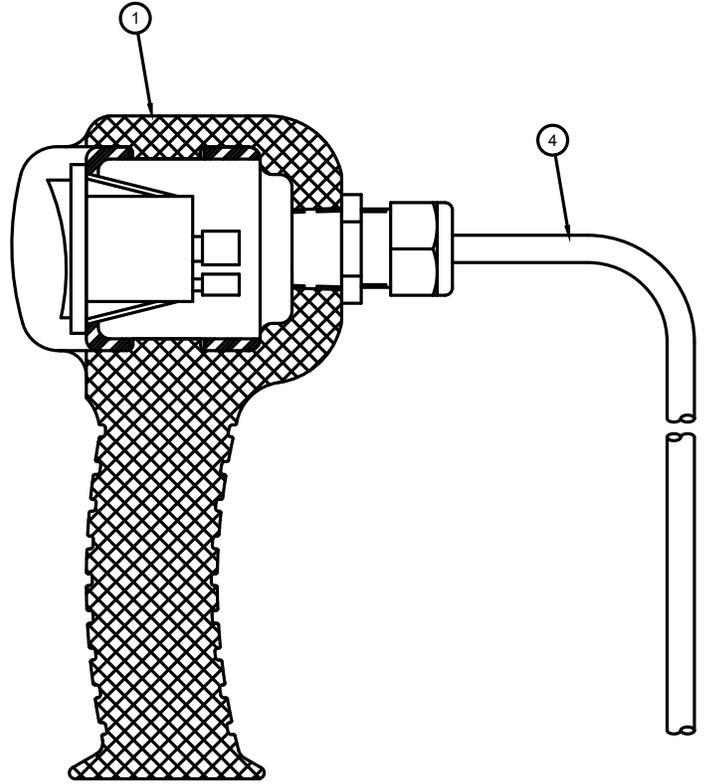
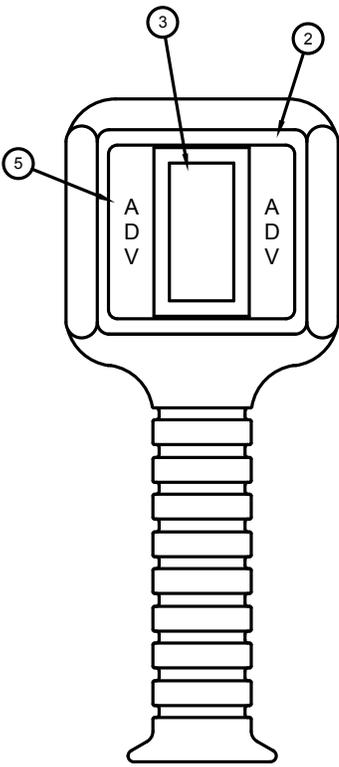
Item #	Part #	Name	Qty.
1	69377	VALVE ADP W/ CHECK	1
2	S65881	SPLIT BACK UP	2
3	S5602012	O RING -012, 70	2
4	92549	1/4" DIA. BALL	1
5	81330	ROLL PIN 1/16 X 7/16	1

SOLENOID VALVE ASSEMBLY - 44780SS



Item #	Part #	Name	Qty.	Item #	Part #	Name	Qty.
1	68708	BODY-VALVE	1	19	69178	PUSHER PIN	1
2	44328	SLIDER ADV/RET ONLY	1	20	5602006	O-RING-.12x.25x.06	1
3	90548	3/16" DIA. BALL REF WM581649	4	21	S5603910	O RING	2
4	40254	SET SCREW 1/4-28 X 1/4 CUP	4	22	68711	SPRING	1
5	S5602009	O RING REF M792041	3	23	68727	SOL ASM 12VDC	1
6	68391	BACK UP WASHER	3	24	5608006	B/U WASHER	1
7	68383	SHEAR SEAL	3	25	56020112	O-RING 5/16X7/16 URE	4
8	68384	SPRING	3	26	46418	SPACER VALVE SLIDER	1
9	5602040	O RING	1	27	68388	COVER, VALVE	1
10	68385	BEARING ROLLER 5/16x1/2x5/16 WIDE	4	28	98250	SCREW, FILL HD MACH	4
11	68390	PIN BEARING	2	29	68389	GASKET CVR	1
12	94418	SET SCREW 5/16-18 X 1/4 CUP	1	30	69733SS	ADV PENDANT ADV ONLY	1
13	68264	SHCS #10-32 X 1" LG PLATED	2	31	68469R	CORD AWG16 300V	2 Ft
14	68381	PLATE-TOP MACHINING	1	32	68375	FITTING,CORD L-TIGHT	2
15	92549	1/4" DIA. BALL	1	33	85510	LOCKNUT 1/2 INCH	2
16	S5602008	O-RING (.19x.31x.06)BUNA	1	34	68093	WIRE NUT BLUE	3
17	69636	ROLL PIN 1/8 X 1/4 LG	1				
18	69177	ADAPTER	1				

PENDANT ASSEMBLY - 69733SS



Item #	Part #	Name	Qty.
1	69083	PENDANT BODY& RELIEF	1
2	69150	JUNCTION BOX 1SWITCH	1
3	69366	SWITCH ON*-NONE-OFF	1
4	DS1308052	CORD ELECTRICAL 18-2 20'	1
5	69996	PENDANT LABEL ADV	1

