

PARTS LIST FOR  
***703/1502 SERIES***  
***PORTABLE***  
***ELECTRIC DRIVEN***  
***LP GAS HEATED***  
HOT WATER PRESSURE WASHER  
(AFTER SERIAL #15023661)

PUMP OIL GRADE:	SAE30W Non-Detergent
PUMP OIL CAPACITY:	9.81 oz.
BTU INPUT:	200,000 (Vapor Only)
PRESSURE NOZZLE:	
	0703: 5.5
	1502: 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 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 INSTALLING, USING OR REPAIRING THIS UNIT! READ AND FOLLOW THE SAFETY WARNINGS BEFORE ATTEMPTING ANY REPAIRS ON THIS PRESSURE WASHER!

## SAFETY WARNINGS

1. NEVER alter or modify the equipment. Use only genuine manufacturer parts for repair of your pressure washer. Failure to do so can cause hazardous operating conditions and will VOID warranty. Repairs performed on this pressure washer should be done by a qualified serviceman in accordance with local, state and national regulations.
2. This unit has multiple safety devices which should never be altered, modified, removed or made inoperable. If a device fails, replace immediately with only genuine manufacturer replacement parts.
3. Gas System:  
Do not operate unit if gas smell exists. If you smell gas at any time, immediately shut off the gas supply to the unit and extinguish any open flame. L.P. gas is heavier than air and will gravitate to the floor. Do not resume operation until unit has been repaired and inspected by a qualified service person.
4. Electrical System:  
The unit must be connected to a properly grounded electrical source which provides the correct voltage and adequate fuse protection. Disconnect from power source when making repairs. Never assume the pressure washer is safe to work on just because it is not operating. It could restart at any time.  
Never operate pressure washer with electrical enclosures open, removed or damaged. Do not allow metal components of the pressure washer to come in contact with live electrical components.
5. Do not operate the unit without all protective covers in place. Before servicing the unit, always shut off the unit and trigger the gun to release trapped pressure. Know how to stop the pressure washer and bleed pressures quickly. Be thoroughly familiar with controls. Be sure any accessory items and system components being used will withstand the pressure developed.

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## SPECIFICATIONS

Operating Pressure (PSI/Bar):	700 / 48	1500 / 103
Water Volume (GPM/lpm):	2.3/ 8.7	1.8 / 6.8
Motor:	ODP	
Horsepower	1.5	2.0
Phase	1	
Voltage	115	
Amperage	13.2	18.8
Pump:	Belt Driven, Oil Bath, Triplex Piston	
Oil Type	SAE30W Non-Detergent	
Oil Capacity (oz./liters)	9.81 / 0.29	
Plungers	Ceramic	
Manifold	Forged Brass	
Valves	Stainless Steel	
Unloader:	Pre-set at the factory	
Thermal Relief Valve:	Relieves heated water during unloader bypass stage	
Burner	Natural Draft-Aspirating	
Fuel Type	L.P.-Gas (Vapor Only)	
Maximum Supply Pressure (W.C.)	13.0	
Manifold Pressure (W.C.)	8.0	
Fuel Orifice Size	#66	
Heat Exchanger:		
L.P. BTU Input	200, 000	
Electric Controls:		
Motor Controls	Cam Switch	
Burner Controls	Cam Switch	
Control Voltage	120 Volt AC	
Safety Devices:		
Pressure Switch	Shuts Off Burner Fuel Supply Upon Trigger Release	
High Limit	Shuts off burner fuel supply when outlet water temperature exceeds 250° / 121C° in hot water and steam mode.	
Relief Valve	Relieves Excessive System Pressure	
High Pressure Nozzle Size:	5.5	3.0
Unit Net Weight (Lbs/kg):	363	
Unit Shipping Weight (Lbs/kg):	483	
Unit Net Dimension (In/cm):	56.5L x 29W x 49.75H/143.5L x 73.5W x 126.5H	
Unit Shipping Dimension (In/cm):	57.5L x 35.5W x 59.5H/146L x 90W x 151H	



## 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) and into the TRIPLEX HIGH PRESSURE PUMP (3) which has an UNLOADER (5) that bypasses the water when the trigger gun is closed. To protect the pump from heated water during this bypass stage, a THERMAL RELIEF VALVE (4) will open at 125°F/52°C allowing the heated water to escape. The Thermal Relief Valve automatically resets when the water cools. Attached to the pump is a PRESSURE SWITCH (6) that controls the fuel supply to the burner.

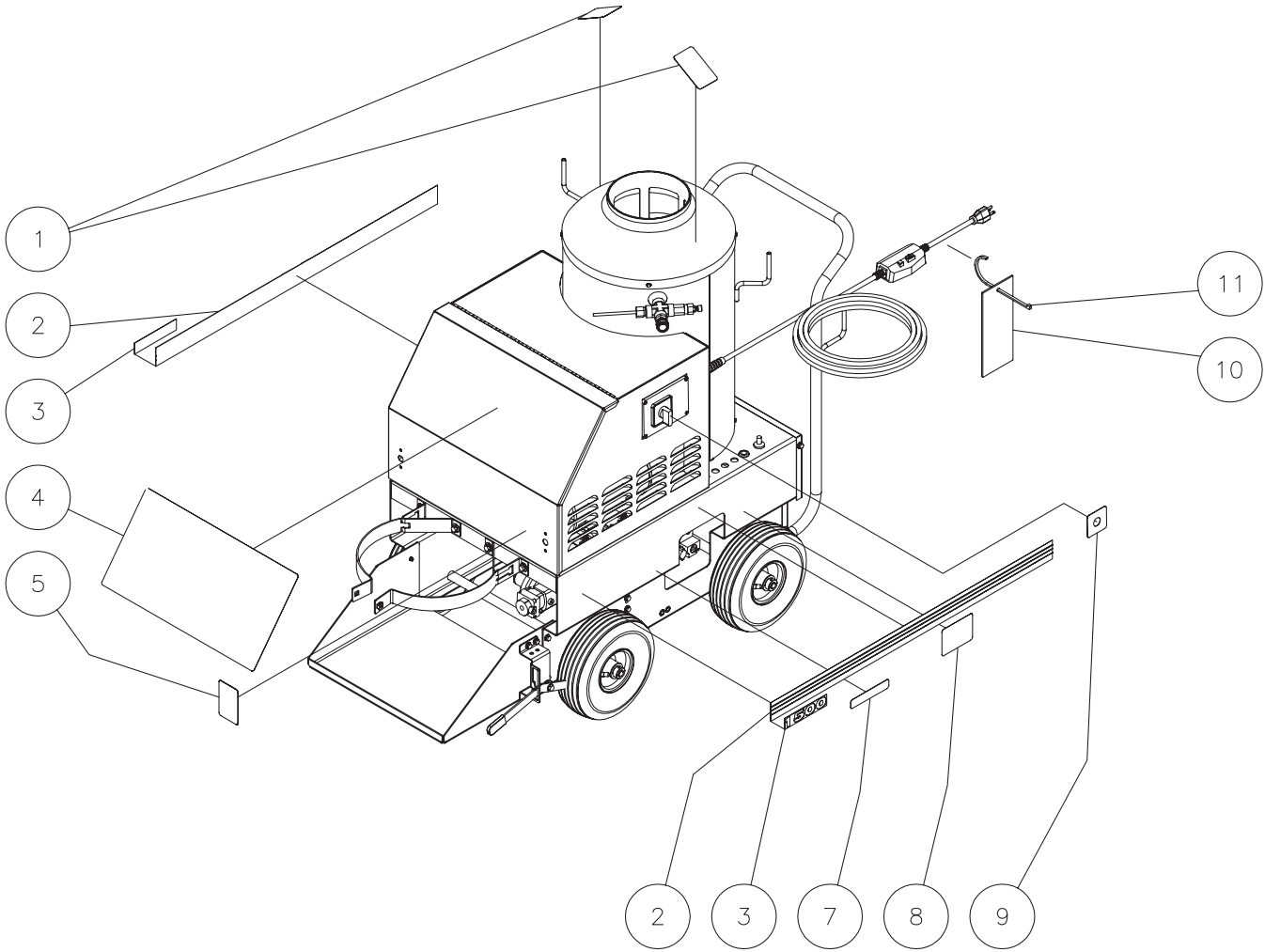
From there, the water flows through the HEAT EXCHANGER INLET (7) where it is heated when the burner is on. As the water exits the HEAT EXCHANGER OUTLET (8), it enters a safety system which protects the operator from danger. The safety system contains a HIGH PRESSURE LIMIT SWITCH (9) which senses the water temperature and shuts off the fuel supply to the burner if the water gets too hot. If the unloader fails to bypass water or the burner remains on when the trigger gun is closed, the SAFETY RELIEF VALVE (10) will relieve and allow water to exit safely.

The heated water then flows through the HIGH PRESSURE HOSE (11) and to the TRIGGER GUN ASSEMBLY (12) which allows the operator to control the water supply. When the trigger gun is open, the water flows through the LANCE ASSEMBLY (13) and exits the NOZZLE (17).

When using detergents, the solution passes through the DETERGENT STRAINER (14) located on the DETERGENT HOSE (15). The detergent solution then travels through the DETERGENT METERING VALVE (16).

**GAS FLOW:** The gas passes through the REGULATOR (20) to the MAIN GAS VALVE (19) which regulates the gas to the appropriate pressure. The pilot is lit by holding in the knob on the MAIN GAS VALVE (19) and creating spark with the PIEZO IGNITER (18). The gas then flows through the GAS SHUT-OFF VALVE (21) and to the BURNER RING (22). Heat and fumes exit the coil through the EXHAUST STACK (23).

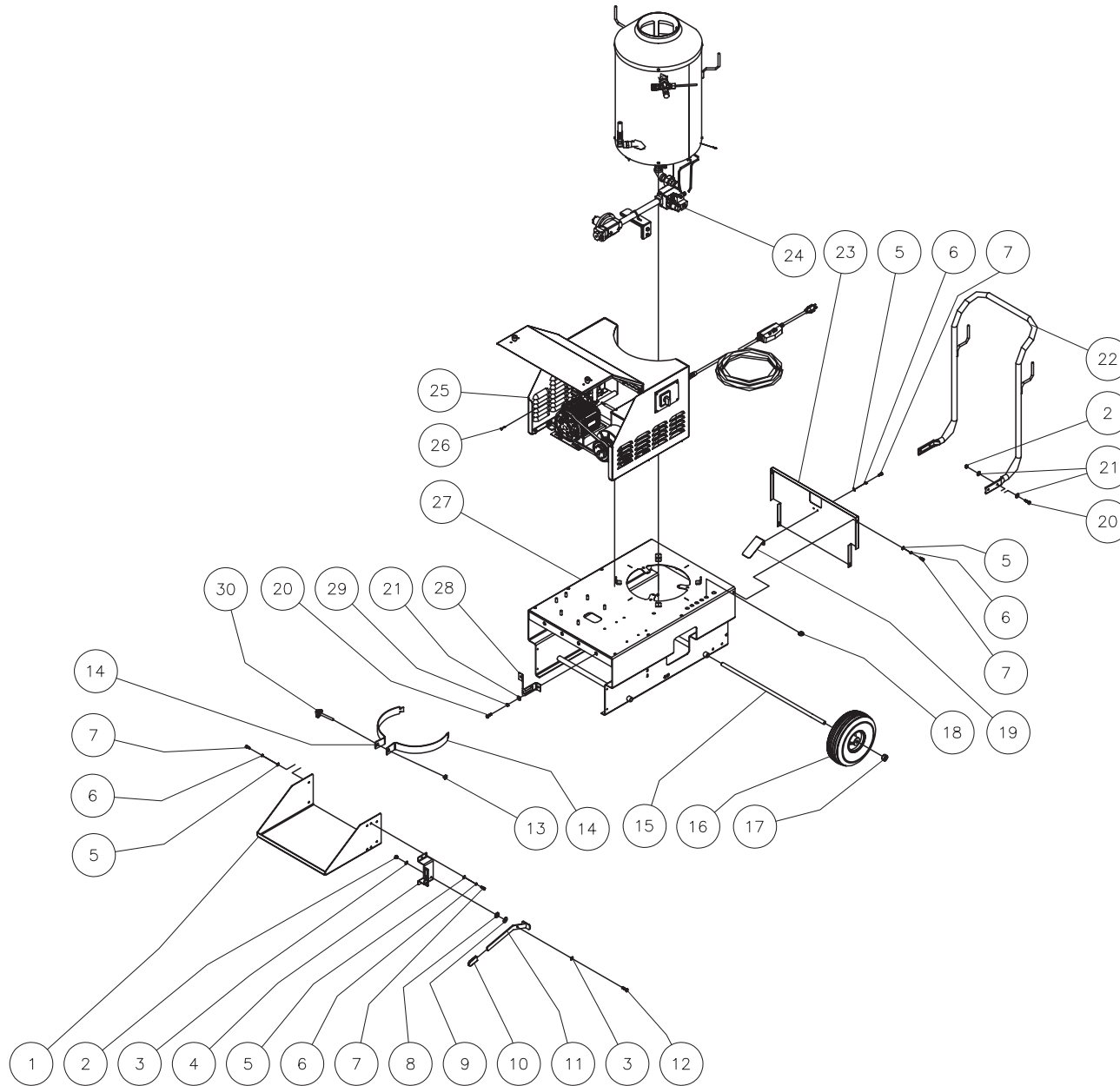
# DECAL PLACEMENT





HLP SAFETY DECALS AND SPECS GENERIC-111809-CH			
DECAL PLACEMENT			
REF. #	DESCRIPTION	PART #	QTY.
1	Decal- Warning: Hot Surface (See 34-9026)	N/A Sep.	1
2	Decal- Stripe	-	2
3	Decal- White Die Cut 0703 (HLP-0703)	34-2180	1
-	Decal- White Die Cut 1502 (HLP-1502)	34-2194	1
4	Decal- Warning/Caution/Operation (See 34-9026)	N/A Sep.	1
5	Decal- Warning: Risk of Injury (See 34-9026)	N/A Sep.	1
6	Decal- LP Gas Only (See 34-9026)	N/A Sep.	1
7	Decal- Data Plate	N/A	1
9	Decal- OFF/Pump/Burner/Steam (HLP-0703) (See 34-9026)	N/A Sep.	1
-	Decal- OFF/Pump/Burner (HLP-1502) (See 34-9026)	N/A Sep.	1
9	Hang Tag- Warning: Risk of Electrocution	34-1035	1
10	Cable Tie	33-0022	1
	Safety Decal Kit (Inc. 1, 4-6, 8)	34-9026	

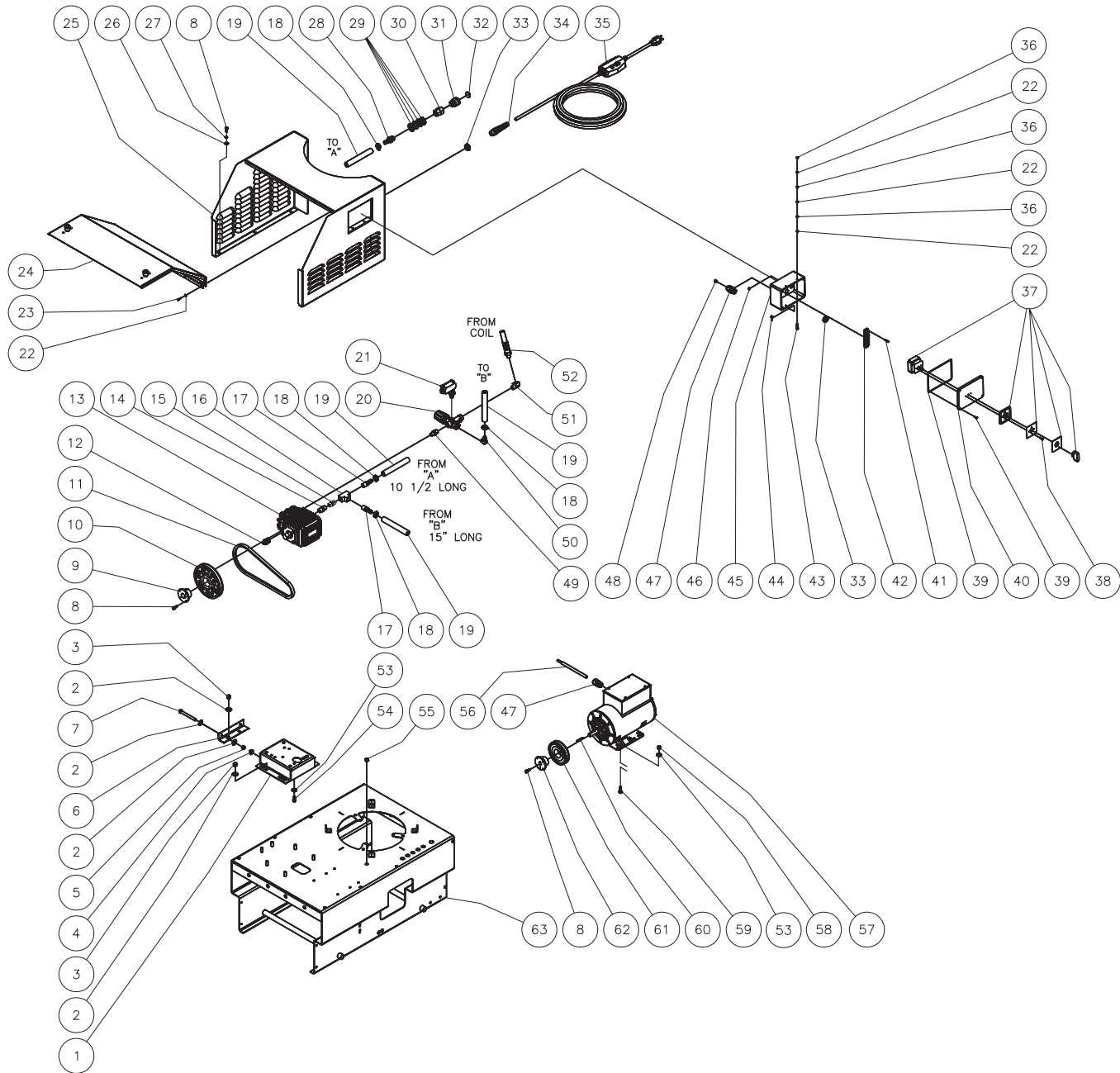
# FRAME ASSEMBLY



GH\_HLP\_DH FRAME ASSY 122117 ADR

FRAME ASSEMBLY								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	CYLINDER PLATE	20-0715A18	1		16	WHEEL	14-0017	4
2	LOCKNUT	30-0157	5		17	FRAME ASSEMBLY	33-0351	4
3	WASHER	28-0003	2		18	GROMMET	33-0001	5
4	BRAKE BRACKET	20-0546A18	1		19	MIRROR BRACKET	21-0196	1
5	WASHER	28-0002	14		20	BOLT	27-0067	8
6	LOCKWASHER	29-0006	14		21	WASHER	28-0022	12
7	BOLT	27-0015	14		22	HANDLE ASSEMBLY	7-0180A18	1
8	GROMMET	33-0366	1		23	REAR DOOR ACCESS	20-0713A18	1
9	WASHER	28-0057	1		24	GAS PIPING AND REAR EXCHANGER ASSEMBLY (SEE EXPLODED DRAWING)	N/A SEP.	1
10	HANDLE GRIP	7-01 70	1		25	MOTOR PUMP ASSEMBLY (SEE EXPLODED DRAWING)	N/A SEP.	1
11	HANDLE BRAKE	20-0552A18	1		26	SCREW	27-3065	1
12	BOLT	27-0068	1		27	FRAME ASSEMBLY	5-0195A18	1
13	CLIP NUT	30-6025	1		28	CYLINDER BRACKET	20-0714A18	2
14	CYLINDER STRAP	20-0722A18	2		29	LOCKWASHER	29-0007	4
15	AXLE	20-0779	2		30	KNOB	7-0181	1

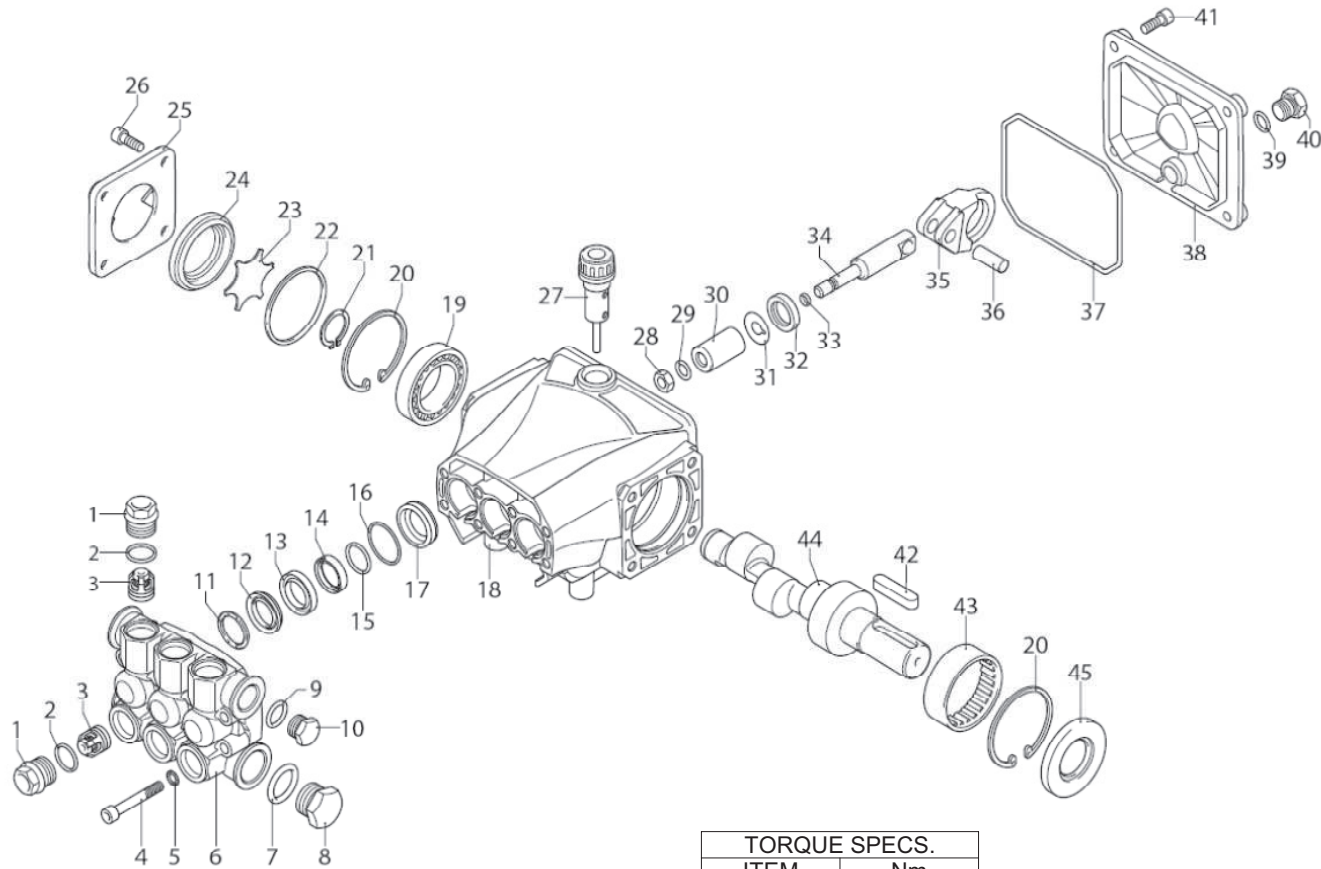
# MOTOR/PUMP ASSEMBLY



GH\_HLP\_DH MOTOR PUMP ASSY 122117 ADR

MOTOR/PUMP ASSEMBLY											
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	PUMP HAT	5-0153A18	1	23	SCREW	27-8835	6	44	BOLT	27-9526	3
2	FLATWASHER	28-0023	10	24	CABINET DOOR ASSEMBLY	850-0342	1	45	ELECTRIC BOX	32-0432A18	1
3	LOCKNUT	30-0159	6	25	HOOD ASSEMBLY	20-0718A18	1	46	LOCKNUT	30-8152	2
4	CLIP NUT	30-6025	2	26	WASHER	28-0002	6	47	STRAIN RELIEF	32-0437	9
5	HEX NUT	30-0006	2	27	LOCKWASHER	29-0006	6	48	STRAIN RELIEF PLUG	32-0514	2
6	TENSION BRACKET	20-0584A18	1	28	HOSE BARB	23-0045	1	49	NIPPLE	24-0010	1
7	BOLT	27-0576	2	29	WASHER	28-0051	4	50	ELBOW	23-0119	1
8	BOLT	27-0015	10	30	GARDEN HOSE SWIVEL	23-0001	1	51	ELBOW	23-0034	1
9	BUSHING	9-0017	1	31	BACK FLOW PREVENTOR	22-0201	1	52	HIGH PRESSURE HOSE ASSEMBLY	15-0194	1
10	SHEAVE	10-0103	1	32	INLET WASHER FILTER	19-0001	1	53	WASHER	28-0022	8
11	BELT (1502)	11-0012	1	33	LOCKNUT	32-0108	9	54	BOLT	27-8884	4
-	BELT (0703)	11-0016	1	34	CORD STRAIN RELIEF	32-0407	1	55	BUSHING	9-0028	1
12	THERMAL RELIEF VALVE	22-0005	1	35	CORD W/GFCI (1502)	32-0215	1	56	CORD	32-0440	1
13	HIGH PRESSURE PUMP ASSEMBLY	3-0365	1	-	CORD W/GFCI (0703)	32-0268	1	57	MOTOR (1502)	2-0119	1
14	NIPPLE	23-0027	1	36	HEX NUT	30-6001	3	-	MOTOR (0703)	2-0118	1
15	BUSHING	23-0016	1	37	CAM SWITCH (1502)	32-0679	1	58	LOCKNUT	30-0157	4
16	TEE	23-0041	1	-	CAM SWITCH (0703)	32-0434	1	59	BOLT	27-0067	4
17	HOSE BARB	23-0105	2	38	SCREW	27-8897	2	60	KEYSTOCK	43-0072	1
18	WORM CLAMP	42-0011	4	39	GASKET ASSEMBLY	70-0197	1	61	SHEAVE (1502)	10-0099	1
19	HOSE	15-0007	4	40	ELECTRIC BOX LID	32-0433A18	1	-	SHEAVE (0703)	10-0122	1
20	UNLOADER ASSEMBLY	850-0252	1	41	SCREW	27-8930	2	62	BUSHING	9-0037	1
21	PRESSURE SWITCH	22-0171	1	42	TERMINAL STRIP	32-0436	1	63	FRAME ASSEMBLY	5-0195A18	1
22	LOCKWASHER	28-1009	9	43	BOLT	27-8807	1				

## PUMP ASSEMBLY (3-0365)

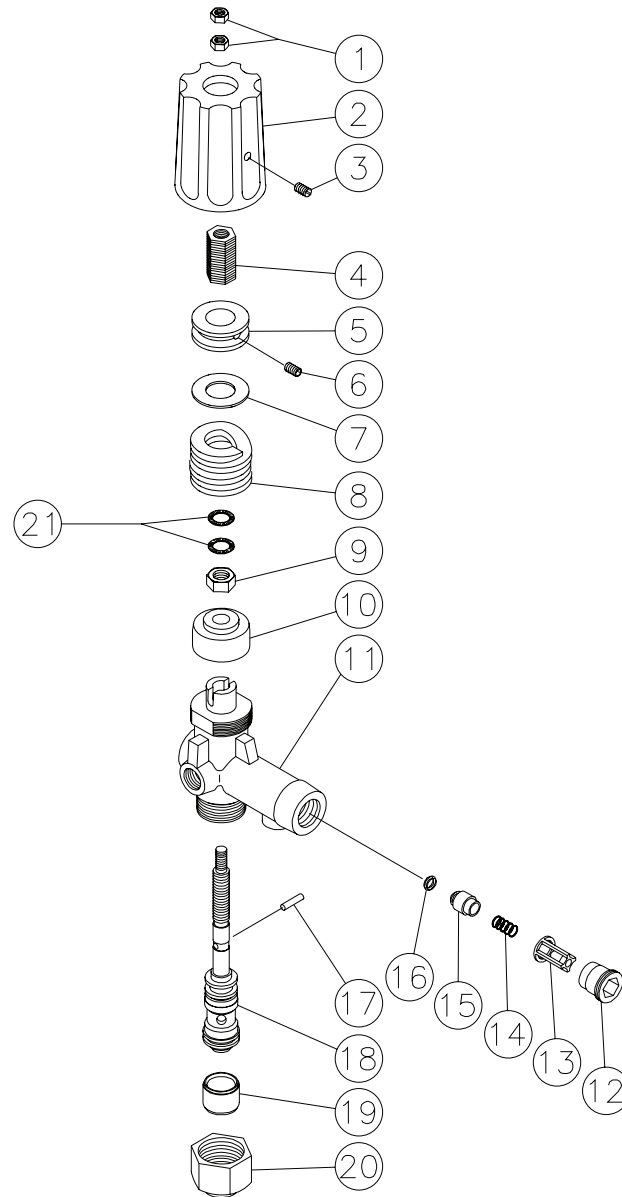


TORQUE SPECS.	
ITEM	Nm
1	24.5
4	10.4
8	40.0
10	25.0
26	10.4
28	12.0
41	8.0

PUMP ASSEMBLY							
ITEM	MATERIAL	PART#	QTY	ITEM	MATERIAL	PART#	QTY
1	VALVE 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 70-0609)	SEE KIT	6	26	SCREW	27-8888	8
4	SCREW	N/A	8	27	OIL CAP	39-0254	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 (SEE 70-0564)	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	39-0102	1	33	O-RING (SEE 70-0565)	25-0371	3
11	RING	N/A	3	34	PISTON GUIDE	N/A	3
12	GASKET	N/A	3	35	CONNECTING ROD	N/A	3
13	PACKING RETAINER	46-1457	3	36	CONNECTING ROD PIN	46-0721	3
14	GASKET	N/A	3	37	O-RING (SEE 70-0565)	SEE KIT	1
15	RING	N/A	3	38	REAR COVER	46-1455	1
16	O-RING (SEE 70-0567)	25-0149	3	39	O-RING (SEE 70-0565)	25-0387	1
17	RETAINER	46-1458	3	40	PLUG	39-0096	1
18	PUMP BODY	N/A	1	41	SCREW	N/A	4
19	BEARING	48-0063	1	42	KEY	N/A	1
20	SNAP RING	46-0676	2	43	BEARING	N/A	1
21	SNAP RING	46-0732	1	44	CRANKSHAFT	N/A	1
22	O-RING (SEE 70-0565)	SEE KIT	1	45	SEAL (SEE 70-0566)	26-0192	1
23	OIL DISC	46-1451	1				

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
70-0564	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, 45	3, 1	3
70-0567	KIT - WATER SEALS	12, 14, 15, 16	3, 3, 3, 3	3

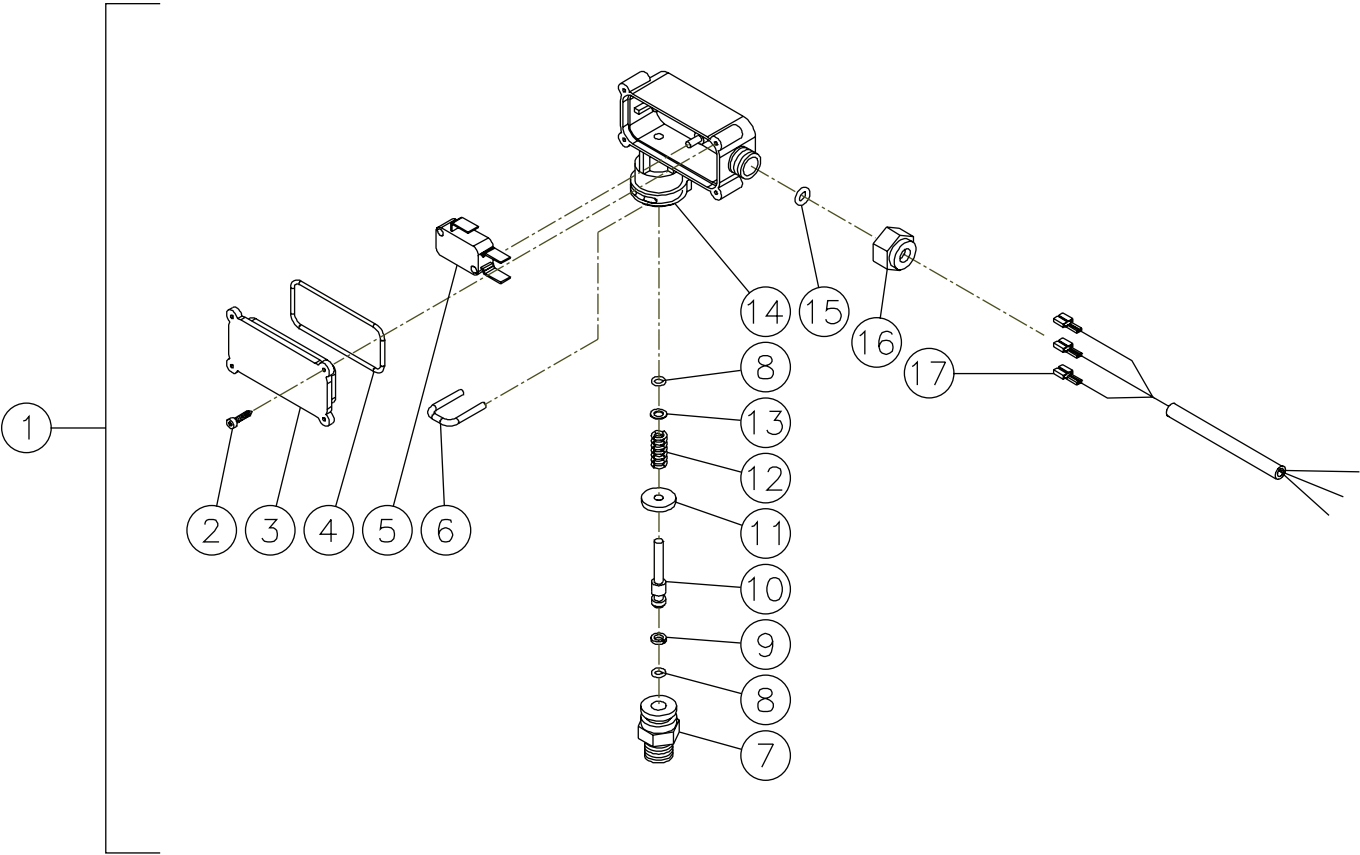
# UNLOADER (850-0252)





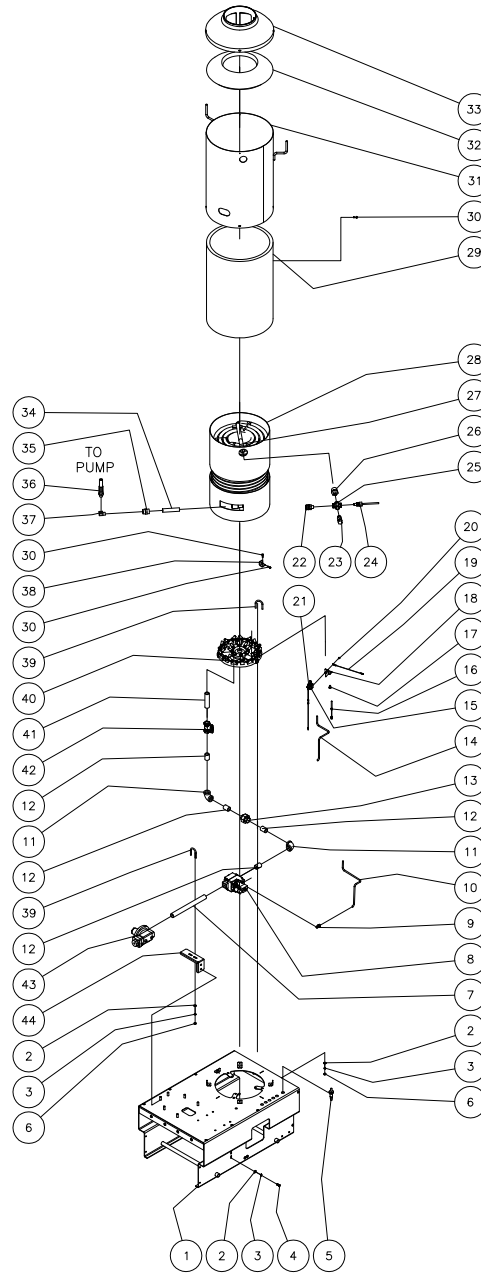
UNLOADER (850-0252)			
REF. #	DESCRIPTION	PART #	QTY.
1	Hex Nut	8-0362	2
2	Cover	7-0098	1
3	Set Screw	27-4280	1
4	Adjusting Insert- Brass	8-0363	1
5	Adjustment Nut	8-0364	1
6	Set Screw	8-0365	1
7	Glide Ring	8-0366	1
8	Spring	49-0104	1
9	Hex Nut	8-0367	1
10	Bushing	8-0368	1
11	Unloader Body	8-0369	1
12	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)**



<b>PRESSURE SWITCH (22-0171)</b>			
<b>REF. #</b>	<b>DESCRIPTION</b>	<b>PART #</b>	<b>QTY.</b>
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	

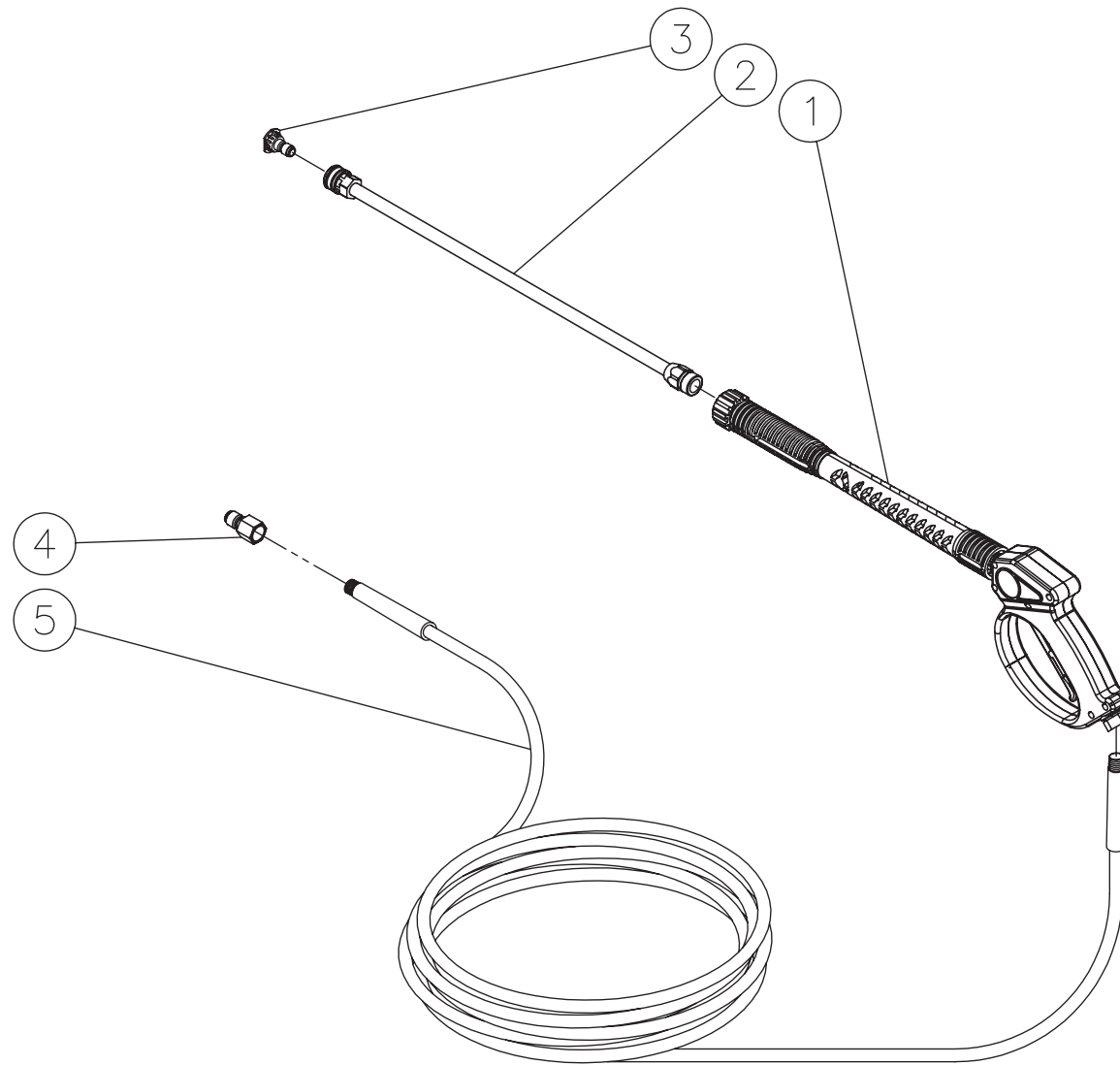
# GAS PIPING AND HEAT EXCHANGER ASSEMBLY (AFTER SERIAL #15023361)



GH GAS PIPING AND HEAT EXCHANGER-091605-KZ

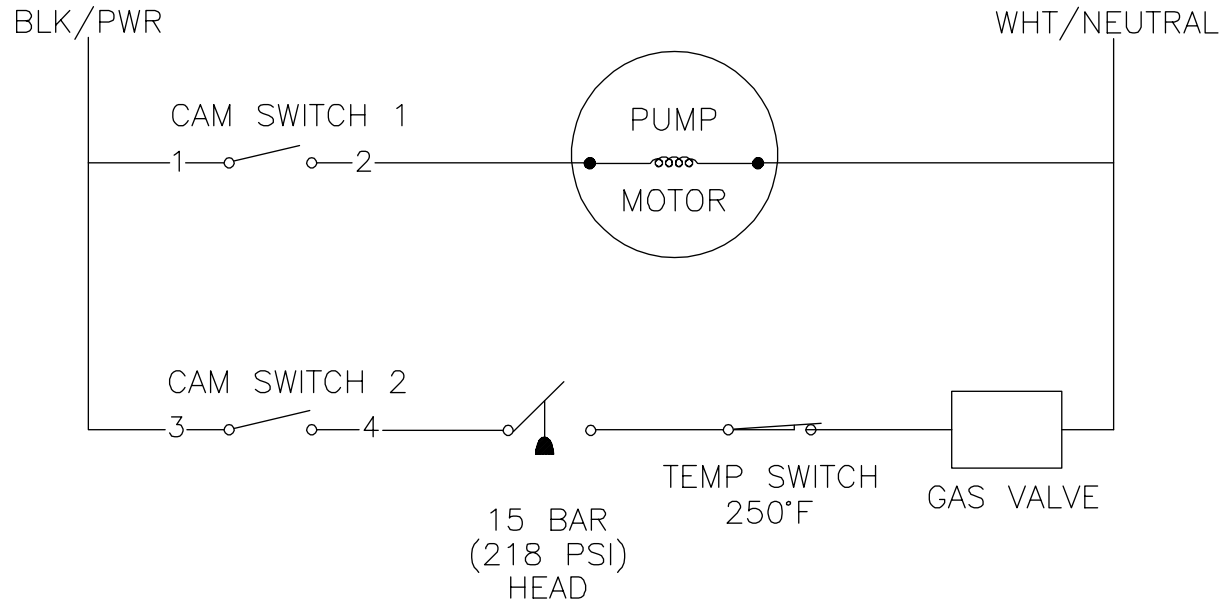
GAS PIPING AND HEAT EXCHANGER ASSEMBLY (AFTER SERIAL #15023361)							
REF. #	DESCRIPTION	PART #	QTY.	REF. #	DESCRIPTION	PART #	QTY.
1	Frame Assembly	5-0195A18	1	23	Pressure Relief Valve	22-0272	1
2	Washer	28-0002	8	24	Hi-Limit Swtich	32-0798	1
3	Lockwasher	29-0006	8	25	Cross	24-0001	1
4	Bolt	27-0015	2	26	Reducer	24-0048	1
5	Piezo Igniter	44-0128	1	27	Pipe Nipple	24-0277	1
6	Nut	30-0002	6	28	Coil Assembly	66-0018	1
7	Pipe Nipple	24-0258	1	29	Insulation Blanket	850-0343	1
8	Gas Valve	22-0368	1	30	Screw	27-3064	16
9	Adapter	23-0328	1	31	Outer Wrap Assembly	20-0721A18	1
10	Tube *(Two Feet Required)	54-0027	1	32	Insulation Donut	850-0344	1
11	Elbow	24-0102	2	33	Dome Assembly	20-0707	1
12	Close Nipple	24-0095	4	34	Pipe Nipple	24-0244	1
13	Union	24-0101	1	35	Adapter	24-0243	1
14	Tube *(Two Feet Required)	54-0027	1	36	High Pressure Hose Assembly	15-0194	1
15	Orifice Pilot	44-0076	1	37	Elbow	23-0034	1
16	Thermocouple	44-0130	1	38	Retaining Clip	5-017405	4
17	Bolt	27-0014	1	39	U-bolt	31-2008	3
18	Igniter Bracket	20-0719A18	1	40	Burner Ring	4-0022	1
19	Ring Terminal	850-0346	1	41	Pipe Nipple	24-0276	1
20	Screw	27-2096	1	42	Gas Shut Off Valve	22-0336	1
21	Pilot Assembly	850-0347	1	43	Regulator	22-0369	1
22	Quick Connect Socket	17-0007	1	44	Support Bracket	20-0717A18	1
*Must Order in One Foot Lengths							

# GUN/WAND/HOSE ASSEMBLY

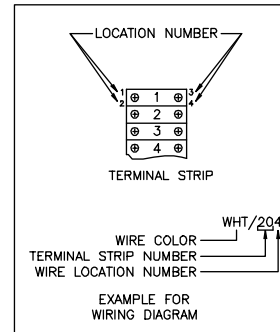
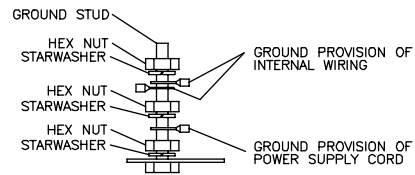


HLP GUN/WAND/HOSE ASSY-051508-CH			
GUN/WAND/HOSE ASSEMBLY			
REF. #	DESCRIPTION	PART #	QTY.
1	Gun/Lance Assembly	16-0445	1
2	Lance Assembly	16-0366	1
3	Nozzle- 0003 (HLP-1502)	18-0302	1
-	Nozzle- 1503 (HLP-1502)	18-0150	1
-	Nozzle- 2503 (HLP-1502)	18-0303	1
-	Nozzle- 4003 (HLP-1502)	18-0304	1
-	Nozzle- 0005.5 (HLP-0703)	18-0035	1
-	Nozzle- 1505.5 (HLP-0703)	18-0041	1
-	Nozzle- 2505.5 (HLP-0703)	18-0062	1
-	Nozzle- 4005.5 (HLP-0703)	18-0132	1
4	Quick Connect Plug	17-0006	1
5	High Pressure Hose Assembly	15-0146	1
	L.P. Supply Hose (Not Shown)	15-0247	

# WIRE SCHEMATIC



## GROUNDING PROVISIONS





# WIRE DIAGRAM

