

# PARTS LIST FOR ***HHB SERIES***

PUMP OIL GRADE:	SAE20 or 30 Non-Detergent
PUMP OIL CAPACITY:	15 oz.
FUEL NOZZLE:	
HHS-1002/1502:	1.00 90°A Delavan
HHB-1003/2503:	1.50 90°A Delavan
HHB-303:	2.25 80°B Delavan

BTU INPUT:	
HHB-1002:	172,200
HHB-1003:	257,600
HHB-1502:	172,200
HHB-2503:	257,600
HHB-303:	386,400

PRESSURE NOZZLE SIZE:	
HHB-1002:	4.0
HHB-1502:	3.0
HHB-1003:	5.5
HHB-2503:	3.5

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 ensure 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. 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. 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 the 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.
4. Do not operate the unit without all protective covers in place. Know how to stop and bleed pressures quickly. Be thoroughly familiar with controls.
5. Before servicing the unit, turn unit off, and trigger the gun to release trapped pressure. Do not make repairs while the unit is running. Service in a clean, dry, flat area.
6. After testing the machine, DO NOT leave the pressurized unit unattended. Shut off the unit and release trapped pressure before leaving.

## Table of Contents

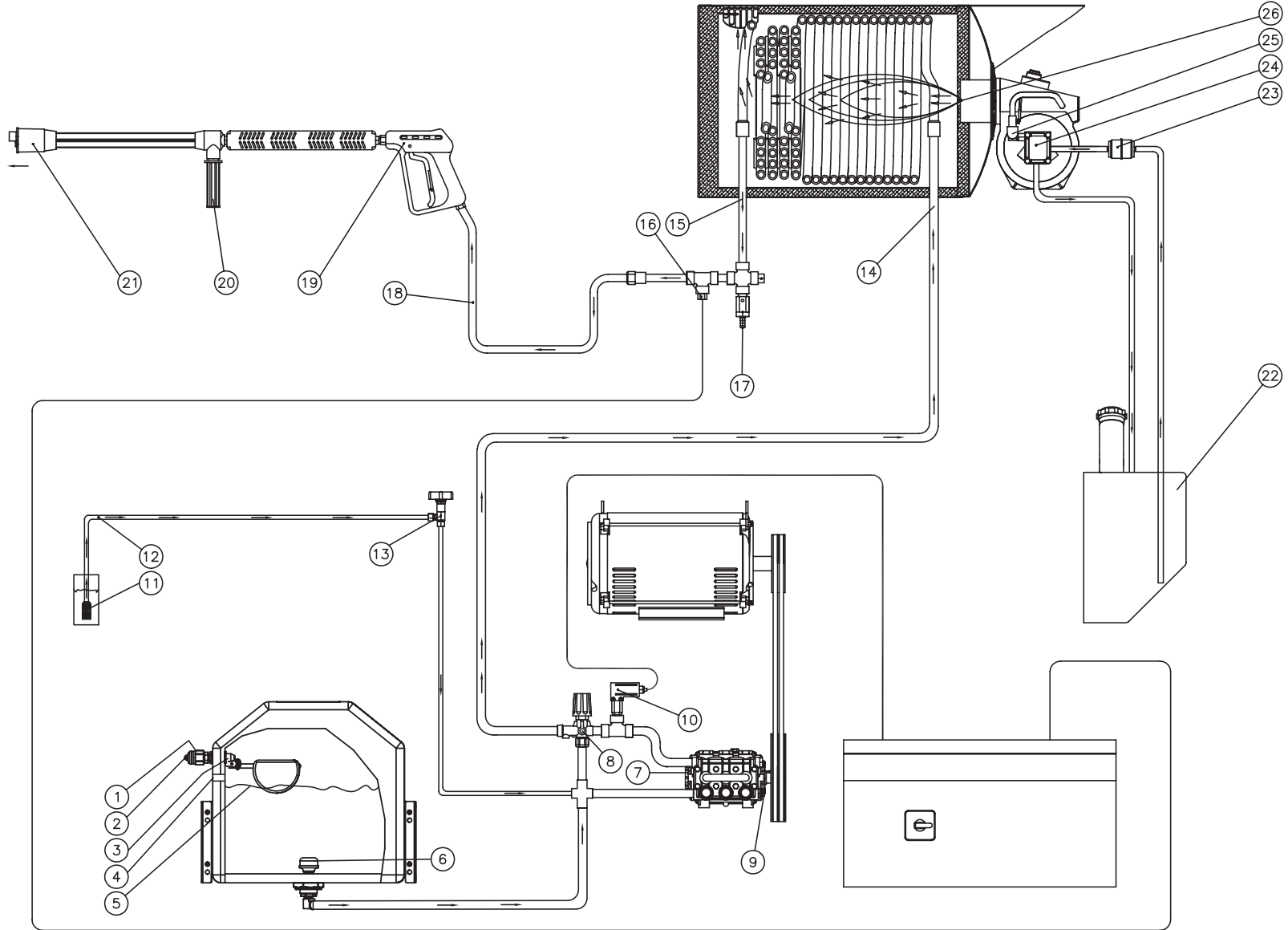
NOTES .....	4
SPECIFICATIONS FOR HHB UNITS .....	5
FLOW CHART .....	6
GENERAL THEORY OF OPERATION .....	7
SAFETY DECAL PLACEMENT .....	8
UNIT ASSEMBLY.....	10
ELECTRIC BOX.....	12
HEAT EXCHANGER ASSEMBLY.....	14
HEAT EXCHANGER ASSEMBLY (HHB-303) .....	16
BURNER ASSEMBLY (4-0017 AFTER SERIAL #15008085 & 4-0018 AFTER SERIAL #15008463) .....	18
BURNER ASSEMBLY (4-0029) .....	20
FLOAT TANK ASSEMBLY FOR HHB .....	22
FUEL TANK ASSEMBLY (850-0303) .....	24
MOTOR/PUMP PLATE ASSEMBLY.....	26
PUMP ASSEMBLY (3-0365) .....	28
UNLOADER (850-0252).....	30
PRESSURE SWITCH (22-0171 AND 22-0243) .....	32
GUN/WAND/HOSE ASSEMBLY .....	34
GUN/WAND/HOSE ASSEMBLY (HHB-303) .....	36
DUAL LANCE ASSEMBLY (16-0416 & 16-0417) .....	38
WIRE SCHEMATIC FOR HHB-1002/1003/1502 .....	40
WIRE DIAGRAM FOR HHB-1002/1003/1502 .....	41
WIRE SCHEMATIC FOR HHB-2503 .....	42
WIRE DIAGRAM FOR HHB-2503 .....	43
WIRE SCHEMATIC FOR HHB-303 .....	44
WIRE DIAGRAM FOR HHB-303 .....	45

## NOTES

## SPECIFICATIONS FOR HHB UNITS

MODEL NUMBER	HHB-303-0E1A	HHB-1002-0E1A	HHB-1502-0E1A	HHB-1003-0E1A	HHB-2503-0E2A
Operating Pressure (psi/Bar):	300/21	1000/69	1500/104	1000/69	2500/172
Water Volume (gpm/Lpm):	2.35/8.89	2.0/7.6	1.8/6.81	2.8/10.6	2.8/10.6
Outlet Water Temperature (F°/C°):	210°F/99°C (+/- 10°F)		140°F/78°C (+/- 10°F) rise above inlet ambient		
Electrical System:					
Phase	Single				
Hz	60				
Voltage	115				230
Total System Amperage	15.5	16.2	19.9	20	28
On/Off Switch	Industrial Cam Switch				
Motor (Pump):	ODP				
Horsepower	1.5	1.5	2.0	2.0	6.0
RPM	1750	1750	1750	3450	1750
Amperage	12.5	13.2	18.8	16.8	25.5
Service Factor	1.15	1.15	1.2	1.15	1.15
High Pressure Pump:	Belt Driven, Oil Bath, Triplex Piston				
Oil Type	SAE20 or 30 Non-Detergent				
Oil Capacity (oz/Liters)	9.8/.28				
Plungers	Ceramic				
Manifold	Forged Brass				
Valves	Stainless Steel				
Water System:					
Inlet Water Strainer	Removable Thimble for inspection and cleaning of Stainless Steel Screen				
Float Tank Strainer	Removable Strainer for inspection and cleaning of Stainless Steel Screen				
Float Tank Capacity (gal/Liters)	4.75/18.0				
Unloader	Pressure Trapping, Preset				
Thermal Relief Valve	Protects pump against damaging heat in recirculated and inlet water				
Detergent System	Adjustable Metering Valve				
Burner Fuel System:					
Fuel Type	No. 1 or No. 2 Fuel Oil, Diesel or Kerosene				
Fuel Capacity (gal/Liters)	10/37.8				
Fuel Filter/Water Separator	Spin on (10 micron) filter/E-Z water drain				
Fuel Pump	Two Line, Single Stage				
Fuel Pressure (psi/Bar)	150/10.4				
Fuel Nozzle	2.25 80° B Delavan	1.00 90° A Delavan	1.00 90° A Devalan	1.50 90° A Delavan	1.50 90° A Delavan
Fuel Consumption (gph/Lph, cont. burning)	2.76/10.4	1.23/4.65	1.23/4.65	1.84/6.96	1.84/6.96
Burner Electrical System:					
Voltage	115				230
Amps	3.0				
Heat Exchanger:	Horizontal, Side Fired, Pancake Coil				
BTU Input	386,400	172,200	172,200	257,600	257,600
Efficiency	75% with #2 Fuel Oil/Diesel				
Smoke Density	0-3 per ASTM D2156				
Safety System:					
Pressure Switch	Shuts off burner fuel supply upon trigger release				
High Limit Switch	Shuts off burner fuel supply when outlet water temp exceeds 225°F/107°C	N/A	N/A	N/A	N/A
Fuel Solenoid Valve	115 Volt, controls fuel supply to burner				
Safety Relief	Relieves excess system pressure				
High Pressure Nozzle:	Steam Nozzle: 2.18mm	4.0	3.0	5.5	4.5
Unit Net Weight (lbs/kg):	460/208.5	481/218.6	485/220.5	485/220.5	545/247.2
Unit Shipping Weight (lbs/kg):	580/263	601/273.2	605/275	605/275	665/301.7
Unit Net Dimensions (in/cm):	56.5Lx30Wx41.5H/143.5Lx76Wx105.5H				
Unit Shipping Dimensions (in/cm):	57.5Lx35.5Wx59.5H/146Lx90Wx151H				
Warranty:					
Unit	(2) Two Year Limited Warranty				
Coil	(5) Five Year Limited Warranty				
AR Pump Crankcase	(5) Five Year Limited Warranty				
Pump Manifold	Lifetime Limited Warranty				

# FLOW CHART



FLOW DIAGRAM HHB-021714-RJA

## 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 then through a FLOAT VALVE (3) into a WATER FLOAT TANK (5). If the water rises above the OVERFLOW HOLES (4), the excess water will drain out the unit.

The water is then drawn through the WATER STRAINER (6) and into the TRIPLEX HIGH PRESSURE PUMP (7) which has an UNLOADER (8) 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 (9) will open at 140°F/60°C allowing the heated water to escape. The Thermal Relief Valve automatically resets when the water cools. Attached to the pump is a BURNER CONTROL PRESSURE SWITCH (10) that controls the fuel supply to the burner.

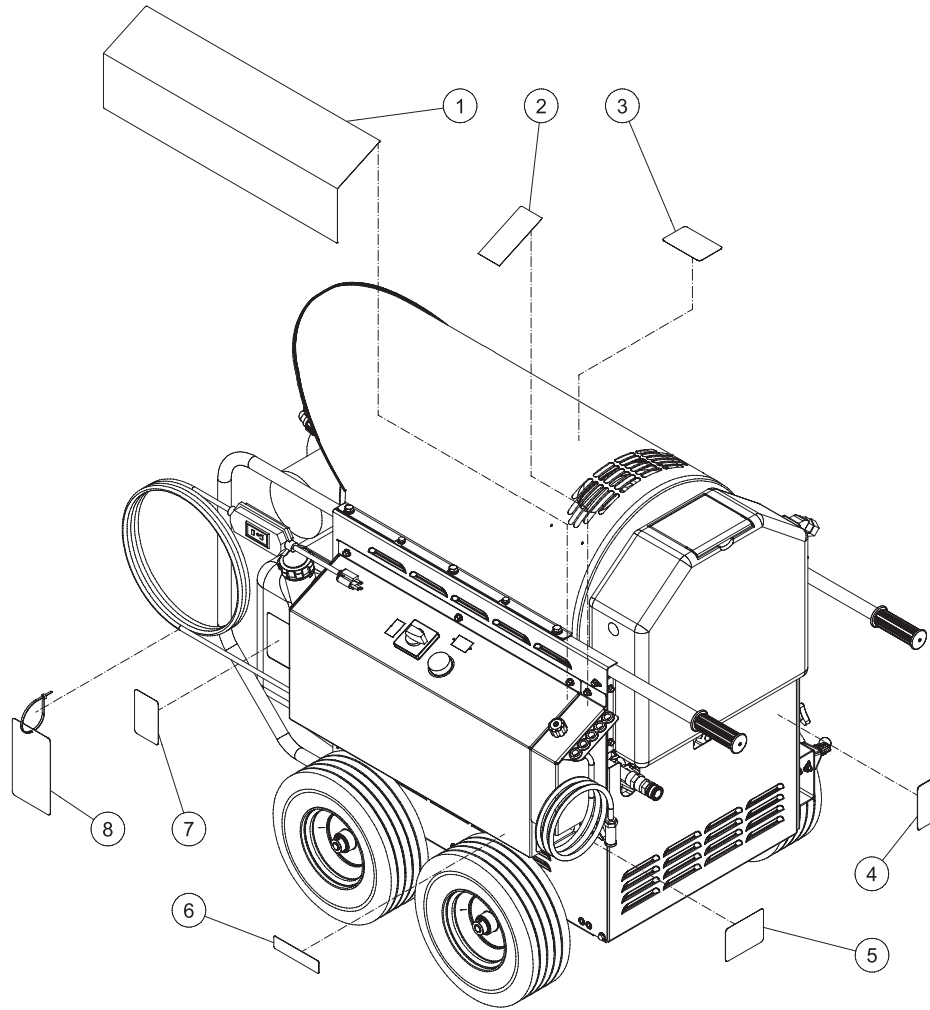
When using detergents, the solution passes through the DETERGENT STRAINER (11) located on the DETERGENT HOSE (12). The detergent solution then travels through the DETERGENT METERING VALVE (13).

From there, the water flows through HEAT EXCHANGER INLET (14) where it is heated when the burner is on. As the water exits the HEAT EXCHANGER OUTLET (15), it enters a safety system which protects the operator from danger. The system in the HHB-303 also contains a HI-LIMIT TEMPERATURE SWITCH (16) 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 (17) will relieve and allow water to exit safely.

The heated water then flows through the HIGH PRESSURE HOSE (18) and to the TRIGGER GUN ASSEMBLY (19) which allows the operator to control the water spray. When the trigger gun is open, the water flows through the ADJUSTABLE PRESSURE DUAL LANCE (20), or steam lance on the HHB-303, and exits the NOZZLE (21).

**FUEL FLOW:** The Fuel Pump draws fuel from the FUEL TANK (22) through a replaceable FUEL FILTER (23) and into the FUEL PUMP (24). Fuel exits the fuel pump, into a FUEL SOLENOID VALVE (25) which controls fuel flow to the FUEL NOZZLE (26) where it ignites and burns in the heat exchanger.

# SAFETY DECAL PLACEMENT

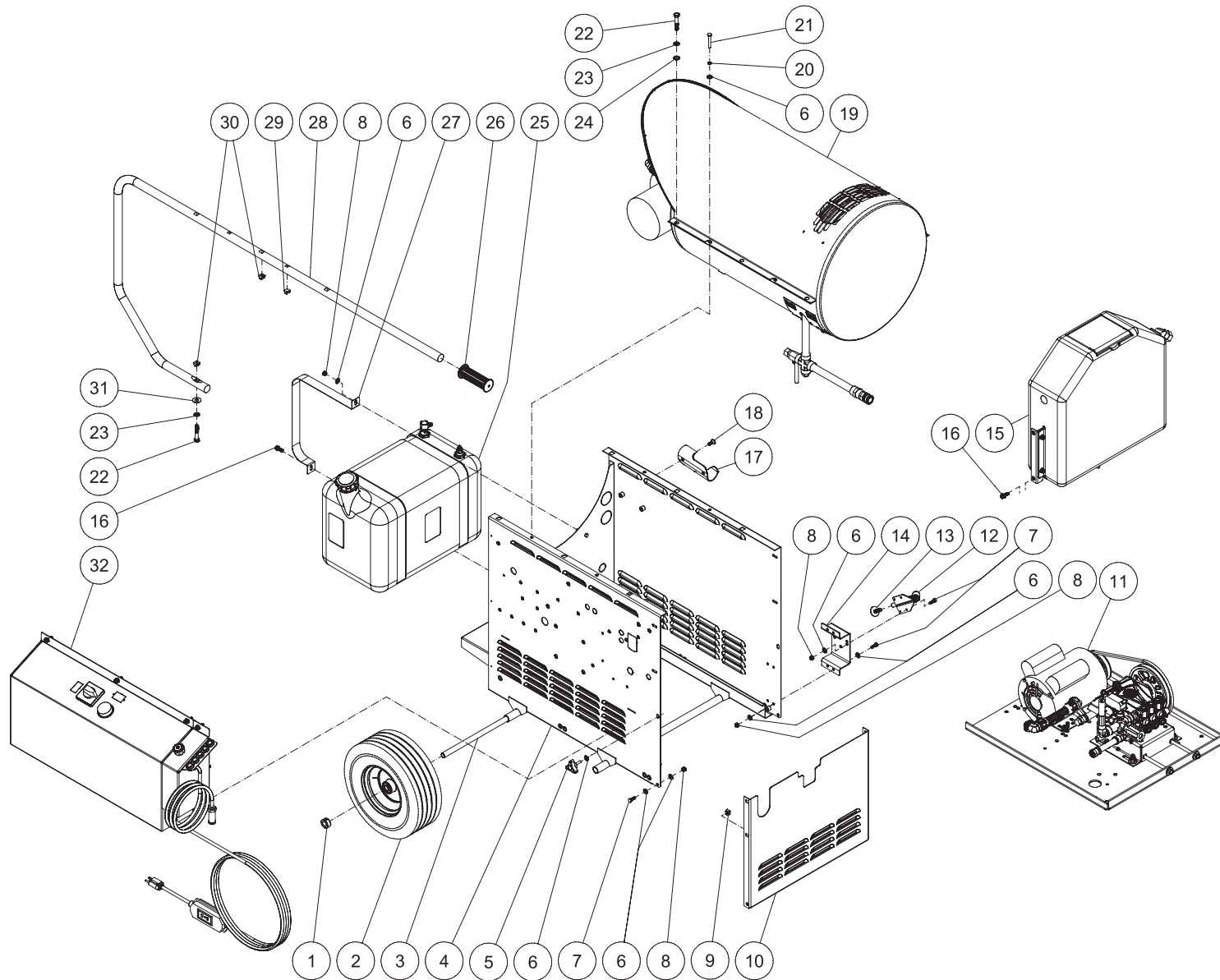




## DECAL PLACEMENT

ITEM	DESCRIPTION	PART #	QTY
1	DECAL-WARN/CAUT/OPER (E/S/F) (HHB-303)	34-3057	1
-	DECAL-WARN/CAUT/OPER (E/S/F) (HHB-1002, 1502, 1003, 2503)	34-3058	1
2	DECAL-CHEM INJ & NOZZLES	34-3054	1
3	DECAL - WARNING HOT SURFACES	34-1033	1
4	DECAL - WARNING; RISK OF INJURY	34-1032	1
5	DECAL - HW DATA PLATE	N/A	1
6	PRESSURE DECAL (HHB-303)	34-2890	1
-	PRESSURE DECAL (HHB-1002, 1003)	34-2893	1
-	PRESSURE DECAL (HHB-1502)	34-2894	1
-	PRESSURE DECAL (HHB-2503)	34-3897	1
7	DECAL- CAUTION RISK OF FIRE	34-1034	1
8	TAG - WARN RISK OF ELECTRO (E/F/S)	34-1035	1
	DECAL SET (HHB-303)	71-0123	1
	DECAL SET (HHB-1002, 1502, 1003, 2503)	71-0121	1

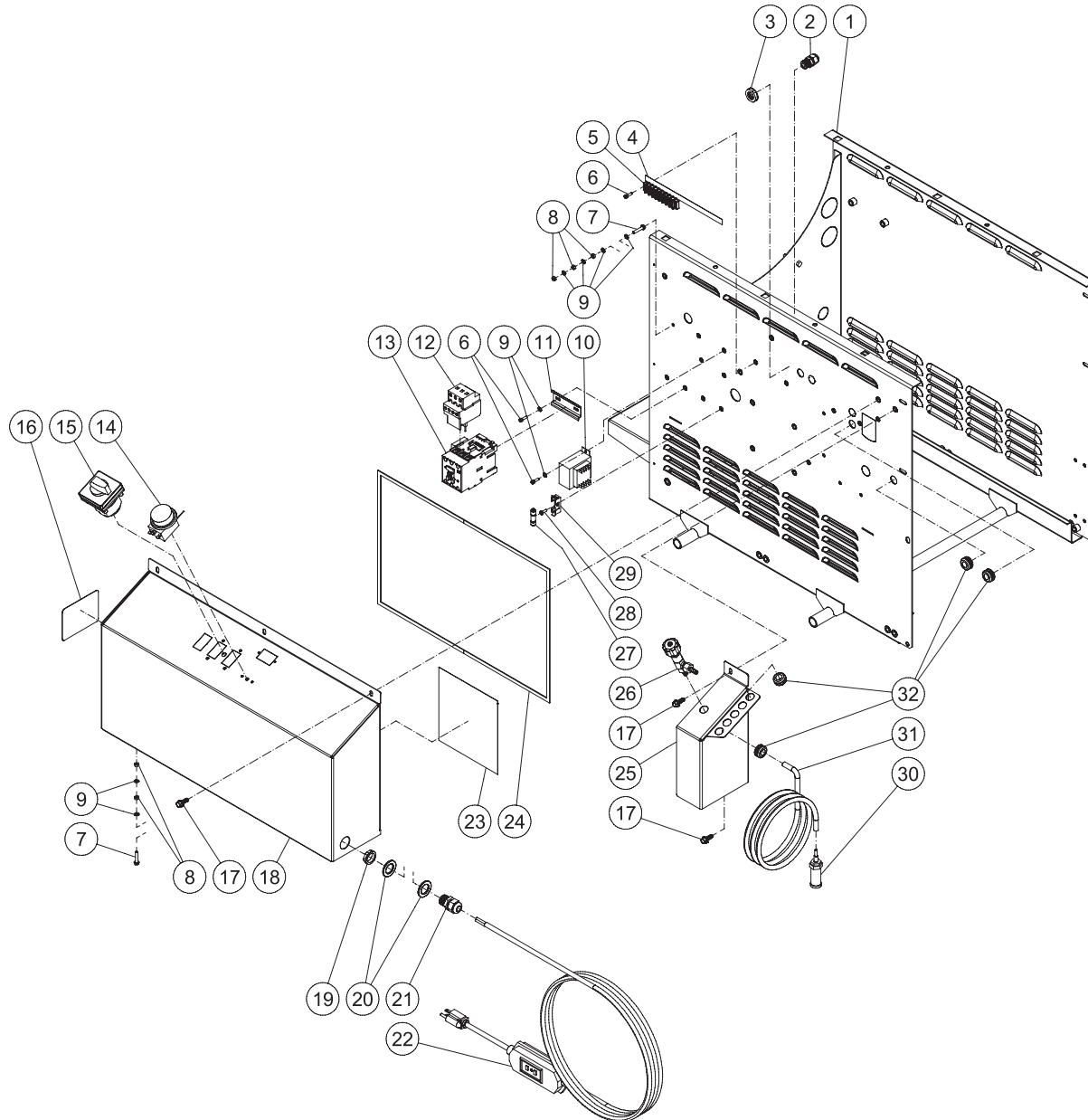
# UNIT ASSEMBLY



HHB Unit Assy 030217 RJA

HHB UNIT ASSY 030217 RJA			
UNIT ASSEMBLY			
ITEM	DESCRIPTION	PART #	QTY
1	COLLAR	33-0351	4
2	WHEEL	14-0127	4
3	AXLE	20-0524	2
4	CHASSIS	5-0337A18	1
5	KNOB	7-0168	2
6	WASHER	28-0002	24
7	BOLT	27-0015	10
8	LOCKNUT	30-0155	12
9	CLIP NUT	30-6026	2
10	ACCESS DOOR	20-0525A18	1
11	MOTOR PUMP PLATE ASSY HHB	N/A	1
12	PUSH/PULL TOGGLE CLAMP	33-0400	1
13	BOLT	27-9550	1
14	BRAKE BRACKET	20-0825A18	1
15	FLOAT TANK ASSY HHB	N/A	1
16	BOLT	27-1200	6
17	WAND HOLDER	20-0870A18	1
18	BOLT	27-0419	2
19	HEAT EXCHANGER ASSEMBLY	N/A	1
20	LOCKWASHER	29-0006	8
21	BOLT	27-0019	4
22	BOLT	27-0121	8
23	LOCKWASHER	29-0008	8
24	WASHER	28-0030	6
25	FUEL TANK ASSEMBLY	850-0303	1
26	HANDLE GRIP	7-0167	2
27	FUEL TANK STRAP	20-0598A18	2
28	HANDLE	7-0166A18	2
29	CLIP NUT	30-6027	4
30	CLIP NUT	30-6025	8
31	WASHER	28-0023	2
32	E-BOX HHB	N/A	1

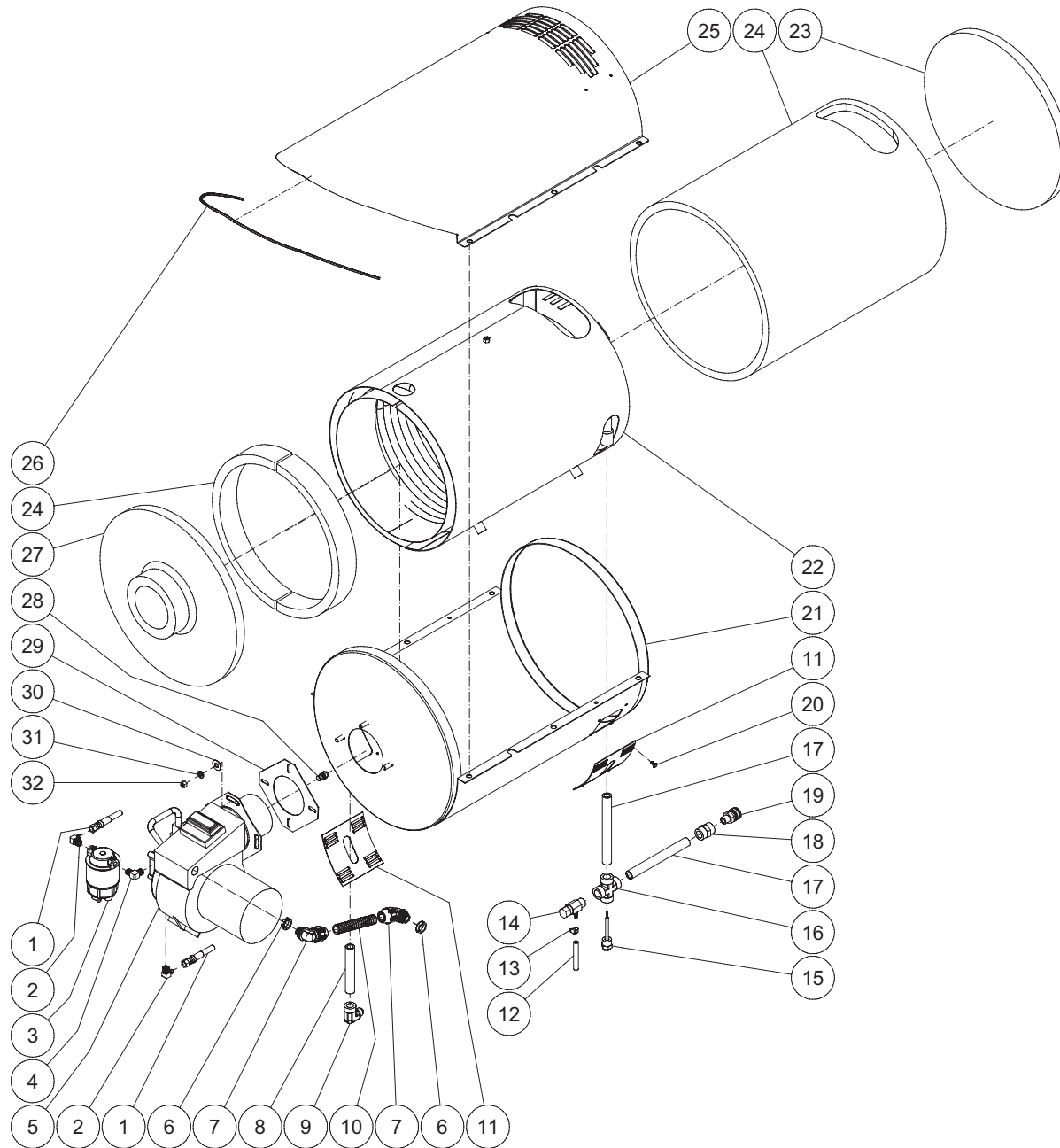
# ELECTRIC BOX



ELECTRIC BOX ASSEMBLY			
ITEM	TITLE	PART #	QTY
1	CHASSIS	5-0337A18	1
2	STRAIN RELIEF (1002, 1502, 1003, 2503)	32-0586	1
-	STRAIN RELIEF (303)	32-0586	2
3	ELECTRICAL LOCKNUT (1002, 1502, 1003, 2503)	32-0587	1
-	ELECTRICAL LOCKNUT (303)	32-0587	2
4	DECAL - TERMINAL STRIP (SEE 71-0121 OR 71-0123)	N/A	1
5	TERMINAL STRIP	32-0436	1
6	SCREW (303, 1002, 1502, 1003)	27-8835	4
-	SCREW (2503)	27-8835	8
7	BOLT	27-8807	2
8	NUT	30-6001	5
9	STAR WASHER (303, 1002, 1502, 1003)	28-1009	8
-	STAR WASHER (2503)	28-1009	12
10	TRANSFORMER (2503)	32-0704	1
11	DIN RAIL *(ONE FOOT REQUIRED) (2503)	32-0316	1
12	OVERLOAD (2503)	32-1073	1
13	CONTACTOR (2503)	32-0232	1
14	ADJUSTABLE THERMOSTAT (1002, 1502, 1003, 2503)	32-0962	1
15	CAM SWITCH (303, 1002)	32-0434	1
-	CAM SWITCH (1502, 1003)	32-0679	1
-	CAM SWITCH (2503)	32-0435	1
16	DECAL - DATA PLATE	N/A	1
17	BOLT	27-1200	5
18	ELECTRIC BOX	20-1343A18	1
19	ELECTRICAL LOCKNUT (303)	32-0108	1
-	ELECTRICAL LOCKNUT (1002, 1502, 1003, 2503)	32-0292	1
20	WASHER (303)	28-0051	2
21	CORD STRAIN RELIEF (303)	32-0437	1
-	BUSHING (1002, 1502, 1003, 2503)	9-0046	1
22	CORD (303)	32-0268	1
-	CORD (1002, 1502, 1003)	32-0215	1
-	CORD (2503)	32-0334	1
23	PLASTIC ZIPLOCK BAG	41-0184	1
24	GASKET	26-0240	1
25	CHEM INJ BOX	20-1344A18	1
26	DETERGENT VALVE	22-0226	1
27	FUSE - 0.15 AMP (2503)	32-0711	1
28	SCREW (2503)	27-8861	1
29	FUSE HOLDER (2503)	32-0710	1
30	STRAINER	19-0056	1
31	CHEMICAL HOSE *(SIX FEET REQUIRED)	15-0021	1
32	GROMMET	33-0001	8

\*MUST ORDER IN ONE FOOT LENGTHS

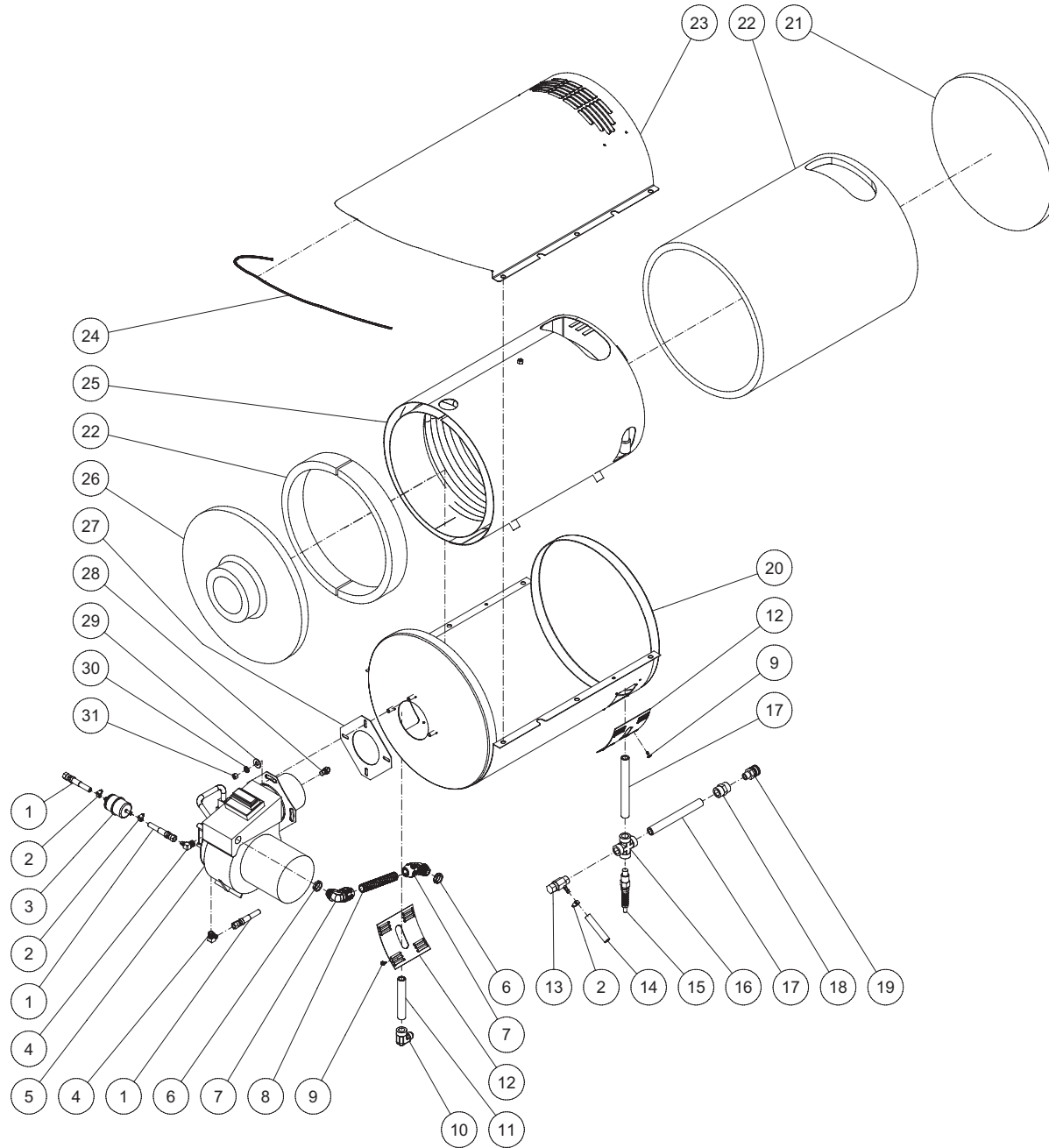
# HEAT EXCHANGER ASSEMBLY



HEAT EXCHANGER ASSY HHB 072517 072517 JRC

HEAT EXCHANGER ASSY HHB 072517 JRC			
HEAT EXCHANGER			
ITEM	TITLE	PART #	QTY
1	FUEL HOSE	15-0147	2
2	ELBOW	23-0237	2
3	FUEL FILTER / WATER SEPERATOR	19-0070	1
4	ELBOW	23-0130	1
5	BURNER (1002/1502/1003)	4-0029	1
-	BURNER (2503)	4-0018	1
6	ELECTRICAL LOCKNUT	32-0108	2
7	CONDUIT ELBOW	32-0254	2
8	PIPE NIPPLE	24-0245	1
9	ELBOW	24-0240	1
10	CONDUIT FLEX *(TWO FEET REQUIRED)	32-0253	1
11	PATCH PLATE	20-0537A18	2
12	FUEL HOSE *(TWO FEET REQUIRED)	15-0008	1
13	CLAMP WORM	42-0004	1
14	VALVE	22-0308	1
15	ADJUSTABLE THERMOSTAT	32-0962	1
16	CROSS	24-0241	1
17	PIPE NIPPLE	24-0255	2
18	ADAPTER	24-0243	1
19	QUICK CONNECT SOCKET	17-0007	1
20	BOLT	27-3062	8
21	BOTTOM WRAP	20-0527A18	1
22	COIL	66-0014	1
23	INSULATION DISC	33-0346	1
24	INSULATION BLANKET	850-0279	1
25	TOP WRAP	21-0129	1
26	EDGING *(THREE FEET REQUIRED)	33-0020	1
27	INSULATION DRUM HEAD	33-0345	1
28	FUEL NOZZLE (1002/1502)	18-0357	1
-	FUEL NOZZLE (1003/2503)	18-0356	1
29	GASKET	44-0108	1
30	WASHER	28-0023	3
31	LOCKWASHER	29-0008	3
32	NUT	30-0006	3
*MUST ORDER IN ONE FOOT LENGTHS			

# HEAT EXCHANGER ASSEMBLY (HHB-303)

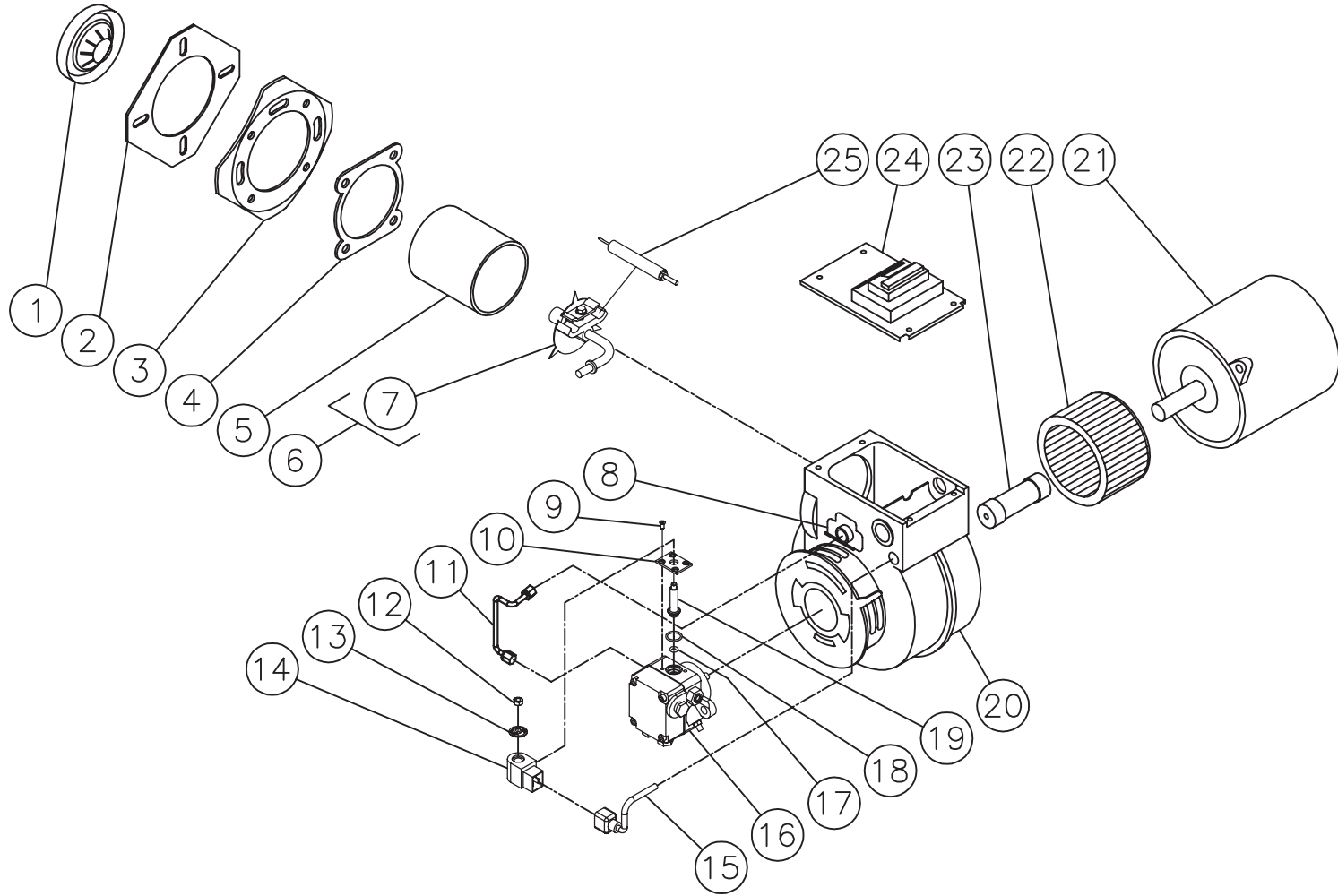


HEAT EXCHANGER ASSY HHB-303 072517 JRC



HEAT EXCHANGER ASSY HHB-303 072517 JRC			
HEAT EXCHANGER			
ITEM	TITLE	PART #	QTY
1	FUEL HOSE	15-0147	2
2	CLAMP WORM	42-0004	3
3	FILTER	19-0110	1
4	ELBOW	23-0237	2
5	BURNER	4-0017	1
6	ELECTRICAL LOCKNUT	N/A	2
7	CONDUIT ELBOW	32-0254	2
8	CONDUIT FLEX *(TWO FEET REQUIRED)	32-0253	1
9	BOLT	27-3062	8
10	ELBOW	24-0240	1
11	PIPE NIPPLE	24-0245	1
12	PATCH PLATE	20-0537A18	2
13	VALVE	22-0308	1
14	HOSE *(TWO FEET REQUIRED)	15-0020	1
15	SWITCH	32-0690	1
16	CROSS	24-0241	1
17	PIPE NIPPLE	24-0255	2
18	ADAPTER	24-0243	1
19	QUICK CONNECT SOCKET	17-0007	1
20	BOTTOM WRAP	20-0527A18	1
21	INSULATION DISC	33-0346	1
22	INSULATION BLANKET	850-0279	1
23	TOP WRAP	21-0129	1
24	EDGING *(THREE FEET REQUIRED)	33-0020	1
25	COIL	66-0014	1
26	INSULATION DRUM HEAD	33-0345	1
27	GASKET	N/A	1
28	FUEL NOZZLE 2.25 80°	18-0090	1
29	WASHER	28-0023	3
30	LOCKWASHER	29-0008	3
31	NUT	30-0006	3
*MUST ORDER IN ONE FOOT LENGTHS			

**BURNER ASSEMBLY (4-0017 AFTER SERIAL #15008085 & 4-0018 AFTER SERIAL #15008463)**

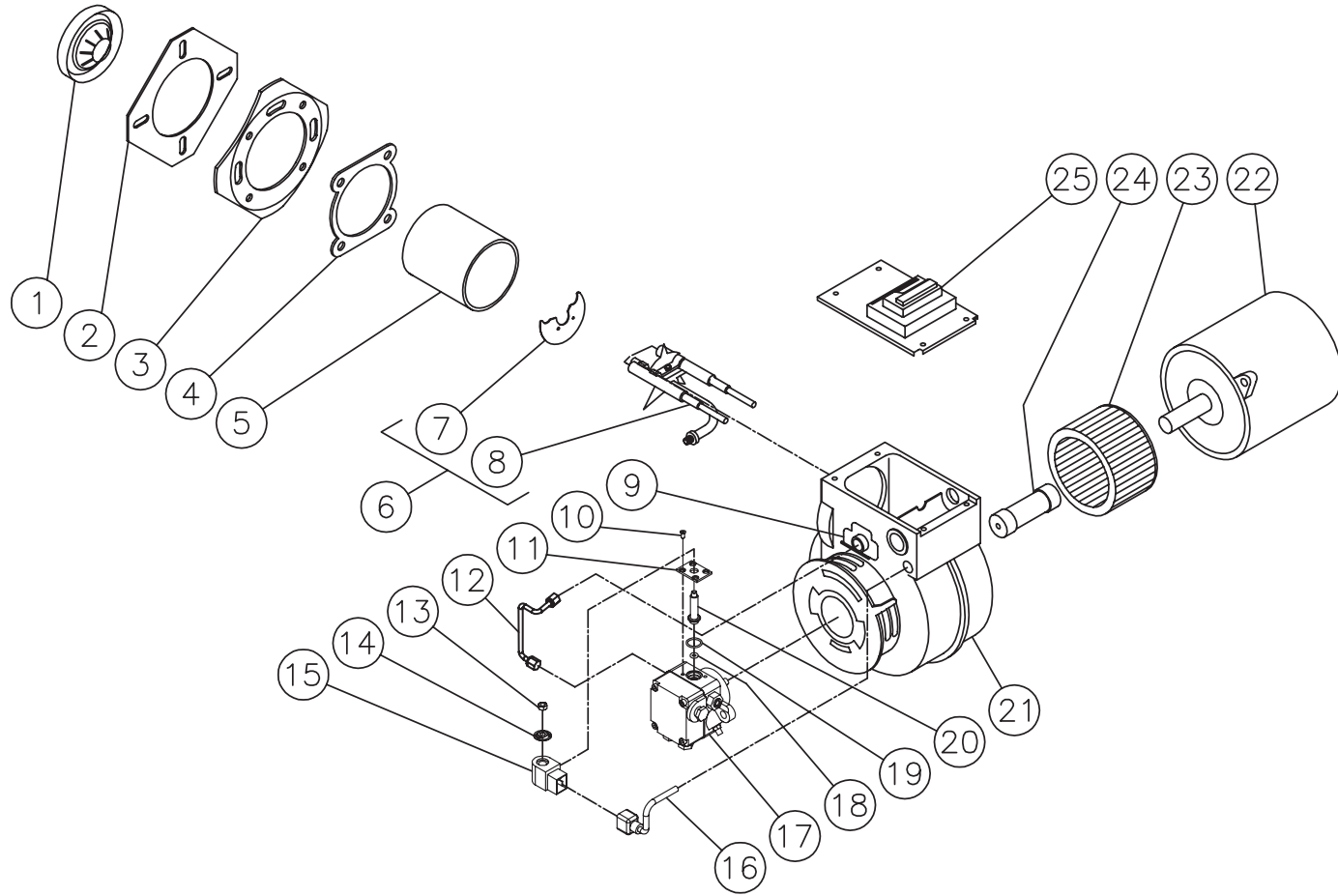


4-0017\_4-0018 081413

BURNER ASSEMBLY (4-0017 AFTER SERIAL #15008085 & 4-0018 AFTER SERIAL #15008463)

REF.	DESCRIPTION	PART #	QTY.		REF.	DESCRIPTION	PART #	QTY.
1	BURNER HEAD	44-0011	1		16	FUEL PUMP	3-0236	1
2	MOUNTING GASKET	44-0108	1		17	O-RING	N/A	1
3	FLANGE	44-0109	1		18	O-RING	N/A	1
4	GASKET	26-0138	1		19	SOLENOID PISTON	46-1343	1
5	AIR TUBE	44-0110	1		20	BURNER HOUSING	44-0033	1
6	NOZZLE LINE ASSEMBLY	44-0113	1		21	MOTOR (4-0017)	2-0068	1
7	ELECTRODE KIT	44-0114	1		-	MOTOR (4-0018)	2-0067	1
8	ESCUTCHEON PLATE	44-0031	1		22	BLOWER WHEEL	44-0071	1
9	SCREW	N/A	1		23	COUPLER	44-0014	1
10	BASE PLATE	46-1004	1		24	IGNITION TRANSFORMER (4-0017)	44-0017	1
11	FUEL LINE	44-0026	1		-	IGNITION TRANSFORMER (4-0018)	44-0015	1
12	PISTON NUT	46-1016	1		25	ELECTRODE	44-0114	2
13	SPRING WASHER	N/A	1			COMPLETE BURNER (INCLUDES 1-17)	4-0017	
14	FUEL SOLENOID	46-1020	1			COMPLETE BURNER (INCLUDES 1-17)	4-0018	
15	CORD SET	44-0122	1					

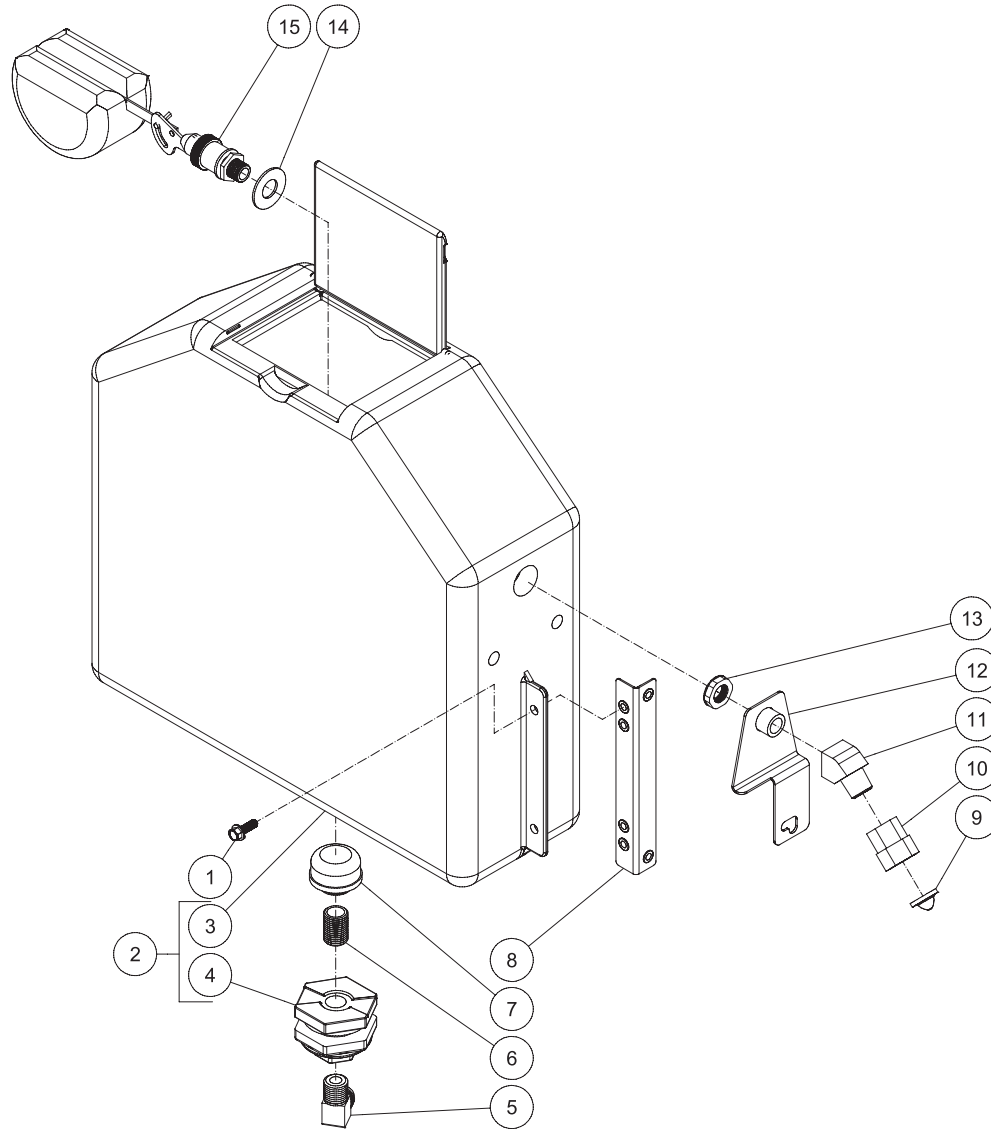
# BURNER ASSEMBLY (4-0029)



## BURNER ASSEMBLY

REF.	DESCRIPTION	PART #	QTY.	REF.	DESCRIPTION	PART #	QTY.
1	Burner Head	44-0163	1	14	Spring Washer	N/A	1
2	Mounting Gasket	44-0108	1	15	Fuel Solenoid	46-1020	1
3	Flange	44-0109	1	16	Cord Set	44-0122	1
4	Gasket	26-0138	1	17	Fuel Pump	3-0236	1
5	Air Tube	44-0110	1	18	O-Ring	N/A	1
6	Nozzle Line Assembly	44-0113	1	19	O-Ring	N/A	1
7	Static Plate	44-0027	1	20	Solenoid Piston	46-1343	1
8	Electrode Kit	44-0114	1	21	Burner Housing	44-0033	1
9	Escutcheon Plate	44-0031	1	22	Motor	2-0068	1
10	Screw	N/A	1	23	Blower Wheel	44-0071	1
11	Base Plate	46-1004	1	24	Coupler	44-0014	1
12	Fuel Line	44-0026	1	25	Ignition Transformer	44-0017	1
13	Piston Nut	46-1016	1				

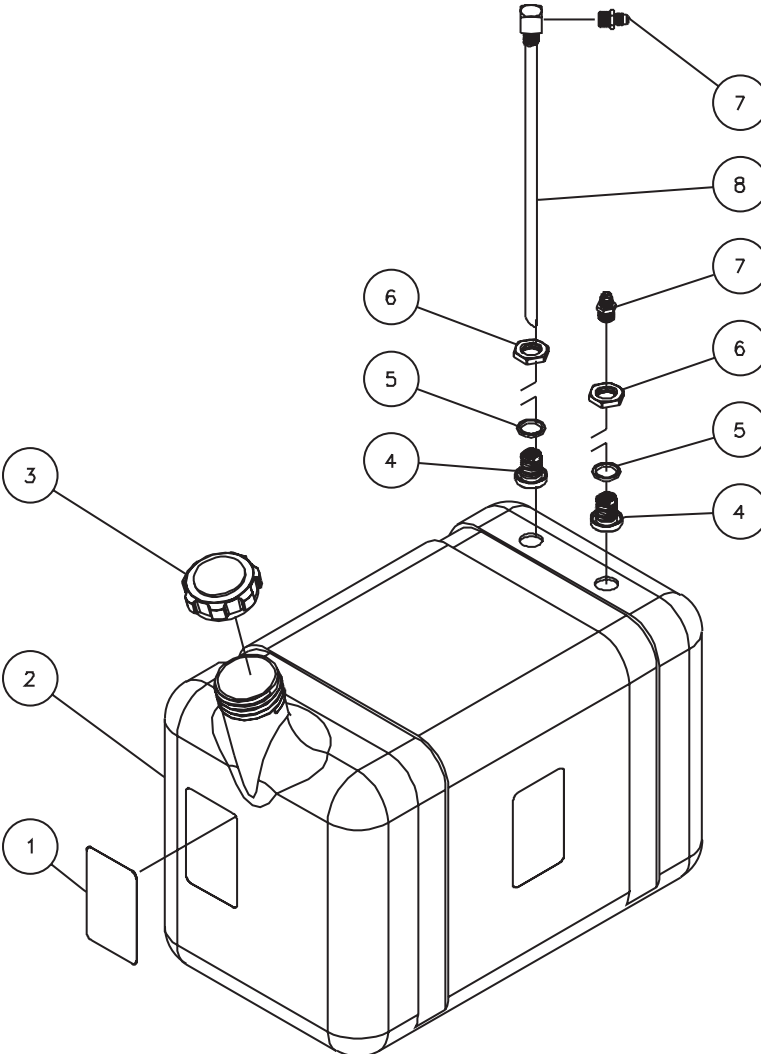
# FLOAT TANK ASSEMBLY FOR HHB



FLOAT TANK ASSY HHB 052314 RJA

FLOAT TANK ASSY HHB 052314 RJA			
FLOAT TANK ASSEMBLY			
ITEM	TITLE	PART #	QTY
1	BOLT	27-1200	4
2	FLOAT TANK ASSEMBLY	850-0321	1
3	FLOAT TANK	N/A	1
4	BULKHEAD (INC. 25-0506 GASKET)	55-0886	1
5	ELBOW	23-0389	1
6	NIPPLE (1003)	23-0403	1
-	NIPPLE (1002/1502)	23-0402	1
-	NIPPLE (2503)	23-0392	1
7	STRAINER	19-0203	1
8	BRACKET	20-0599A18	2
9	FILTER	19-0001	1
10	SWIVEL	23-0001	1
11	ELBOW	23-0344	1
12	WATER INLET BRACKET	20-1364A18	1
13	NUT	23-0138	1
14	WASHER	28-0050	1
15	FLOAT VALVE	850-0238	1

FUEL TANK ASSEMBLY (850-0303)



850-0303-032101-BAR

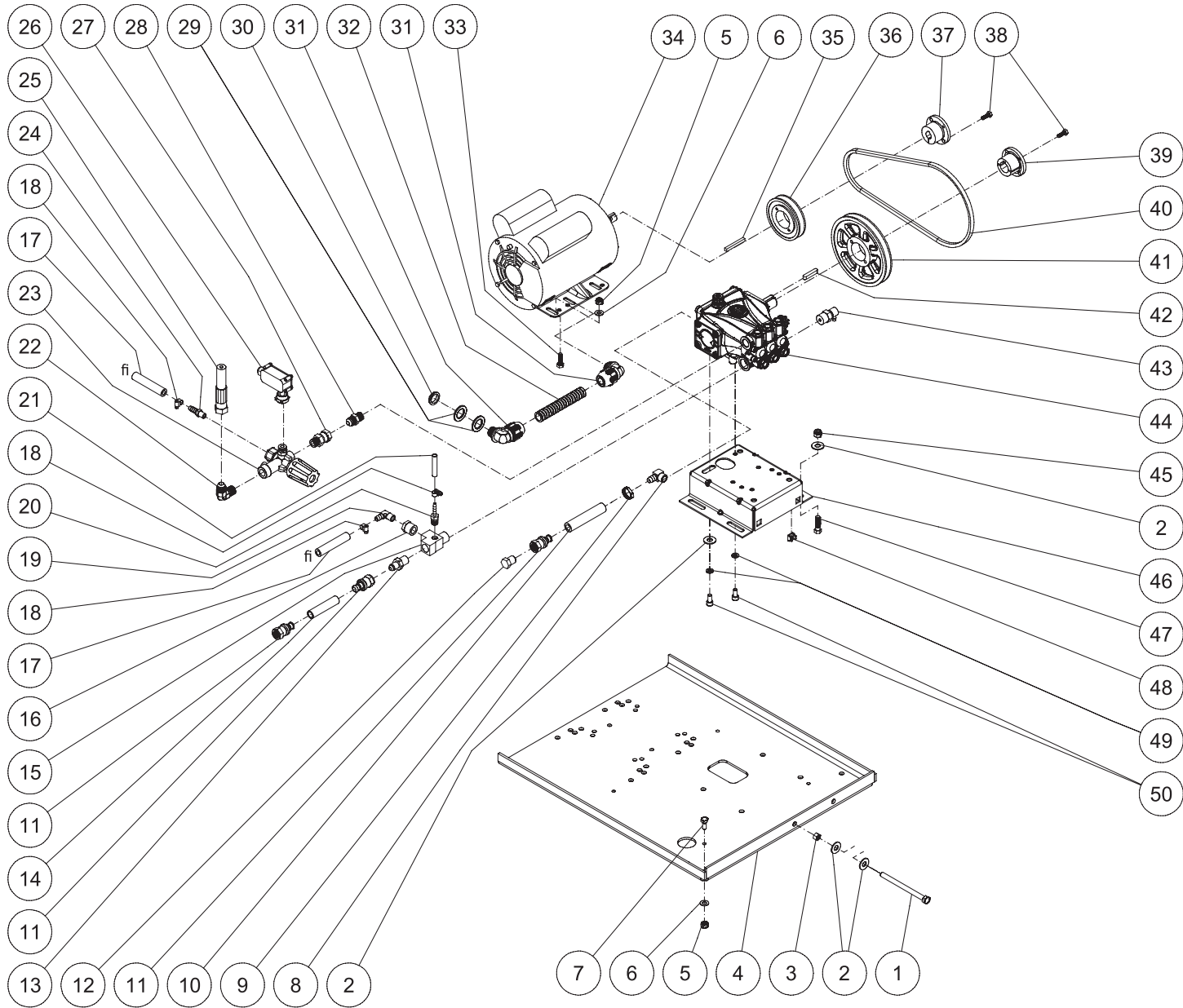


850-0303-34-9037-032101-BAR

## FUEL TANK ASSEMBLY (850-0303)

REF. #	DESCRIPTION	PART #	QTY.
1	Decal- Caution: Risk of Fire (E/S)	N/A Sep.	1
2	Fuel Tank	12-0126	1
3	Vented Fuel Cap	12-0033	1
4	Bulkhead Fitting	23-0408	2
5	O-ring	25-0427	2
6	Nut	23-0409	2
7	Flare Fitting	23-0247	2
8	Fuel Pick-up	33-0352	1

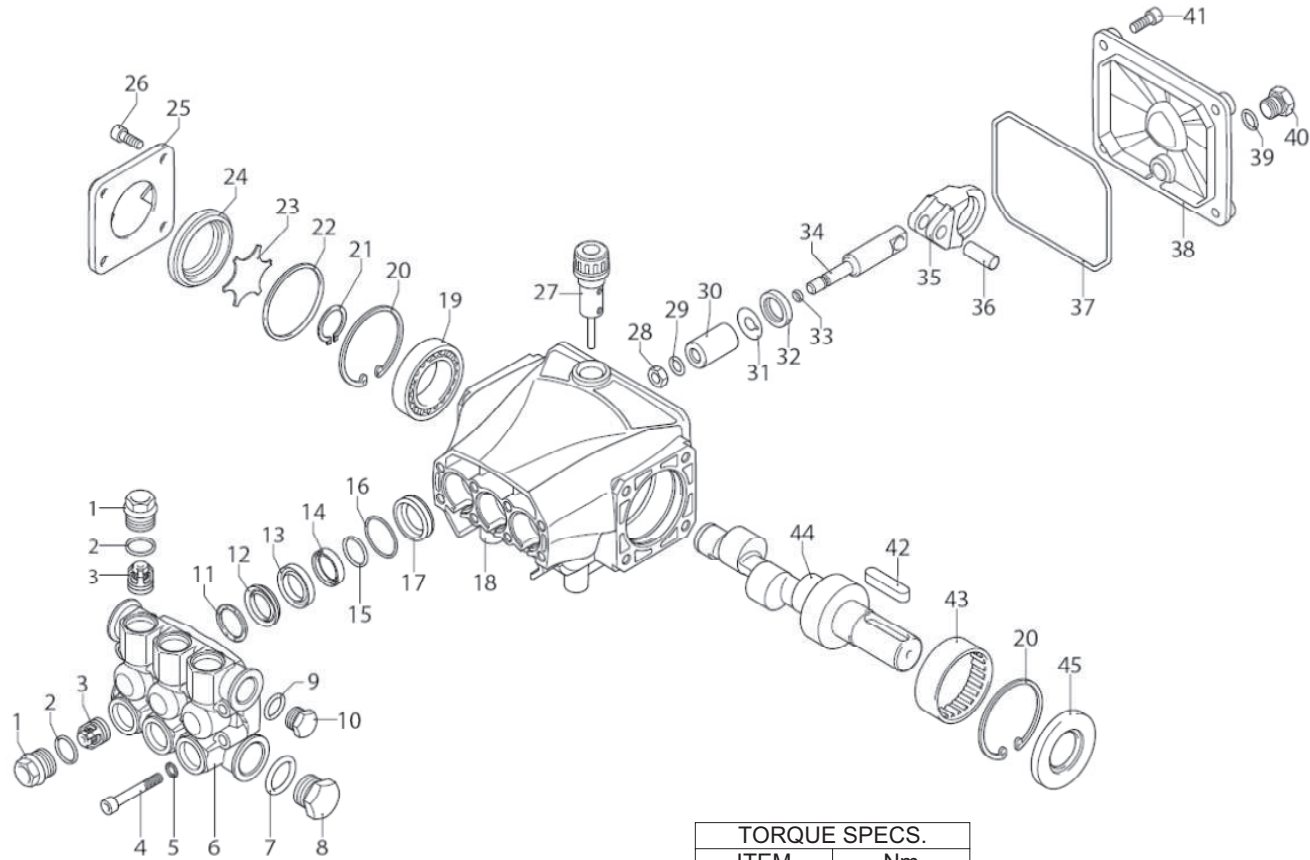
# MOTOR/PUMP PLATE ASSEMBLY



MOTOR PUMP PLATE ASSY HHB 072114 RJA

MOTOR PUMP PLATE ASSEMBLY							
ITEM	TITLE	PART #	QTY	ITEM	TITLE	PART #	QTY
1	BOLT	27-0133	2	33	BOLT	27-0067	4
2	WASHER	28-0023	9	34	MOTOR (1002, 303)	2-0118	1
3	NUT	30-0006	2	-	MOTOR (1502, 1003)	2-0120	1
4	MOTOR PUMP BASEPLATE	05-0152A18	1	-	MOTOR (2503)	2-0107	1
5	LOCKNUT	30-0157	5	35	KEY	43-0078	1
6	WASHER	28-0003	5	36	MOTOR SHEAVE (1002)	10-0049	1
7	BOLT	27-0066	1	-	MOTOR SHEAVE (1502)	10-0111	1
8	ELBOW	23-0050	1	-	MOTOR SHEAVE (1003)	10-0110	1
9	HOSE CLAMP	42-0011	1	-	MOTOR SHEAVE (303)	10-0105	1
10	HOSE *(FOUR FEET REQUIRED)	15-0305	1	-	MOTOR SHEAVE (2503)	10-0064	1
11	HOSE BARB	23-0360	3	37	BUSHING (303, 1002, 1502, 1003)	9-0037	1
12	PLUG	23-0411	1	-	BUSHING (2503)	9-0010	1
13	NIPPLE	23-0361	1	38	BOLT	27-0015	4
14	HOSE *(TWO FEET REQUIRED)	15-0200	1	39	BUSHING	9-0017	1
15	STREET TEE	23-0388	1	40	BELT (1002)	11-0023	1
16	REDUCER	23-0056	1	-	BELT (303, 1502)	11-0006	1
17	HOSE *(TWO FEET REQUIRED)	15-0020	1	-	BELT (2503)	11-0006	2
18	CLAMP WORM	42-0004	3	-	BELT (1003)	11-0031	1
19	ELBOW	23-0123	1	41	PUMP SHEAVE (1002, 303)	10-0103	1
20	BARB	23-0051	1	-	PUMP SHEAVE (1502)	10-0007	1
21	HOSE *(THREE FEET REQUIRED)	15-0021	1	-	PUMP SHEAVE (1003)	10-0066	1
22	ELBOW	24-0092	1	-	PUMP SHEAVE (2503)	10-0068	1
23	UNLOADER	850-0252	1	42	PUMP KEY	43-0091	1
24	BARB	23-0069	1	43	HEAT DUMP VALVE	22-0414	1
25	HIGH PRESSURE HOSE ASSEMBLY	15-0221	1	44	PUMP	3-0365	1
26	PRESSURE SWITCH	22-0171	1	45	LOCKNUT	30-0159	4
27	SWIVEL	24-0037	1	46	PUMP HAT	5-0153A18	1
28	NIPPLE	24-0002	1	47	BOLT	27-0118	4
29	WASHER	28-0051	2	48	CLIP NUT	30-6025	2
30	ELECTRIC LOCKNUT	32-0108	1	49	LOCKWASHER	29-0054	4
31	CONDUIT ELBOW	32-0254	2	50	BOLT	27-8884	4
32	CONDUIT FLEX *(THREE FEET REQUIRED)	32-0253	1	*MUST ORDER IN ONE FOOT LENGTHS			

# PUMP ASSEMBLY (3-0365)

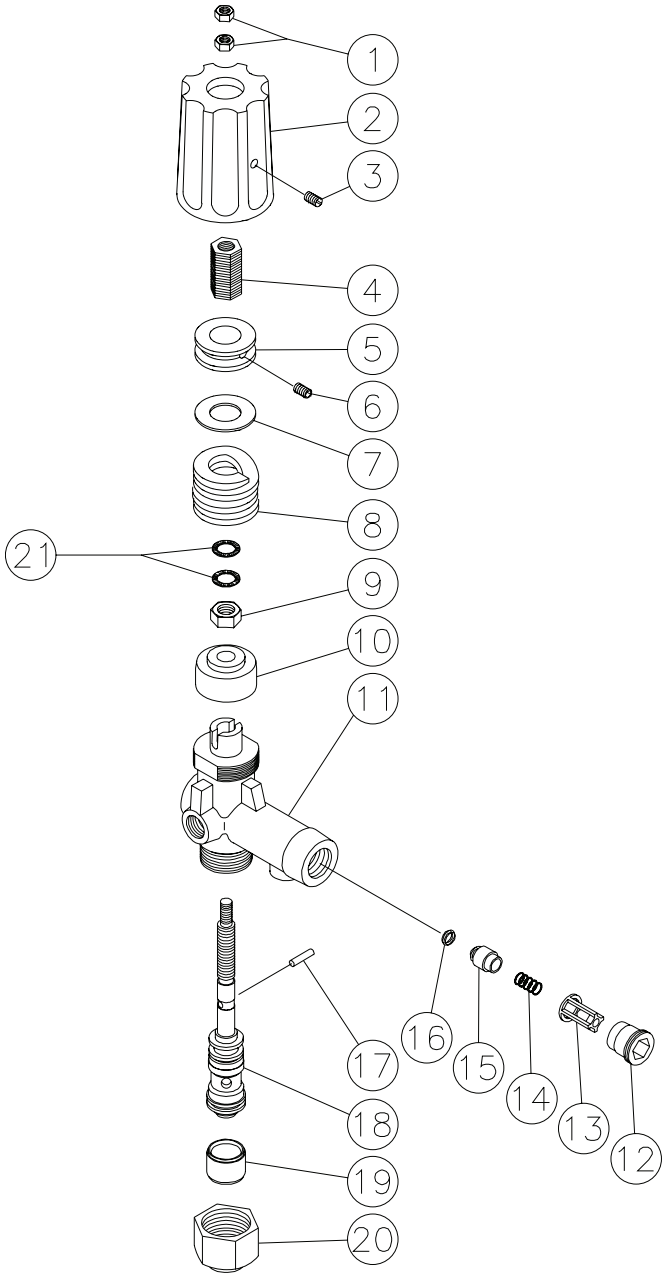


TORQUE SPECS.	
ITEM	Nm
1	24.5
4	10.4
8	40.0
10	25.0
26	10.4
28	12.0
41	8.0

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

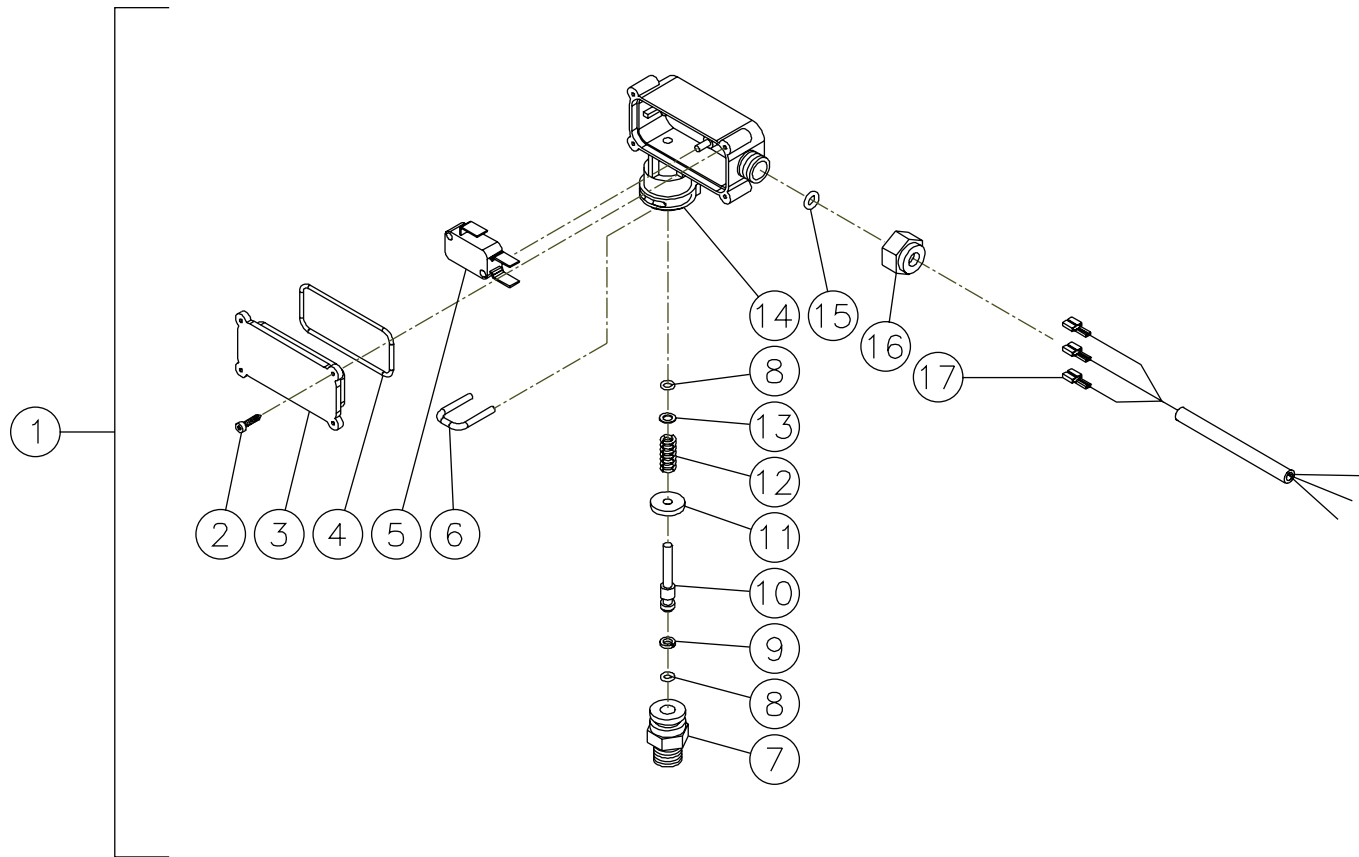
# UNLOADER (850-0252)



OMGENI63-101298-BAR

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 AND 22-0243)

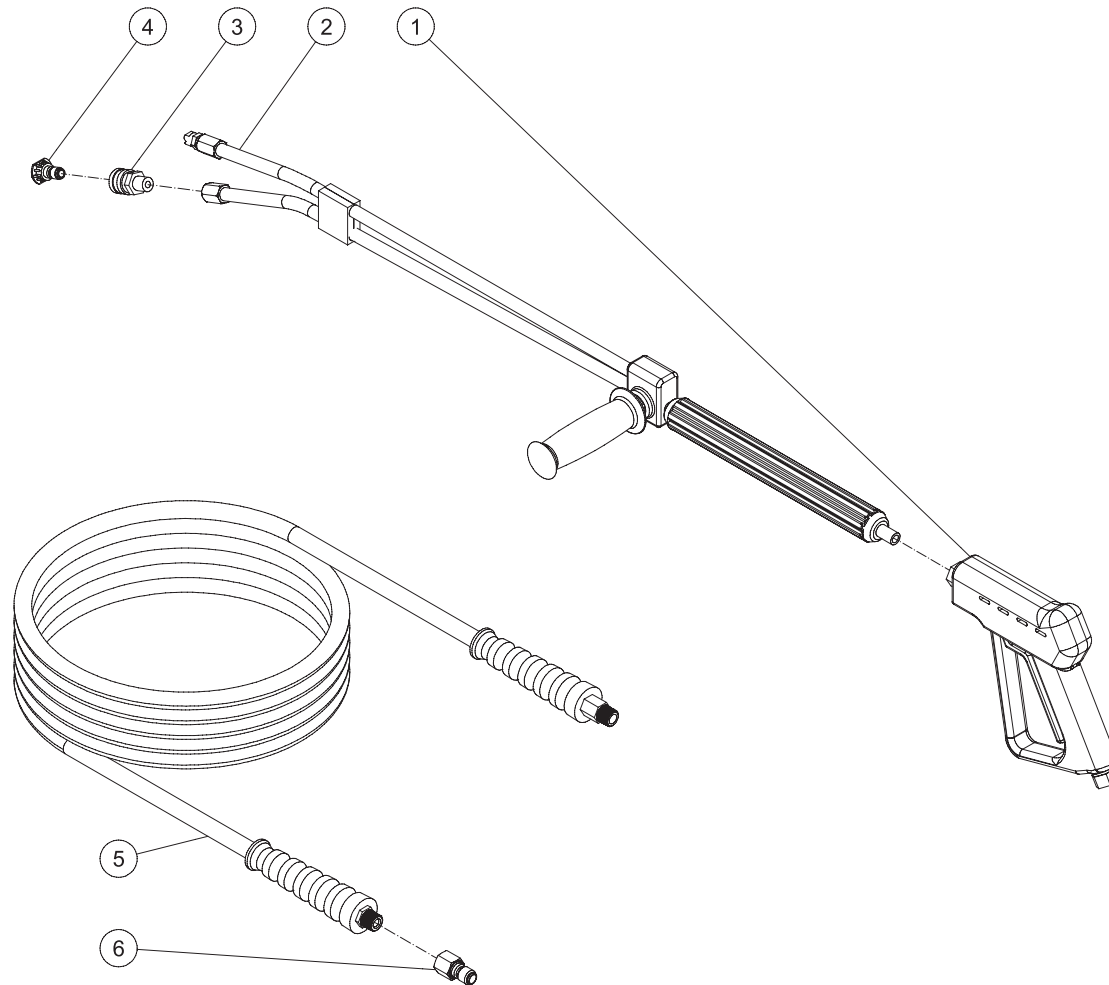




22-0171 & 22-0243-120799-BAR

PRESSURE SWITCH								
REF. #	DESCRIPTION	PART #	QTY.		REF. #	DESCRIPTION	PART #	QTY.
1	Pressure Switch- 15 BAR	22-0171	1		11	Washer	N/A	1
-	Pressure Switch- 25 BAR	22-0243	1		12	Spring- 15 BAR	49-0144	1
2	Screw	N/A	4		-	Spring- 25 BAR	49-0145	1
3	Cover	N/A	1		13	Washer	N/A	1
4	O-ring (See 70-0306)	N/A Sep.	1		14	Plastic Housing	N/A	1
5	Micro Switch	N/A	1		15	O-ring (See 70-0306)	N/A Sep.	1
6	Retainer Clip	N/A	1		16	Nut- 15 BAR	N/A	1
7	Body	N/A	1		-	Nut- 25 BAR	N/A	1
8	O-ring (See 70-0306)	N/A Sep.	2		17	Wire Assembly	N/A	1
9	Back-up Ring (See 70-0306)	N/A Sep.	1			O-ring Repair Kit (Inc. 4, 8-9, 15)	70-0306	
10	Piston	N/A	1					

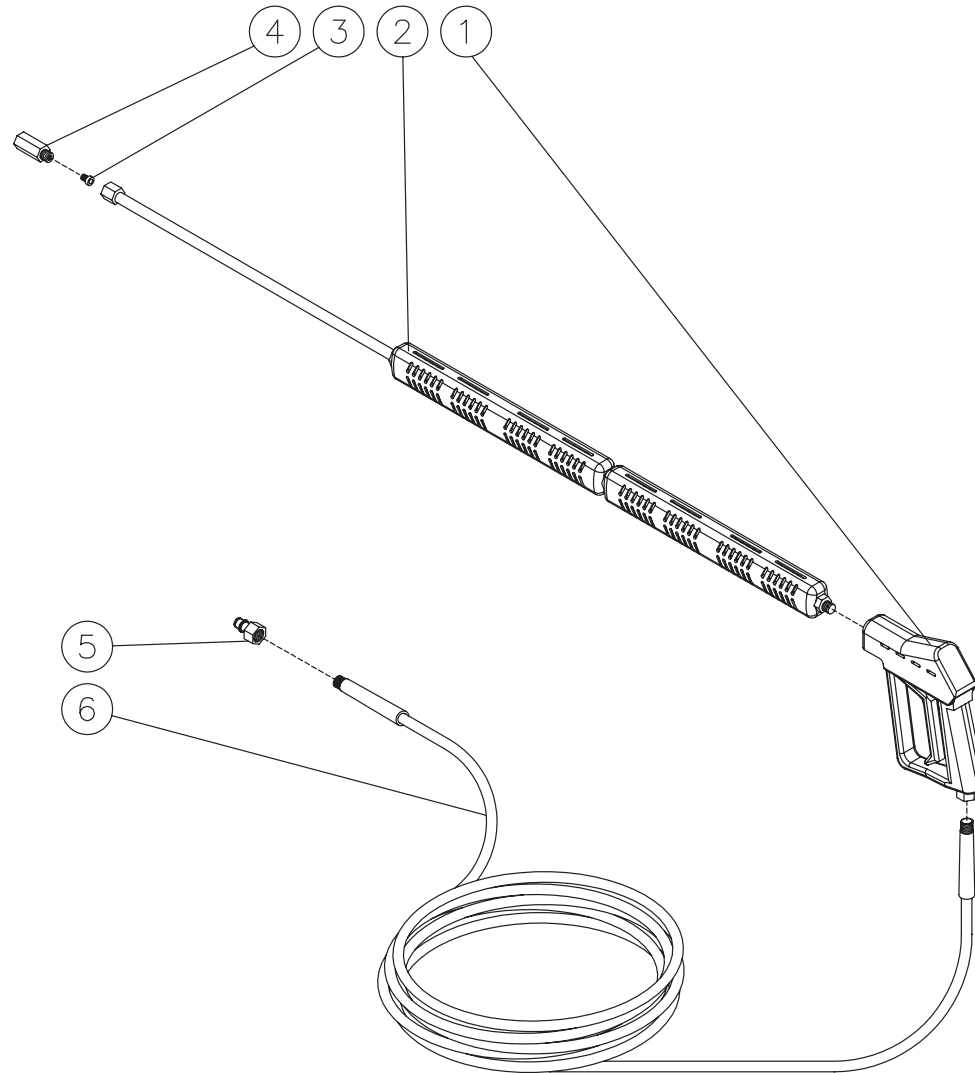
# GUN/WAND/HOSE ASSEMBLY



GUN WAND HOSE ASSY HHB 052314 RJA

GUN WAND HOSE ASSY HHB 052314 RJA			
GUN WAND HOSE ASSEMBLY			
ITEM	TITLE	PART #	QTY
1	GUN	16-0001	1
2	DUAL LANCE ASSY	16-0416	1
3	QC SOCKET	17-0028	1
4	NOZZLE 00040 QC (1002)	18-0397	1
-	NOZZLE 15040 QC (1002)	18-0399	1
-	NOZZLE 25040 QC (1002)	18-0400	1
-	NOZZLE 40040 QC (1002)	18-0401	1
-	NOZZLE 00030 QC (1502)	18-0387	1
-	NOZZLE 15030 QC (1502)	18-0388	1
-	NOZZLE 25030 QC (1502)	18-0390	1
-	NOZZLE 40030 QC (1502)	18-0391	1
-	NOZZLE 00035 QC (2503)	18-0392	1
-	NOZZLE 15035 QC (2503)	18-0393	1
-	NOZZLE 25035 QC (2503)	18-0395	1
-	NOZZLE 40035 QC (2503)	18-0396	1
-	NOZZLE 00055 QC (1003)	18-0411	1
-	NOZZLE 15055 QC (1003)	18-0410	1
-	NOZZLE 25055 QC (1003)	18-0412	1
-	NOZZLE 40055 QC (1003)	18-0413	1
5	HOSE ASSY	15-0146	1
6	QUICK CONNECT	17-0006	1

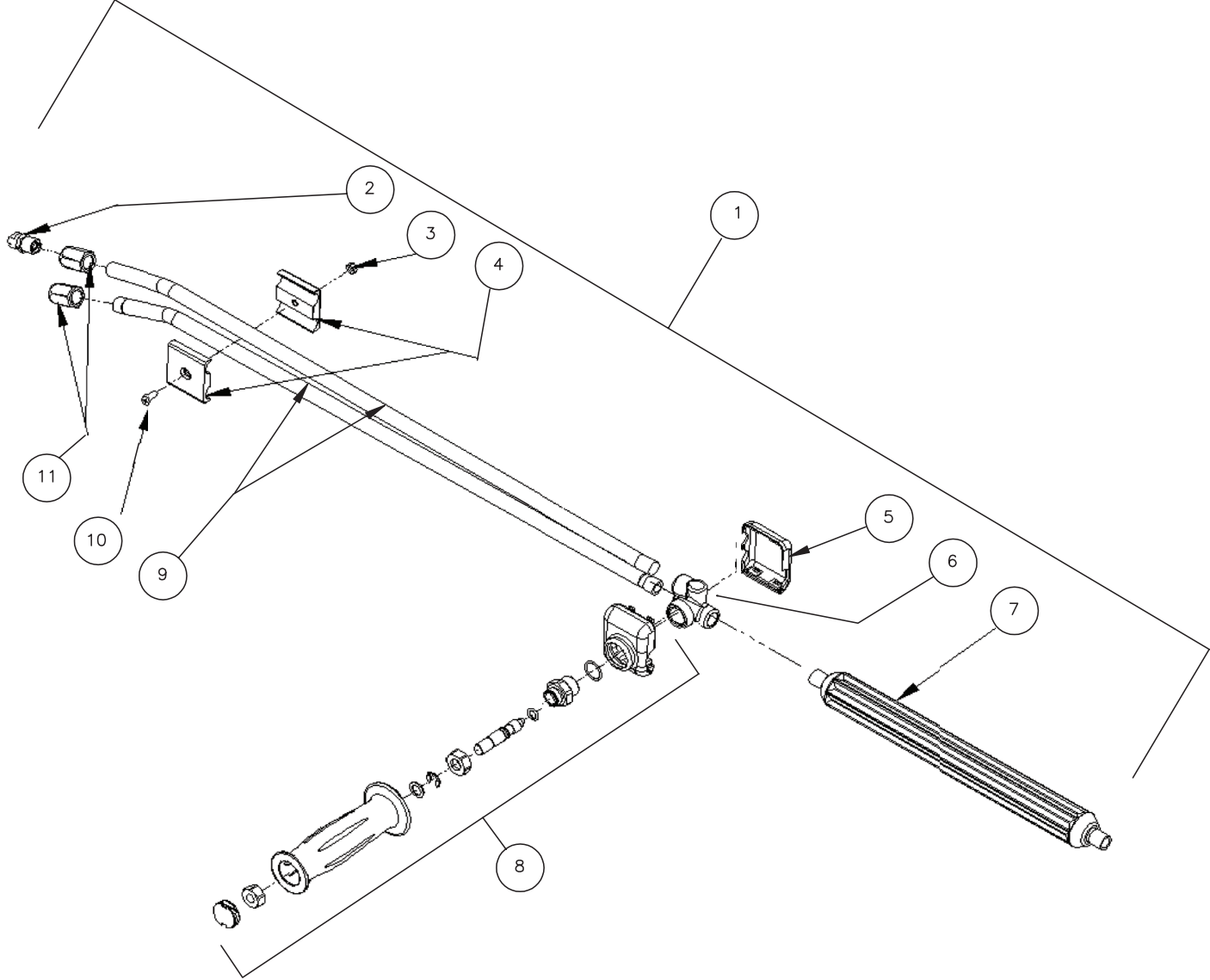
# GUN/WAND/HOSE ASSEMBLY (HHB-303)



GUN WAND HOSE ASSY HHB-303 022114

GUN/WAND HOSE ASSY HHB-303 0222114 RJA			
GUN/WAND HOSE ASSEMBLY (HHB-3003)			
ITEM	TITLE	PART #	QTY
1	GUN	16-0001	1
2	LANCE ASSY	16-0389	1
3	STEAM NOZZLE	18-0358	1
4	STEAM NOZZLE HOLDER	23-0350	1
5	QUICK CONNECT	17-0006	1
6	HIGH PRESSURE HOSE	15-0077	1

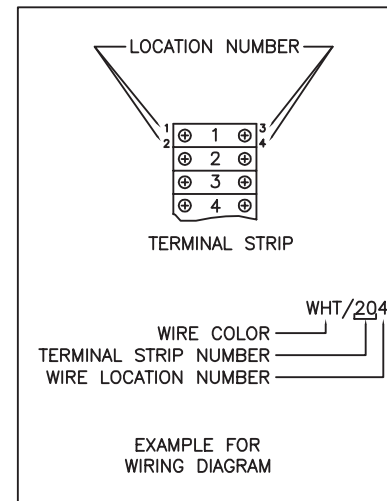
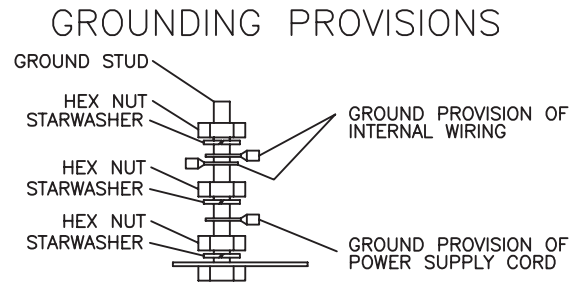
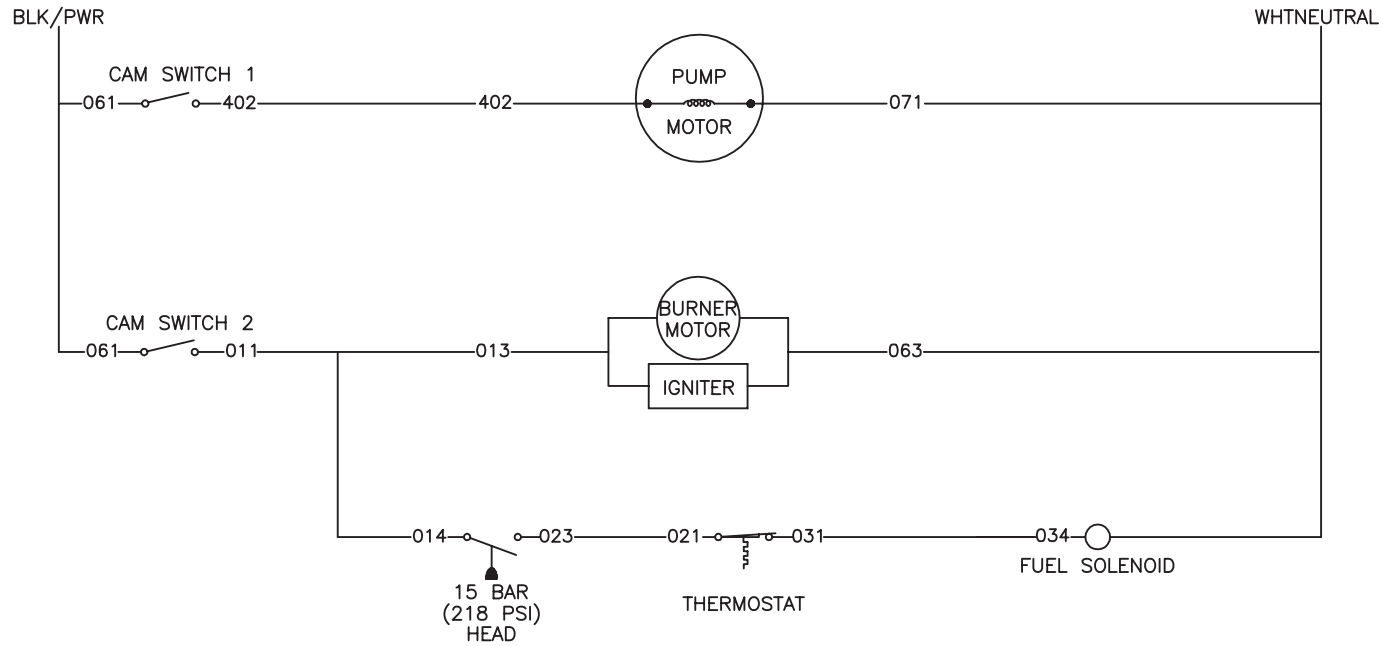
DUAL LANCE ASSEMBLY (16-0416 & 16-0417)



16-0416\_16-0417-102405-RZ

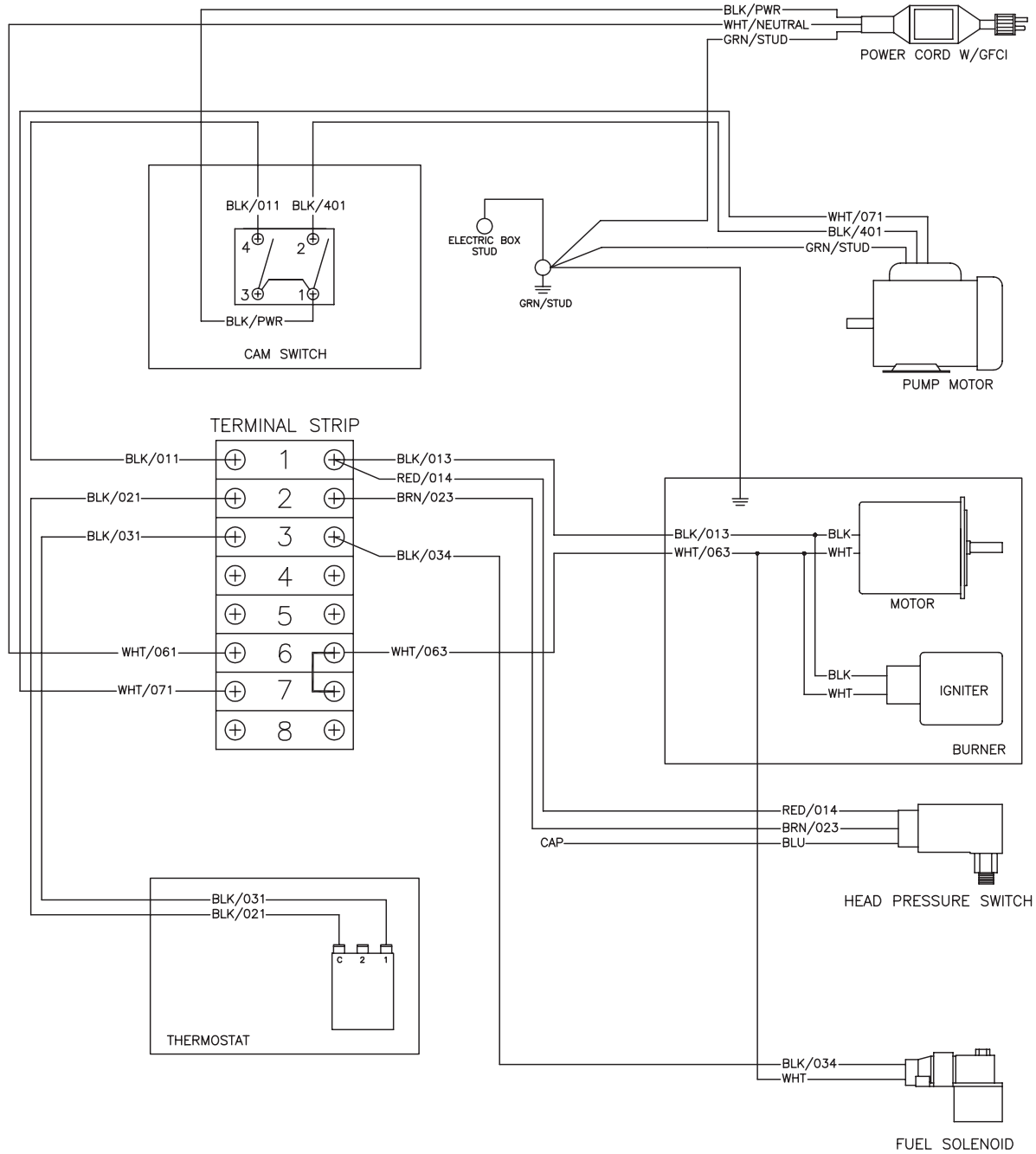
<b>DUAL LANCE ASSEMBLY (16-0416 &amp; 16-0417)</b>			
<b>REF. #</b>	<b>DESCRIPTION</b>	<b>PART #</b>	<b>QTY.</b>
1	Dual Lance Assembly - 36" (Inc. 2-11)	16-0416	1
-	Dual Lance Assembly - 48" (Inc. 2-11)	16-0417	1
2	Detergent Nozzle	18-0110	1
3	Nut	30-6001	1
4	Clamp	16-0420	2
5	Lower Valve Cover (See 16-0416 or 16-0417)	N/A Sep.	1
6	Housing (See 16-0416 or 16-0417)	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
-	Lance (See 16-0417)	N/A Sep.	2
10	Screw	27-8196	1
11	Nozzle Adapter	24-0280	2

# WIRE SCHEMATIC FOR HHB-1002/1003/1502



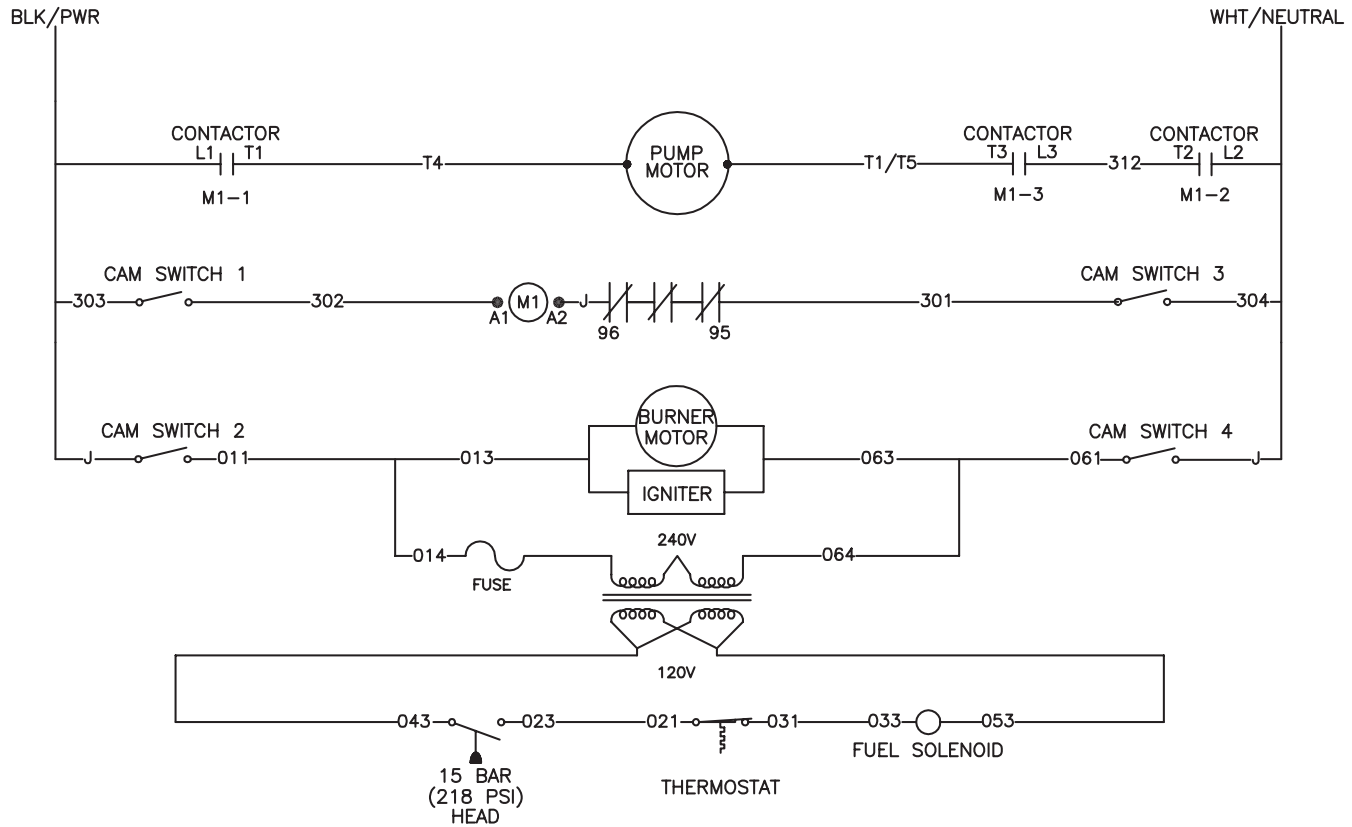


# WIRE DIAGRAM FOR HHB-1002/1003/1502

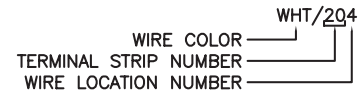
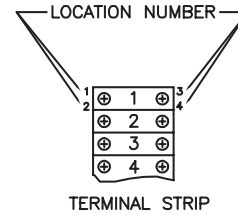
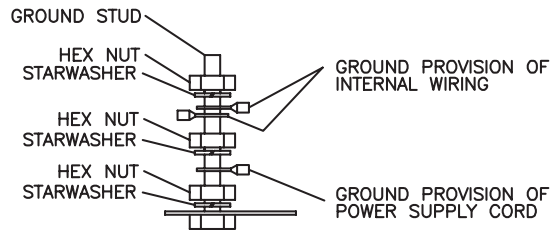


WD HHB 052114 JPS

# WIRE SCHEMATIC FOR HHB-2503

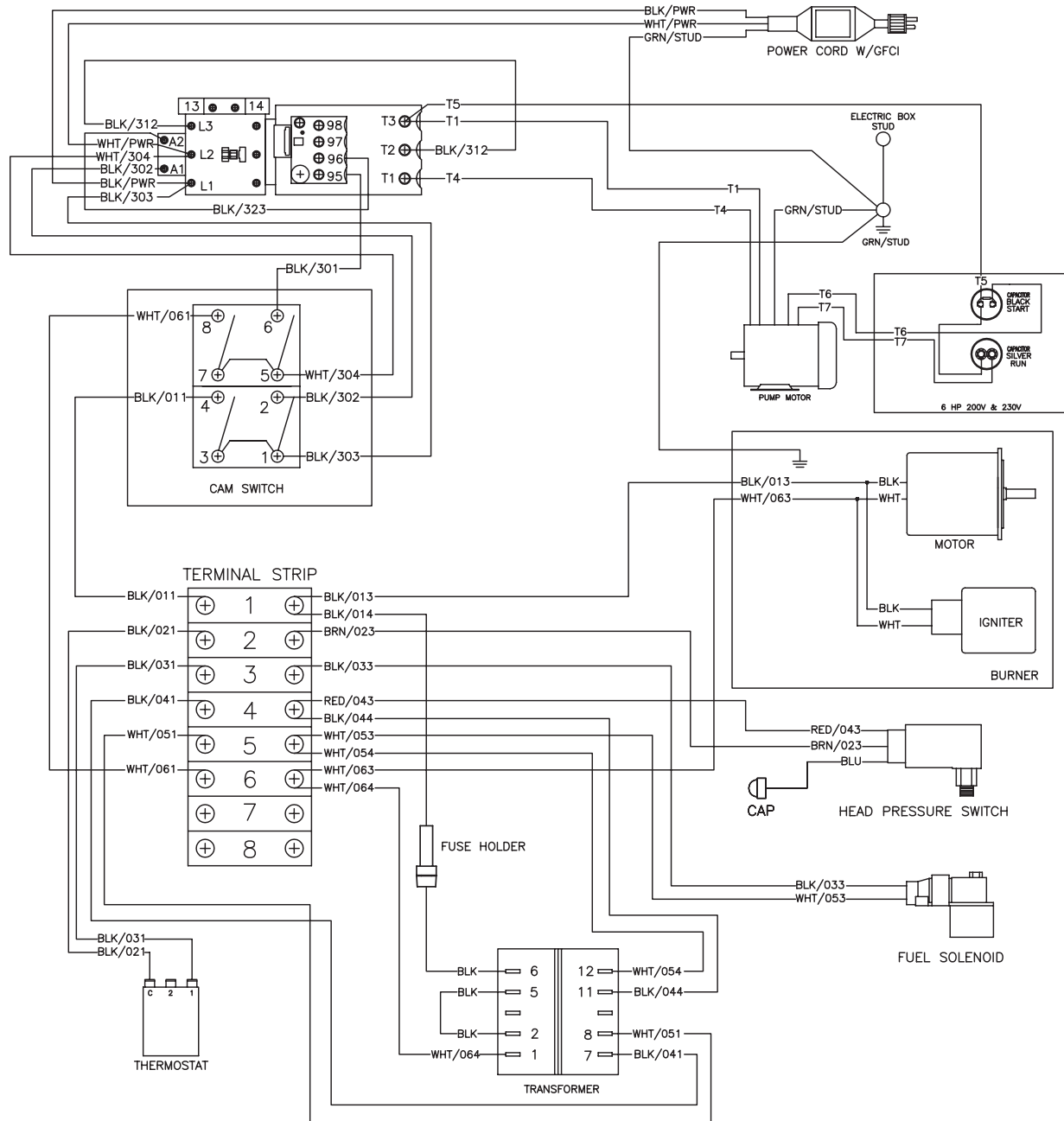


## GROUNDING PROVISIONS



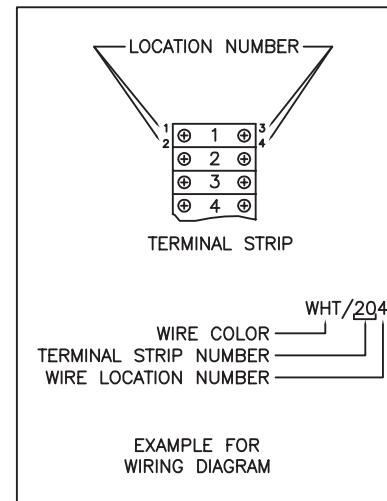
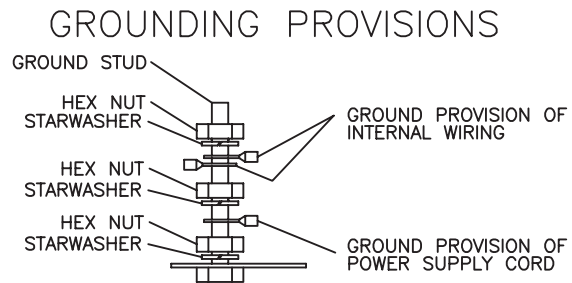
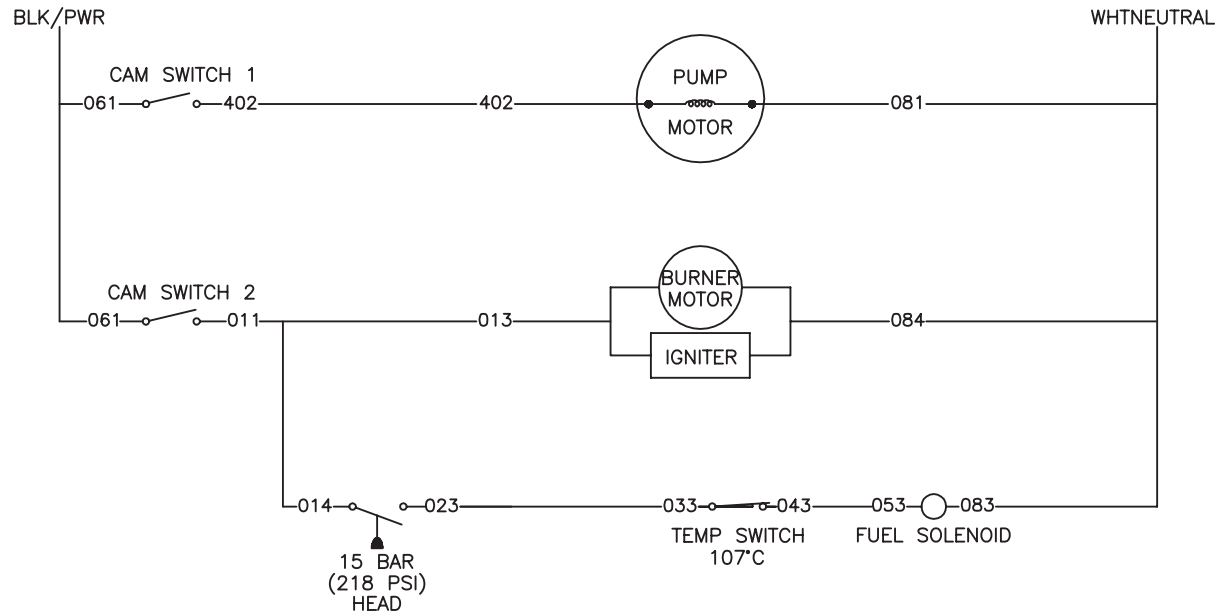
EXAMPLE FOR WIRING DIAGRAM

# WIRE DIAGRAM FOR HHB-2503



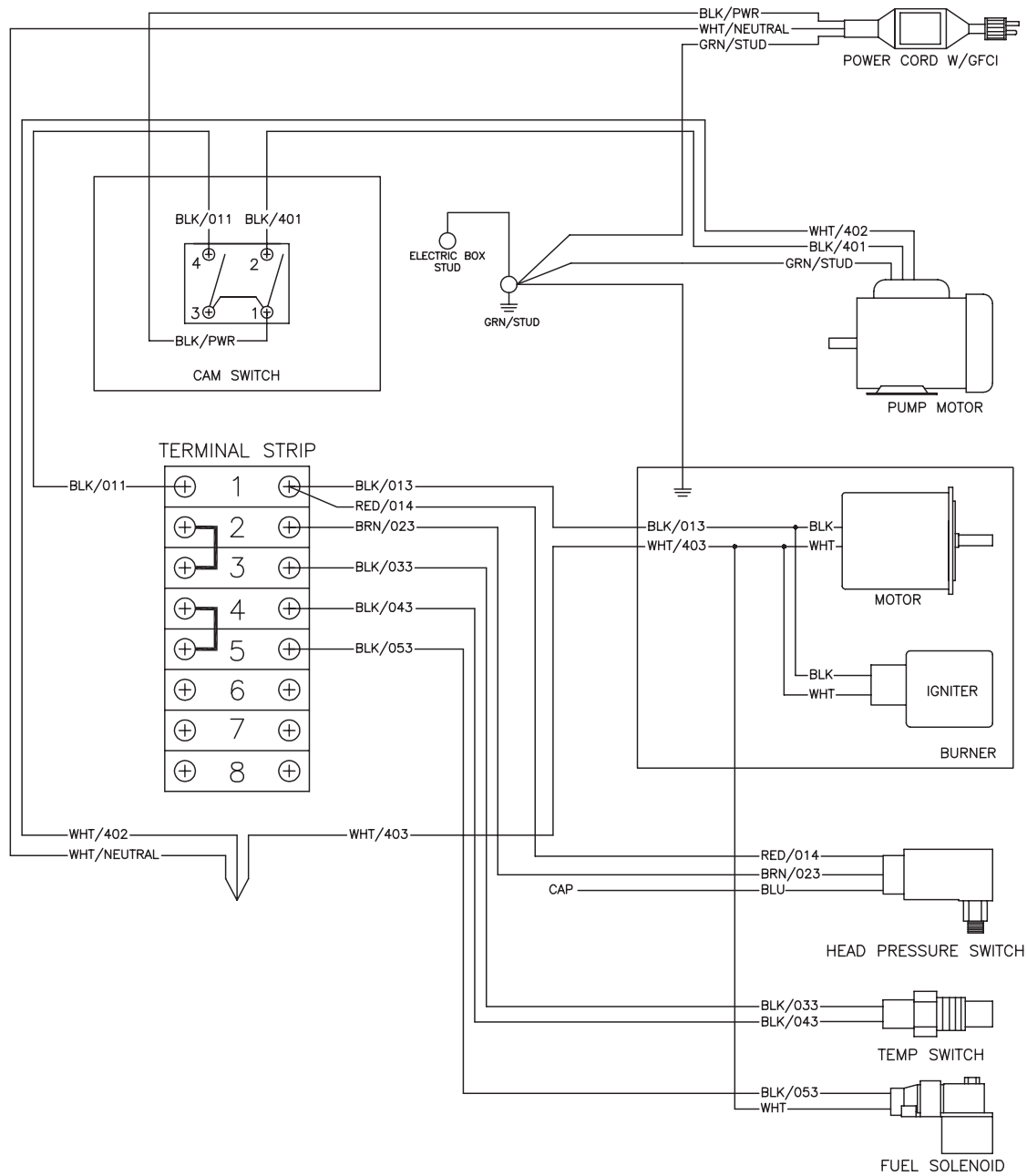
WD HHB-2503 102114 JPS

# WIRE SCHEMATIC FOR HHB-303



WS HHB-303 082614

# WIRE DIAGRAM FOR HHB-303



WD HHB-303 082614

Manufactured by Mi-T-M  
8650 Enterprise Drive, Peosta IA 52068  
563-556-7484/ Fax 563-556-1235