



TECHNICAL PARTS LIST FOR
GH-2403-3MGH
(GRAINGER ITEM #3WE17)
HOT WATER PRESSURE WASHER
MANUFACTURED FOR W.W. GRAINGER INC.

For parts Call 888-279-9274

HONDA OIL GRADE:	SAE10W-30 (Grainger Item #4F743)
HONDA OIL CAPACITY:	20 oz.
PUMP OIL GRADE:	SAE30W Non-Detergent (Grainger Item #4ZF21)
PUMP OIL CAPACITY:	14 oz.
FUEL NOZZLE:	1.25 60°B Delavan
BTU INPUT:	205,000 / Hour
PRESSURE NOZZLE SIZE:	3.0

This Parts Listing has been compiled for your benefit. You can be assured your hot water pressure washer was constructed and designed with quality and performance in mind. Each component has been rigorously tested to insure the highest level of quality.

The contents of this Parts Listing are based on the latest product information available at the time of publication. The manufacturer reserves the right to make changes in price, color, materials, equipment, specifications or models at any time without notice.

WARNING

THIS IS A PROFESSIONAL HIGH PRESSURE, HOT WATER PRESSURE WASHER. CAUTION SHOULD BE OBSERVED WHEN USING OR REPAIRING THIS UNIT! READ AND FOLLOW THE SAFETY WARNINGS LISTED BELOW BEFORE ATTEMPTING ANY REPAIRS ON THIS PRESSURE WASHER!

SAFETY WARNINGS

1. NEVER alter or modify the equipment. Be sure any accessory items and system components being used will withstand the pressure developed. Use only genuine manufacturer parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will VOID warranty.
2. NEVER make adjustments on machinery while the unit is connected to the engine without first removing the ignition cable from the spark plug. Turning over the machinery by hand during adjustment or cleaning might start the engine and machinery with it, causing serious injury to the operator.
3. Know how to stop and bleed pressures quickly. Be thoroughly familiar with controls.
4. Before servicing the unit, turn unit off, relieve the water pressure and allow the unit to cool down. Do not make repairs while the unit is running. Service in a clean, dry, flat area. Block the wheels to prevent the unit from moving. Be especially careful to properly dispose of any flammable materials.
5. After testing the machine, DO NOT leave the pressurized unit unattended. Shut off the unit and release trapped pressure before leaving.

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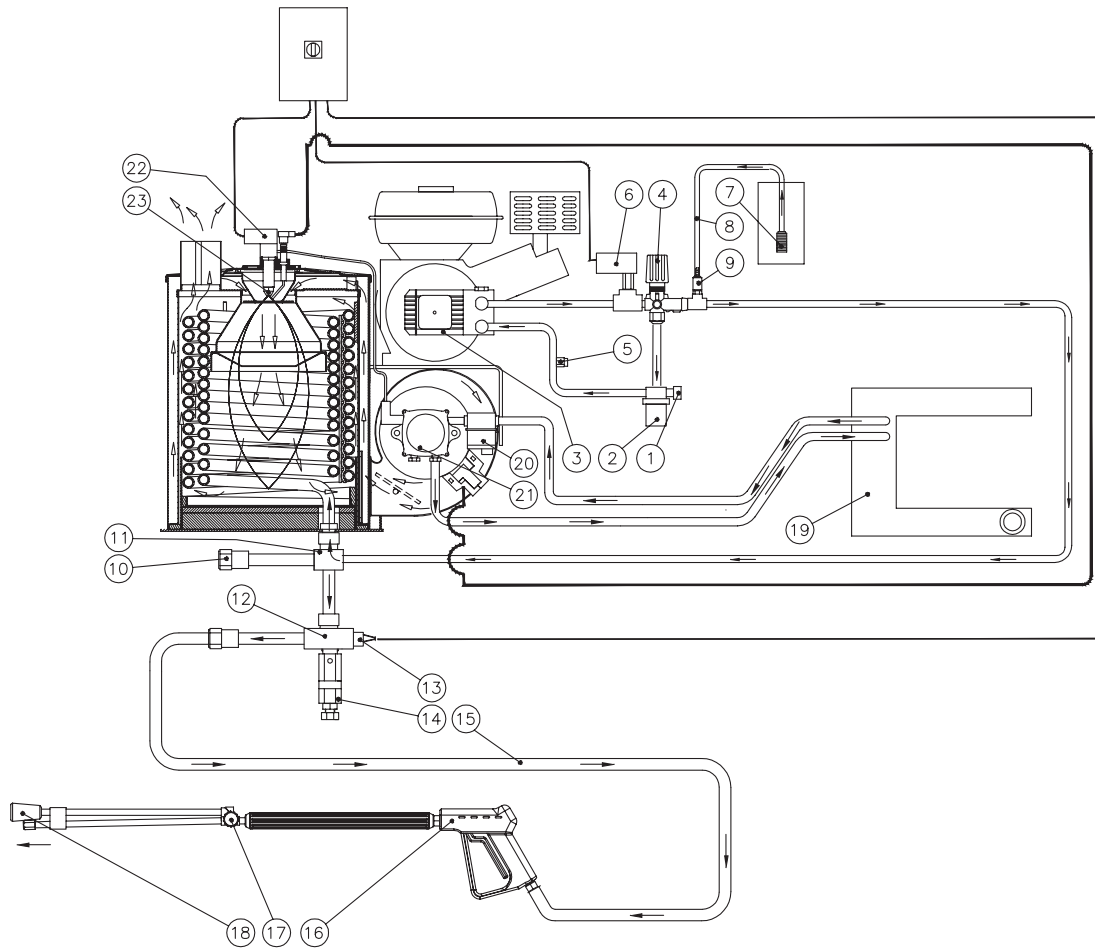
NOTES

SERIAL	BREAK NUMBER:	SERIAL BREAK EXPLANATION:
05/5/05		CHANGED GUN FROM 850-0179 TO 16-0001. CHANGED LANCE FROM 850-0185 TO 16-0416.
01/16/12	15071602	BOILER ASSEMBLY CHANGED TOP PAN ASSEMBLY
01/30/12	15070469	HEAT EXCHANGER / EMF ASSEMBLY UPDATE
04/30/12	15074024	IGNITION COIL ASSEMBLY

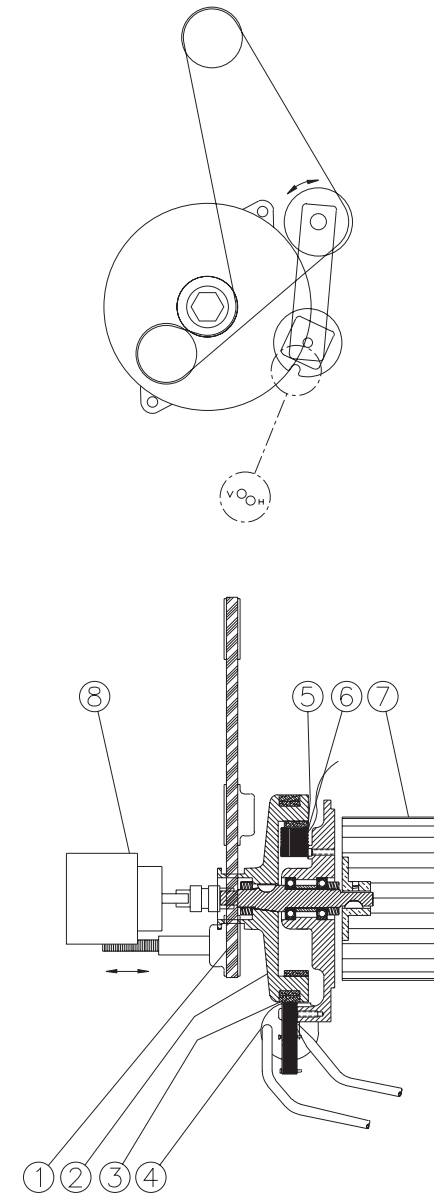
SPECIFICATIONS

MODEL NUMBER	GH-2403-3MGH
Operating Pressure (PSI/Bar):	2400/ 165 (+/- 5%)
Water Volume (GPM/lpm):	2.3/8.7 (+/- 5%)
Outlet Water Temperature (F/C):	130°F/ 72°C (+/- 20°F) rise above inlet ambient (210°F/ 99°C maximum)
Engine:	Honda
Horsepower	6.5
Engine Type	Four Stroke, Overhead Valve, Single Cylinder
Oil Type	SAE10W-30 (Grainger Item #4F743)
Oil Capacity (oz./liter)	20/.6
Low Oil Protection	Oil Alert
Fuel Type	Unleaded Gasoline 86 Octane Minimum
Fuel Capacity (gal./liter)	.95/3.6
Starting	Recoil Rope
Maximum No Load RPM	3600 (+/- 100)
High Pressure Pump:	Direct Driven, Oil Bath, Triplex Piston
Oil Type	SAE30W Non-Detergent (Grainger Item #4ZF21)
Oil Capacity (oz./liters)	14/.41
Plungers	Ceramic
Manifold	Forged Brass
Valves	Stainless Steel
Unloader	Preset
Inlet Water Strainer	Removable Clear Bowl for inspection and cleaning of Stainless Steel Screen
Heat Dump Valve	Relieves heated water during unloader bypass stage
Detergent Injector:	Adjustable Low Pressure downstream from pump
Burner Fuel System:	
Fuel Type	No.1 or No.2 Fuel Oil, Diesel or Kerosene
Fuel Capacity (gal./liters)	4/15
Fuel Filter/ Water Separator	Spin on (10 micron) filter/ E-Z water drain
Fuel Pump	Two Line, Single Stage
Fuel Pressure (PSI/ BAR)	145/10
Fuel Nozzle	1.25 60° B Delavan
Fuel Consumption (GPH/ LPH)	1.51 GPH Continuous Burning
Electro Magnetic Firing (EMF) System:	Belt Driven (Patented)
Ignition	Transistorized Magneto
Control Voltage	12 Volt DC
Blower	Forced Air
Heat Exchanger:	Vertical, Top fired, Dual Spiral Coil
BTU Input	210,000
Efficiency	80-83% with #2 Fuel Oil/ Diesel
Smoke Density	0-3 per ASTM D2156
Controls:	
On/ Off Switch	Industrial grade rocker switch
Pressure Switch	Shuts off burner fuel supply upon trigger release
High Limit Switch	Shuts off burner fuel supply when outlet water temp. exceeds 210°F/ 99°C
Fuel Solenoid:	12 Volt
Safety Relief:	Relieves excess system pressure
Unit Net Weight (Lbs/kg):	269/122
Unit Shipping Weight (Lbs/kg):	385/175
Unit Net Dimension (In/cm):	37.5Lx29.5Wx37.5H/95Lx75Wx95H
Unit Shipping Dimension (In/cm):	46.5Lx31.5Wx48.5H/118Lx80Wx123H

OMHSP091-042805-RZ



OMHSP008-012494-BAR



GENERAL THEORY OF OPERATION

WATER FLOW: Connect a pressurized water source to the Inlet Garden Hose Connection (1) and turn on the water supply. The water will flow through a Water Strainer (2) which has a clear inspection bowl.

The water then travels into the Triplex High Pressure Pump (3) which has an Unloader (4) that bypasses the water when the trigger gun is closed. To protect the pump from heated water during this bypass stage, a Heat Dump Valve (5) will open at 140°F/60°C allowing the heated water to escape. The Heat Dump Valve automatically resets when the water cools. The Pressure Switch (6) controls the fuel supply to the burner.

When using detergents, the solution passes through the Detergent Strainer (7) located on the Detergent Hose (8). The detergent solution then travels into the Adjustable Low Pressure Detergent Injector (9).

From there, the water may be allowed to flow out of the drain plug (10) or through the heat EXCHANGER INLET (11) where it is heated when the burner is on. As the water exits the Heat Exchanger OUTLET (12), it enters a safety system which protects the operator from danger. The safety system contains a High Temperature Limit Switch (13) which senses the water temperature and shuts off the fuel supply to the burner if it gets too hot. If the unloader fails to by pass the water or the burner remains on when the trigger gun is closed, the SAFETY RELIEF (14) will relieve and allow water to exit safely.

The heated water then flows through the High Pressure Hose (15) and to the Trigger Gun Assembly (16) which allows the operator to control the water spray. When the trigger gun is open, the water flows through the Adjustable Pressure Dual Lance (17) and exits the Nozzle (18).

FUEL FLOW: The Fuel Pump draws fuel from the Fuel Tank (19) through a replaceable Fuel Filter/Water Separator (20) and into the Fuel Pump (21). Fuel exits the fuel pump, into a Fuel Solenoid Valve (22) which controls fuel flow to the Fuel Nozzle (23) where it ignites and burns in the heat exchanger.

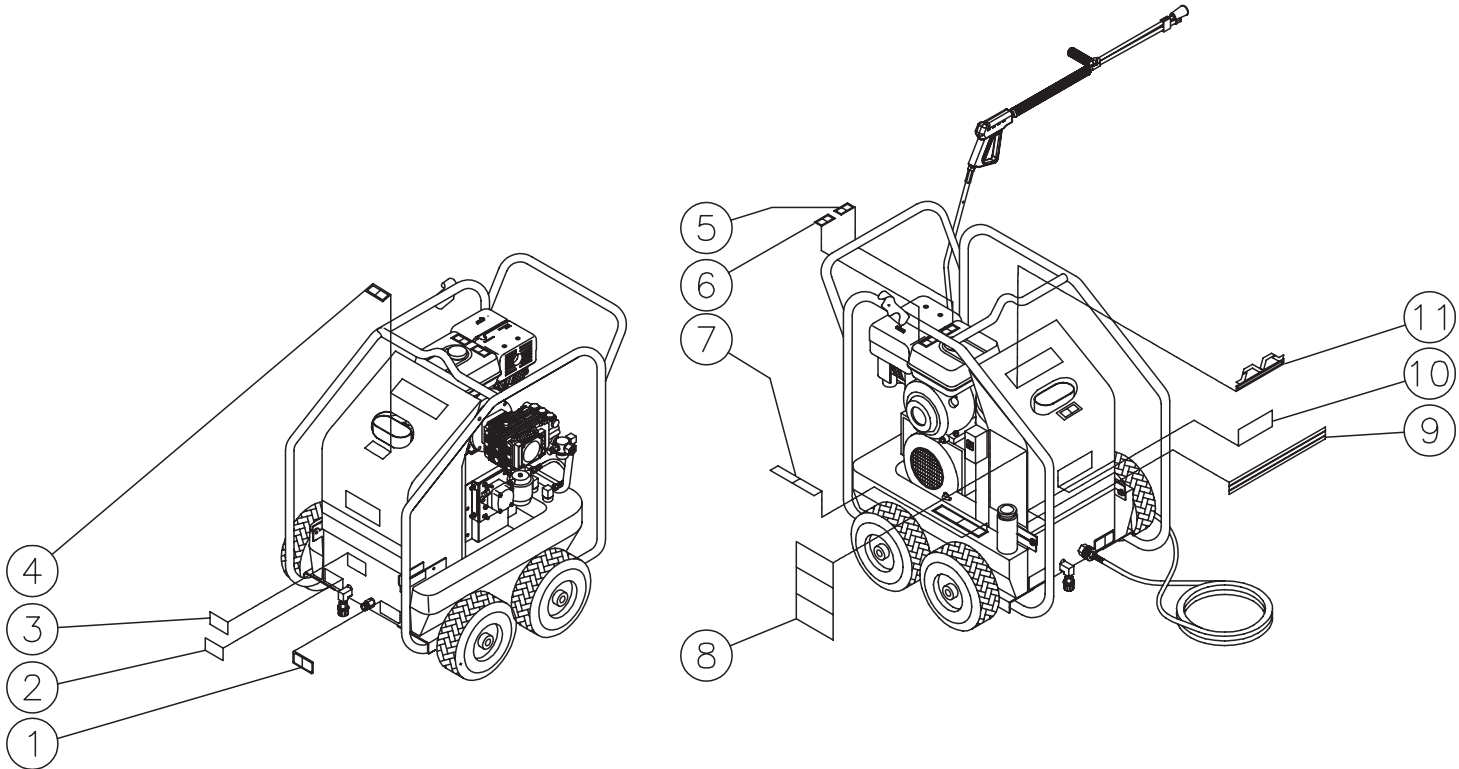
EMF SYSTEM: The patent pending Electro Magnetic Firing (EMF) System is an integrated system which gives all the requirements for combustion.

The Belt (1) from the power source turns the Hub (2) which has two Exterior Magnets (3) attached. As these magnets spin past the Ignition Module (4), a magnetic flux is created from which the ignition module produces a high voltage. This voltage arcs across the electrodes giving the spark that is needed for ignition.

This hub has an Internally Mounted Magnet (5) which spins past a Stator (6) that produces the voltage that controls the fuel supply to the heat exchanger. In addition to this, the hub also spins the Blower Fan (7) that forces the air into and through the heat exchanger.

The Fuel Pump (8) is also connected the hub by means of a flexible coupler.

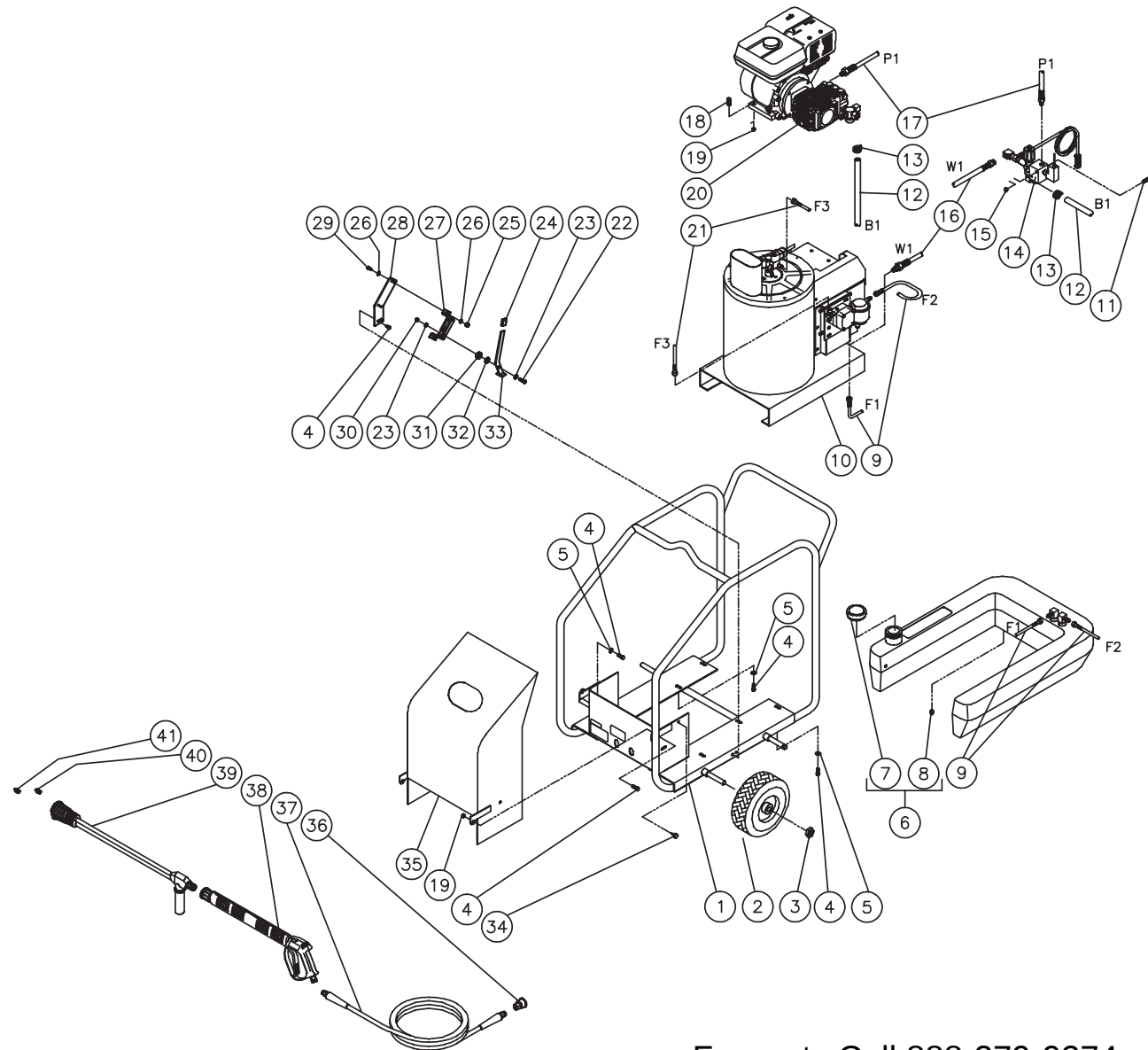
DECAL PLACEMENT



GH-2403-3MGH DECAL PLACEMENT-033005-RZ

DECAL PLACEMENT			
REF. #	DESCRIPTION	PART #	QTY.
1	Decal- Warning: Don't Modify Plumbing (E/S) (See 34-9001)	N/A Sep.	1
2	Decal- Data Plate	N/A	1
3	Decal- Grainger 800# (See 34-9001)	N/A Sep.	1
4	Decal- Warning: Hot Coil Exhaust (E/S) (See 34-9001)	N/A Sep.	1
5	Decal- Allow to Cool (E/S) (See 34-9001)	N/A Sep.	1
6	Decal- Hot Surface (E/S) (See 34-9001)	N/A Sep.	1
7	Decal- Risk of Fire (E/S) (See 34-9001)	N/A Sep.	1
8	Decal- Warning/ Caution/ Operation (E/S) (See 34-9001)	N/A Sep.	1
9	Decal- Stripe	34-0560	1
10	Decal-White Die Cut	34-0711	1
11	Plastic Mi-T-M Logo	62-0087	1
	Safety Decal Kit (Includes 1, 3-8)	34-9001	

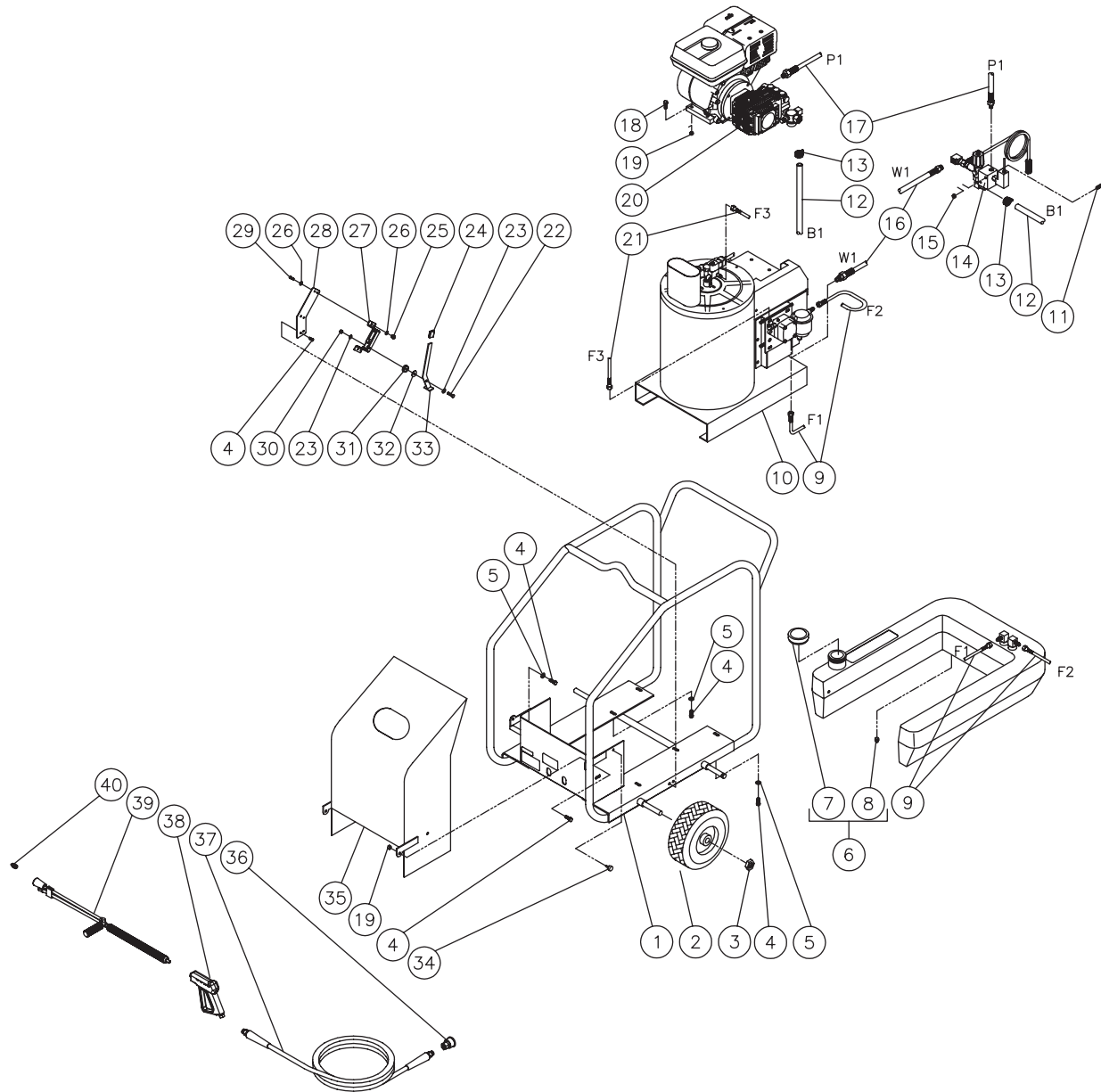
FRAME ASSEMBLY



For parts Call 888-279-9274

FRAME ASSEMBLY								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Frame Assembly	5-9002A01	1		22	Screw	27-0068	1
2	Wheel	14-0017	4		23	Washer	28-0003	2
3	Jam Nut	30-0117	4		24	Handle Grip	7-0170	1
4	Bolt	27-9524	14		25	Locknut	30-0155	3
5	Flatwasher	28-0022	10		26	Washer	28-0002	6
6	Fuel Tank Assembly (Includes 7, 8)	850-0214	1		27	Bracket	20-0546A01	1
7	Fuel Cap	12-0033	1		28	Brake Plate	20-0580A01	1
8	Plug	23-0296	1		29	Screw	27-0015	3
9	Fuel Hose	15-0147	2		30	Locknut	30-0157	1
10	Heat Exchanger/ EMF System Assembly (See Exploded Drawing)	N/A Sep.	1		31	Grommet	33-0366	1
11	Bolt	27-0526	2		32	Washer	28-0057	1
12	Hose *(Two Feet Required)	15-0007	1		33	Brake Handle Assembly	20-0552A01	1
13	Hose Clamp	42-0011	2		34	Screw Cover	62-0057	1
14	Unloader/ Manifold Assembly (See Exploded Drawing)	N/A Sep.	1		35	Hood Assembly	850-0164	1
15	Hex Nut	30-0157	2		36	Screw Connect	17-0035	1
16	High Pressure Hose Assembly	15-0199	1		37	Hose Assembly	15-0146	1
17	High Pressure Hose Assembly	15-0194	1		38	Gun/ Lance Assembly	850-0179	1
18	Bolt	27-9525	4		39	Dual Lance Assembly- 36"	850-0185	1
19	Hex Nut	30-3023	6		40	Nozzle- 1503	18-0053	1
20	Engine/ Pump Assembly (See Exploded Drawing)	N/A Sep.	1		41	Nozzle- 4060	18-0110	1
21	Fuel Line	33-0217	1	*Must Order in One Foot Lengths				

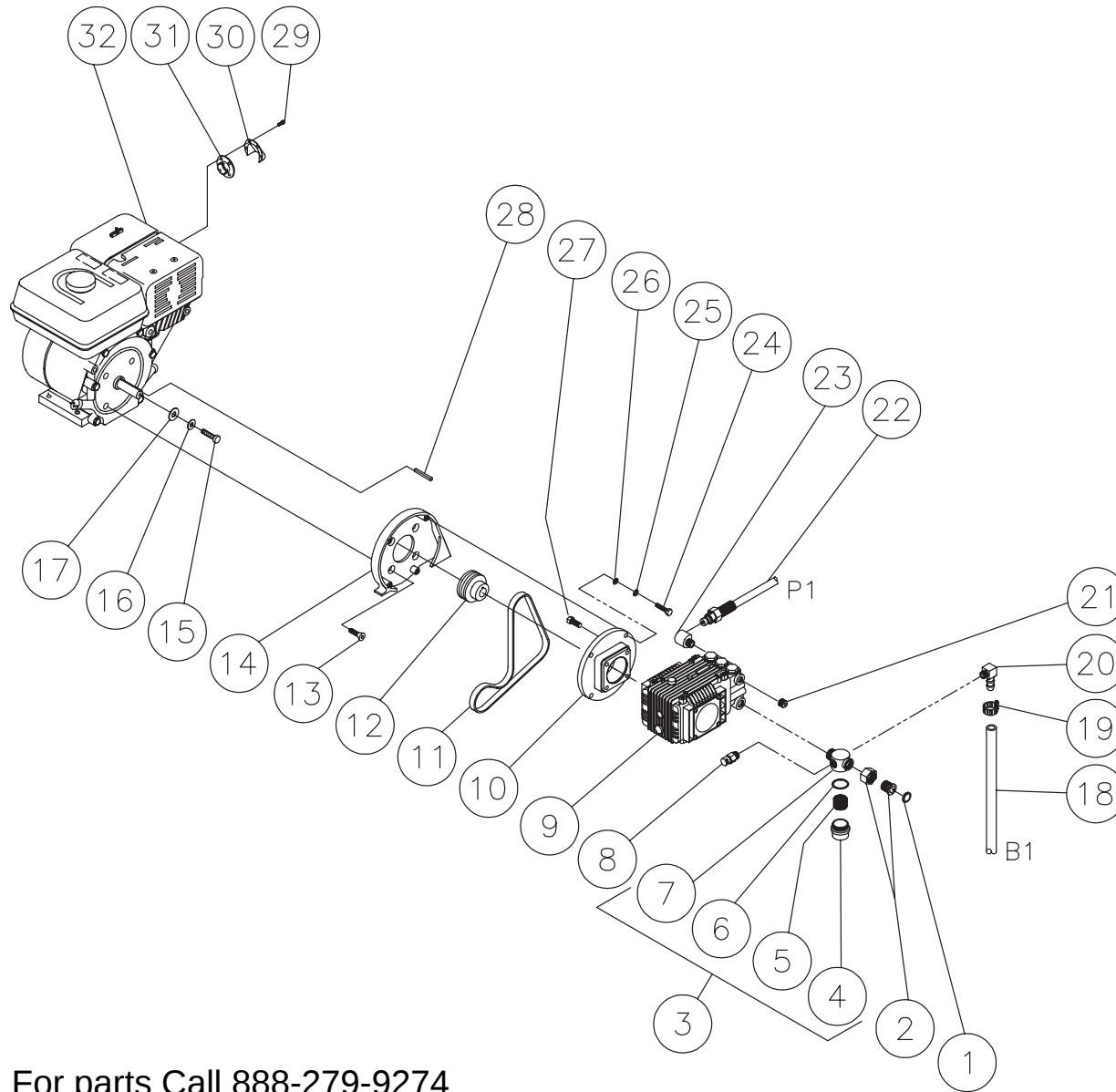
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FRAME ASSEMBLY							
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Frame Assembly	5-9002A01	1	22	Screw	27-0068	1
2	Wheel	14-0017	4	23	Washer	28-0003	2
3	Jam Nut	30-0117	4	24	Handle Grip	7-0170	1
4	Bolt	27-9524	14	25	Locknut	30-0155	3
5	Flatwasher	28-0022	10	26	Washer	28-0002	6
6	Fuel Tank Assembly (Includes 7, 8)	850-0214	1	27	Bracket	20-0546A01	1
7	Fuel Cap	12-0033	1	28	Brake Plate	20-0580A01	1
8	Plug	23-0296	1	29	Screw	27-0015	3
9	Fuel Hose	15-0147	2	30	Locknut	30-0157	1
10	Heat Exchanger/ EMF System Assembly (See Exploded Drawing)	N/A Sep.	1	31	Grommet	33-0366	1
11	Bolt	27-0526	2	32	Washer	28-0057	1
12	Hose *(Two Feet Required)	15-0007	1	33	Brake Handle Assembly	20-0552A01	1
13	Hose Clamp	42-0011	2	34	Screw Cover	62-0057	1
14	Unloader/ Manifold Assembly (See Exploded Drawing)	N/A Sep.	1	35	Hood Assembly	850-0164	1
15	Hex Nut	30-0157	2	36	Screw Connect	17-0035	1
16	High Pressure Hose Assembly	15-0199	1	37	Hose Assembly	15-0146	1
17	High Pressure Hose Assembly	15-0194	1	38	Gun	16-0001	1
18	Bolt	27-9525	4	39	Dual Lance Assembly	16-0416	1
19	Hex Nut	30-3023	6	40	Nozzle- 1503	18-0053	1
20	Engine/ Pump Assembly (See Exploded Drawing)	N/A Sep.	1	*Must Order in One Foot Lengths			
21	Fuel Line	33-0217	1				

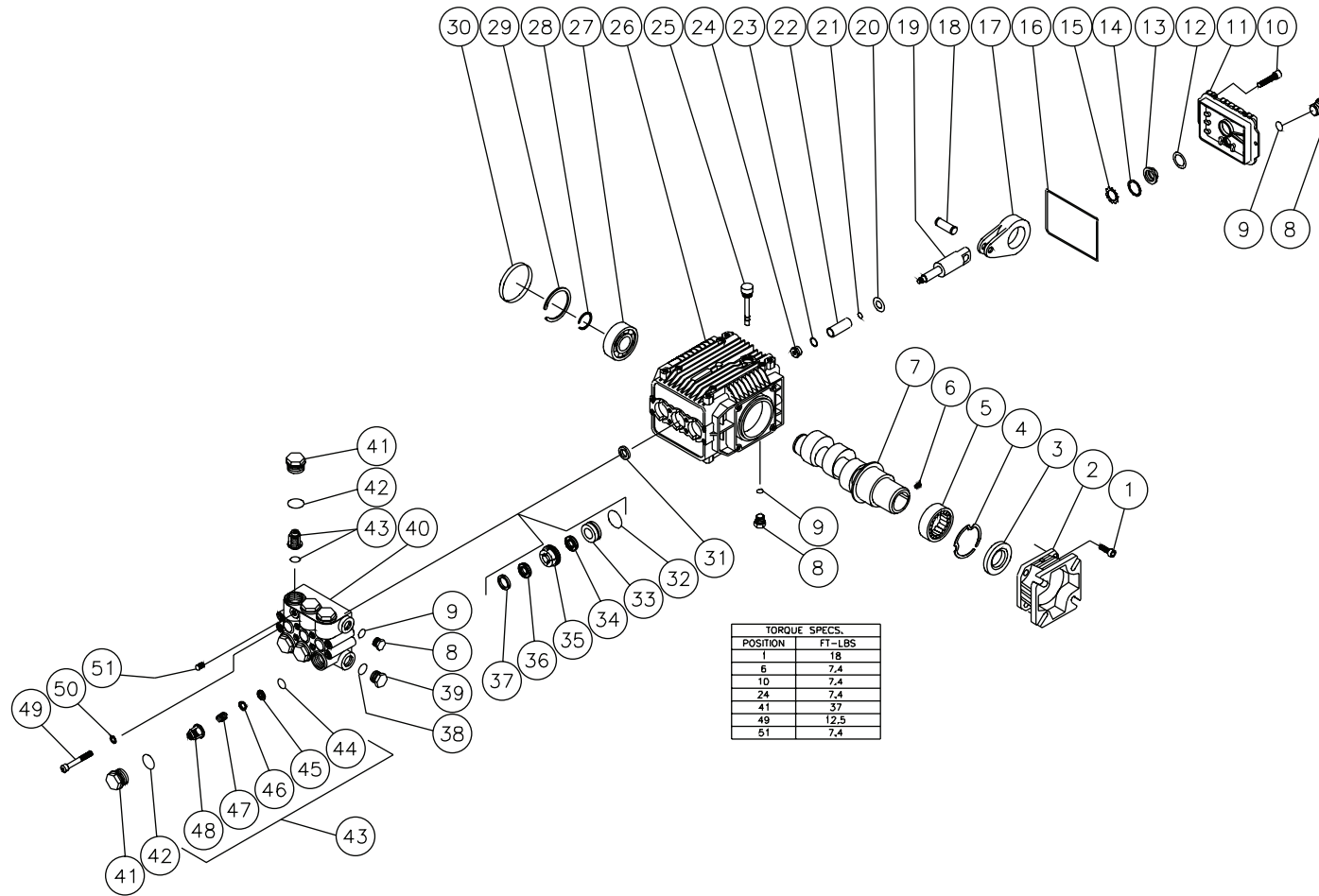
ENGINE/PUMP ASSEMBLY



For parts Call 888-279-9274

ENGINE/ PUMP ASSEMBLY								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Hose Gasket	26-0001	1		18	Hose *(Two Feet Required)	15-0007	1
2	Hose Swivel	23-0095	1		19	Hose Clamp	42-0011	1
3	Strainer Complete (Includes 4-7)	19-0096	1		20	Elbow	23-0119	1
4	Strainer Bowl	19-0103	1		21	Plug	23-0244	1
5	Screen	19-0104	1		22	High Pressure Hose	15-0194	1
6	Strainer O-ring	25-0056	1		23	Elbow	23-0034	1
7	Strainer Cap	19-0105	1		24	Bolt	27-0118	4
8	Thermal Relief Valve	22-0208	1		25	Lockwasher	29-0008	4
9	High Pressure Pump	3-0193	1		26	Flatwasher	28-0023	4
10	Flange/ Pump Adapter	38-0054	1		27	Bolt	27-8432	4
11	Belt	11-0037	1		28	Key	43-0073	1
12	Sheave	10-0076	1		29	Screw	27-3093	2
13	Bolt	27-0418	4		30	Muffler Deflector	45-0053	1
14	Adapter Plate	38-0044	1		31	Muffler Guide	21-0099	1
15	Bolt	27-0091	1		32	Engine- 6.5 H.P. Honda	1-0088	1
16	Lockwasher	29-0007	1		* Must Order in One Foot Lengths			
17	Flatwasher	28-0003	1					

HIGH PRESSURE PUMP (3-0193)

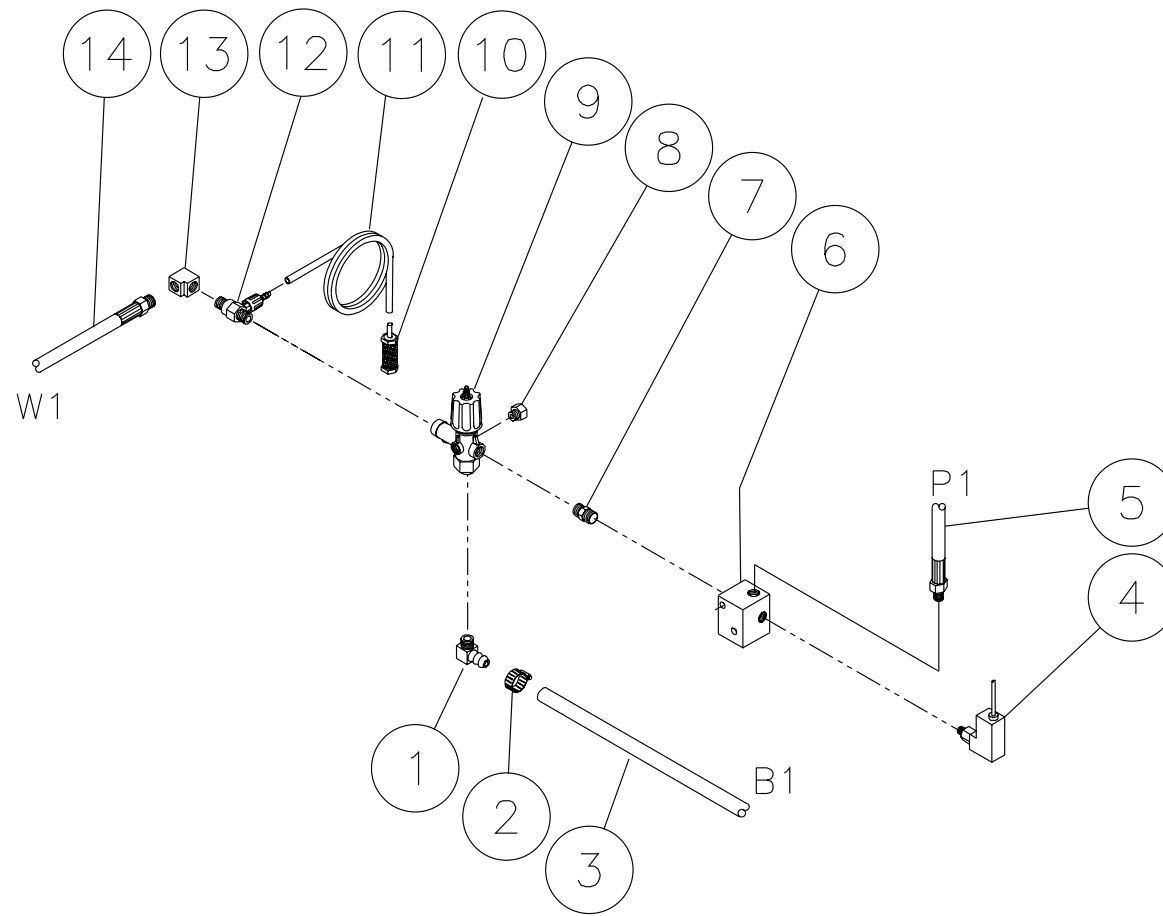


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HIGH PRESSURE PUMP (3-0193)

REF.	DESCRIPTION	PART #	QTY.		REF.	DESCRIPTION	PART #	QTY.		REF.	DESCRIPTION	PART #	QTY.
1	Bolt	27-8432	4		19	Plunger Rod	46-0722	3		37	Support Ring (See 70-0182)	N/A Sep.	3
2	Flange	46-0715	1		20	Washer	28-1027	3		38	O-ring	25-0372	1
3	Oil Seal	26-0192	1		21	O-ring	25-0371	3		39	Plug	39-0088	1
4	Retaining Ring	46-0667	1		22	Piston	46-0723	3		40	Manifold	46-0730	1
5	Bearing	48-0059	1		23	Washer	26-0187	3		41	Valve Cap	39-0087	6
6	Set Screw	27-8886	1		24	Nut	30-6016	3		42	O-ring	25-0160	6
7	Crankshaft	46-0718	1		25	Oil Dipstick	39-0090	1		43	Single Valve Assembly (Inc. 44-48) (See 70-0161)	N/A Sep.	6
8	Plug	39-0086	1		26	Crankcase	46-0724	1		44	O-ring (See 70-0161)	N/A Sep.	6
9	O-ring	25-0325	3		27	Bearing	48-0063	1		45	Valve Seat (See 70-0161)	N/A Sep.	6
10	Bolt	27-8888	6		28	Retaining Ring	46-0732	1		46	Valve Plate (See 70-0161)	N/A Sep.	6
11	Crankcase Cover	46-0719	1		29	Retaining Ring	46-0676	1		47	Valve Spring (See 70-0161)	N/A Sep.	6
12	O-ring	25-0370	1		30	Bearing Cap	46-0725	1		48	Valve Cage (See 70-0161)	N/A Sep.	6
13	O-ring Sight Glass	46-0670	1		31	Oil Seal	26-0193	3		49	Bolt	27-8875	8
14	Reflector	46-0824	1		32	O-ring	25-0399	3		50	Lockwasher	29-0153	8
15	Retainer	46-0671	1		33	Retainer	46-0726	3		51	Plug	39-0097	1
16	O-ring	25-0398	1		34	Low Pressure Seal (See 70-0181)	N/A Sep.	3			Seal Kit (3 each 32, 34, 36)	70-0181	
17	Connecting Rod	46-0720	3		35	Packing Retainer	46-0728	3			Support Rings (3 each 37)	70-0182	
18	Piston Pin	46-0721	3		36	V-Packing (See 70-0181)	N/A Sep.	3			Valve Kit (6 each 44-48)	70-0161	

UNLOADER/MANIFOLD ASSEMBLY

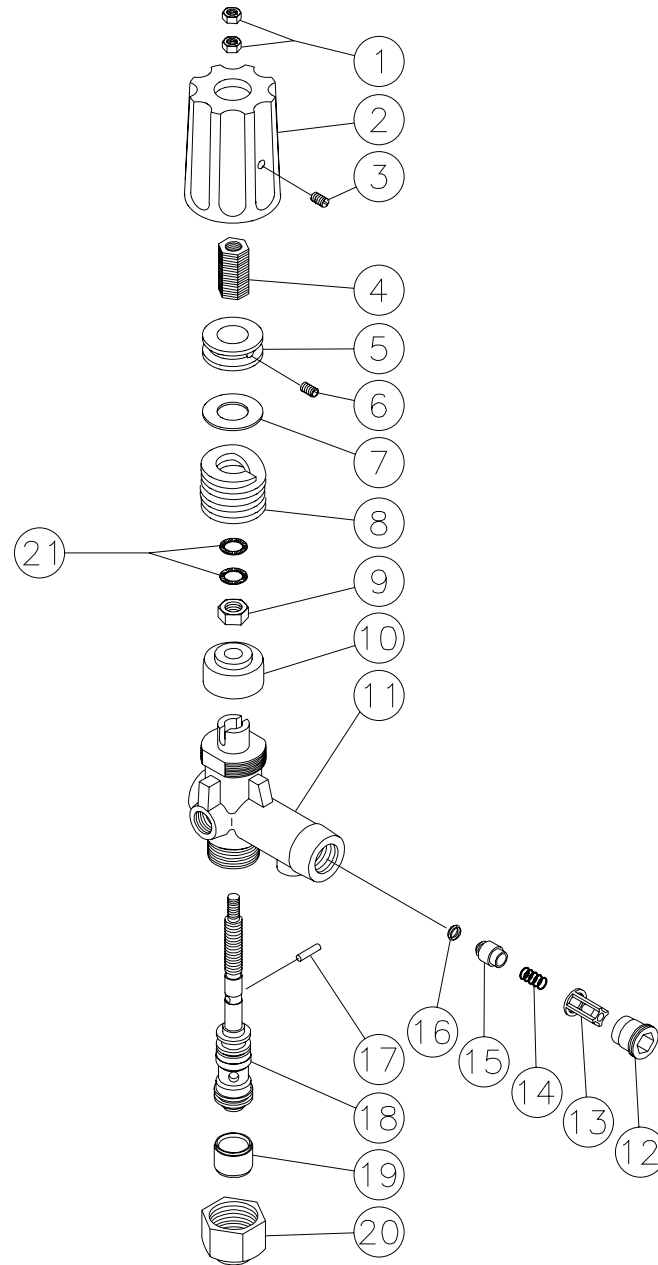


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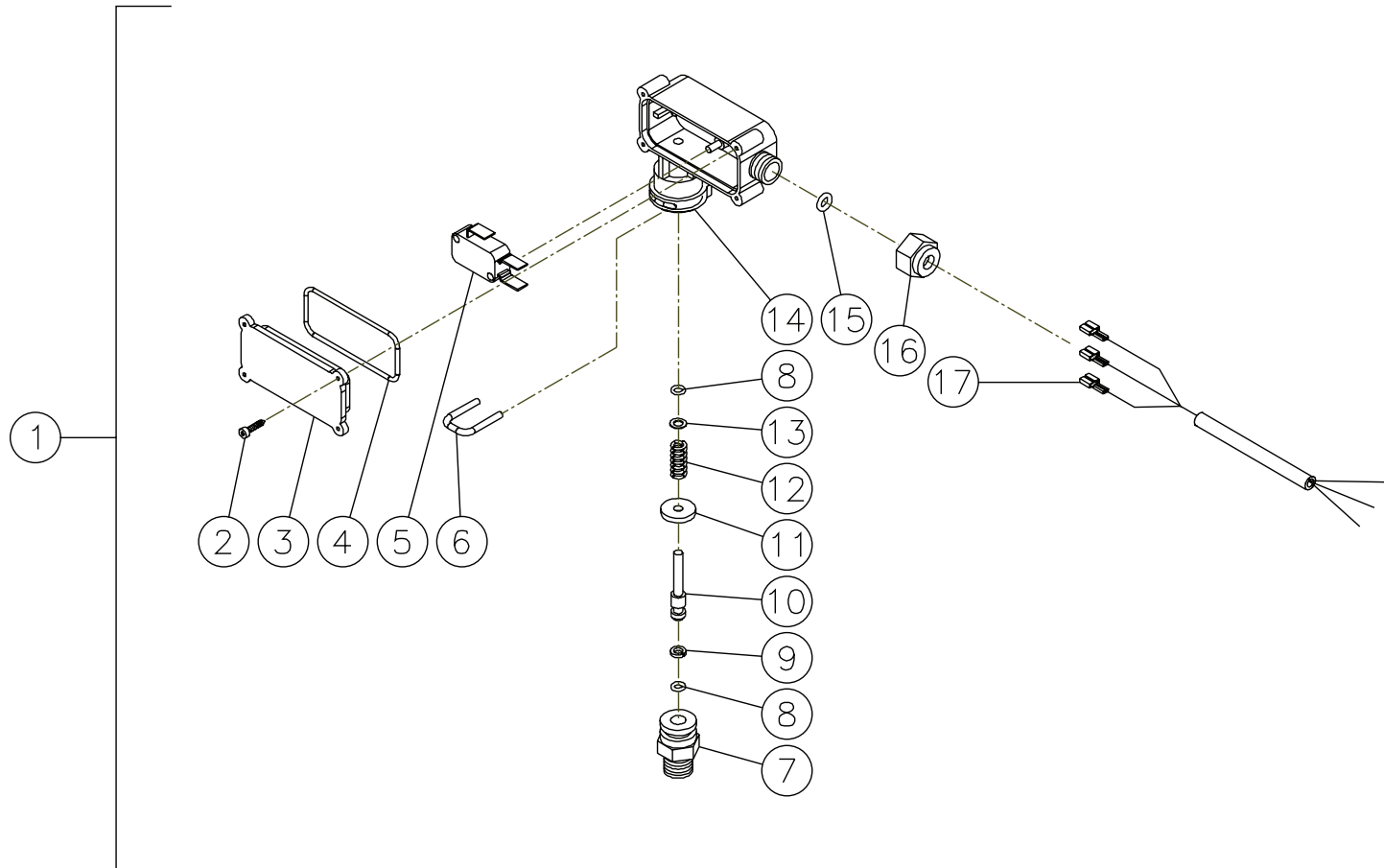
UNLOADER/ MANIFOLD ASSEMBLY			
REF. #	DESCRIPTION	PART #	QTY.
1	Elbow	23-0119	1
2	Hose Clamp	42-0011	1
3	Hose *(Two Feet Required)	15-0007	1
4	Pressure Switch	22-0171	1
5	High Pressure Hose Assembly	15-0194	1
6	Manifold Block	51-0025	1
7	Hex Nipple	24-0010	1
8	Plug	23-0238	1
9	Unloader Assembly	850-0252	1
10	Detergent Stainer	19-0050	1
11	Detergent Hose *(Six Feet Required)	15-0021	1
12	Detergent Injector	50-0052	1
13	Elbow	23-0307	1
14	High Pressure Hose Assembly	15-0199	1
*Must Order in One Foot Lengths			

UNLOADER (850-0252)



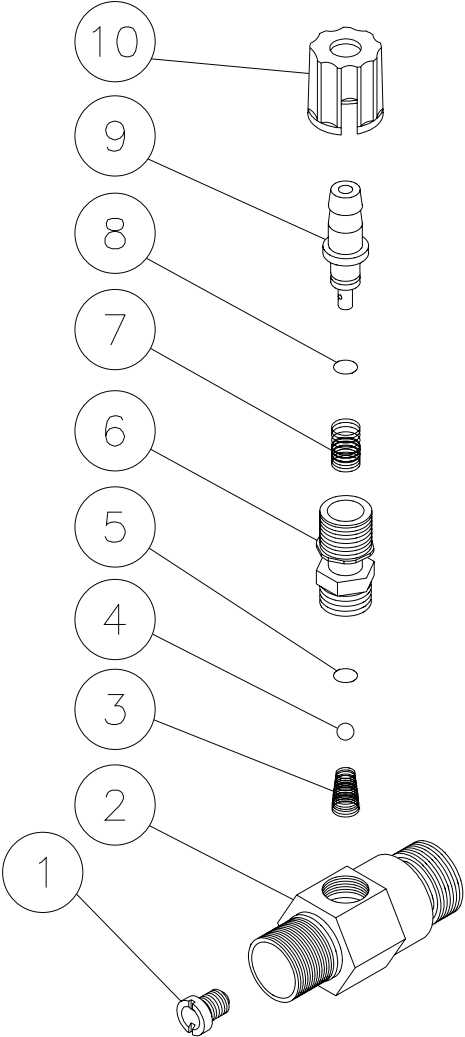
UNLOADER (850-0252)			
REF. #	DESCRIPTION	PART #	QTY.
1	Hex Nut	8-0362	2
2	Cover	7-0098	1
3	Set Screw	27-4280	1
4	Adjusting Insert- Brass	8-0363	1
5	Adjustment Nut	8-0364	1
6	Set Screw	8-0365	1
7	Glide Ring	8-0366	1
8	Spring	49-0104	1
9	Hex Nut	8-0367	1
10	Bushing	8-0368	1
11	Unloader Body	8-0369	1
12	Retainer	8-0269	1
13	Valve Housing	8-0104	1
14	Spring	49-0023	1
15	Valve	8-0105	1
16	O-ring	25-0036	1
17	Cylinder Pin	8-0372	1
18	Piston Repair Kit	70-0243	1
19	Spacer	8-0371	1
20	Stop Nut	8-0157	1
21	Washer	29-0154	2
	Check Valve Repair Kit (Includes 13-16)	70-0244	
	Unloader Complete	850-0252	

PRESSURE SWITCH (22-0171)



PRESSURE SWITCH (22-0171)			
REF. #	DESCRIPTION	PART #	QTY.
1	Pressure Switch	22-0171	1
2	Screw	N/A	4
3	Cover	N/A	1
4	O-ring (See 70-0306)	N/A Sep.	1
5	Micro Switch	N/A	1
6	Retainer Clip	N/A	1
7	Body	N/A	1
8	O-ring (See 70-0306)	N/A Sep.	2
9	Back-up Ring (See 70-0306)	N/A Sep.	1
10	Piston	N/A	1
11	Washer	N/A	1
12	Spring	49-0144	1
13	Washer	N/A	1
14	Plastic Housing	N/A	1
15	O-ring (See 70-0306)	N/A Sep.	1
16	Nut	N/A	1
17	Wire Assembly	N/A	1
	O-ring Repair Kit (Inc. 4, 8-9, 15)	70-0306	

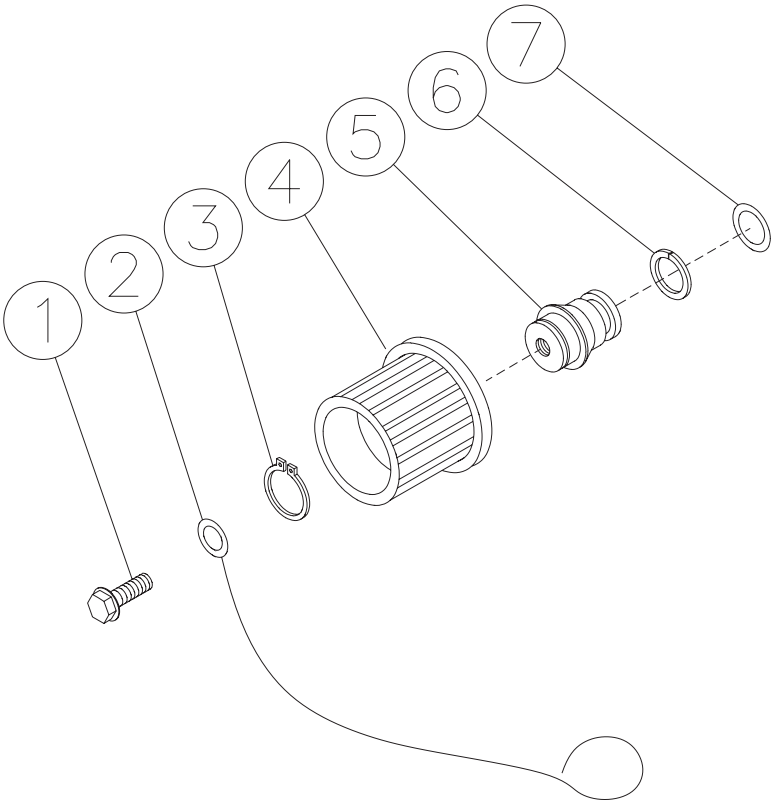
DETERGENT INJECTOR (50-0052)



OMGEN284-052898-DCE

DETERGENT INJECTOR (50-0052)			
REF. #	DESCRIPTION	PART #	QTY.
1	Orifice (2.1mm)	50-0057	1
2	Injector Body	N/A	1
3	Spring (See 852-0056)	N/A Sep.	1
4	Ball (See 852-0056)	N/A Sep.	1
5	O-ring (See 852-0056)	N/A Sep.	1
6	Piston Retainer	50-0156	1
7	Spring	49-0056	1
8	O-ring (See 852-0056)	N/A Sep.	1
9	Adjustable Shutter Barb	50-0157	1
10	Adjustment Knob	50-0158	1
	Injector Repair Kit (Includes 3-5, 8)	852-0056	

COIL DRAIN PLUG (850-0218)

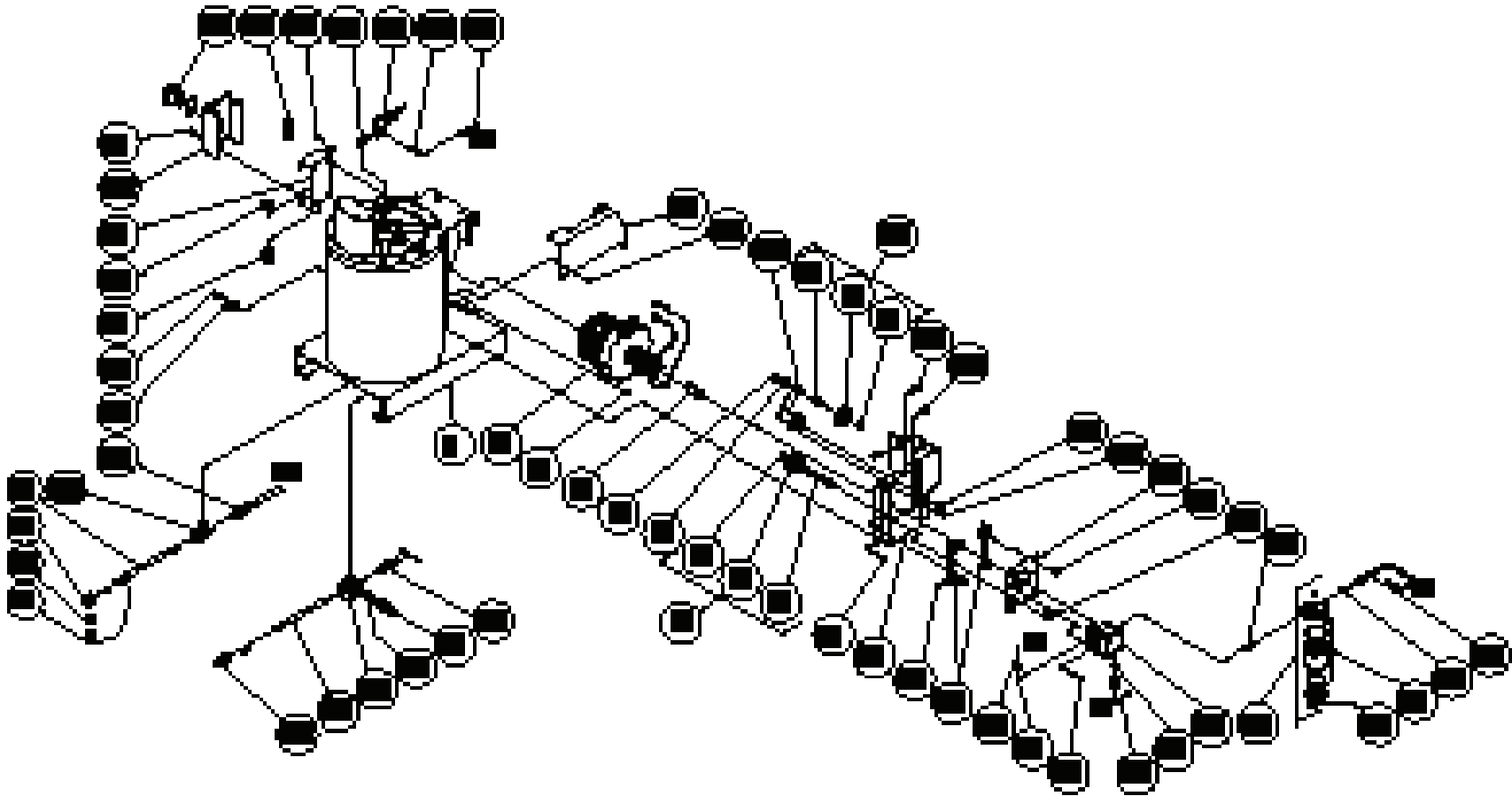


850-0218-041597-BAR

COIL DRAIN PLUG (850-0218)			
REF. #	DESCRIPTION	PART #	QTY.
1	Bolt	27-9526	1
2	Retaining Cable	33-0260	1
3	Snap Ring	33-0261	1
4	Hand Wheel	16-0239	1
5	Plug	24-0147	1
6	Back-up Ring	25-0424	1
7	O-ring	25-0423	1

850-0218-041597-BAR

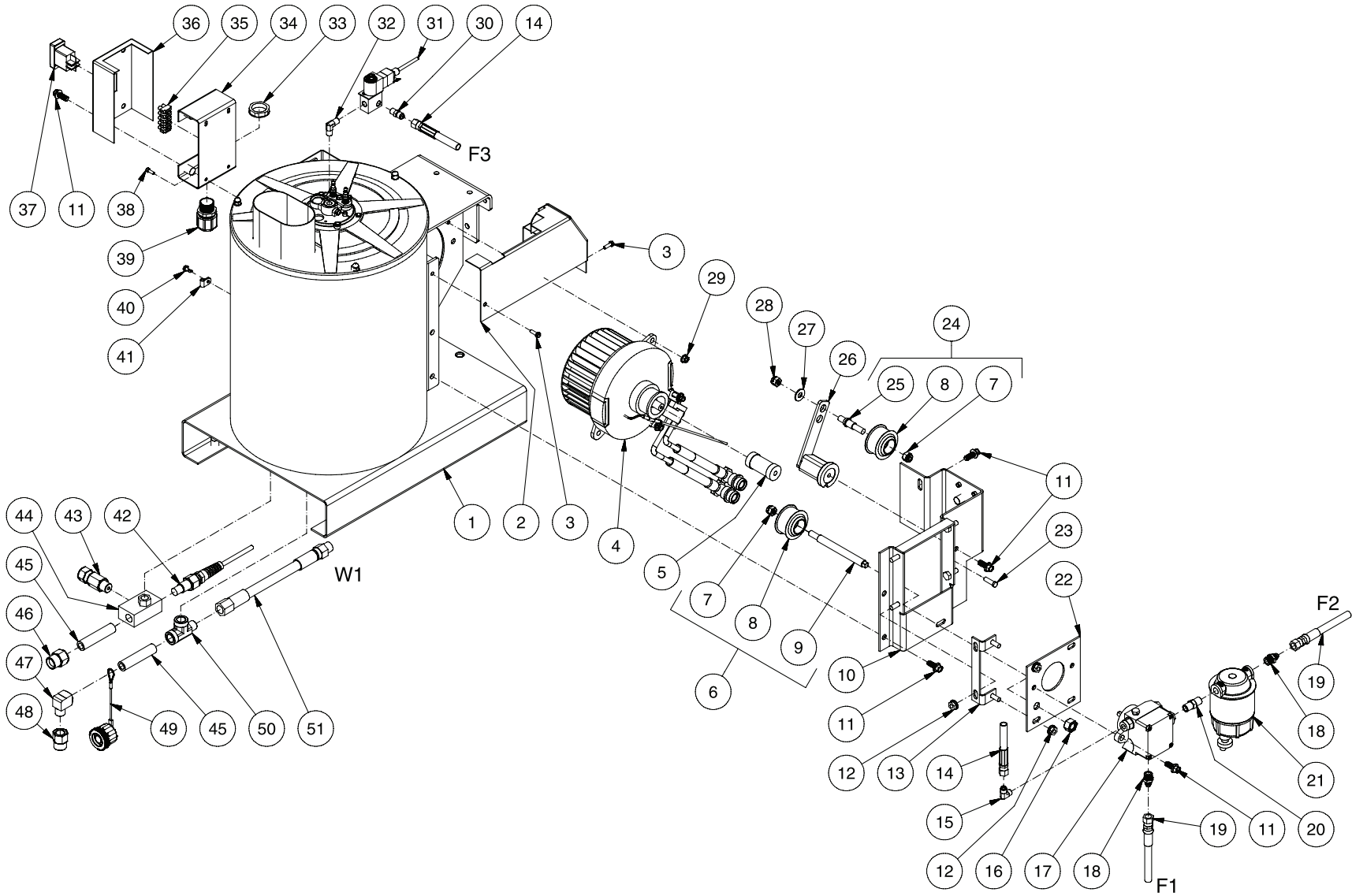
HEAT EXCHANGER/EMF SYSTEM (BEFORE SERIAL #15070469)



HSP086-032805-KZ

HEAT EXCHANGER/ EMF SYSTEM							
REF #	DESCRIPTION	PART #	QTY	REF #	DESCRIPTION	PART #	QTY
1	Boiler Assembly Complete	850-0224	1	29	Thermostat Base	10-0071	1
2	EMF Assembly	850-0239	1	30	Bolt	27-9526	2
3	Hex Nut	30-3022	2	31	Belting Band - Black	20-0366A01	1
4	Field Pump Coupler	33-0225	1	32	Connector	23-0291	1
5	Nut	30-0159	3	33	Solder - 12 Volt	44-0098	1
6	Flange W/ Flange	28-0022	1	34	Elbow	23-0249	1
7	Adjustable Sieve Shaft Assembly (Inc. 5, 8, 9)	850-0167	1	35	Bolt	27-9528	4
8	Sieve Assembly	850-0177	2	36	Terminal Strip	32-0394	1
9	Pulley	33-0221	1	37	Rocker Switch	32-0626	1
10	Bolt	27-9524	11	38	Cover Electric Box - Black	20-0357A01	1
11	Bracket/Field Pump - Black	20-0353A01	1	39	Backplate Electric Box - Black	20-0356A01	1
12	Hex Nut	30-3023	8	40	Electrical Locknut	32-0292	1
13	Bracket - Black	20-0350A01	2	41	Steel Reel	9-0046	1
14	Field Line	33-0217	1	42	Screw	27-3062	1
15	Elbow	23-0248	1	43	Cable Clamp	32-0428	1
16	Field Hose	15-0147	2	44	High Pressure Hose Assembly	15-0199	1
17	Connector	23-0247	2	45	Coll. Net Connector Assembly	850-0225	1
18	Field Pump	3-0129	1	46	Nipple	24-0122	2
19	Filter Field Water Separator	19-0070	1	47	Elbow	23-0034	1
20	Field Water Separator Replacement Bowl	19-0071	1	48	Adapter	23-0279	1
21	Field Water Separator Replacement Filter	19-0053	1	49	Drain Plug Assembly	850-0218	1
22	Hex Nipple	23-0250	1	50	High Limit Switch Probe	32-0421	1
23	Hex Nut	30-0040	1	51	Pressure Relief Valve	22-0273	1
24	Plate - Black	20-0363A01	1	52	Adapter Coll. Outlet	23-0369	1
25	Pin	33-0211	1	53	Coll. Outlet Assembly	850-0251	1
26	Hex Nut	30-0157	2	54	Hex Reducer	23-0197	1
27	Thermostat Sieve Shaft Assembly (Inc. 5, 8, 28)	850-0166	1	*Must Order In One Foot Lengths			
28	Shaft	33-0212	1				

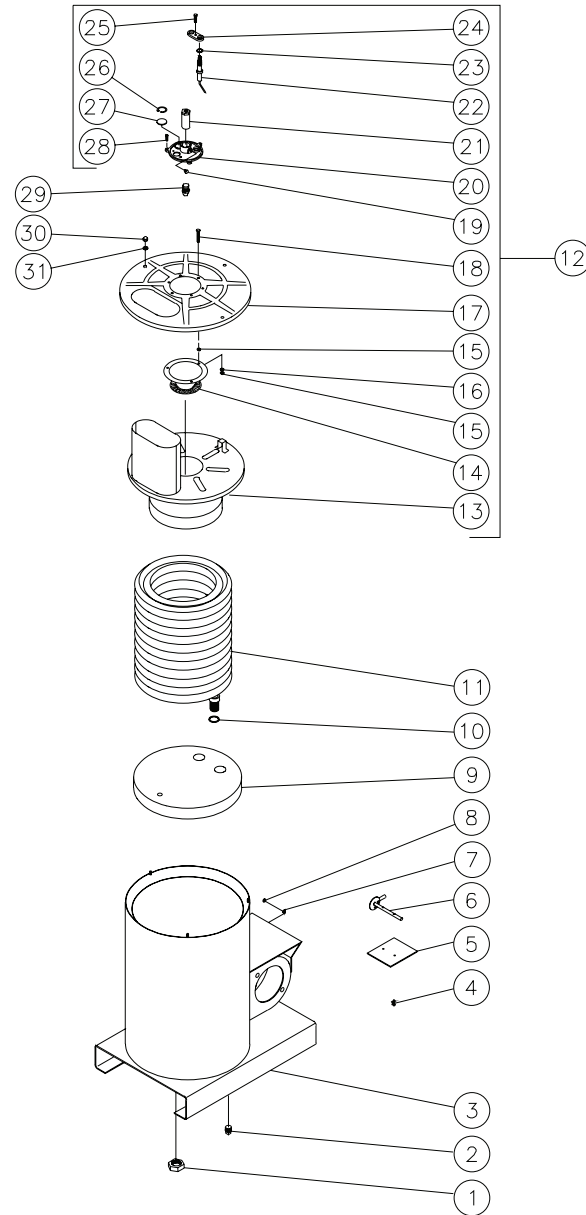
HEAT EXCHANGER/EMF SYSTEM (AFTER SERIAL #15070469)



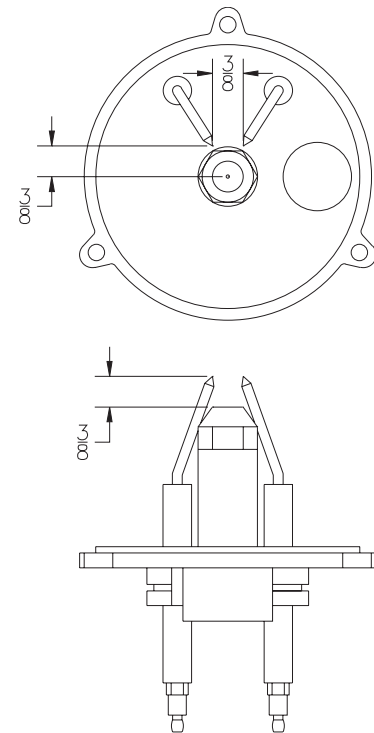
For parts Call 888-279-9274

HSP086 011612 CH							
HEAT EXCHANGER/ EMF SYSTEM							
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART # QTY.
1	Boiler Assembly Complete	850-0361	1		27	Flatwasher	28-0022 1
2	Beltguard- Black	20-0366A01	1		28	Hex Nut	30-0159 1
3	Bolt	27-9526	3		29	Hex Nut	30-3022 2
4	EMF Assembly	850-0404	1		30	Nipple	23-0448 1
5	Fuel Pump Coupler	33-0225	1		31	Solenoid- 12 Volt	44-0098 1
6	Adjustable Sheave Shaft Assembly	850-0167	1		32	Connector	23-0448 1
7	Nut	30-0159	3		33	Electrical Locknut	32-0292 1
8	Sheave Assembly	850-0177	2		34	Backplate Electric Box- Black	20-0356A01 1
9	Pulley	33-0221	1		35	Terminal Strip	32-0394 1
10	Bracket/ Fuel Pump- Black	20-0353A01	1		36	Cover Electric Box- Black	20-0357A01 1
11	Bolt	27-9524	10		37	Rocker Switch	32-0626 1
12	Hex Nut	30-3023	8		38	Bolt	27-9528 4
13	Bracket- Black	20-0360A01	2		39	Strain Relief	9-0046 1
14	Fuel Line	15-0253	2		40	Screw	27-3062 1
15	Elbow	23-0287	1		41	Cable Clamp	32-0428 1
16	Hex Nut	30-0010	1		42	High Limit Switch Probe	32-0421 1
17	Fuel Pump	3-0129	1		43	Pressure Relief Valve	22-0272 1
18	Connector	23-0247	2		44	High Pressure Hose Assembly	15-0199 1
19	Fuel Hose	15-0147	2		45	Nipple	24-0141 2
20	Hex Nipple	23-0250	1		46	Adapter	23-0197 1
21	Filter Fuel Water Separator	19-0070	1		47	Elbow	23-0034 1
22	Plate- Black	20-0363A01	1		48	Adapter	23-0279 1
23	Pin	33-0211	1		49	Drain Plug Assembly	850-0218 1
24	Tensioner Sheave Shaft Assembly (Inc. 5, 8, 28)	850-0166	1		50	Tee	23-0058 1
25	Shaft	33-0212	1		51	Hose	15-0174 1
26	Tensioner Base	10-0071	1		*Must Order in One Foot Lengths		

BOILER ASSEMBLY (850-0224)

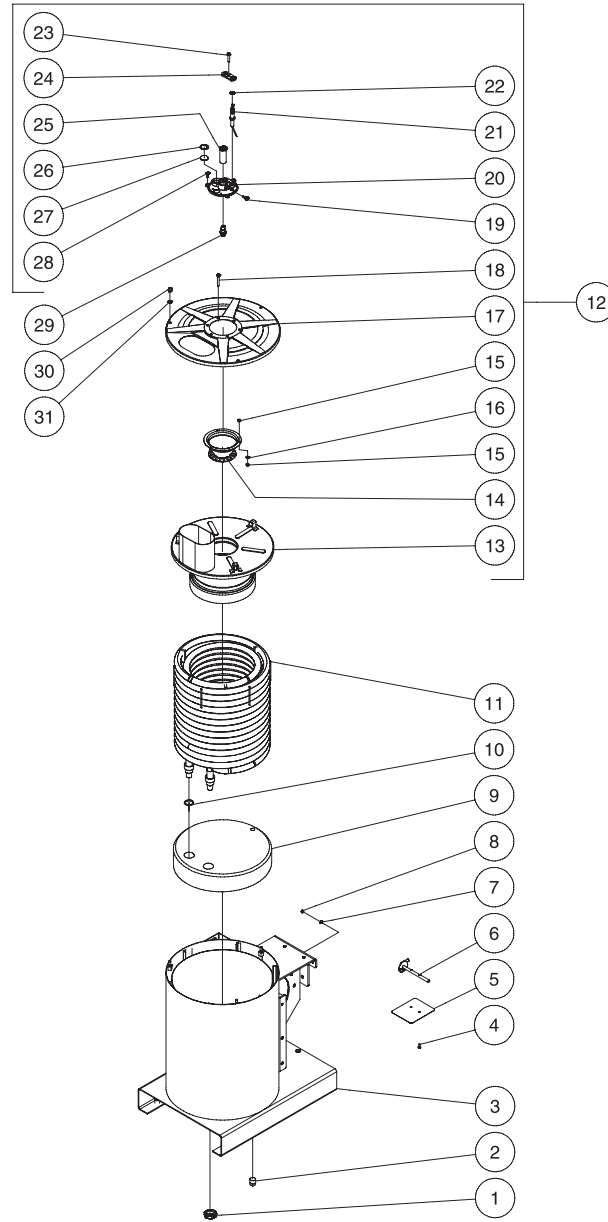


ELECTRODE GAP SETTINGS

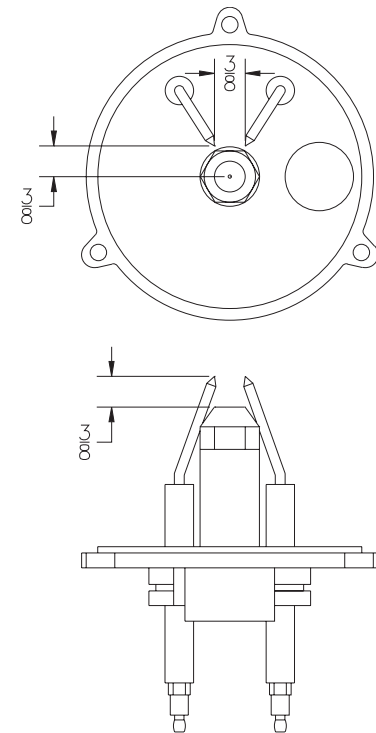


BOILER ASSEMBLY (850-0224)								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Hex Nut	30-6004	2		17	Top Pan	20-0323	1
2	Plug	24-0034	1		18	Bolt	27-8806	3
3	Heat Exchanger Assembly	20-0348A01	1		19	Bolt	27-8805	1
4	Bolt Hex Head	27-8879	2		20	Support Plate	33-0183	1
5	Air Diverter Plate	20-0454A01	1		21	Nozzle Holder	33-0182	1
6	Air Diverter Stem Assembly	20-0377A01	1		22	Electrode	32-0377	2
7	Lockwasher	28-1009	1		23	Washer	28-1007	2
8	Nut	30-6001	1		24	Electrode Mounting Plate	33-0180	1
9	Insulation	33-0267	1		25	Bolt	27-8807	1
10	Washer	28-0521	2		26	Snap Ring	25-0290	1
11	Heat Exchanger Coil Assembly	66-0010	1		27	Sight Glass	33-0179	1
12	Pan Assembly (Includes 13-28)	70-0184	1		28	Bolt	27-8803	3
13	Exhaust Pan	20-0324	1		29	Fuel Nozzle	18-0310	1
14	Heat Deflector	20-0325	1		30	Nut	30-6002	3
15	Nut	30-6001	6		31	Washer	28-1028	3
16	Lockwasher	28-1009	3		Boiler Assembly Complete (Inc. 1-28, 30, 31)		850-0224	1

BOILER ASSEMBLY (850-0361) (BEFORE SERIAL #15071602)

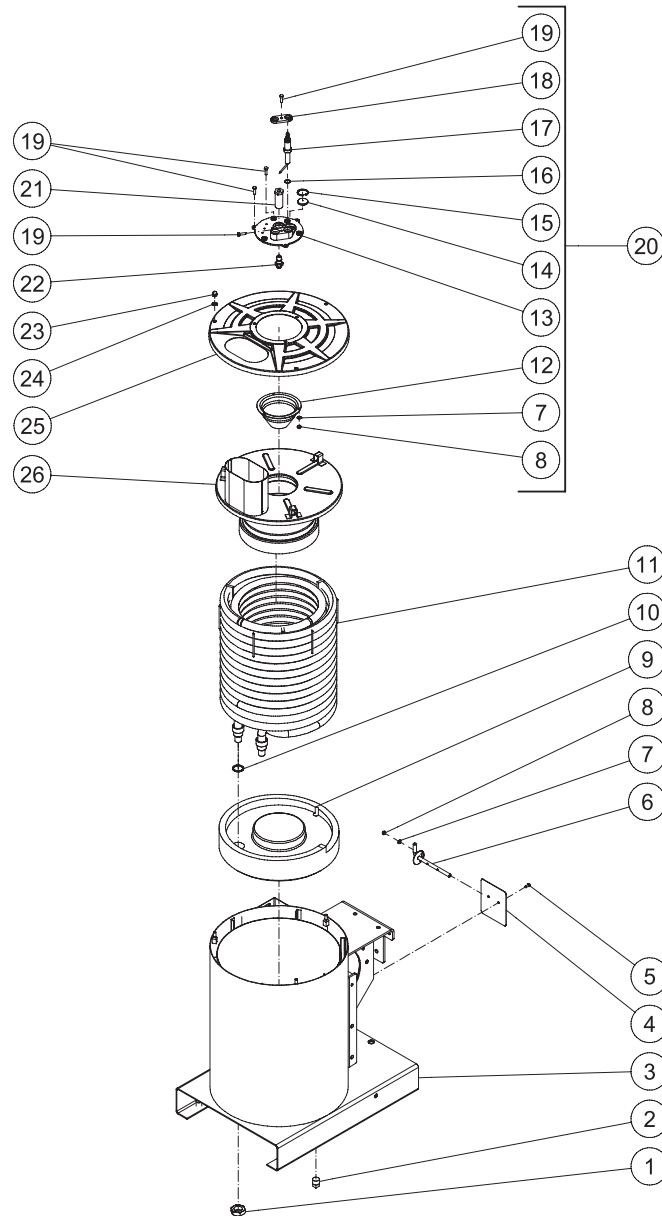


ELECTRODE GAP SETTINGS

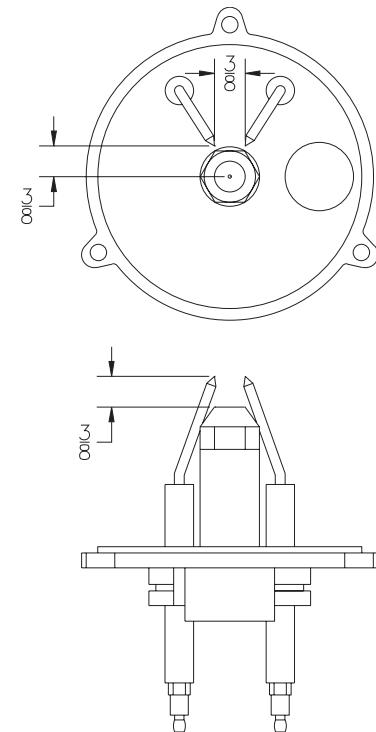


BOILER ASSEMBLY (850-0361)								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Hex Nut	30-0121	2		17	Top Pan	20-0323	1
2	Plug	24-0034	1		18	Bolt	27-8806	3
3	Outer Wrap Assembly	20-0348A01	1		19	Bolt	27-8805	1
4	Bolt Hex Head	27-8879	2		20	Support Plate	33-0183	1
5	Air Diverter Plate	20-0454A01	1		21	Electrode	32-0377	2
6	Air Diverter Stem Assembly	20-0377A01	1		22	Washer	28-1007	2
7	Lockwasher	28-1009	1		23	Bolt	27-8807	1
8	Nut	30-6001	1		24	Electrode Mounting Plate	33-0180	1
9	Insulation	33-0267	1		25	Nozzle Holder	33-0182	1
10	Washer	28-0521	2		26	Snap Ring	25-0290	1
11	Heat Exchanger Coil Assembly	66-0012	1		27	Sight Glass	33-0179	1
12	Pan Assembly (Includes 13-28)	70-0184	1		28	Bolt	27-8803	3
13	Exhaust Pan	20-0324	1		29	Fuel Nozzle	18-0310	1
14	Heat Deflector	20-0325	1		30	Nut	30-6002	3
15	Nut	30-6001	6		31	Washer	28-1028	3
16	Lockwasher	28-1009	3					

BOILER ASSEMBLY (850-0361) (AFTER SERIAL #15071602)

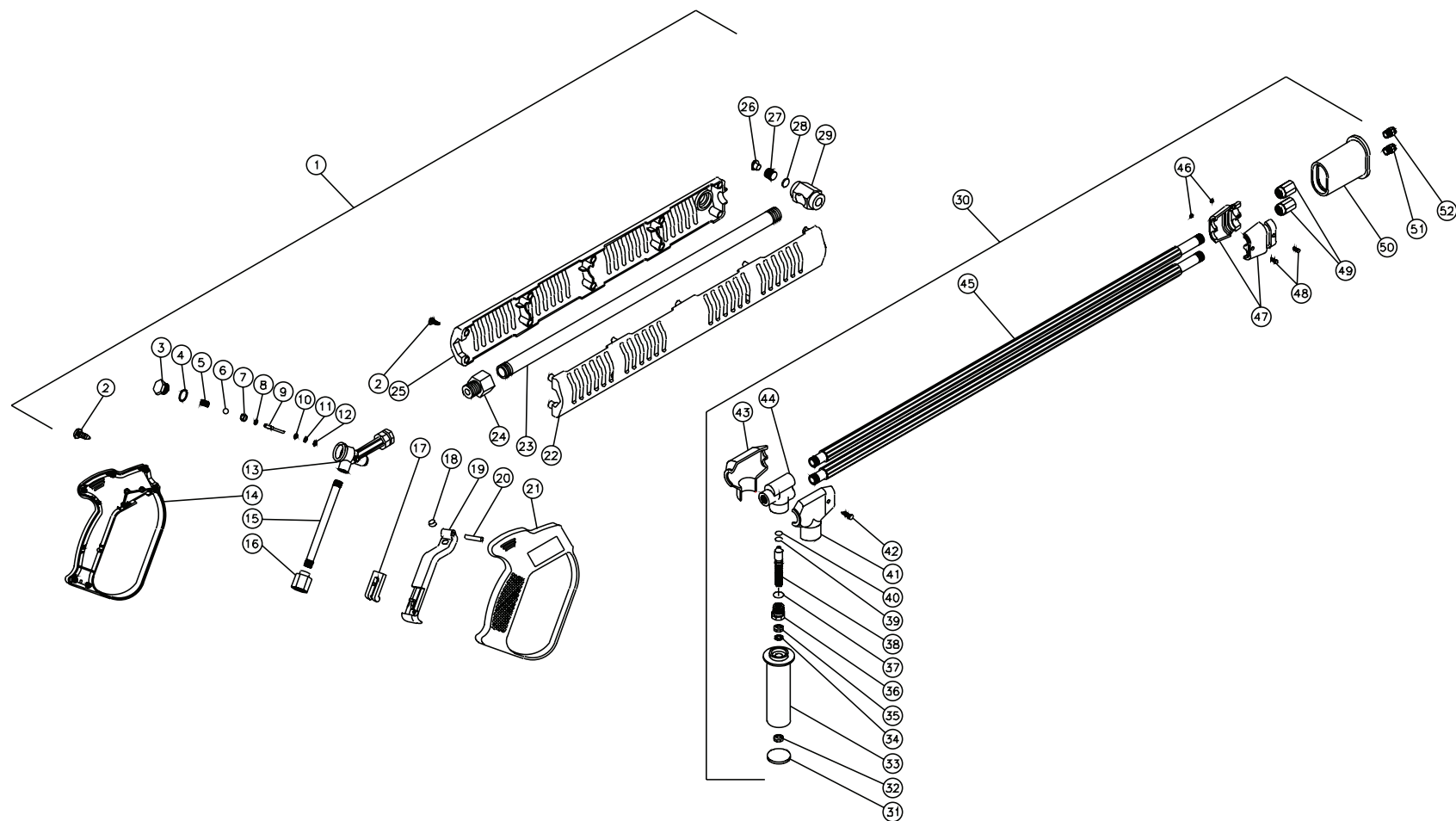


ELECTRODE GAP SETTINGS



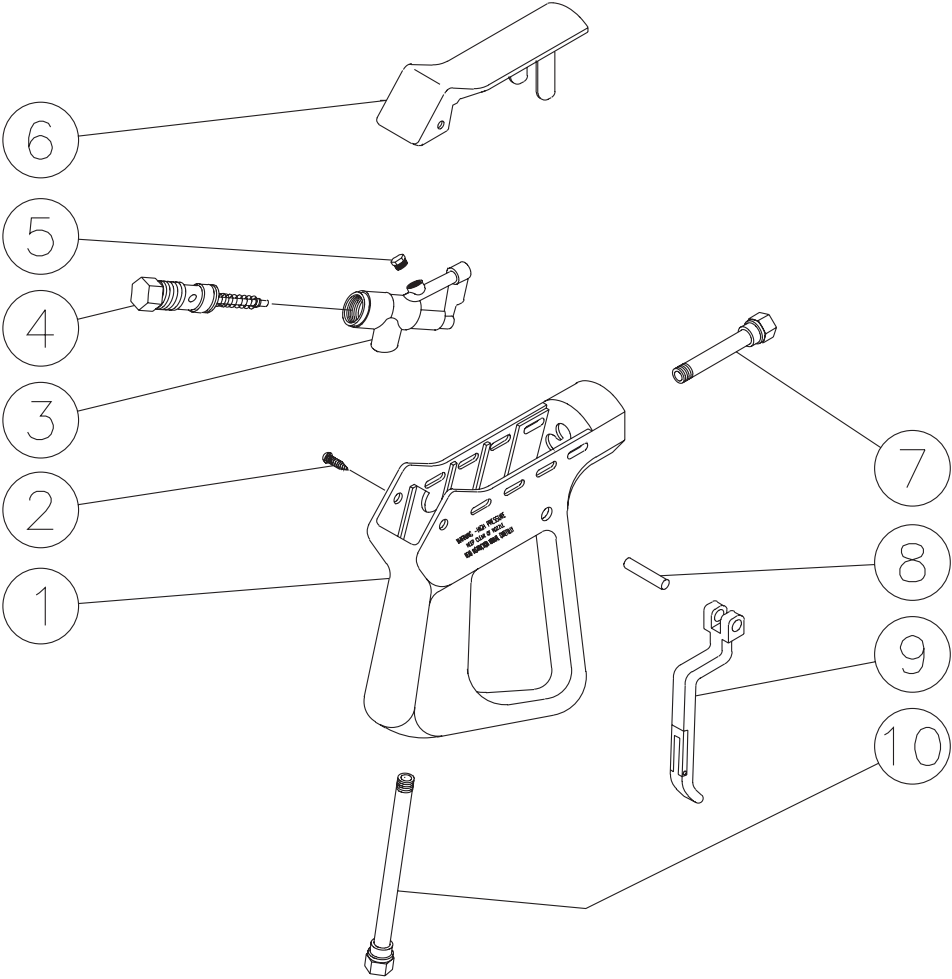
850-0361-011912-KMD							
BOILER ASSEMBLY (850-0361)							
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART # QTY.
1	Hex Nut	30-0121	2		14	Sight Glass	33-0252 1
2	Plug	24-0034	1		15	Snap Ring	33-0254 1
3	Outer Wrap Assembly	20-0348A01	1		16	Washer/Shim	28-0523 2
4	Air Diverter Plate	20-0454A01	1		17	Electrode	32-0987 2
5	Bolt Hex Head	27-8879	2		18	Electrode Bracket	20-1094A01 1
6	Air Diverter Stem Assembly	20-0377A01	1		19	Bolt	27-8878 8
7	Lockwasher	28-1009	4		20	Electrode Assembly Kit	850-0351 1
8	Nut	30-6001	4		21	Nozzle Holder	23-0292 1
9	Insulation	33-0267	1		22	Fuel Nozzle	18-0310 1
10	Washer	28-0521	2		23	Nut	30-6002 3
11	Heat Exchanger Coil Assembly	66-0012	1		24	Washer	28-1028 3
12	Cone	20-0373	1		25	Top Pan	20-1263 1
13	Electrode Plate	33-0065	1		26	Exhaust Chimney-small	20-1264 1

GUN (850-0179) & ADJUSTABLE PRESSURE DUAL LANCE (850-0185)



GUN/WAND (850-0179) & ADJUSTABLE PRESSURE DUAL LANCE (850- 0185)								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Gun w/Lance Assembly (2-29)	850-0179	1		29	Lance Holder (See 850-0179)	N/A Sep.	1
2	Screw	27-8382	13		30	Adjustable Dual Lance Assembly (Includes 31-51)	850-0185	1
3	Plug (See 70-0057)	N/A Sep.	1		31	Handle Plug	16-0312	1
4	O-ring (See 70-0057)	N/A Sep.	1		32	Hex Nut	30-3002	1
5	Spring (See 70-0057)	N/A Sep.	1		33	Handle	16-0313	1
6	Ball (See 70-0057)	N/A Sep.	1		34	Washer	28-1021	1
7	Seat (See 70-0057)	N/A Sep.	1		35	Hex Nut	30-3010	1
8	O-ring (See 70-0057)	N/A Sep.	1		36	Hex Adapter	23-0271	1
9	Pin (See 70-0057)	N/A Sep.	1		37	O-ring	25-0351	1
10	Washer (See 70-0057)	N/A Sep.	1		38	Piston Stem	16-0314	1
11	O-ring (See 70-0057)	N/A Sep.	1		39	Back-up Ring	25-0352	1
12	Back-up Ring (See 70-0057)	N/A Sep.	1		40	O-ring	25-0353	1
13	Housing	23-0295	1		41	Upper Protector	16-0315	1
14	Plastic Housing (Left Side)	16-0336	1		42	Lower Protector	16-0316	1
15	Pipe	21-0095	1		43	Body	23-0272	1
16	Nipple	23-0174	1		44	Screw	27-8862	1
17	Trigger Safety Lock	16-0332	1		45	Lance w/Protective Cover	16-0328	2
18	Trigger Rest	16-0333	1		46	Hex Nut	30-3060	2
19	Trigger	16-0335	1		47	Pipe Clamp	16-0318	2
20	Trigger Pin	43-0069	1		48	Screw	27-8861	2
21	Plastic Housing (Right Side)	16-0334	1		49	Nipple	24-0127	2
22	Guard Lance (Right Side) (See 70-0324)	N/A Sep.	1		50	Nozzle Protector	16-0319	1
23	Pipe	16-0277	1		51	Nozzle-4060	18-0110	1
24	Adapter	16-0283	1		52	Nozzle-1503.5	18-0254	1
25	Guard Lance (Left Side) (See 70-0324)	N/A Sep.	1			Gun Repair Kit (Includes 3-12)	70-0057	
26	Plug	39-0076	1			O-ring Kit (Includes 37, 39, 40)	70-0143	
27	Screw	49-0103	1			Plastic Housing Kit (Includes 2, 22, 25, 26)	70-0324	
28	Spacer	16-0282	1					

GUN ASSEMBLY (16-0001)

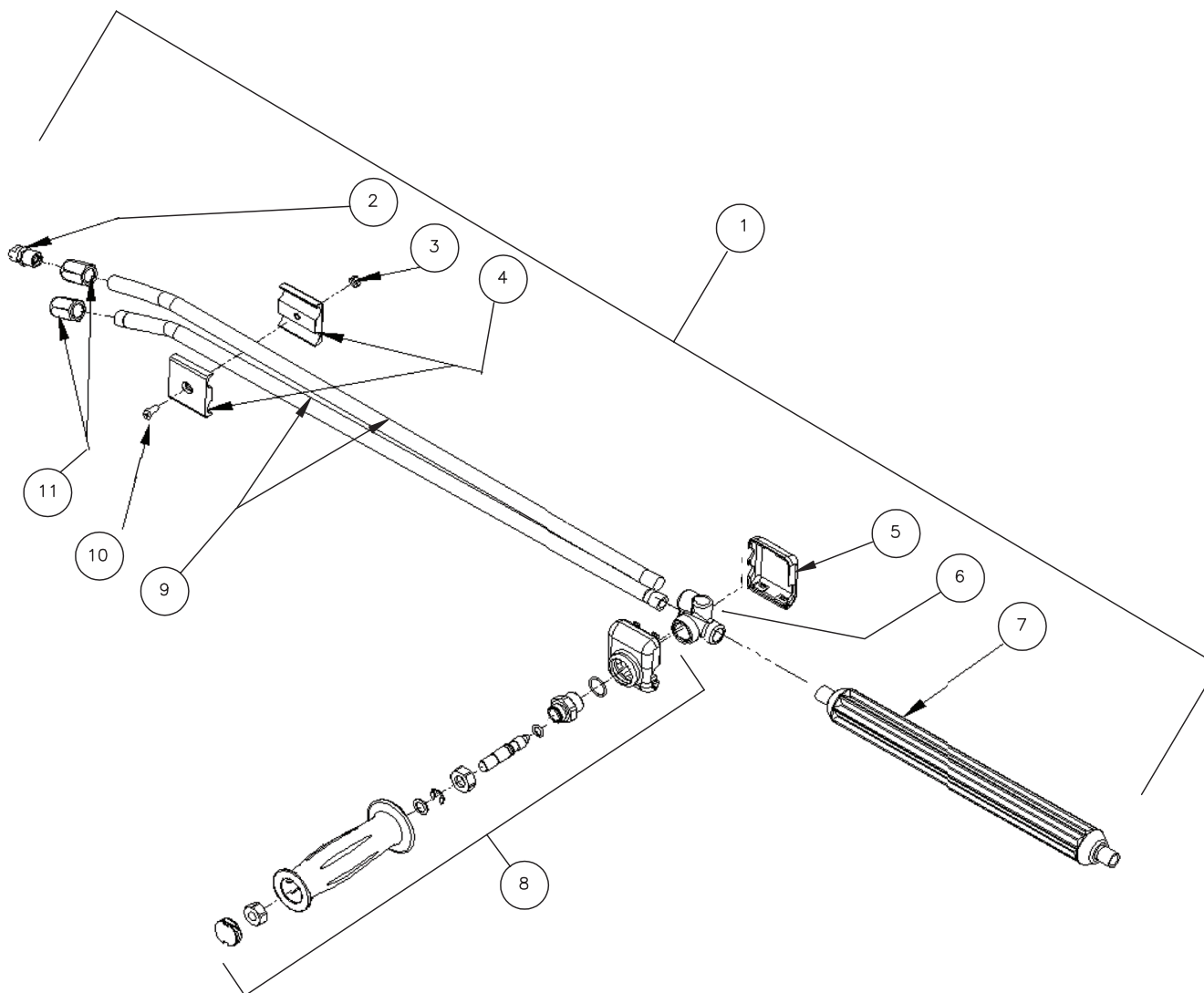


16-0001-110399-RD

16-0001-110399-RD

GUN ASSEMBLY (16-0001)			
REF. #	DESCRIPTION	PART #	QTY.
1	Plastic Housing	16-0008	1
2	Screw	27-3230	2
3	Brass Housing	16-0012	1
4	Gun Repair Kit	70-0055	1
5	Brass Plug	39-0024	1
6	Plastic Cover	16-0009	1
7	Pipe Assembly	16-0013	1
8	Trigger Pin	16-0063	1
9	Trigger/Safety Lock-off	16-0010	1
10	Pipe Assembly- Inlet	16-0016	1
	Complete Gun Assembly	16-0001	1

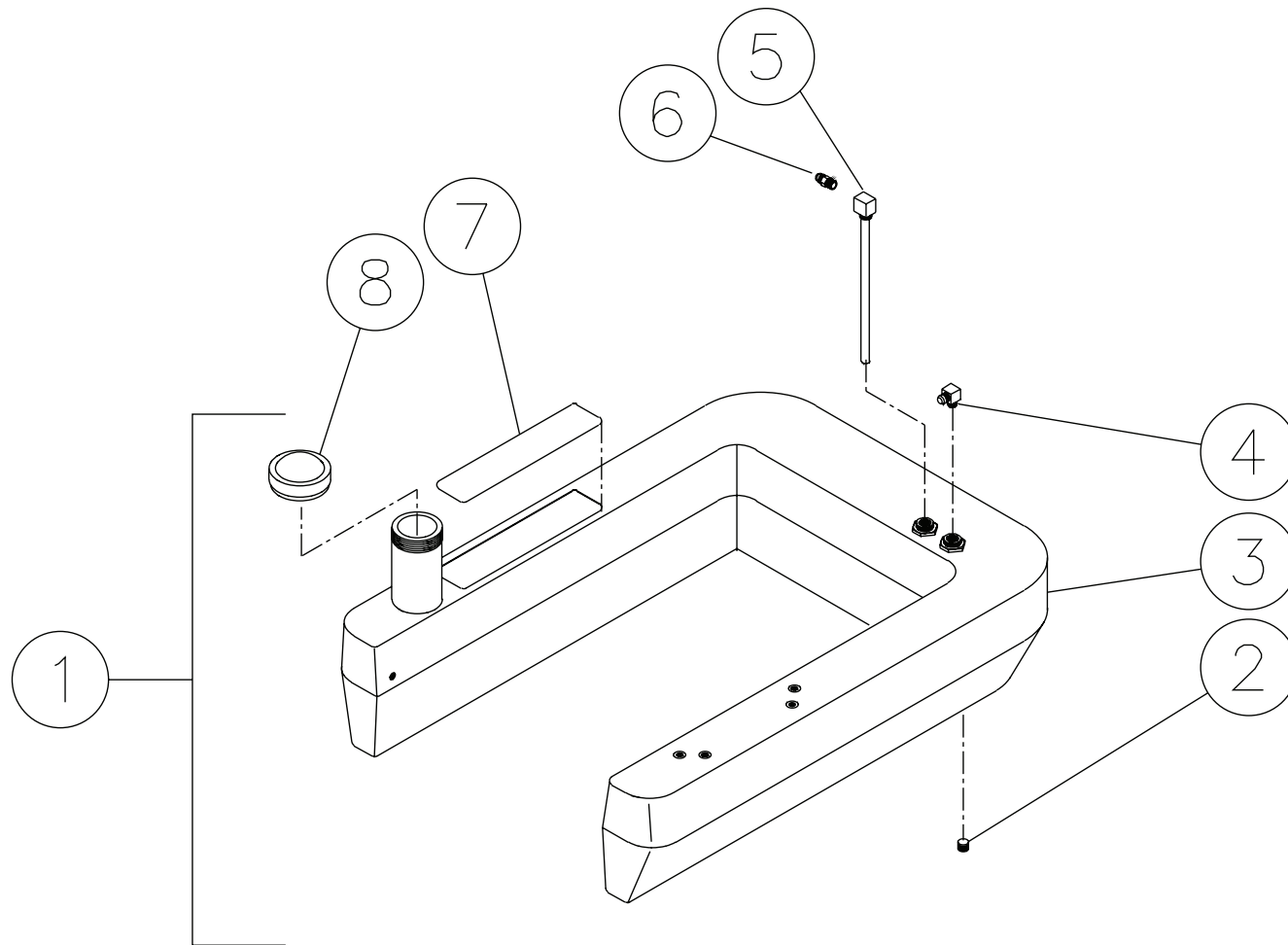
DUAL LANCE ASSEMBLY (16-0416)



16-0416-102405-RZ

DUAL LANCE ASSEMBLY (16-0416)			
REF. #	DESCRIPTION	PART #	QTY.
1	Dual Lance Assembly - 36" (Inc. 2-11)	16-0416	1
2	Detergent Nozzle	18-0110	1
3	Nut	30-6001	1
4	Clamp	16-0420	2
5	Lower Valve Cover (See 16-0416)	N/A Sep.	1
6	Housing (See 16-0416)	N/A Sep.	1
7	Lance	16-0419	1
8	Handle Repair Kit	70-0419	1
9	Lance (See 16-0416)	N/A Sep.	2
10	Screw	27-8196	1
11	Nozzle Adapter	24-0280	2

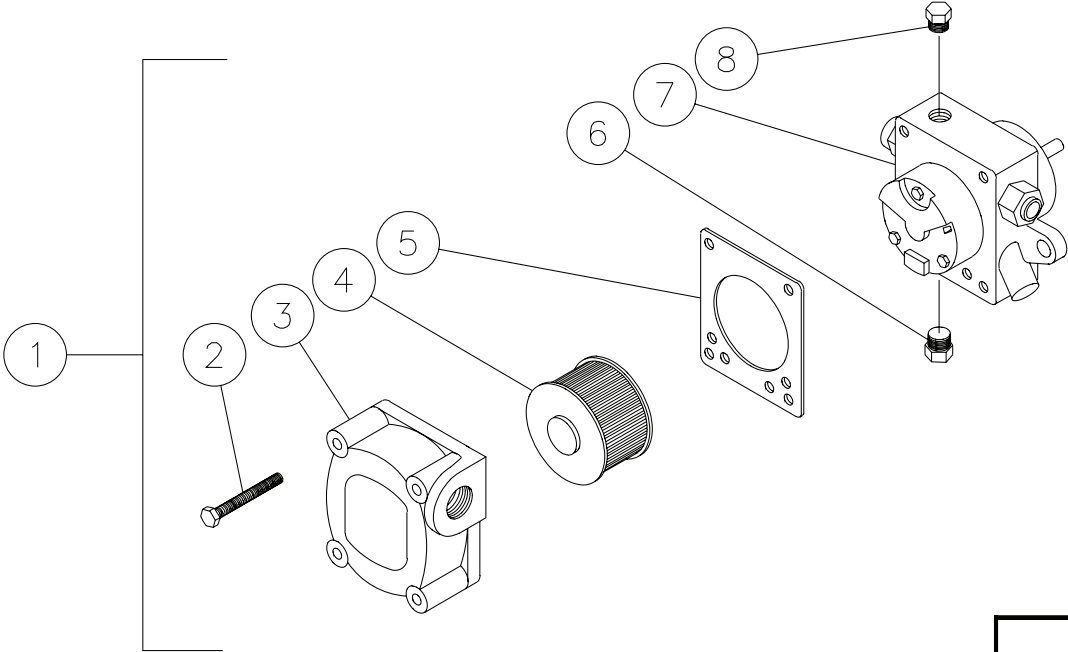
FUEL TANK (850-0214)



850-0214-34-9001-121797-BAR

FUEL TANK (850-0214)			
REF. #	DESCRIPTION	PART #	QTY.
1	Fuel Tank Assembly (Inc. 2-8)	850-0214	1
2	Plug	23-0296	1
3	Fuel Tank (See 850-0214)	N/A Sep.	1
4	Elbow	23-0237	1
5	Fuel Pick-up Line	33-0270	1
6	Flare	23-0247	1
7	Decal-Warning-Risk of Fire (E/S) (See 34-9001)	N/A Sep.	1
8	Vented Fuel Cap	12-0033	1
	Safety Decal Kit (Includes 7)	34-9001	

FUEL PUMP (3-0129)

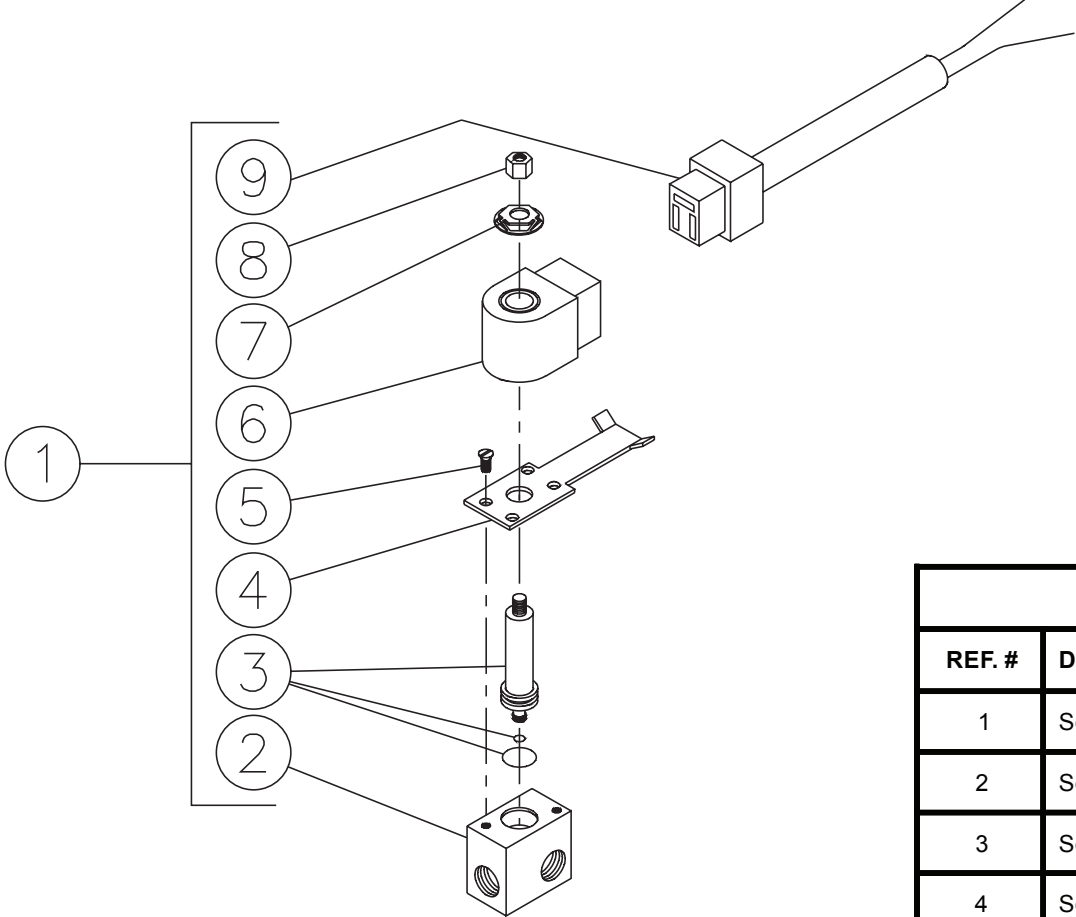


HSP018-3-0129-041597-BAR

FUEL PUMP (3-0129)			
REF. #	DESCRIPTION	PART #	QTY.
1	Fuel Pump Complete (Includes 2-8)	3-0129	1
2	Cover Screw	46-1006	4
3	Cover-Left Hand	46-1018	1
4	Strainer	19-0034	1
5	Cover Gasket	26-0109	1
6	Plug	24-0044	3
7	Body	N/A	1
8	Plug	24-0082	1

HSP018-041597-BAR

FUEL SOLENOID (44-0098)

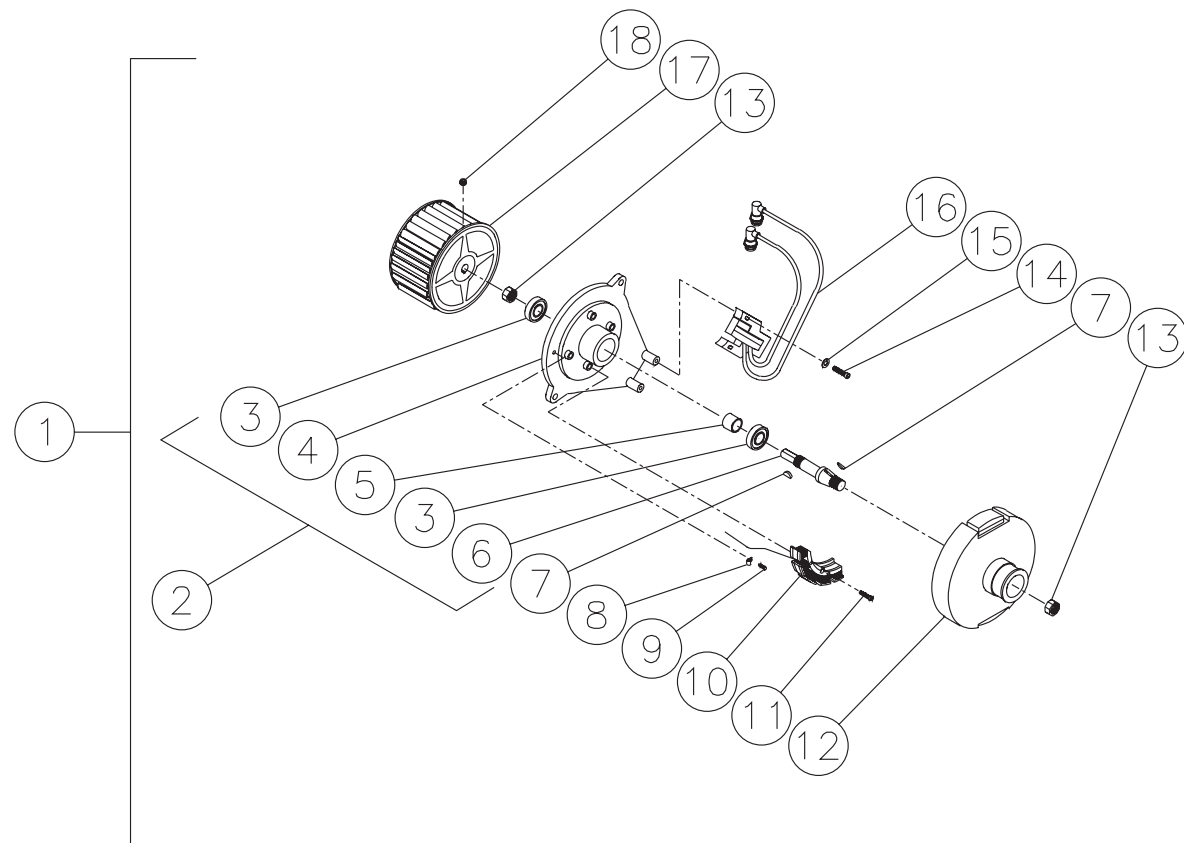


HSP013-44-0098-121698-BAR

FUEL SOLENOID (44-0098)			
REF. #	DESCRIPTION	PART #	QTY.
1	Solenoid Complete-12V	44-0098	1
2	Solenoid Body	46-1013	1
3	Solenoid Piston	46-1012	1
4	Solenoid Base	46-1014	1
5	Screw (See 44-0098)	N/A Sep.	2
6	Solenoid Coil-12V	46-1015	1
7	Spring (See 44-0098)	N/A Sep.	1
8	Piston Nut	46-1016	1
9	Din Connector Cord	32-0443	1

HSP013-121698-BAR

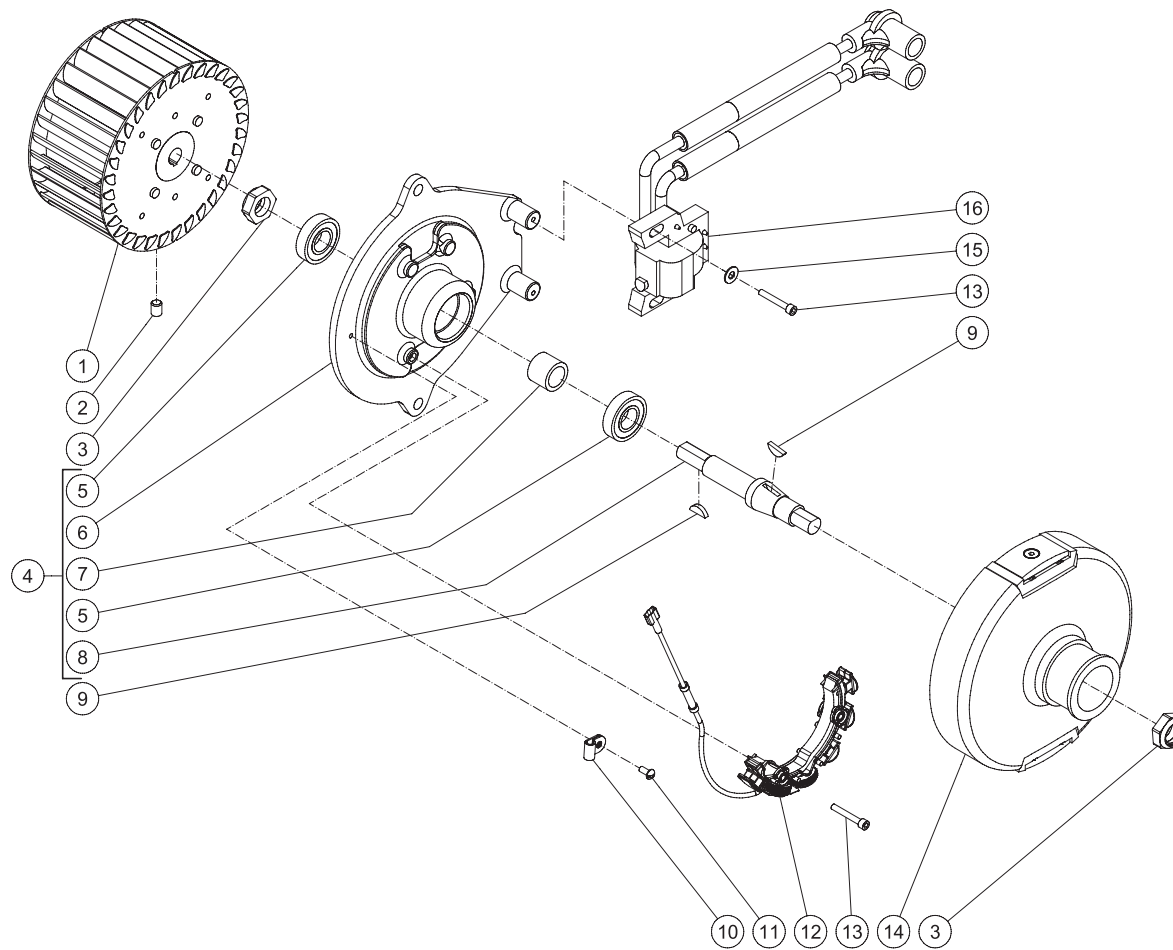
EMF SYSTEM (850-0239)



850-0239-113099-BAR

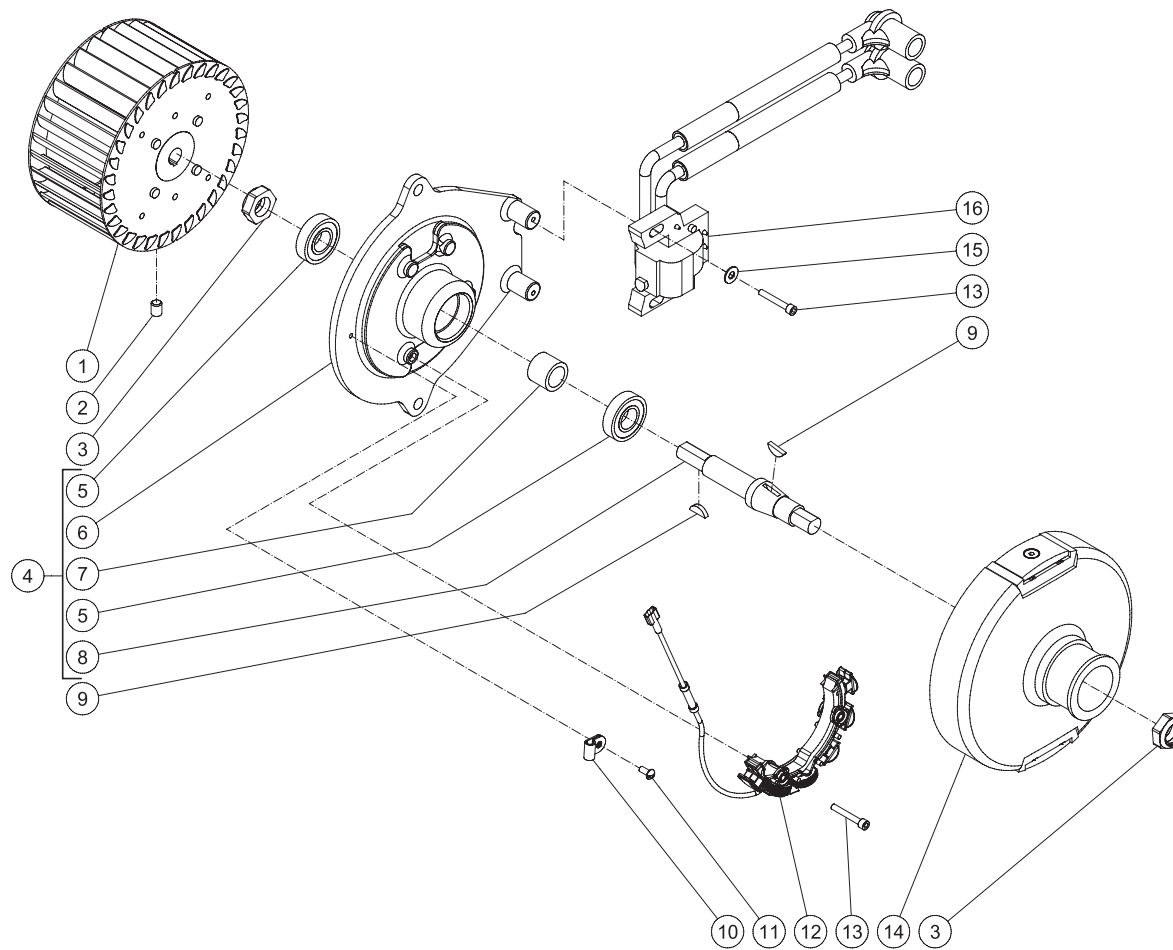
EMF SYSTEM (850-0239)			
REF. #	DESCRIPTION	PART #	QTY.
1	EMF Assembly Complete (Inc. 2-17)	850-0239	1
2	Blower Flange Assembly (Inc. 3-6)	850-0162	1
3	Sealed Bearing	48-0041	2
4	Blower Flange	38-0040	1
5	Spacer	33-0206	1
6	Blower Shaft	20-0347	1
7	Woodruff Key	43-0080	2
8	Cable Clamp	32-0403	1
9	Screw	27-2070	1
10	Stator Coil	850-0189	1
11	Screw	27-0740	4
12	Flange Magnet Hub	38-0041	1
13	Hex Nut	30-0177	2
14	Bolt	27-8898	2
15	Flatwasher	28-0002	2
16	Ignition Coil Assembly	850-0161	1
17	Blower Fan	44-0105	1
18	Set Screw	30-3021	1

EMF SYSTEM (850-0404) (BEFORE SERIAL #15074024)



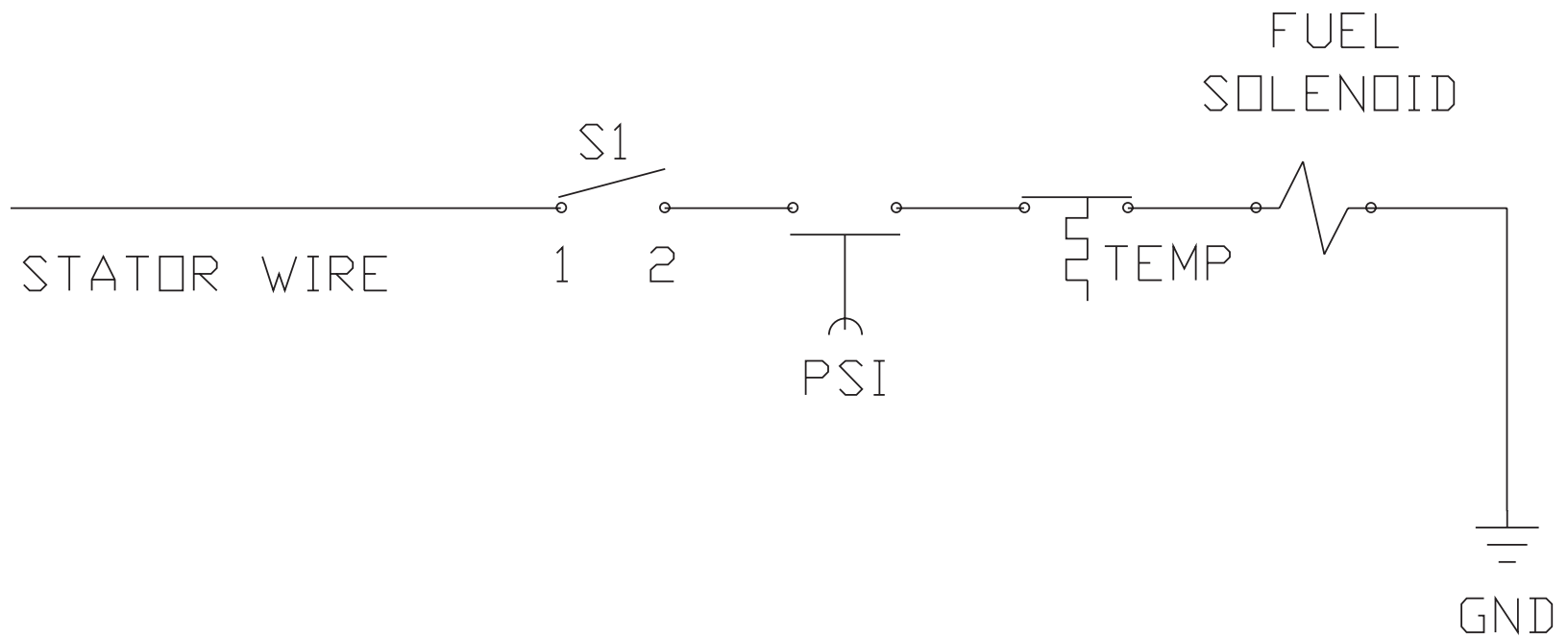
850-0404 030612 KMD			
850-0404			
ITEM	DESCRIPTION	Mi-T-M #	QTY
1	FAN	44-0105	1
2	SET SCREW	30-3021	1
3	LOCKNUT	30-0177	2
4	BLOWER FLANGE ASSEMBLY	850-0402	1
5	SEALED BEARING	48-0041	2
6	BLOWER FLANGE	38-0066	1
7	SPACER	33-0206	1
8	BLOWER SHAFT	20-0347	1
9	WOODRUFF KEY	43-0080	2
10	CLAMP	32-0428	1
11	SCREW	27-2070	1
12	STATOR ASSEMBLY	850-0401	1
13	BOLT	27-0740	4
14	HUB	38-0041	1
15	WASHER	28-0001	2
16	IGNITION ASSEMBLY	850-0161	1

EMF SYSTEM (850-0404) (AFTER SERIAL #15074024)

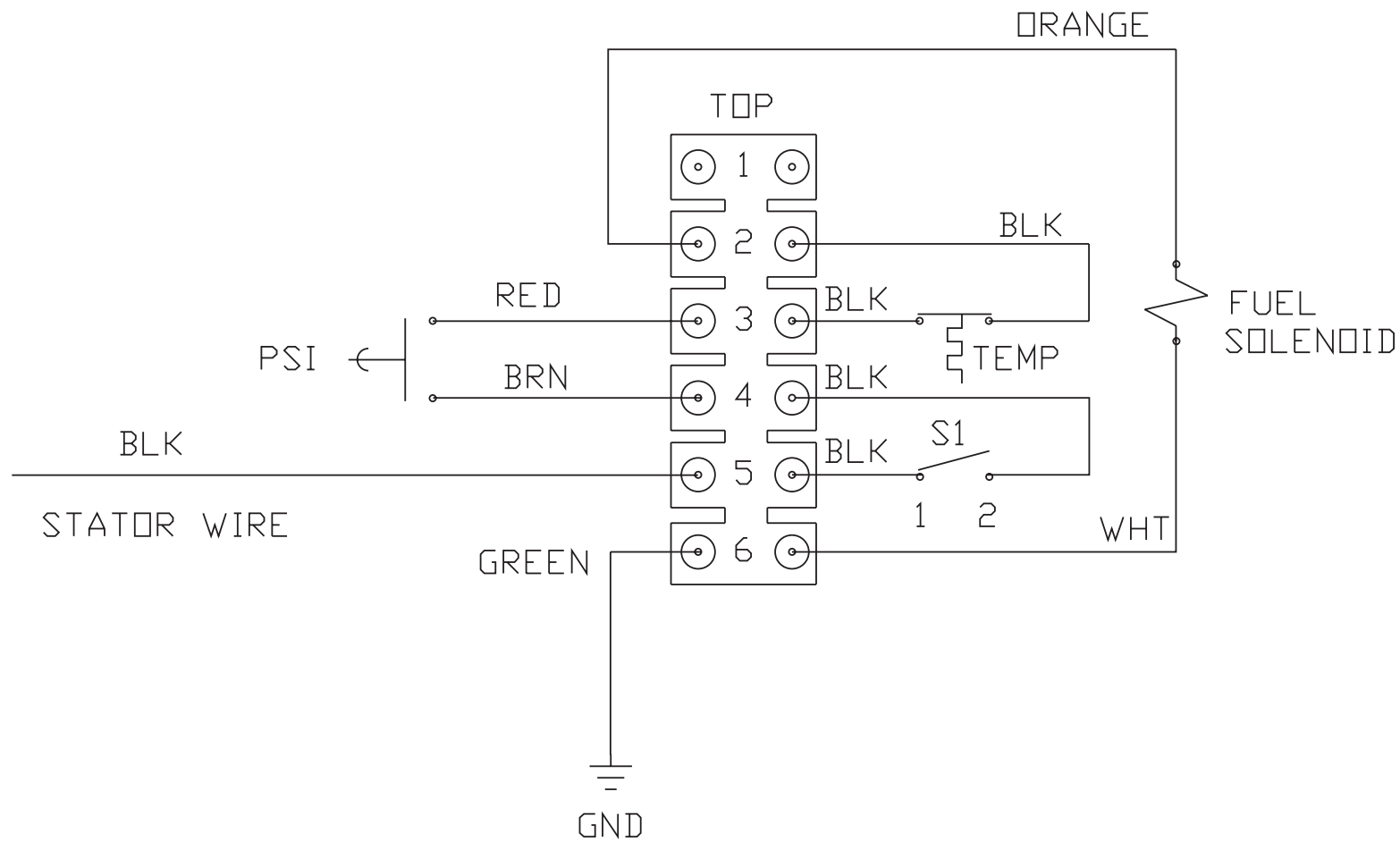


850-0404 043012 KMD			
850-0404			
ITEM	DESCRIPTION	Mi-T-M #	QTY
1	FAN	44-0105	1
2	SET SCREW	30-3021	1
3	LOCKNUT	30-0177	2
4	BLOWER FLANGE ASSEMBLY	850-0402	1
5	SEALED BEARING	48-0041	2
6	BLOWER FLANGE	38-0066	1
7	SPACER	33-0206	1
8	BLOWER SHAFT	20-0347	1
9	WOODRUFF KEY	43-0080	2
10	CLAMP	32-0428	1
11	SCREW	27-2070	1
12	STATOR ASSEMBLY	850-0401	1
13	BOLT	27-0740	4
14	HUB	38-0041	1
15	WASHER	28-0001	2
16	IGNITION ASSEMBLY	850-0414	1

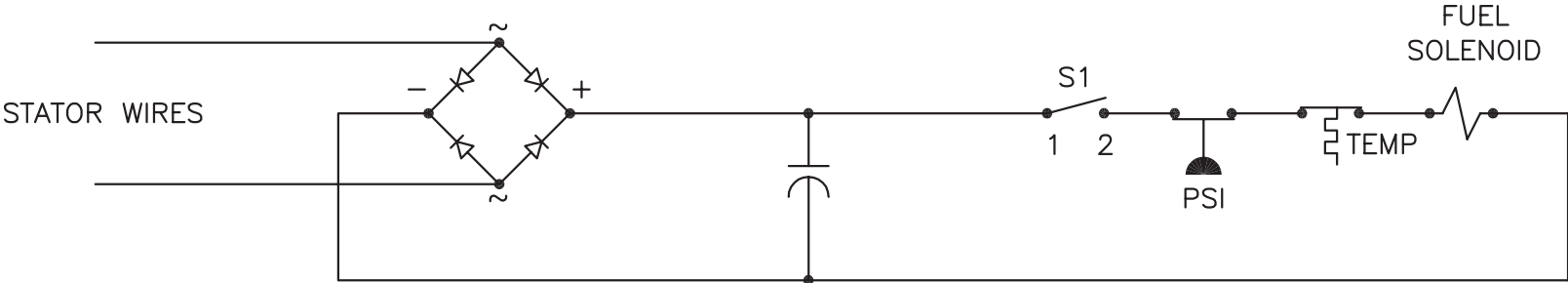
WIRING SCHEMATIC (BEFORE SERIAL #15070469)



WIRING DIAGRAM (BEFORE SERIAL #15070469)



WIRING SCHEMATIC (AFTER SERIAL #15070469)



WIRING DIAGRAM (AFTER SERIAL #15070469)

