



TECHNICAL PARTS LIST FOR

GH-1002-SM10

GH-1502-SM10

GH-2003-SM10

(GRAINGER ITEM #3WB95)

HOT WATER PRESSURE WASHER

MANUFACTURED FOR W.W. GRAINGER INC.
FOR REPLACEMENT PARTS CALL **888-279-9274**

PUMP OIL GRADE:
PUMP OIL CAPACITY:
FUEL NOZZLE:
BTU INPUT:
PRESSURE NOZZLE SIZE:

SAE30W Non-Detergent (Grainger Item #4ZF21)
11.2 oz
1.10 60°B Delavan
186,000 / hour
4.0

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 acceptance.

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 power source. Turning over the machinery by hand during adjustment or cleaning might start the machinery, 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:

05/5/05

SERIAL BREAK EXPLANATION:

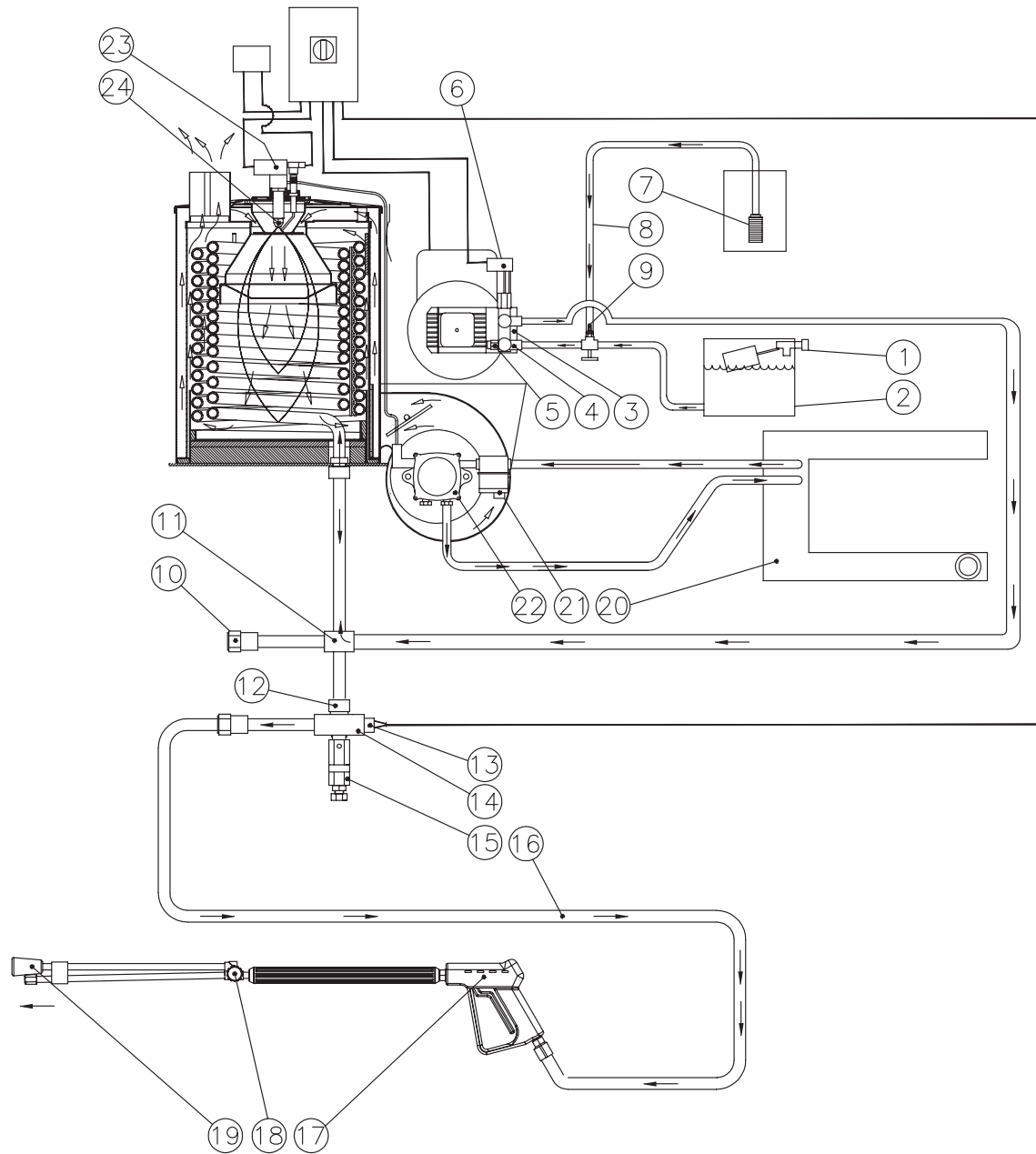
CHANGED GUN FROM 850-0181 TO 16-0001.

CHANGED LANCE FROM 850-0185 TO 16-0416.

SPECIFICATIONS

MODEL NUMBER	GH-1002-SM10
Operating Pressure (PSI/Bar):	1000/70 (+/- 5%)
Water Volume (GPM/lpm):	2.0/ 7.6 (+/- 5%)
Outlet Water Temperature (F/C):	140°F/ 60°C (+/- 10°F) rise above inlet ambient (210°F/ 99°C maximum)
Motor:	TEFC
Horsepower	1.5
Phase	Single
Voltage	120
Amps	13
High Pressure Pump:	Direct Driven, Oil Bath, Triplex Piston
Oil Type	SAE30W Non-Detergent (Grainger Item #4ZF21)
Oil Capacity (oz./liters)	11.2/0.33
Plungers	Ceramic
Manifold	Forged Brass
Valves	Stainless Steel
Unloader	Adjustable
Heat Dump Valve	Relieves heated water during unloader bypass stage
Detergent Injector:	Adjustable High Pressure
Burner Fuel System:	
Fuel Type	No.1 or No.2 Fuel Oil, Diesel or Kerosene
Fuel Capacity (Gal./liters)	4.0/15.1
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	1.10 60° B Delavan
Fuel Consumption (GPH/ LPH)	1.33/ 5.0 Cont. Burning
Burner Electrical System:	
Voltage	120
Amps	2
Heat Exchanger:	Vertical, Top fired, Dual Spiral Coil
BTU Input	186,000
Efficiency	86% with #2 Fuel Oil/ Diesel
Smoke Density	0-3 per ASTM D2156
Controls:	
On/ Off Switch	Industrial grade cam switch
Pressure Switch	Shuts off burner fuel supply upon trigger release
High Limit Switch	Shuts off burner fuel supply when outlet water temp. exceeds 250°F/ 122°C
Fuel Solenoid:	120 Volt
Safety Relief:	Relieves excess system pressure
Unit Net Weight (Lbs/Kg)	250/113
Unit Shipping Weight (Lbs/Kg)	373/169
Unit Net Dimension (In/Cm)	34Lx29Wx33H/ 86Lx74Wx84H
Unit Shipping Dimension (In/Cm)	46.5Lx31.5Wx48.5H/118Lx80Wx123H

FLOW CHART



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 into the FLOAT TANK (2).

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.

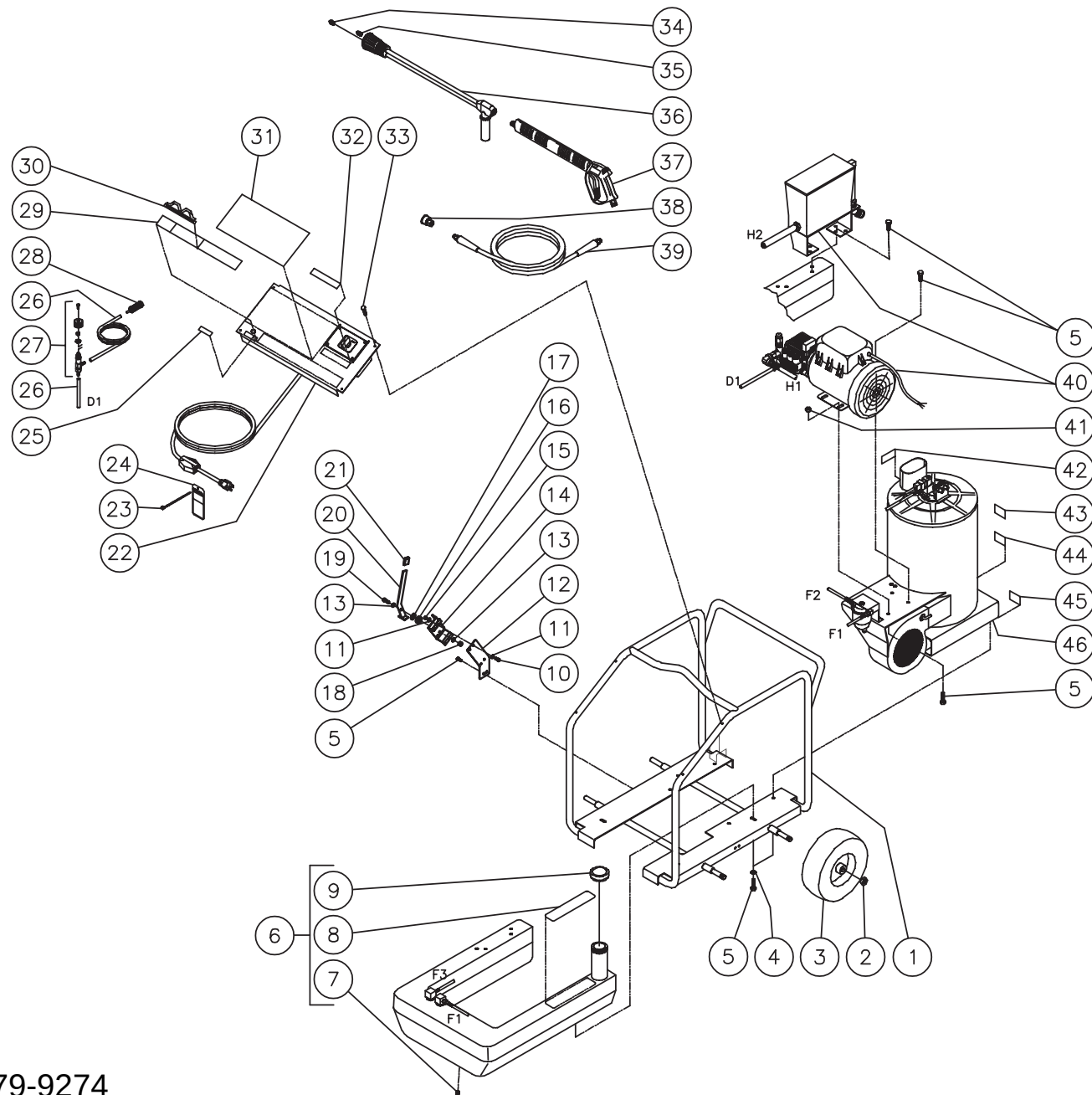
When using detergents, the solution passes through the DETERGENT STRAINER (7) located on the DETERGENT HOSE (8). The detergent solution then travels into the ADJUSTABLE LOW PRESSURE DETERGENT INJECTOR (9).

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 (15) will relieve and allow water to exit safely.

The heated water then flows through the HIGH PRESSURE HOSE (16) and to the TRIGGER GUN ASSEMBLY (17) which allows the operator to control the water spray. When the trigger gun is open, the water flows through the ADJUSTABLE PRESSURE DUAL LANCE (18) and exits the NOZZLE (19).

FUEL FLOW: The Fuel Pump draws fuel from the FUEL TANK (20) through a replaceable FUEL FILTER/WATER SEPARATOR (21) and into the FUEL PUMP (22). Fuel exits the fuel pump, into a FUEL SOLENOID VALVE (23) which controls fuel flow to the FUEL NOZZLE (24) where it ignites and burns in the heat exchanger.

FRAME ASSEMBLY (BEFORE SERIAL #15004675 FOR 1002, #15006316 FOR 1502, #15006268 FOR 2003)

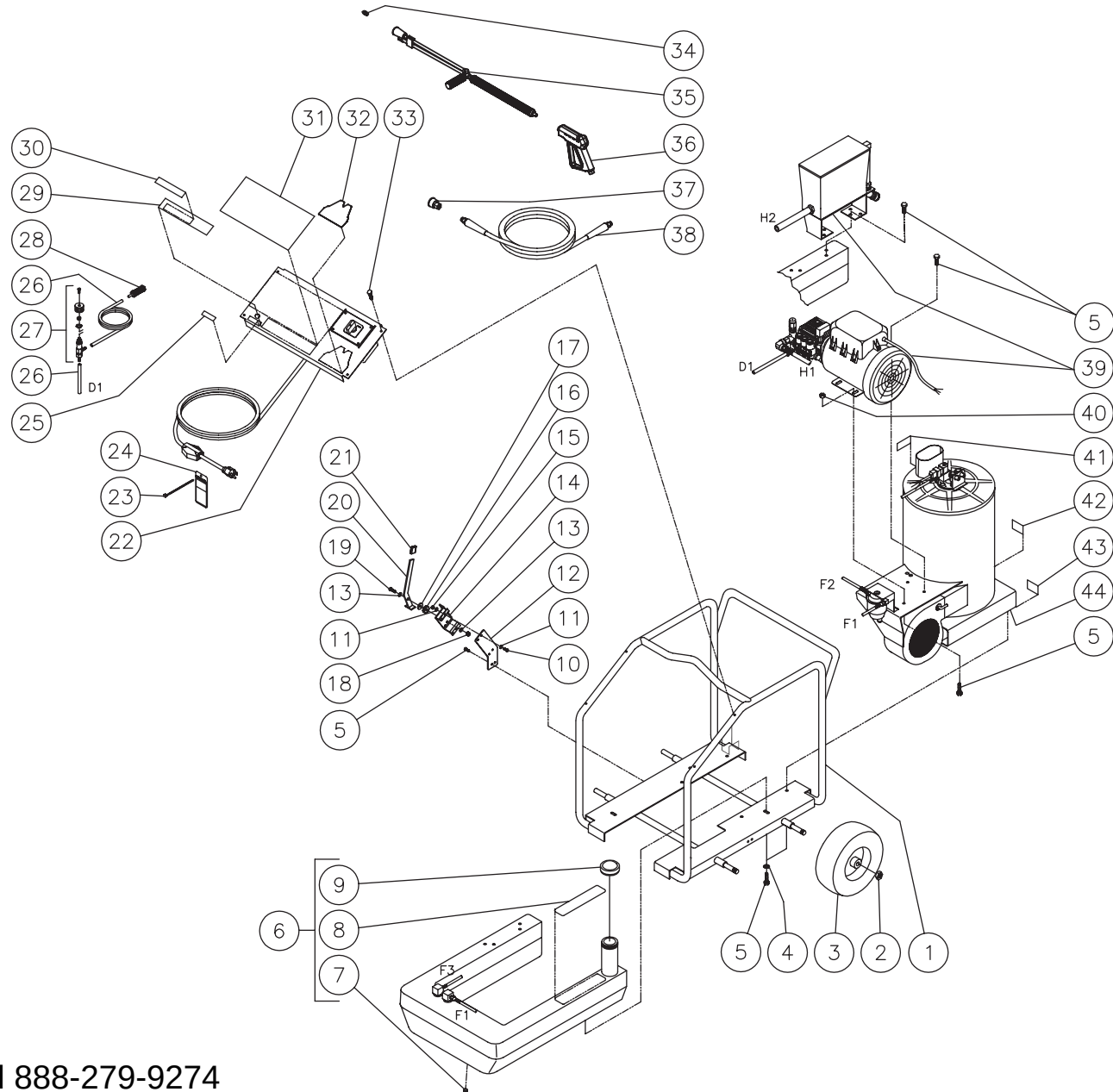


GH-1002-SM10 FRAME ASSY-072403-KZ

For parts Call 888-279-9274

FRAME ASSEMBLY							
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Frame Assembly	5-0128A01	1	25	Decal- Detergent Valve (See 34-9012)	N/A Sep.	1
2	Hex Jam Nut	30-0117	4	26	Hose *(Six Feet Required)	15-0021	1
3	Wheel	14-0017	4	27	Detergent Valve	22-0226	1
4	Flatwasher	28-0022	8	28	Strainer w/ Check Valve	19-0056	1
5	Bolt	27-9524	18	29	Decal- Stripe	34-0502	1
6	Fuel Tank Assembly	850-0214	1	30	Decal- Mi-T-M Logo	62-0087	1
7	Plug	23-0296	1	31	Decal- Warning/Caution/Operation (E/S) (See 34-9012)	N/A Sep.	1
8	Decal-Do Not Use Gasoline (E/S) (See 34-9012)	N/A Sep.	1	32	Decal- Die Cut 1002	34-0302	1
9	Vented Fuel Cap	12-0033	1	33	Bolt	27-9527	4
10	Screw	27-0015	3	34	Nozzle- 4060	18-0110	1
11	Washer	28-0002	6	35	Nozzle- 1504	18-0054	1
12	Brake Plate	20-0580A01	1	36	Dual Lance	850-0185	1
13	Washer	28-0003	2	37	Gun/ Lance Assembly	850-0181	1
14	Bracket	20-0546A01	1	38	Screw Connect	17-0035	1
15	Locknut	30-0155	3	39	Hose Assembly	15-0146	1
16	Grommet	33-0366	1	40	Motor/Pump/Float Tank Assembly (See Exploded Drawing)	N/A Sep.	1
17	Washer	28-0057	1	41	Hex Nut	30-3023	3
18	Locknut	30-0157	1	42	Decal- Warning: Hot Surfaces (E/S) (See 34-9012)	N/A Sep.	1
19	Screw	27-0068	1	43	Decal- Grainger 800# (See 34-9012)	N/A Sep.	1
20	Brake Handle Assembly	20-0552A01	1	44	Decal- Risk of Explosion (E/S) (See 34-9012)	N/A Sep.	1
21	Handle Grip	7-0170	1	45	Decal- Data Plate	N/A	1
22	Control Panel (See Exploded Drawing)	N/A Sep.	1	46	Heat Exchanger Assembly (See Exploded Drawing)	N/A Sep.	1
23	Cable Tie	33-0022	1		Safety Decal Kit (Includes 8, 25, 31, 42-44)	34-9012	
24	Decal- Hang Tag	34-0417	1	*Must Order in One Foot Lengths			

FRAME ASSEMBLY (AFTER SERIAL #15004675 FOR 1002, #15006316 FOR 1502, #15006268 FOR 2003)

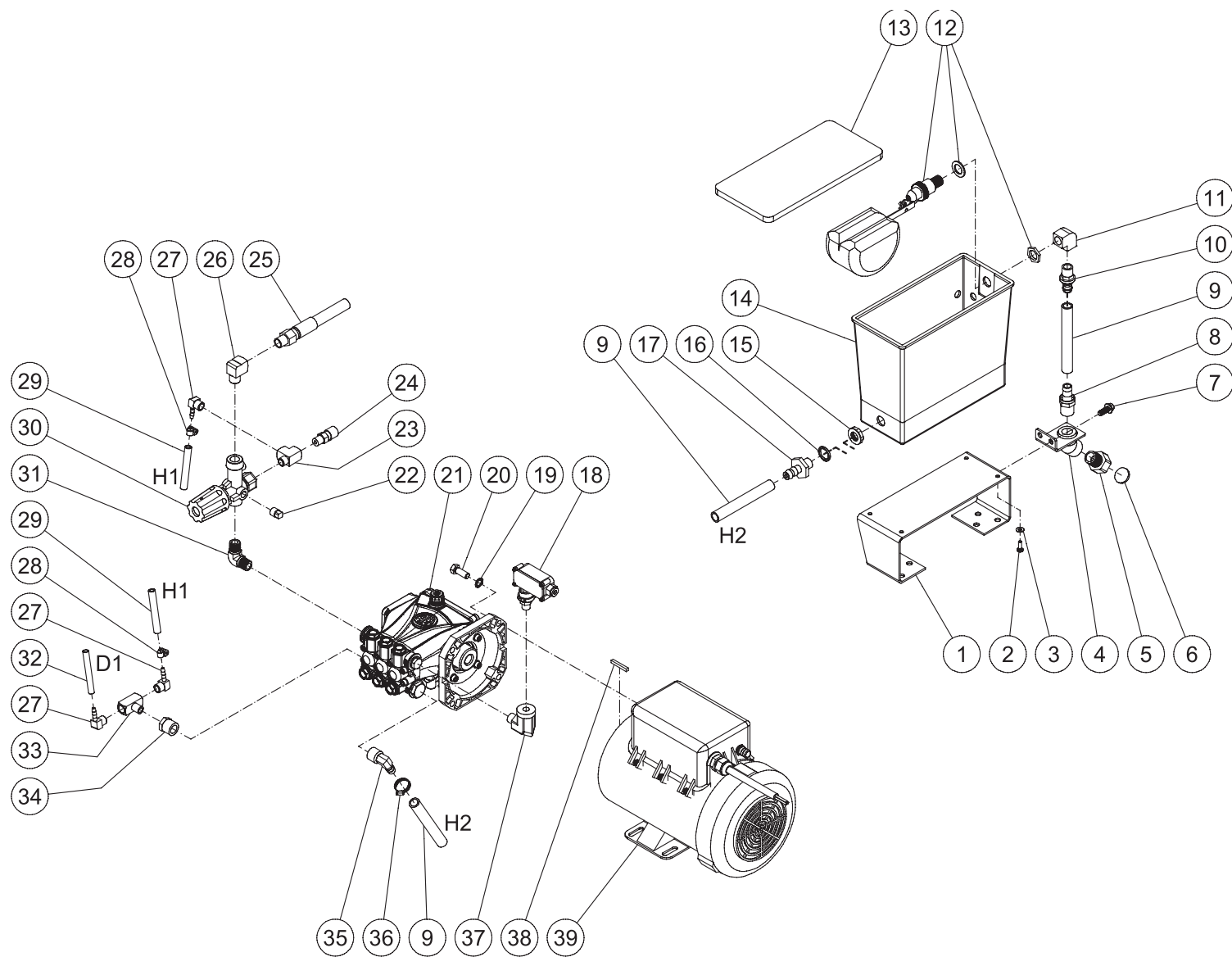


For parts Call 888-279-9274

FRAME ASSEMBLY

REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Frame Assembly	5-0128A01	1	27	Detergent Valve	22-0226	1
2	Hex Jam Nut	30-0117	4	28	Strainer w/ Check Valve	19-0056	1
3	Wheel	14-0017	4	29	Decal- Stripe	34-2186	1
4	Flatwasher	28-0022	8	30	Decal- Die Cut 1002	34-2181	1
5	Bolt	27-9524	18	-	Decal- Die Cut 1502	34-2194	1
6	Fuel Tank Assembly	850-0214	1	-	Decal- Die Cut 2003	34-2209	1
7	Plug	23-0296	1	31	Decal- Warning/Caution/Operation (E/S) (See 34-9012)	N/A Sep.	1
8	Decal-Do Not Use Gasoline (E/S) (See 34-9012)	N/A Sep.	1	32	Decal- Mi-T-M Logo	34-2169	1
9	Vented Fuel Cap	12-0033	1	-	Decal- Mi-T-M Logo	34-2168	1
10	Screw	27-0015	3	33	Bolt	27-9527	4
11	Washer	28-0002	6	34	Nozzle- 1504 (HSE-1002)	18-0054	1
12	Brake Plate	20-0580A01	1	-	Nozzle- 1503 (HSE-1502)	18-0053	1
13	Washer	28-0003	2	-	Nozzle- 1503.5 (HSE-2003)	18-0254	1
14	Bracket	20-0546A01	1	35	Dual Lance	16-0416	1
15	Locknut	30-0155	3	36	Gun	16-0001	1
16	Grommet	33-0366	1	37	Screw Connect	17-0035	1
17	Washer	28-0057	1	38	Hose Assembly	15-0146	1
18	Locknut	30-0157	1	39	Motor/Pump/Float Tank Assembly (See Exploded Drawing)	N/A Sep.	1
19	Screw	27-0068	1	40	Hex Nut	30-3023	3
20	Brake Handle Assembly	20-0552A01	1	41	Decal- Warning: Hot Surfaces (E/S) (See 34-9012)	N/A Sep.	1
21	Handle Grip	7-0170	1	42	Decal- Risk of Explosion (E/S) (See 34-9012)	N/A Sep.	1
22	Control Panel (See Exploded Drawing)	N/A Sep.	1	43	Data Plate	N/A	1
23	Cable Tie	33-0022	1	44	Heat Exchanger Assembly (See Exploded Drawing)	N/A Sep.	1
24	Decal- Hang Tag	34-0417	1		Safety Decal Kit (Includes 8, 25, 31, 41-42)	34-9012	
25	Decal- Detergent Valve (See 34-9012)	N/A Sep.	1				
26	Hose *(Six Feet Required)	15-0021	1				
*Must Order in One Foot Lengths							

MOTOR/PUMP ASSEMBLY



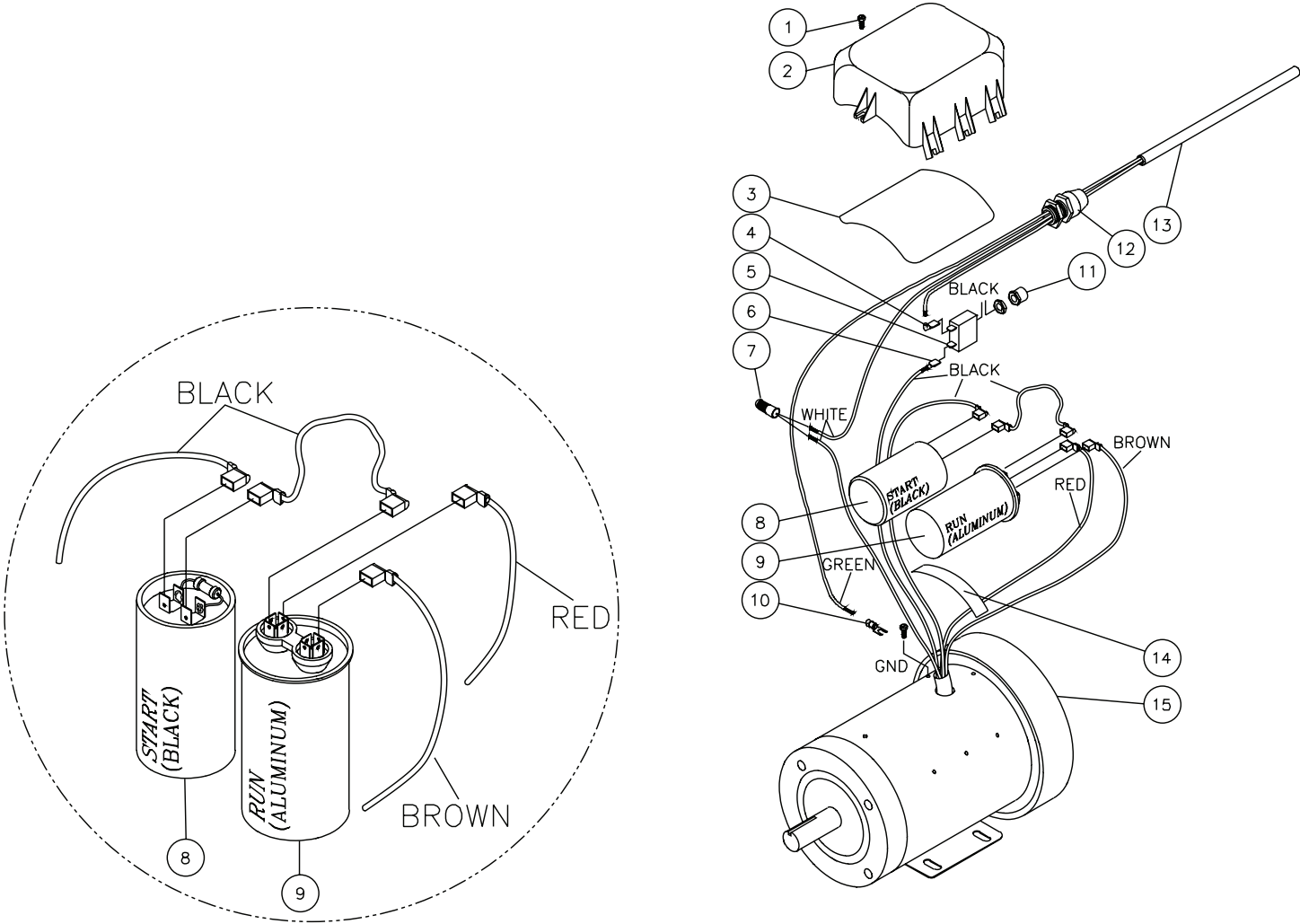
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For parts Call 888-279-9274

MOTOR / PUMP ASSEMBLY

ITEM	DESCRIPTION	Mi-T-M #	QTY	ITEM	DESCRIPTION	Mi-T-M #	QTY
1	BRACKET	20-0415A01	1	21	PUMP - (1002, 1502)	3-0362	1
2	SCREW	27-2930	4	-	PUMP - (2003)	3-0364	1
3	WASHER	28-0001	4	22	PLUG	23-0238	1
4	BRACKET	20-0422A01	1	23	TEE	23-0127	1
5	SWIVEL	23-0095	1	24	HEAT DUMP VALVE	22-0408	1
6	FILTER	19-0001	1	25	HIGH PRESSURE HOSE	15-0204	1
7	BOLT	27-9524	2	26	ELBOW	23-0034	1
8	HOSE BARB	23-0005	1	27	ELBOW	23-0054	3
9	HOSE *(TWO FEET REQUIRED)	15-0007	1	28	CLAMP WORM	42-0004	2
10	HOSE BARB	23-0140	1	29	FUEL HOSE	15-0008	1
11	ELBOW	23-0307	1	30	UNLOADER	850-0267	1
12	FLOAT VALVE	22-0129	1	31	ELBOW	24-0131	1
13	FLOAT TANK LID	62-0103	1	32	HOSE	15-0021	1
14	FLOAT TANK	12-0055	1	33	TEE	23-0015	1
15	NUT	23-0138	1	34	REDUCER	23-0056	1
16	O-RING	25-0427	1	35	HOSE BARB	23-0418	1
17	BARB (1002, 1502)	23-0318	1	36	HOSE CLAMP	42-0011	1
-	HOSE BARB (2003)	23-0322	1	37	ELBOW	24-0004	1
18	PRESS SWITCH	22-0171	1	38	KEY	43-0072	1
19	LOCKWASHER	29-0155	4	39	MOTOR ASSEMBLY - 1.5HP	850-0213	1
20	BOLT	27-0117	4	-	MOTOR ASSEMBLY - 2.0HP	850-0215	1
*MUST ORDER IN ONE FOOT LENGTHS				-	MOTOR ASSEMBLY - 4.0HP	850-0216	1

MOTOR (850-0213)

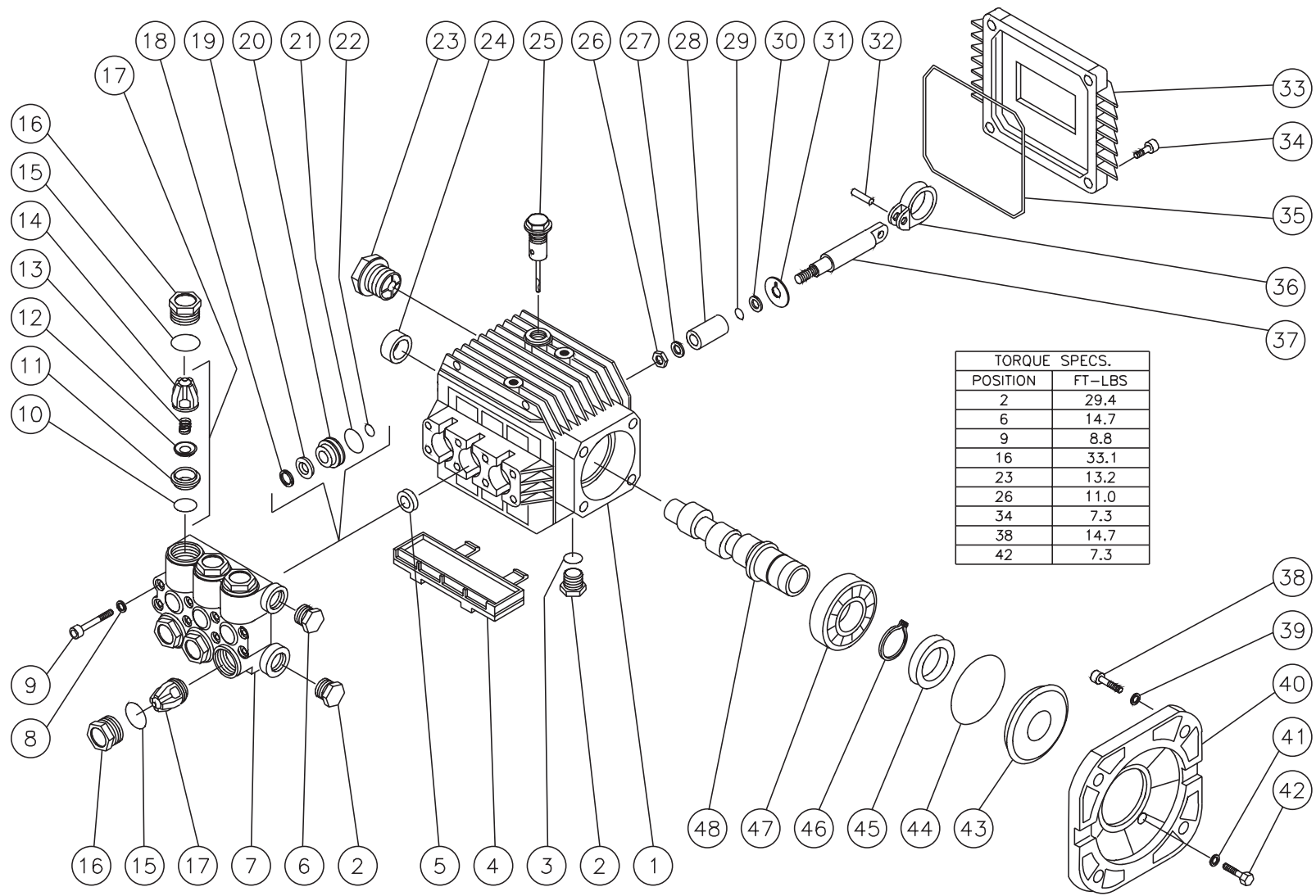


CAPACITOR TERMINAL ASSEMBLY

850-0213-061203-KZ

MOTOR (850-0213)			
REF.	DESCRIPTION	PART #	QTY.
1	Screw	27-8389	8
2	Motor Box	52-0041	1
3	O-ring	25-0338	1
4	Terminal	32-0451	2
5	Circuit Breaker 20 Amp	32-0438	1
6	Terminal Spade	32-0221	1
7	Crimp Splice	32-0359	1
8	Capacitor-Start 1.5 w/Motor	32-0411	1
9	Capacitor-Run 1.5 w/Motor	32-0413	1
10	Terminal-Fork	32-0034	1
11	Rubber Boot	32-0441	1
12	Strain Relief	32-0437	1
13	Cord *(Two Feet Required)	32-0440	1
14	Motor Box Strap	52-0042	1
15	Motor (See 850-0213)	N/A Sep.	1
	Motor Assembly Complete-1.5 HP	850-0213	
*Must Order in One Foot Lengths			

PUMP ASSEMBLY (3-0071)

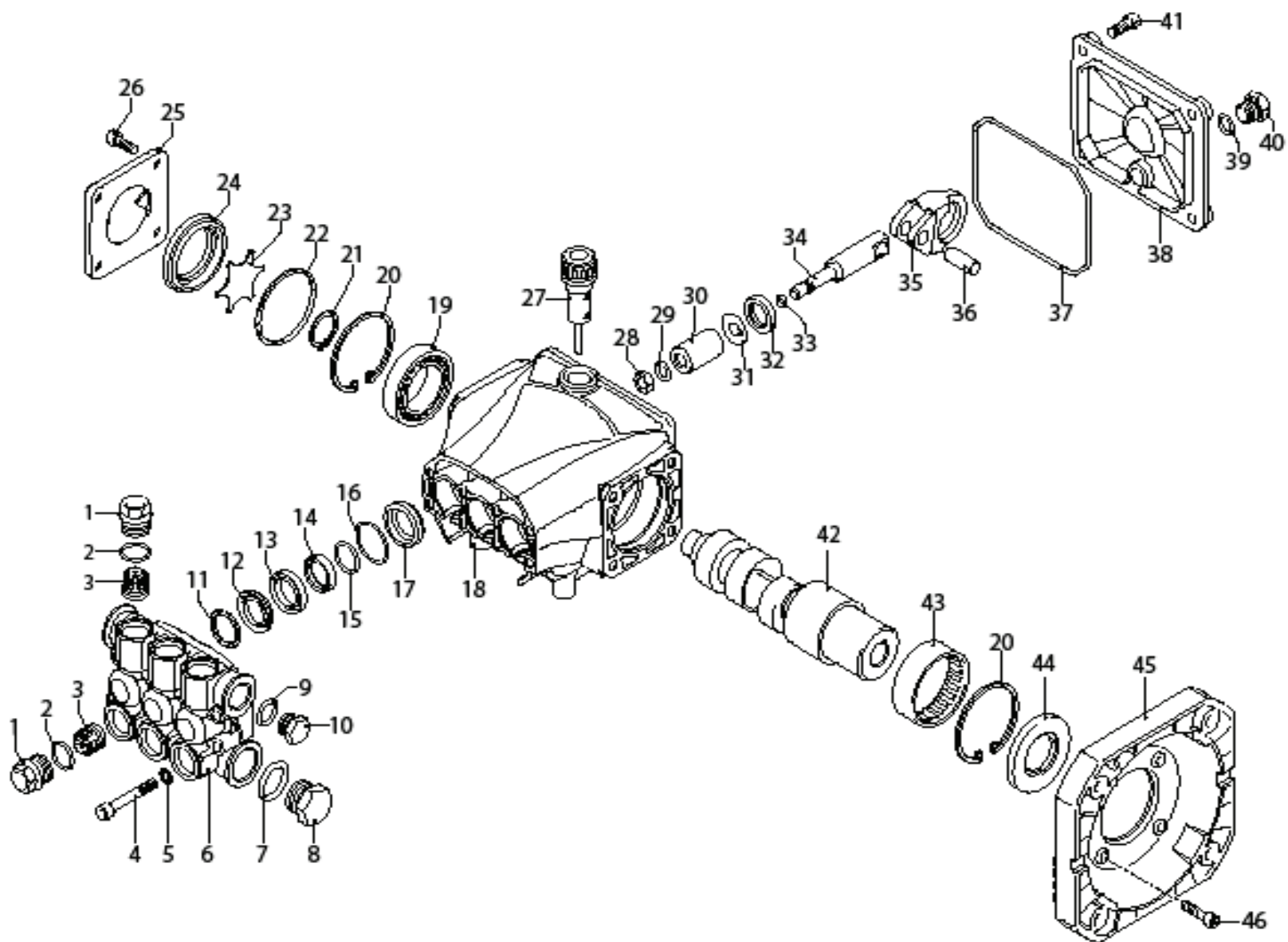


3-0071-060104-KZ

For parts Call 888-279-9274

PUMP ASSEMBLY (3-0071)								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Crankcase	46-0221	1		27	Washer	46-0166	3
2	Plug	39-0018	2		28	Plunger- Ceramic	46-0148	3
3	O-ring	25-0052	1		29	O-ring	25-0045	3
4	Drip Pan	46-0229	1		30	Back-up Ring	25-0143	3
5	Oil Seal	26-0111	3		31	Washer	46-0167	3
6	Plug	39-0017	1		32	Conecting Rod	43-0044	3
7	Manifold- Brass	46-0163	1		33	Crankcase Cover	46-0151	1
8	Lockwasher	29-0153	12		34	Bolt	27-8409	4
9	Bolt	27-8406	8		35	Cover O-ring	25-0332	1
10	O-ring (See 70-0009)	N/A Sep.	6		36	Connecting Rod	46-0152	3
11	Valve Seat (See 70-0009)	N/A Sep.	6		37	Piston Guide	46-0149	3
12	Valve Plate (See 70-0009)	N/A Sep.	6		38	Bolt	27-0117	4
13	Valve Spring (See 70-0009)	N/A Sep.	6		39	Lockwasher	29-0155	4
14	Valve Cage (See 70-0009)	N/A Sep.	6		40	Flange	38-0032	1
15	O-ring	25-0012	6		41	Lockwasher	29-0153	4
16	Valve Plug	39-0035	6		42	Bolt	27-8409	4
17	Valve Assembly (Includes 10-14) (See 70-0009)	N/A Sep.	6		43	Bearing Spacer	46-0087	1
18	Head Ring (See 70-0024)	N/A Sep.	3		44	O-ring	25-0060	1
19	V-packing (See 70-0024)	N/A Sep.	3		45	Oil Seal	26-0126	1
20	V-packing Retainer	46-0158	3	46	Snap Ring	46-0245	1	
21	O-ring	25-0141	3	47	Ball Bearing	48-0024	1	
22	O-ring	25-0128	3	48	Crankshaft	46-0277	1	
23	Oil Level Indicator	46-0114	1		Valve Kit (Includes 3 each 10-14, 17)	70-0009		
24	Bearing	48-0019	1		V-packing Kit (Includes 3 each 18-19, 21-22)	70-0024		
25	Oil Dip Stick	46-0143	1		V-packing Assembly (Includes 18-22)	70-0023		
26	Nut	46-0168	3					

PUMP ASSEMBLY (3-0362)



03-0362 120312 KMD

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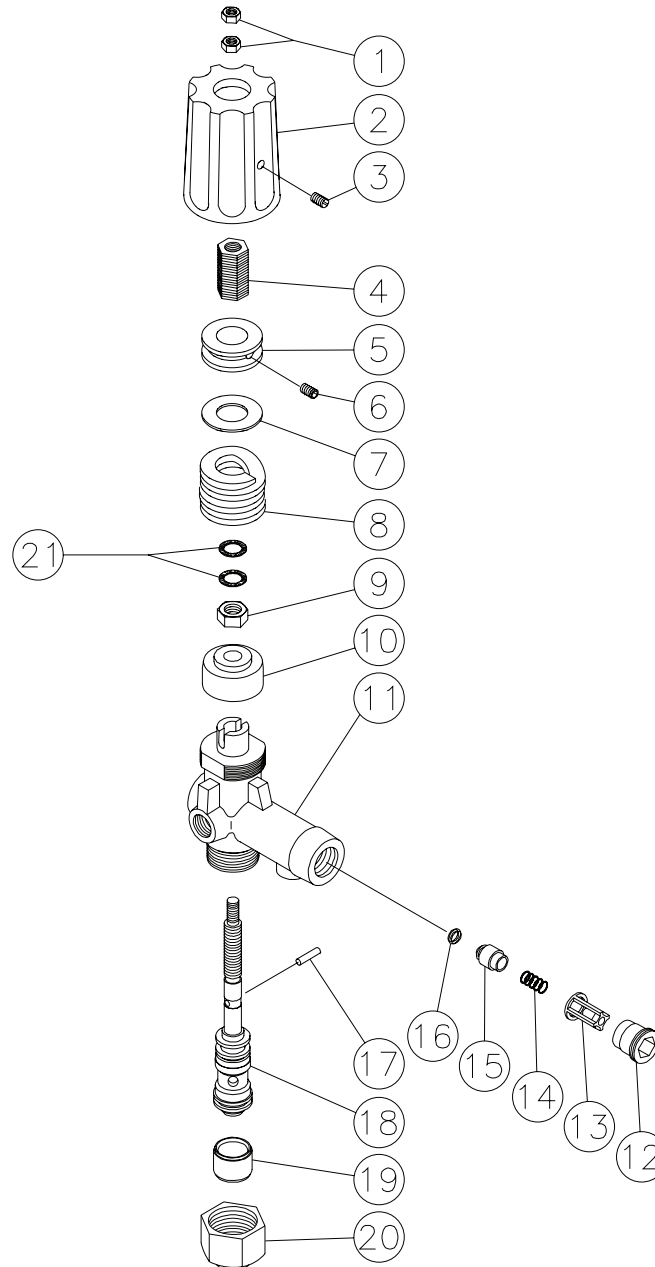
PUMP ASSEMBLY

ITEM	DESCRIPTION	PART #	QTY		ITEM	DESCRIPTION	PART #	QTY
1	PLUG	39-0241	6		24	OIL INDICATOR	46-1452	1
2	O-RING (SEE 70-0565)	25-0644	6		25	COVER	46-1453	1
3	COMPLETE VALVE (SEE 70-609)	SEE KIT	6		26	SCREW	27-8888	8
4	SCREW	N/A	8		27	OIL CAP	39-0090	1
5	WASHER	N/A	8		28	NUT	30-6016	3
6	HEAD	N/A	1		29	WASHER	26-0187	3
7	O-RING (SEE 70-0565)	25-0372	1		30	PISTON GUIDE (SEE 70-0606)	SEE KIT	3
8	PLUG	39-0202	1		31	SPACER	28-1027	3
9	O-RING (SEE 70-0565)	25-0510	1		32	SEAL (SEE 70-0566)	26-0193	3
10	PLUG	39-0206	1		33	O-RING (SEE 70-0565)	25-0371	3
11	RING (SEE 70-0563)	SEE KIT	3		34	PISTON GUIDE	N/A	3
12	GASKET (SEE 70-0567)	SEE KIT	3		35	CONNECTING ROD	N/A	3
13	PISTON GUIDE	46-1449	3		36	CONNECTING ROD PIN	46-0721	3
14	GASKET (SEE 70-0567)	SEE KIT	3		37	O-RING (SEE 70-0565)	SEE KIT	1
15	RING (SEE 70-0567)	SEE KIT	3		38	REAR COVER	46-1455	1
16	O-RING (SEE 70-0565 AND 70-0567)	25-0149	3		39	O-RING (SEE 70-0565)	25-0387	1
17	PISTON GUIDE	46-1450	3		40	PLUG	39-0096	1
18	PUMP BODY	N/A	1		41	SCREW	N/A	4
19	BEARING	48-0063	1		42	CRANKSHAFT	N/A	1
20	SNAP RING	46-0676	2		43	BEARING	N/A	1
21	SNAP RING	46-0732	1		44	SEAL (SEE 70-0566)	26-0192	1
22	O-RING (SEE 70-0565)	SEE KIT	1		45	FLANGE	46-1456	1
23	DISC	46-1451	1		46	SCREW	N/A	4

REPLACEMENT KITS

Mi-T-M KIT #	DESCRIPTION	ITEMS	# OF ASSEMBLIES	# OF CYLINDERS
70-0609	KIT - VALVES	3	6	3
70-0460	KIT - SUPPORT RING	11	3	3
70-0606	KIT - PISTONS	30	3	3
70-0565	KIT - O-RINGS	2, 7, 9, 16, 22, 33, 37, 39	6, 1, 1, 3, 1, 1, 1, 1	3
70-0566	KIT - OIL SEALS	32, 44	3, 1	3
70-0567	KIT - WATER SEALS	12, 14, 15, 16	3, 3, 3, 3	3

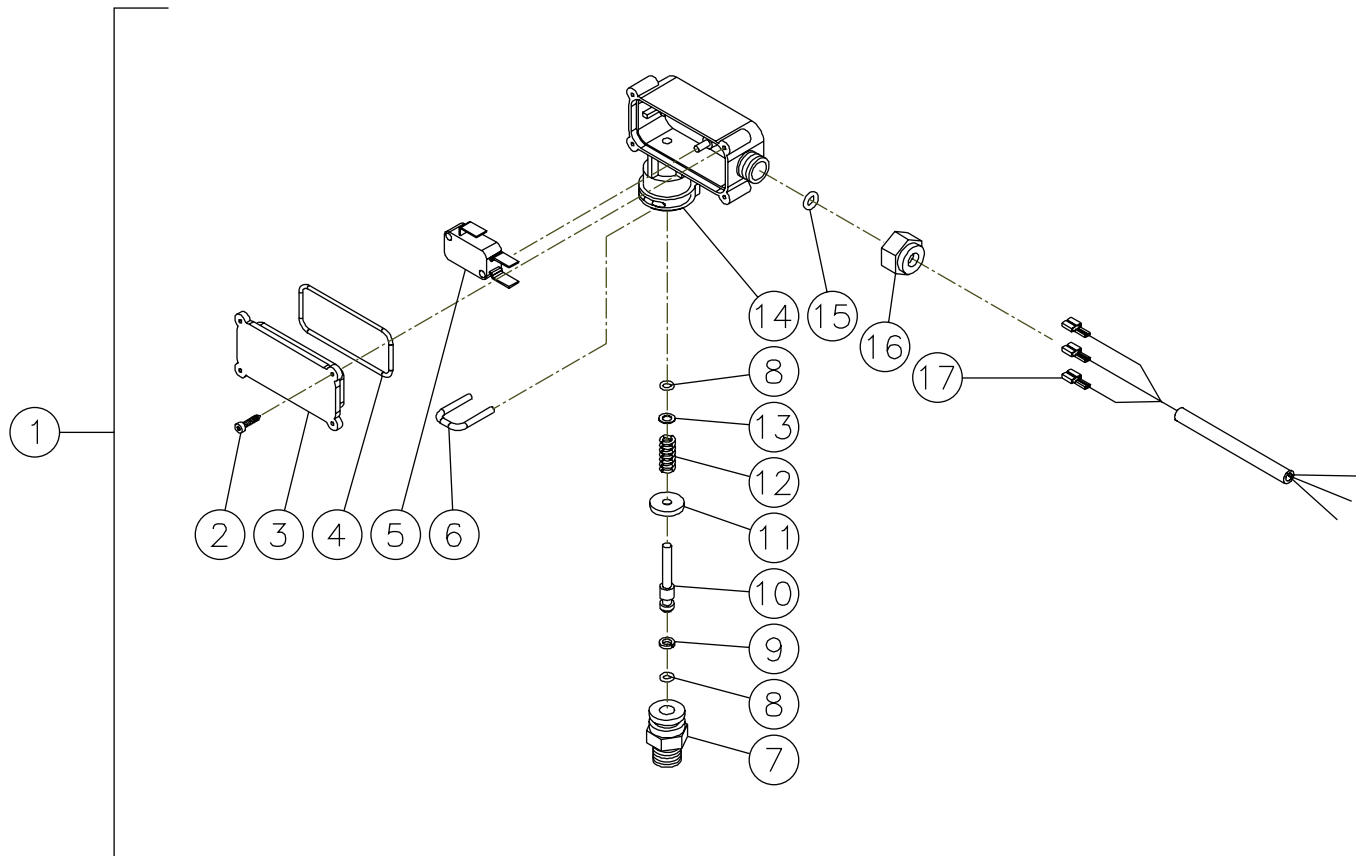
UNLOADER (850-0267)



850-0267-041700-BAR

UNLOADER (850-0267)			
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	8-9002	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	850-0267	

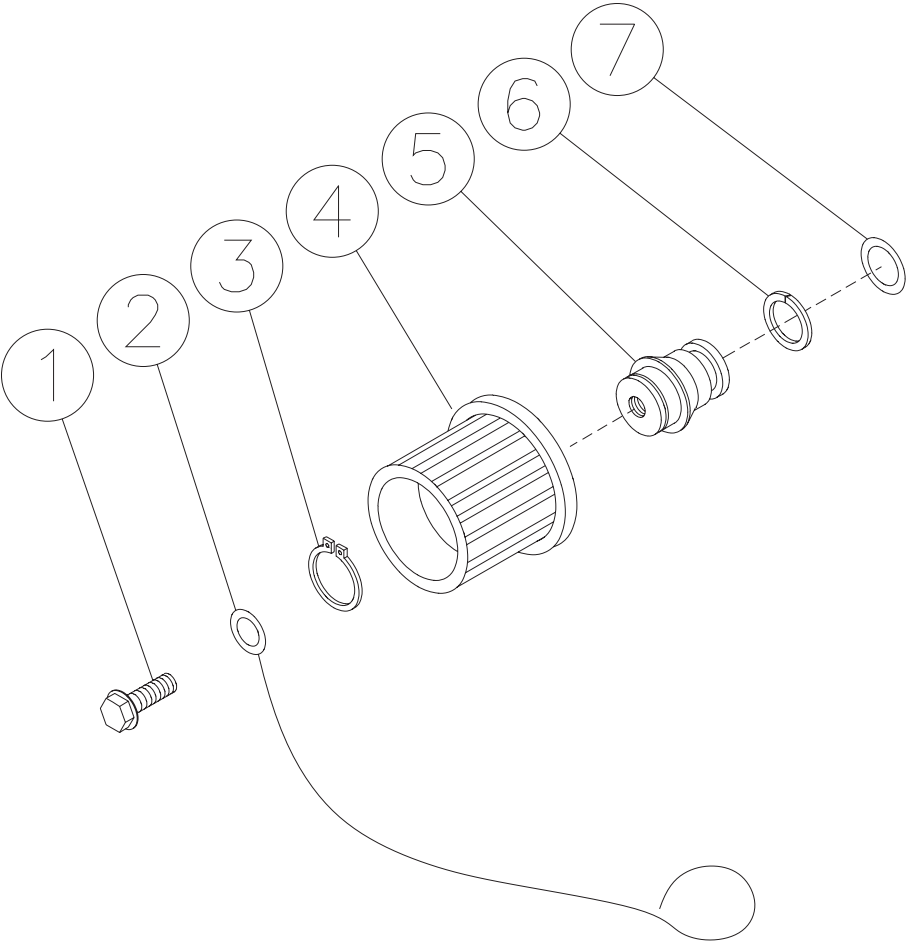
PRESSURE SWITCH (22-0171)



22-0171&22-0243--120799-BAR

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	

COIL DRAIN PLUG (850-0218)

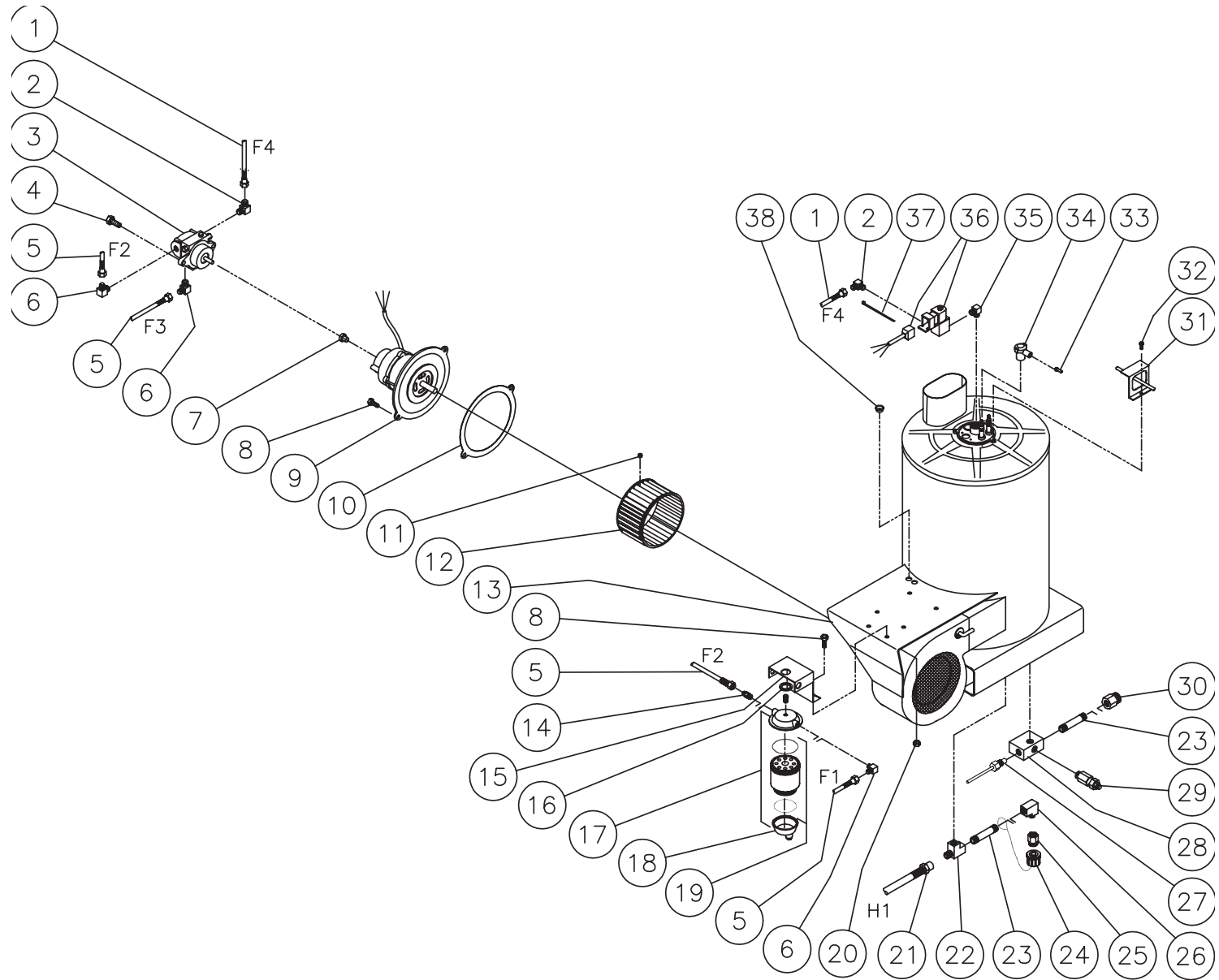


850-0218-041597-BAR

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

HEAT EXCHANGER/BLOWER MOTOR

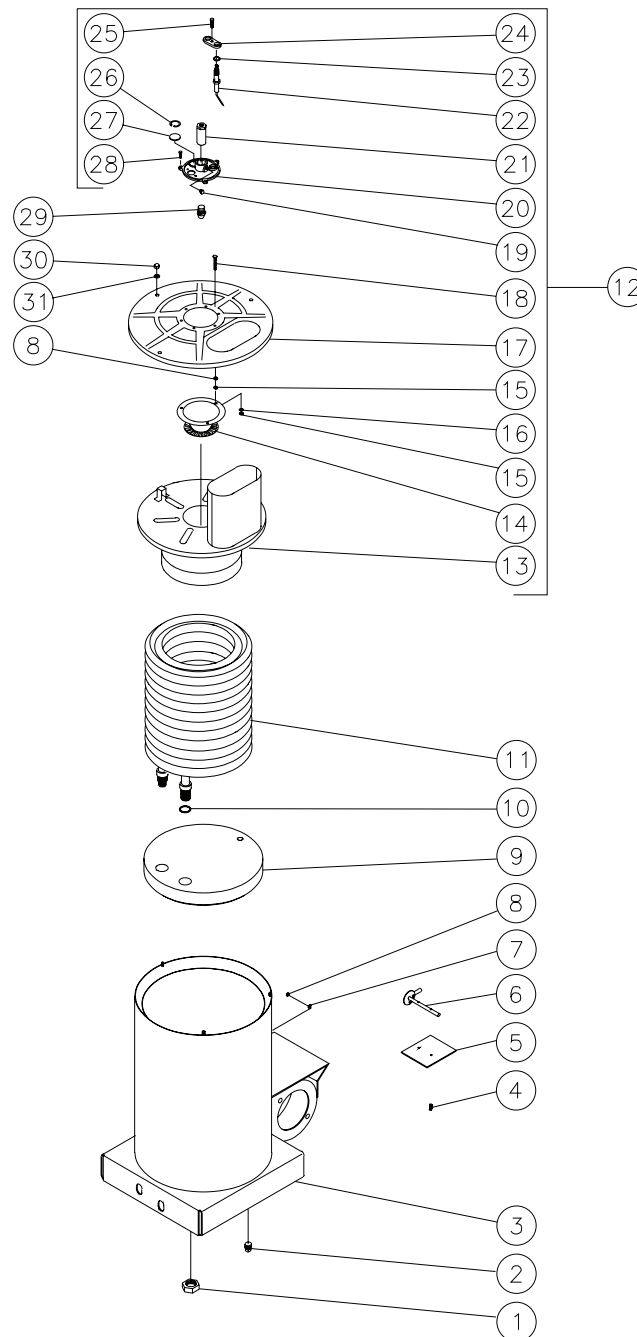


For parts Call 888-279-9274

HEAT EXCHANGER/ BLOWER MOTOR

REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Fuel Hose Assembly	15-0173	1	20	Hex Nut	30-3023	2
2	Elbow	23-0287	2	21	Hose Assembly	15-0174	1
3	Fuel Pump	3-0020	1	-	Hose Assembly	15-0204	1
4	Bolt	27-8898	2	22	Tee	23-0058	1
5	Fuel Hose Assembly	15-0147	3	23	Pipe Nipple	24-0141	2
6	Elbow	23-0237	3	24	Coil Drain Plug Assembly	850-0218	1
7	Fuel Pump Flex Coupler	33-0265	1	25	Adapter	23-0279	1
8	Bolt	27-9524	4	26	Elbow	23-0034	1
9	Blower Motor-120 Volt	2-0085	1	27	High Limit Switch	32-0798	1
-	Blower Motor-240 Volt	2-0086	1	28	Coil Outlet Block	24-0138	1
10	Shim	20-0460A01	1	29	Pressure Relief Valve	22-0272	1
11	Set Screw	30-3031	1	30	Adapter	23-0197	1
12	Blower Fan	44-0103	1	31	Electrode Bracket	20-0417A01	1
13	Boiler Assembly	850-0212	1	32	Screw	27-8803	3
14	Male Connector	23-0247	1	33	Spark Plug Terminal	44-0119	2
15	Fuel Water Separator Bracket	20-0416A01	1	34	Electrode Boot	32-0999	2
16	Gasket	26-0001	1	35	Elbow	23-0249	1
17	Fuel Water Separator	19-0070	1	36	Fuel Solenoid- 120V	44-0101	1
18	Fuel Water Separator Bowl	19-0071	1	37	Cable Tie	33-0022	1
19	Fuel Water Separator Strainer	19-0053	1	38	Bushing	9-0028	2

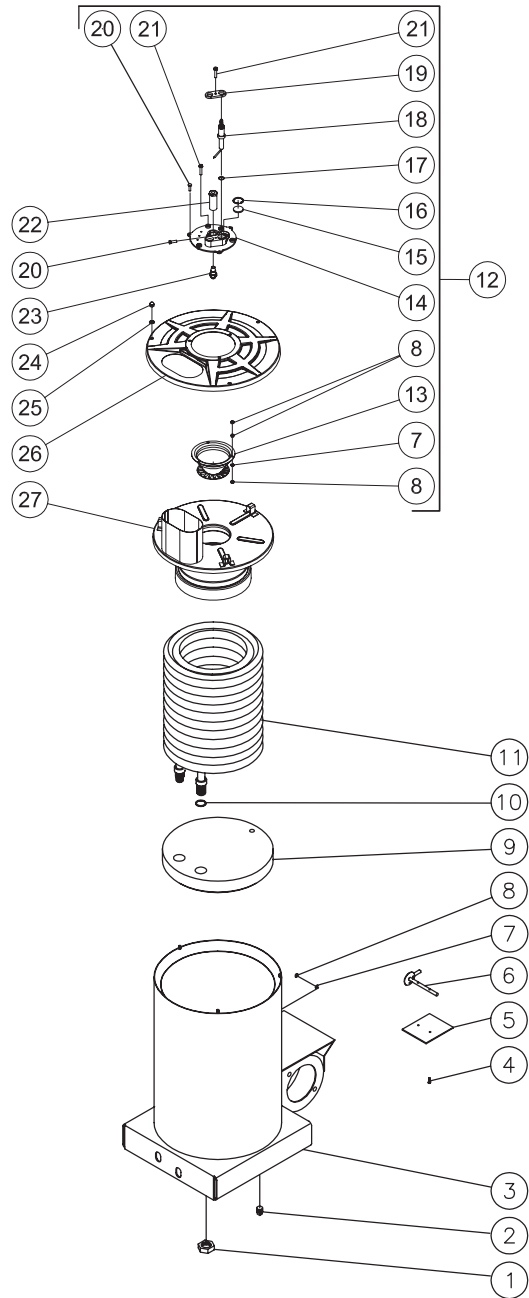
BOILER ASSEMBLY (850-0212) (BEFORE SERIAL #15071602)



For parts Call 888-279-9274

BOILER ASSEMBLY (850-0212)								
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	Heat Exchanger Outer Wrap	20-0404A01	1		19	Bolt	27-8805	1
4	Bolt Hex Head	27-8879	2		20	Support Plate	33-0183	1
5	Air Diverter Plate	20-0378A01	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	4		24	Electrode Mounting Plate	33-0180	1
9	Bottom 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	66-0009	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	18-0268	1
14	Heat Deflector	20-0325	1		30	Acorn Nut	30-6002	3
15	Nut	30-6001	6		31	Star Washer	28-1028	3
16	Lockwasher	28-1009	3			Boiler Assembly (Inc. 1-28, 30, 31)	850-0212	

BOILER ASSEMBLY (850-0212) (AFTER SERIAL #15071602)



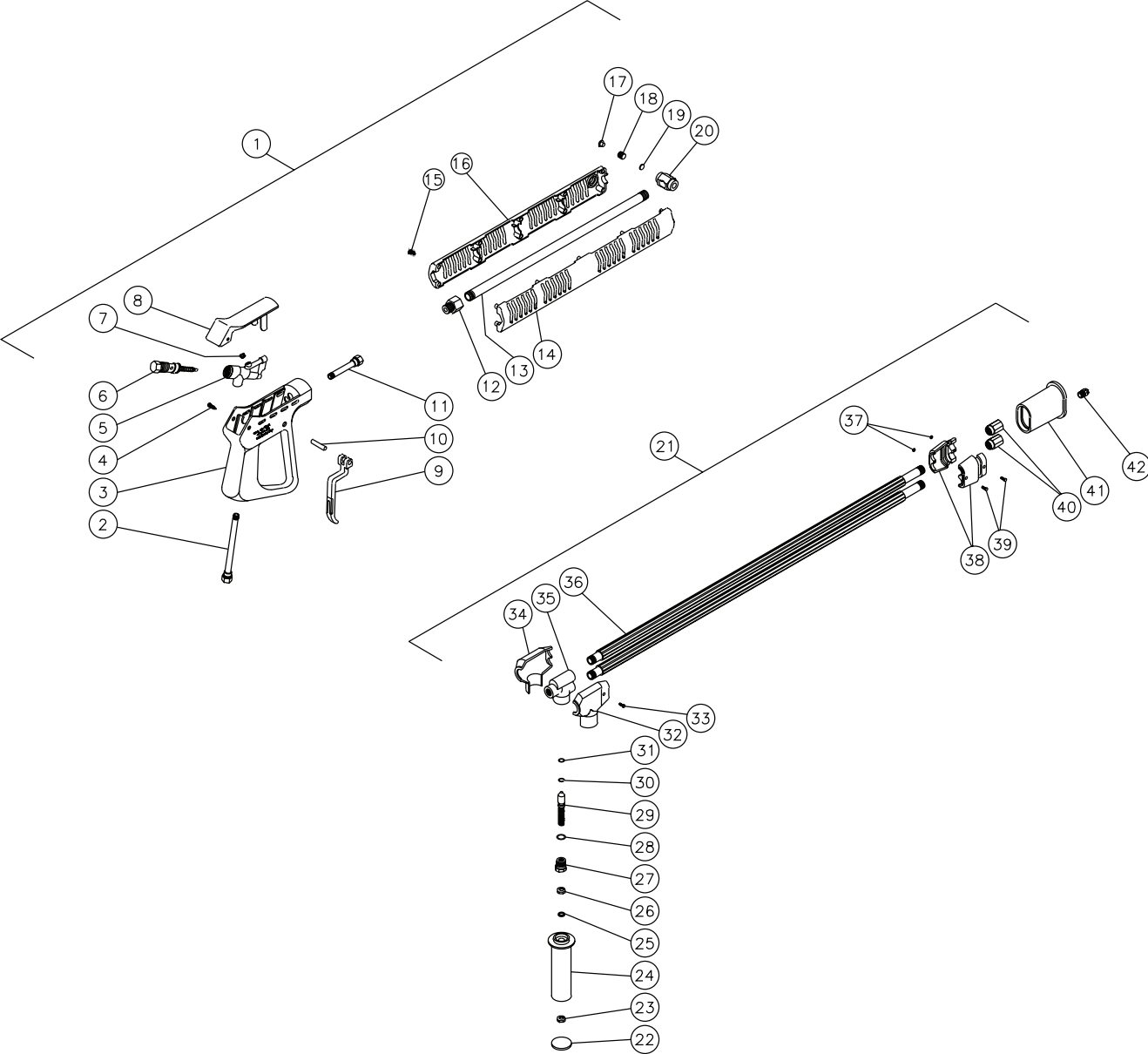
850-0212-012612-CH

For parts Call 888-279-9274

BOILER ASSEMBLY (850-0212)

REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Hex Nut	30-0121	2		16	Snap Ring	33-0254	1
2	Plug	24-0034	1		17	Washer	28-0523	2
3	Heat Exchanger Outer Wrap	20-0404A01	1		18	Electrode	32-0987	2
4	Bolt Hex Head	27-8879	2		19	Electrode Bracket	20-1094A01	1
5	Air Diverter Plate	20-0378A01	1		20	Bolt	27-8878	4
6	Air Diverter Stem Assembly	20-0377A01	1		21	Bolt	27-8807	4
7	Lockwasher	28-1009	4		22	Nozzle Holder	33-0182	1
8	Nut	30-6001	10		23	Fuel Nozzle (1002)	18-0268	1
9	Bottom Insulation	33-0267	1		-	Fuel Nozzle (1502)	18-0321	1
10	Washer	28-0521	2		-	Fuel Nozzle (2003)	18-0310	1
11	Heat Exchanger Coil Assembly	66-0009	1		24	Acorn Nut	30-6002	3
12	Electrode Assembly (13-21)	850-0408	1		25	Star Washer	28-1028	3
13	Heat Deflector	20-0325	1		26	Top Pan	20-1263	1
14	Electrode Plate	38-0065	1		27	Small Exhaust Chimney	20-1264	1
15	Sight Glass	33-0252	1					

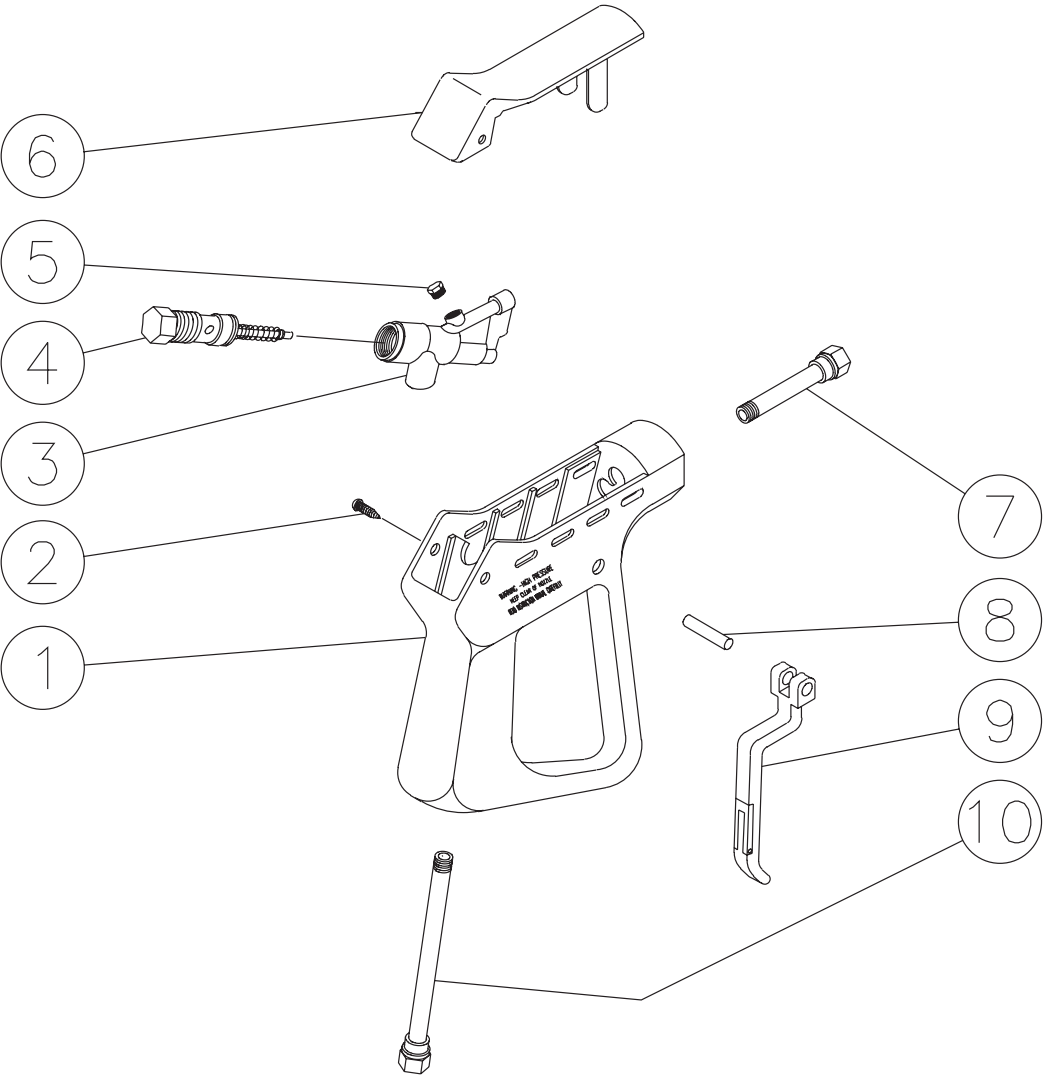
GUN/WAND (850-0181) & ADJUSTABLE PRESSURE DUAL LANCE (850-0185)



HSP051-051597-JTR

GUN/WAND (850-0181) & ADJUSTABLE PRESSURE DUAL LANCE (850-0185)								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Gun/Lance Assembly (Includes 2-20)	850-0181	1		24	Handle	16-0313	1
2	Pipe Assembly	16-0016	1		25	Washer	28-1021	1
3	Plastic Housing	16-0008	1		26	Nut	30-3010	1
4	Screw	27-3230	2		27	Adaptor	23-0271	1
5	Housing	16-0012	1		28	O-ring	25-0351	1
6	Gun Repair Kit	70-0055	1		29	Piston	16-0314	1
7	Plug	39-0024	1		30	Back-up Ring	25-0352	1
8	Cover	16-0009	1		31	O-ring	25-0353	1
9	Trigger Safety Lock-off	16-0010	1		32	Upper Protector	16-0315	1
10	Trigger Pin	16-0063	1		33	Screw	27-8862	1
11	Pipe Assembly	16-0013	1		34	Lower Protector	16-0316	1
12	Adaptor	16-0283	1		35	Body	23-0272	1
13	Pipe	16-0277	1		36	Lance w/Protective Cover	16-0328	2
14	Guard Lance (Right Side)	16-0320	1		37	Nut	30-3060	2
15	Screw	27-8382	6		38	Pipe Clamp	16-0318	2
16	Guard Lance (Left Side)	16-0321	1		39	Screw	27-8861	2
17	Plug	39-0076	1		40	Nipple	24-0127	2
18	Screw	49-0103	1		41	Nozzle Protector	16-0319	1
19	Spacer	16-0282	1		42	Nozzle-6540	18-0110	1
20	Lance Holder (See 16-0306)	N/A Sep.	1			Gun Assembly (Includes 12-20)	16-0001	
21	Dual Lance Assembly (Inc. 22-42)	850-0185	1			Lance Assembly (Includes 13-21)	16-0306	
22	Handle Plug	16-0312	1			O-ring Kit (Includes 37, 39, 40)	70-0143	
23	Nut	30-3002	1					

GUN ASSEMBLY (16-0001)

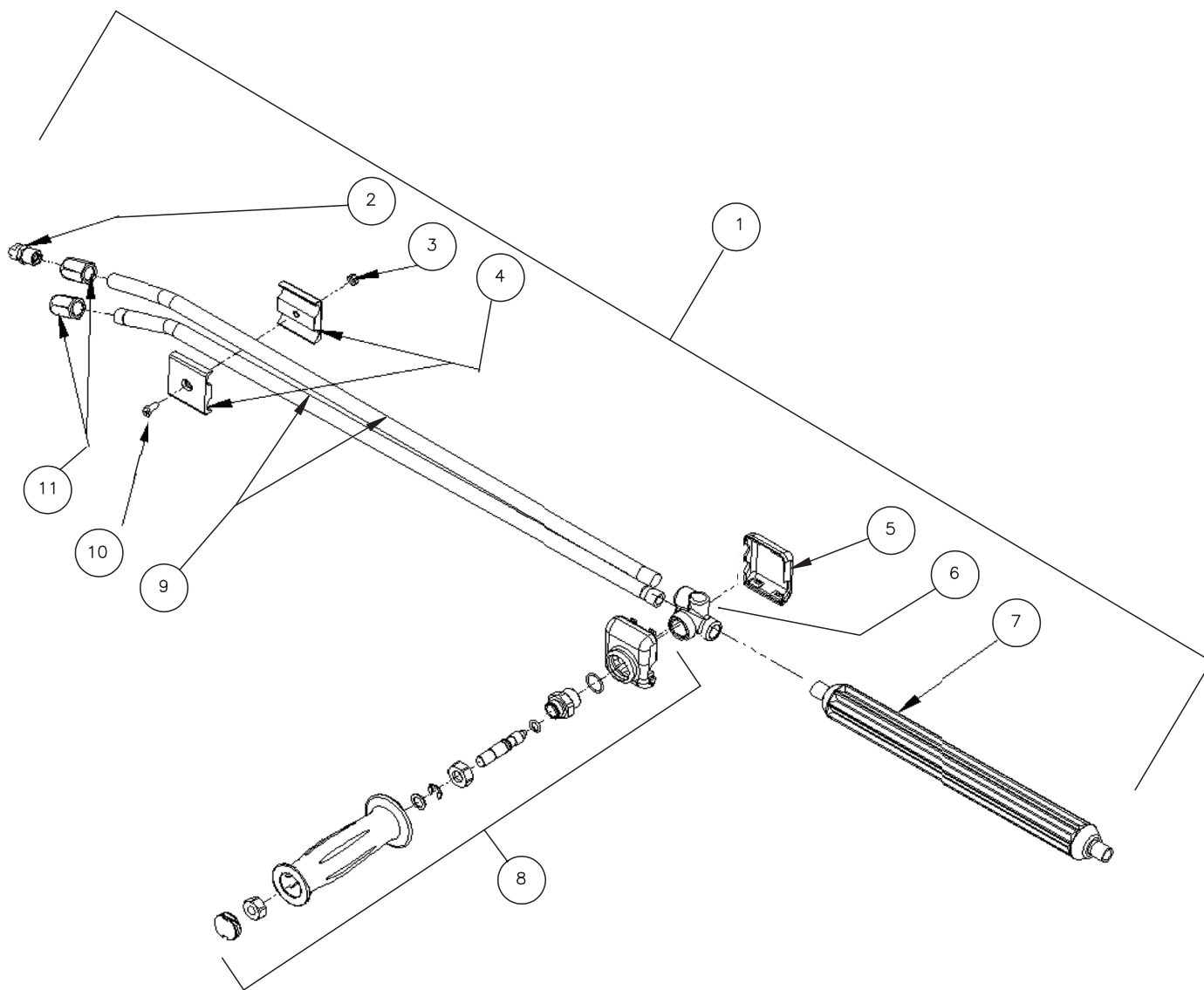


16-0001-110399-RD

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

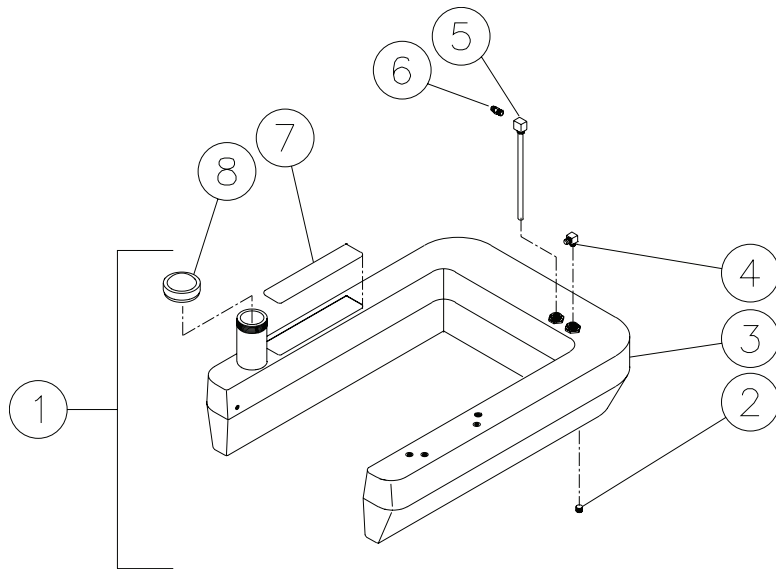
DUAL LANCE ASSEMBLY (16-0416)



16-0416_16-0417-102405-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)

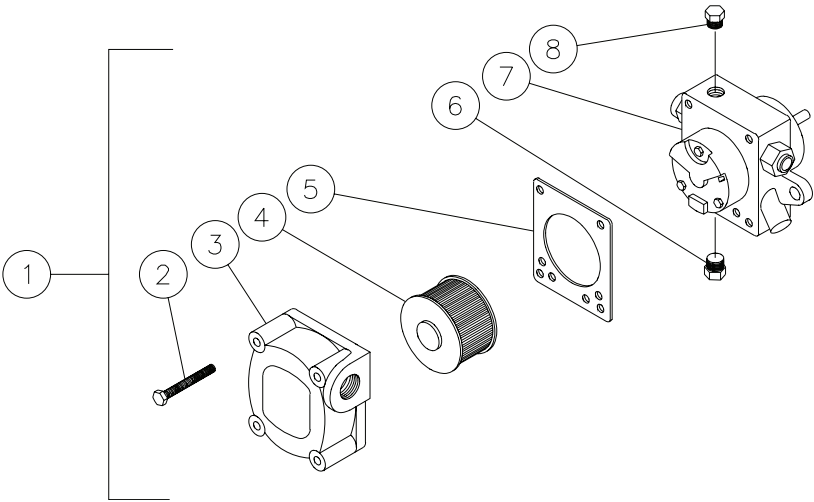


850-0214-34-9012-121797-BAR

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 34-9012)	N/A Sep.	1
8	Vented Fuel Cap	12-0033	1
	Safety Decal Kit (Includes 7)	34-9012	

FUEL PUMP (3-0020)

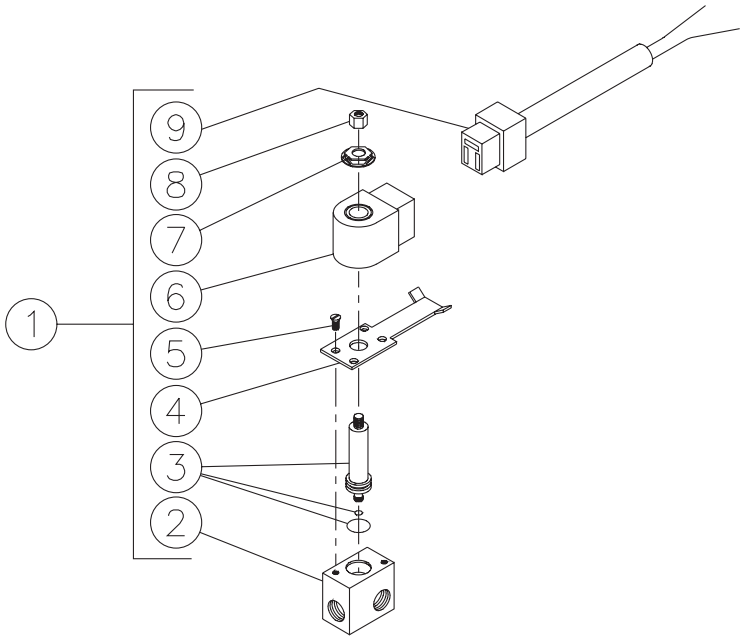
HSP018-3-0020-041597-BAR



FUEL PUMP (3-0020)			
REF. #	DESCRIPTION	PART #	QTY.
1	Fuel Pump Complete-Right Hand	3-0020	1
2	Cover Screw	46-1006	4
3	Cover-Right Hand	46-1005	1
4	Strainer	19-0034	1
5	Cover Gasket	26-0109	1
6	Plug	24-0044	2
7	Body	N/A	1
8	Plug	24-0082	1

FUEL SOLENOID (44-0101)

0MHSP013-44-0101-121698-BAR

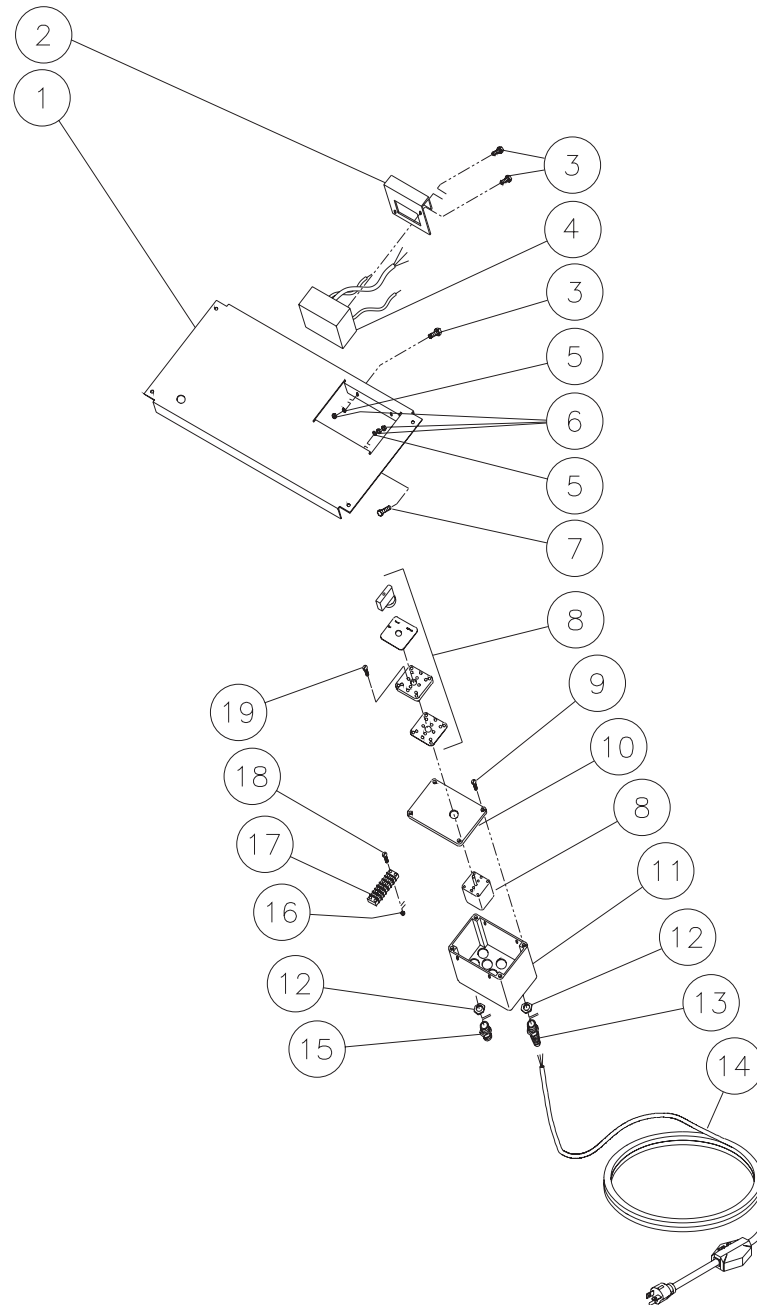


FUEL SOLENOID (44-0101)			
REF. #	DESCRIPTION	PART #	QTY.
1	Solenoid Complete-120V	44-0101	1
2	Solenoid Body	46-1013	1
3	Solenoid Piston	46-1012	1
4	Solenoid Base	46-1014	1
5	Screw (See 44-0101)	N/A Sep.	2
6	Solenoid Coil-120V	46-1020	1
7	Spring (See 44-0101)	N/A Sep.	1
8	Piston Nut	46-1016	1
9	Din Connector Cord	32-0443	1

HSP018-041597-BAR

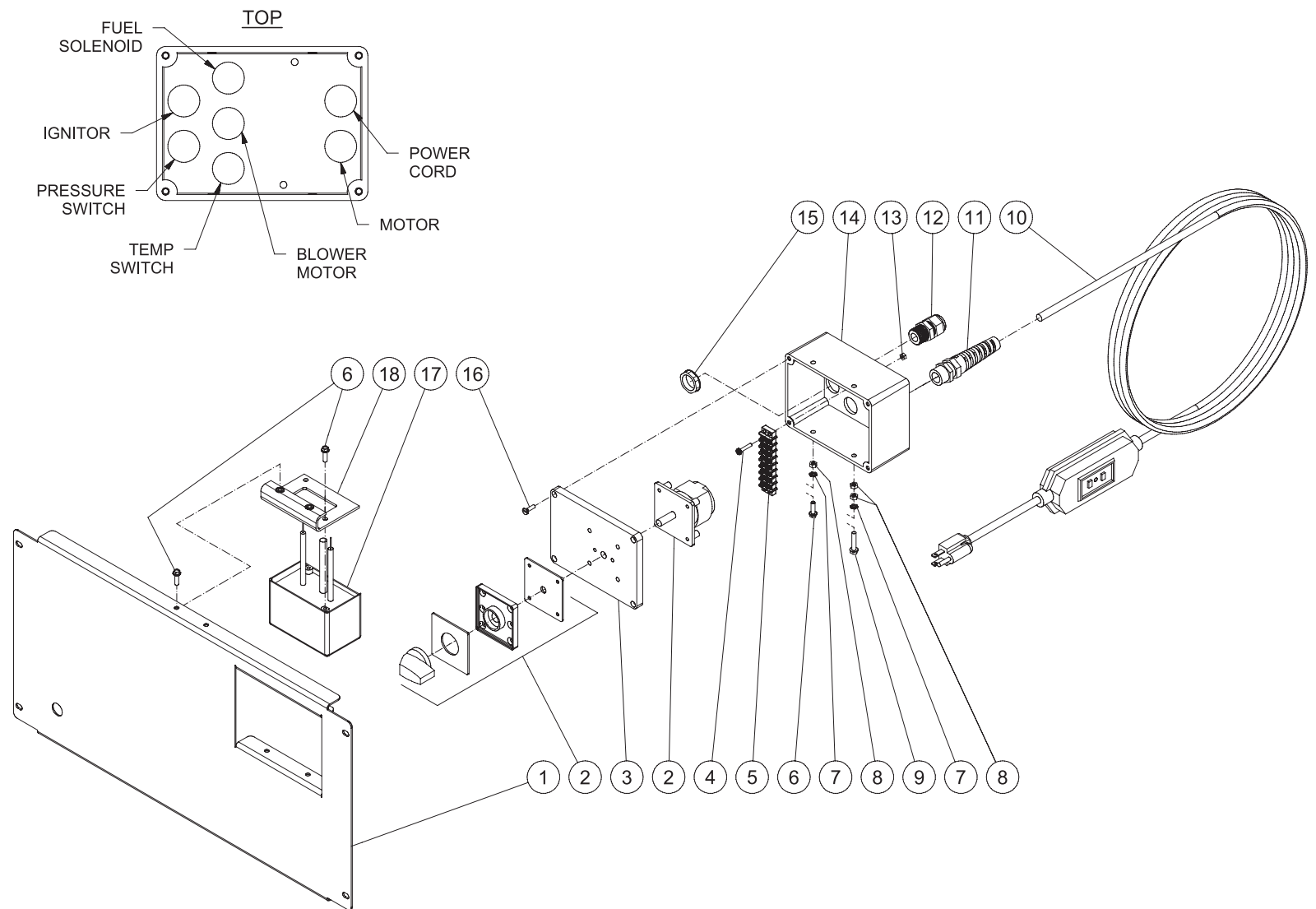
HSP013-121698-BAR

CONTROL PANEL 1002/1502 (BEFORE SERIAL #15053033)



CONTROL PANEL FOR HSE-1002/1502			
REF. #	DESCRIPTION	PART #	QTY.
1	Control Panel	20-0405A01	1
2	Igniter Bracket	20-0414A01	1
3	Bolt	27-9526	7
4	Igniter	44-0104	1
5	Washer	28-1009	4
6	Hex Nut	30-6001	5
7	Bolt	27-8807	1
8	Cam Switch (HSE-1002)	32-0434	1
-	Cam Switch (HSE-1502)	32-0679	1
9	Hardware Kit	70-0197	1
10	Lid	32-0433A01	1
11	Electric Box	32-0432A01	1
12	Locknut	32-0108	7
13	Strain Relief	32-0407	1
14	Electrical Cord w/GFCI (HSE-1002)	32-0268	1
-	Electrical Cord w/GFCI (HSE-1502)	32-0215	1
15	Strain Relief	32-0437	6
16	Hex Nut	30-0137	2
17	Terminal Strip	32-0436	1
18	Bolt	27-8861	2
19	Screw	27-8897	2

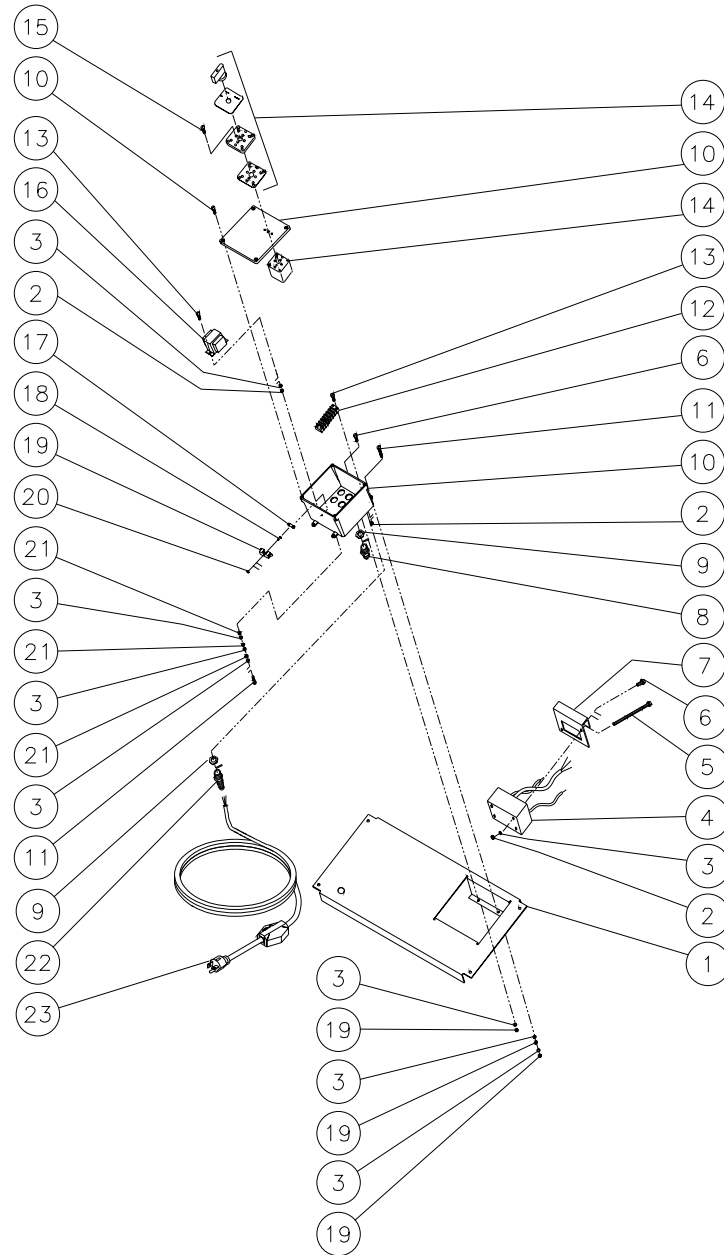
CONTROL PANEL 1002/1502 (AFTER SERIAL #15053033)



OMHSE008-110911-CH

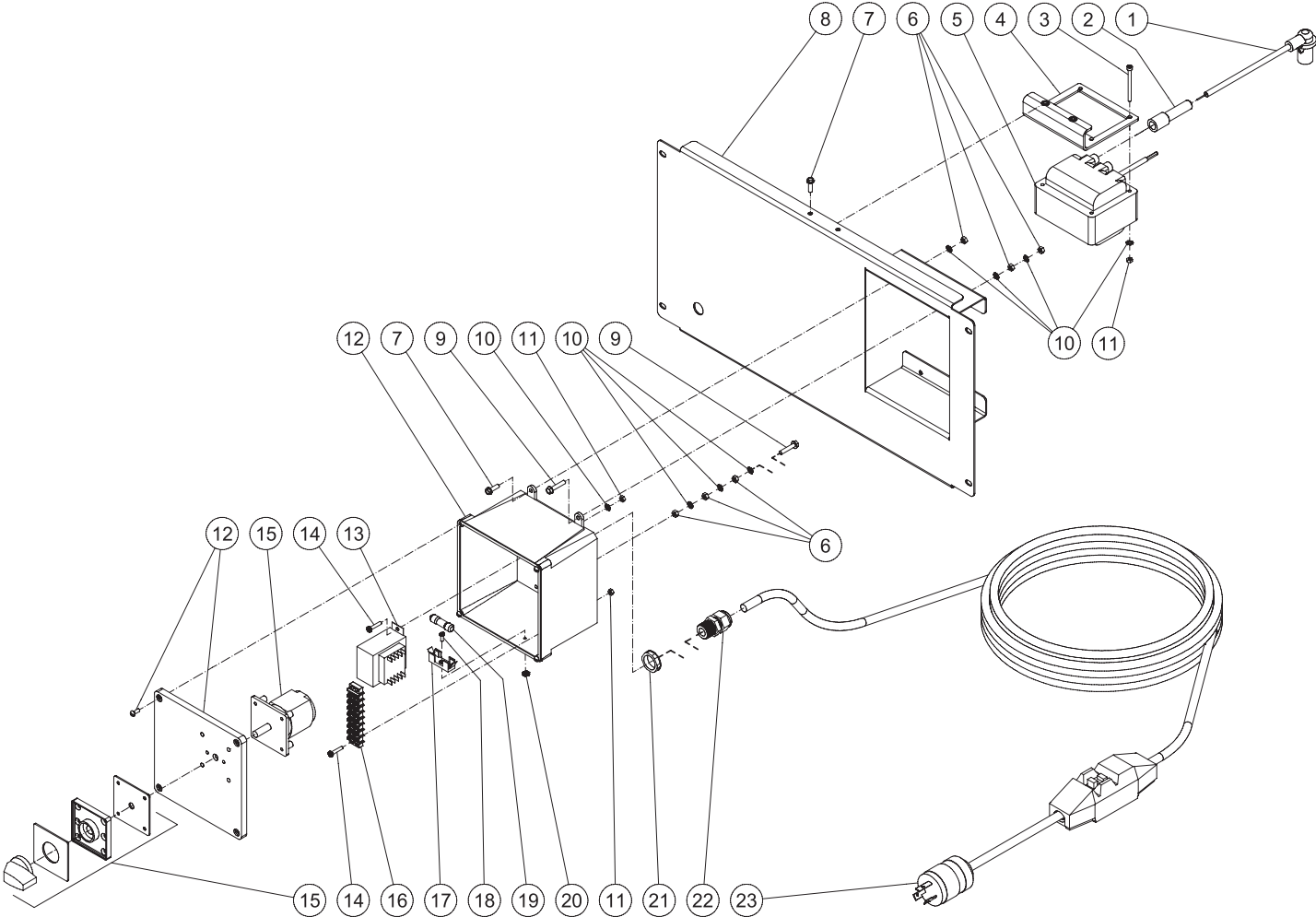
OMHSE0008 110911 CH			
CONTROL PANEL			
ITEM	DESCRIPTION	Mi-T-M #	QTY
1	CONTROL PANEL	20-0405A01	1
2	CAM SWITCH (1502)	32-0679	1
-	CAM SWITCH - OFF/ON/BURNER (1002)	32-0434	1
3	ELECTRIC BOX LID	32-0433	1
4	SCREW	27-8861	2
5	TERMINAL STRIP	32-0436	1
6	BOLT	27-9526	7
7	STAR WASHER	28-1009	4
8	NUT	30-6001	5
9	BOLT	27-8807	1
10	ELECTRIC CORD W/ GFCI (1002)	32-0268	1
-	ELECTRIC CORD W/ GFCI - 120 V / 20 AMP (1502)	32-0215	1
11	STRAIN RELIEF W/ PIGTAIL	32-0407	1
12	STRAIN RELIEF	32-0437	6
13	NUT	30-0137	2
14	ELECTRIC BOX	32-0432	1
15	ELECTRICAL LOCKNUT	32-0108	7
16	HARDWARE KIT	70-0197	1
17	IGNITOR	44-0104	1
18	IGNITOR BRACKET	20-0414A01	1

CONTROL PANEL 2003 (BEFORE SERIAL #15053859)



CONTROL PANEL FOR 2003			
REF. #	DESCRIPTION	PART #	QTY.
1	Control Panel	20-0588A01	1
2	Hex Nut	30-0137	8
3	Washer	28-1009	12
4	Igniter- 240 Volt	850-0223	1
5	Bolt	27-8899	4
6	Bolt	27-9526	5
7	Igniter Bracket- 240 Volt	20-0418A01	1
8	Strain Relief	32-0437	6
9	Locknut	32-0108	7
10	Electric Box Assembly	32-0703	1
11	Bolt	27-8807	2
12	Terminal Strip	32-0436	1
13	Bolt	27-8861	4
14	Cam Switch	32-0435	1
15	Screw	27-8897	2
16	Transformer	32-0704	1
17	Fuse	32-0711	1
18	Screw	27-2045	1
19	Fuse Holder	32-0710	1
20	Nut	30-0052	1
21	Hex Nut	30-6001	6
2	Strain Relief	32-0358	1
23	Electric Cord w/ GFCI	32-0333	1

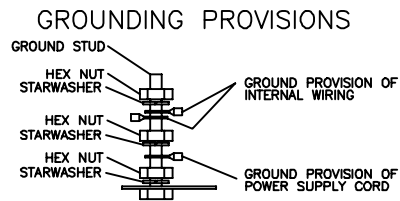
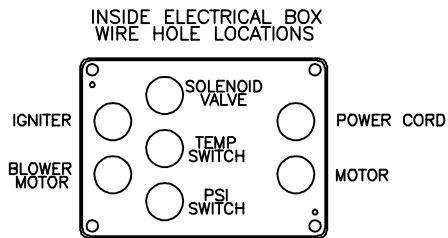
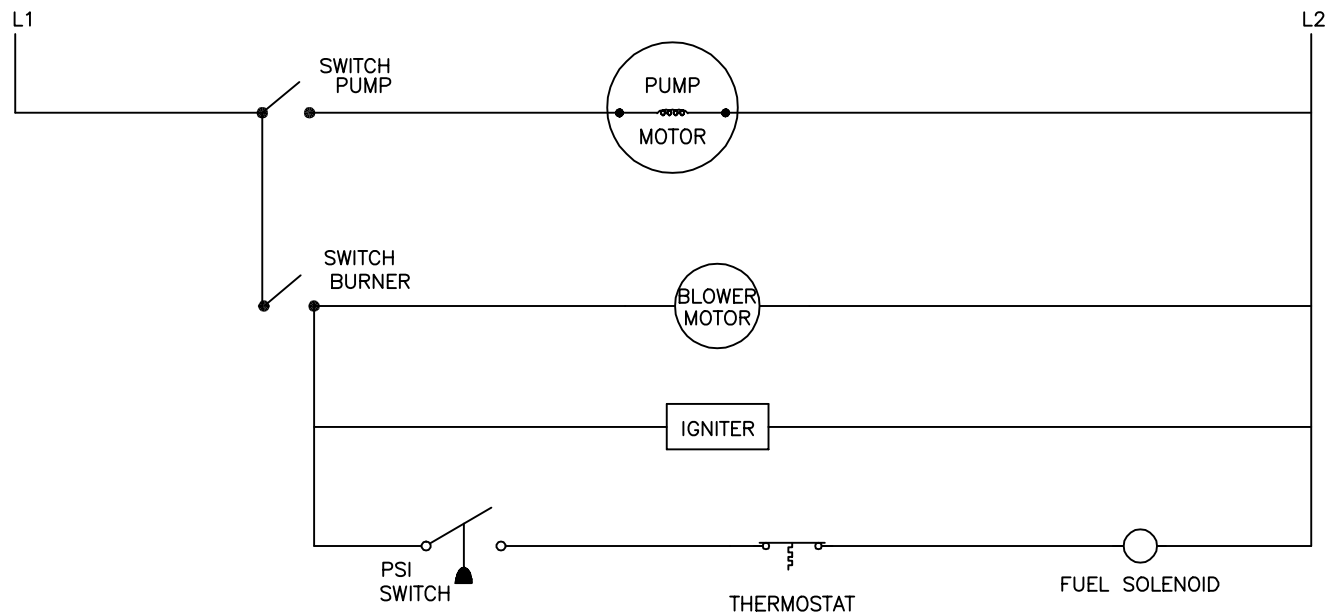
CONTROL PANEL 2003 (AFTER SERIAL #15053859)



OMHSE120-012710-CH

OMHSE120 012710-CH			
CONTROL PANEL			
ITEM	DESCRIPTION	Mi-T-M #	QTY
1	ELECTRODE WIRE	32-0988	2
2	INSULATOR	32-0375	2
3	SCREW	27-8899	4
4	IGNITOR BRACKET	20-0418A01	1
5	IGNITOR W/ WIRES	850-0223	1
6	NUT	30-6001	8
7	BOLT	27-9526	5
8	CONTROL PANEL	20-0588A01	1
9	BOLT	27-8807	2
10	STAR WASHER	28-1009	14
11	NUT	30-0137	8
12	ELECTRIC BOX	32-0703	1
13	TRANSFORMER	32-0704	1
14	SCREW	27-8861	4
15	CAM SWITCH	32-0435	1
16	TERMINAL STRIP	32-0436	1
17	FUSE HOLDER	32-0710	1
18	BOLT	27-2045	1
19	FUSE - 0.15 AMP	32-0711	1
20	NUT	30-0052	1
21	ELECTRICAL LOCKNUT	32-0108	7
22	STRAIN RELIEF	32-0437	7
23	ELECTRIC CORD W/ GFCI	32-0333	1

WIRE SCHEMATIC

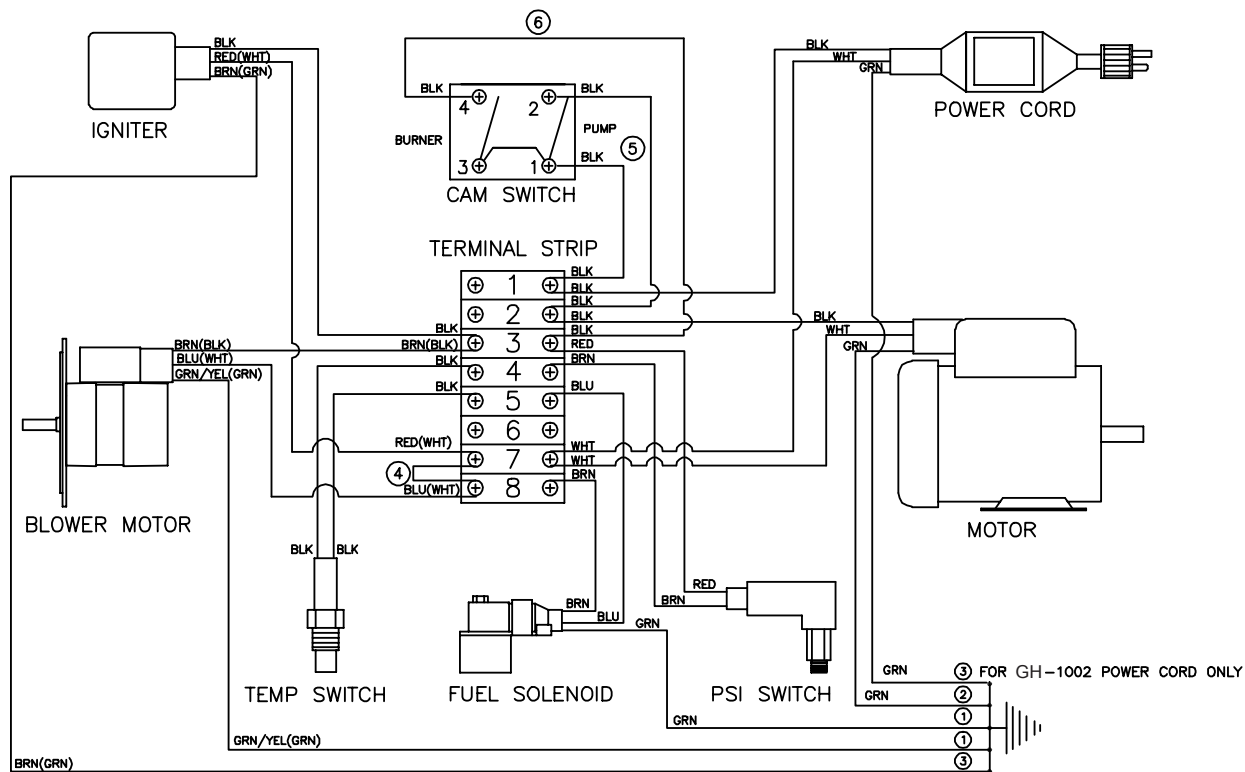


OMHSE122S-070103-KZ

WIRING SCHEMATIC	
REF. #	DESCRIPTION
L1	Power (Black)
L2	Power (White)
M1	Pump Motor- 120 Volt
M2	Blower Motor-120 Volt
SW2	Pressure Switch
SW3	Temp Switch
FS1	Fuel Solenoid-120 Volt
IG1	Igniter-120 Volt

OMHSE122S-070103-KZ

WIRE DIAGRAM



WIRE DIAGRAM

OMHSE122D-070103-KZ

WIRING DIAGRAM

REF. #	DESCRIPTION	PART #	QTY.
1	Ring Terminal-Red	32-0446	2
2	Ring Terminal-Yellow	32-0002	1
3	Ring Terminal-Blue	32-0044	2
4	Jumper Clip	32-0453	1
5	#12 Black Wire *(Two Feet Required)	32-0091	1
6	#16 Black Wire *(One Foot Required)	32-0256	1

*Must Order in One Foot Lengths

