



Mi-T-M® CORPORATION

OPERATOR'S MANUAL

PRESSURE WASHERS

**Electrically
Heated**



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IMPORTANT SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before using the unit.
2. Read all electrical hook up instructions.
3. Read warnings on additive containers.
4. Ventilate work area when using toxic or pungent additives to reduce your exposure to toxic fumes.
5. Use protective wear, especially for the eyes and skin.
6. Be careful of slippery floors. Some additives make a normally safe area extremely slippery and dangerous.
7. Keep children away from the machine and wash area.
8. Do not change nozzle size. Each machine is designed to operate with a specific size nozzle. An incorrect nozzle could cause excessive pressure resulting in pump damage and possible personal injury. Refer to parts list for correct nozzle size.
9. Do not point the nozzle where damage or injury could result (eg. eyes, skin). The water discharge from this unit is under extremely high pressure.
10. Do not point the nozzle toward an electrical outlet as you risk severe shock and personal injury.

PRE-OPERATING INSTRUCTIONS

When unpacking the unit, if you find damage due to shipping, contact your dealer or Mi-T-M Corporation immediately,

ELECTRICAL SUPPLY

Arrange with an electrician to install a properly grounded, three phase service. To protect the receptacle from splashes, the recommended height above the ground level is a minimum of four feet. A ground fault interrupter (GFI) should be used. Make sure the supply voltage is correct. The voltage is shown on the rating plate of the unit, or see "Specifications, Features and Options" sheet in this manual.

IMPORTANT!

DO NOT CHANGE THE AC PLUG ON THE UNIT TO A DIFFERENT TYPE DO NOT CUT OFF THE GROUND PIN OR THE OPERATOR WILL BE EXPOSED TO SEVERE SHOCK. KEEP ELECTRICAL CORDS AND CONNECTIONS DRY AT ALL TIMES.

INCOMING WATER SUPPLY

Connect a garden hose to the water inlet of the unit. The water supply must be able to deliver 5-8 gallons per minute at a minimum pressure of 5 psi. See "Specifications, Features and Options" sheet in this manual.

HIGH PRESSURE NOZZLE

Attach the high pressure nozzle (sent with operator's manual), to the trigger gun extension.

OPERATING INSTRUCTIONS

When unpacking the unit, if you find damage due to shipping, contact your dealer or Mi-T-M Corporation immediately,

HOT PRESSURE WASHER MODE (P Units only)

SET-UP PROCEDURE:

1. Connect water supply to inlet on back of unit (minimum pressure 15 psi and maximum inlet pressure 60 psi) (maximum temperature 55° F or 13° C).
2. Connect high pressure hose and trigger gun to outlet on lower front of unit.
3. Connect electrical supply (fused disconnect)

OPERATING PROCEDURE:

Control (see 'Electrical Control Panel')

Number

- | | |
|----------------|---|
| 8 | 1. Push "Heater Reset" button - green light comes on |
| 7 | 2. Move toggle switch to "Pump On" position |
| 5 | 3. Turn temperature control to desired temperature (see 'Specifications' for maximum temps.) |
| 6 | 4. Move toggle switch to "Heater On" position |
| 1&2 | 5. When cleaning gun trigger is squeezed, the red indicator lights for thermostat and heater will go on. |
| 2 | 6. When water reaches desired temperature, the "Heater On" light will shut off as the unit maintains the desired temperature. |
| 1&2 | 7. At maximum temperature, both red lights remain on continuously. Both lights shut off when trigger is released. |

SHUT DOWN PROCEDURE:

- | | |
|----------|---|
| 6 | 1. Move heater switch to "OFF". |
| | 2. Keep trigger depressed until discharge water is cold. |
| 7 | 3. If unit will be subjected to temperatures below freezing, antifreeze protection must be applied. |

STEAM CLEAN MODE (S Units only)

SET-UP PROCEDURE:

1. Connect water supply to inlet on back of unit (minimum pressure 15 psi and maximum inlet pressure 60 psi) (maximum temperature 55° F or 13° C).
2. Connect the steam hose and steam wand to outlet on lower front of unit.

OPERATING PROCEDURE:

Control (see 'Electrical Control Panel')

Number

- | | |
|----------------|---|
| 8 | 1. Push "Heater Reset" button (green light should come on) |
| 7 | 2. Move toggle switch to "Pump On" position |
| 5 | 3. Turn temperature control to 305° F (152° C) position |
| 6 | 4. Move toggle switch to "Heater On" position (red light indicator for the thermostat and until the maximum temperature is reached) |
| | 5. The water flow will change to steam as the temperature increases (about three minutes until the maximum temperature is reached) |
| 1&2 | 6. Both red lights should now remain on. |

OPERATING INSTRUCTIONS Continued

HOT PRESSURE WASHER MODE (PS Units only)

SET-UP PROCEDURE:

1. Connect water supply to inlet on back of unit (minimum pressure 15 psi and maximum inlet pressure 60 psi) (maximum temperature 55° F or 13° C).
2. Connect high pressure hose and trigger gun to outlet on lower front of unit.

OPERATING PROCEDURE:

Control (see 'Electrical Control Panel')

Number

- 3 1. Turn selector switch on the Electrical Panel to "Pressure Wash"
- 8 2. Push "Heater Reset" button - green light comes on
- 7 3. Move toggle switch to "Pump On" position
- 5 4. Turn temperature control to desired temperature (see 'Specifications' for maximum temps.)
- 6 5. Move toggle switch to "Heater On" position
- 1&2 6. When cleaning gun trigger is squeezed, the red indicator lights for thermostat and heater will go on.
- 2 7. When water reaches desired temperature, the "Heater On" light will shut off as the unit maintains the desired temperature.
- 1&2 8. At maximum temperature, both red lights remain on continuously. Both lights shut off when trigger is released.

SHUT DOWN PROCEDURE:

- 6 1. Move heater switch to "OFF".
2. Keep trigger depressed until discharge water is cold.
3. Move pump switch to "OFF".

STEAM CLEAN MODE (PS Units only)

SET-UP PROCEDURE:

1. Connect water supply to inlet on back of unit (minimum pressure 15 psi and maximum inlet pressure 60 psi) (maximum temperature 55° F or 13° C).
2. Connect the steam hose and steam wand to outlet on lower front of unit.

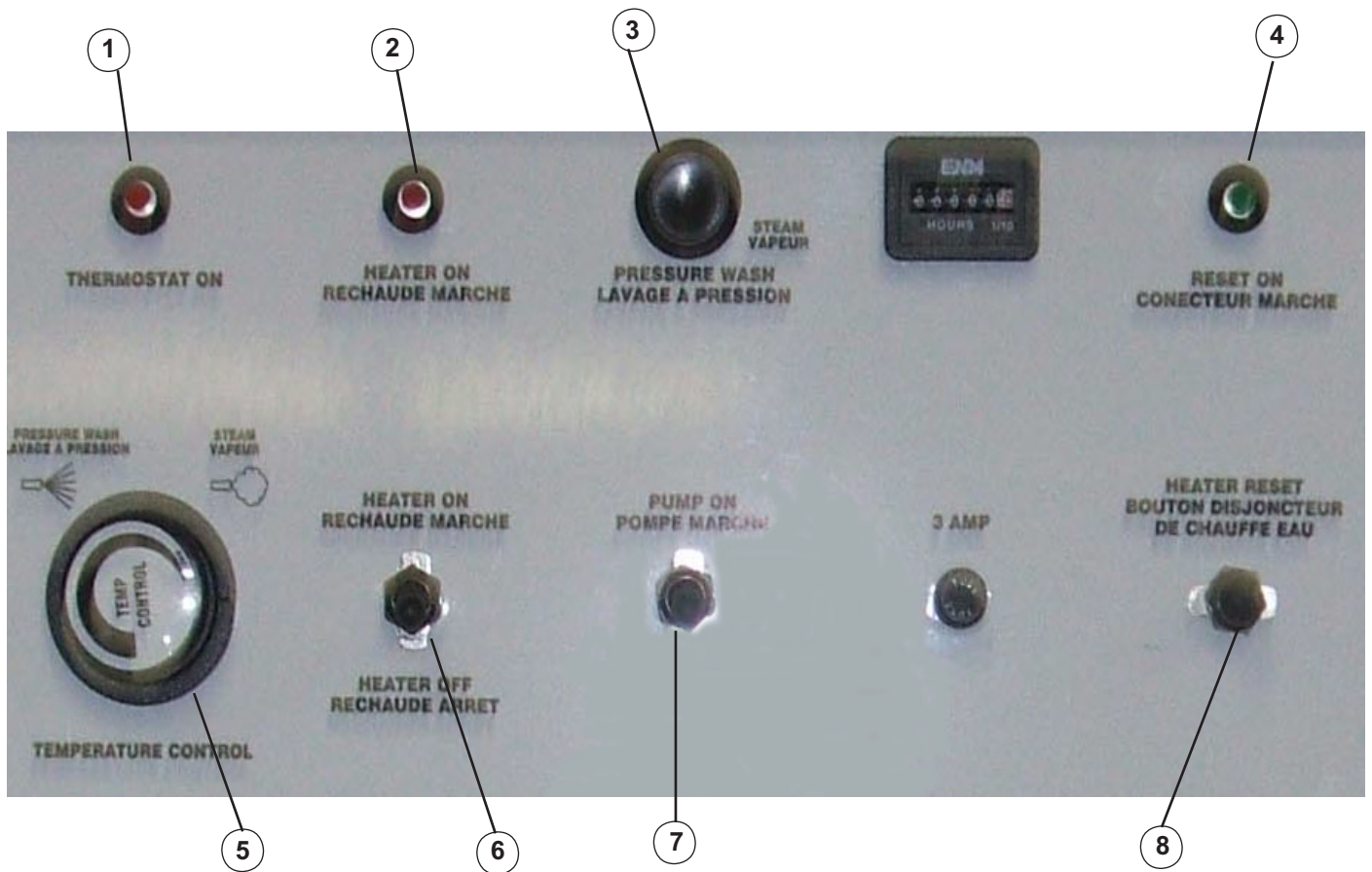
OPERATING PROCEDURE:

Control (see 'Electrical Control Panel')

Number

- 3 1. Turn selector switch on the Electrical control panel to "Steam Clean".
- 8 2. Push "Heater Reset" button (green light should come on)
- 7 3. Move toggle switch to "Pump On" position
- 5 4. Turn temperature control to 305° F (152° C) position
- 6 5. Move toggle switch to "Heater On" position (red light indicator for the thermostat and until the maximum temperature is reached)
6. The water flow will change to steam as the temperature increases (about three minutes until the maximum temperature is reached)
- 1&2 7. Both red lights should now remain on.

ELECTRICAL CONTROL PANEL



SAFETY COMPONENTS

FLOW SWITCH

The flow switch prevents the burner from being turned on if there is insufficient water. Proper water flow causes the magnetic core to be pushed up, causing the reed contact to close. This contact is interlocked with the main heater contactor.

UNLOADER VALVE

The Unloader allows all of the water delivered by the pump to return to the pump suction side. If the trigger gun is closed (shut) the valve goes into the “bypass mode”. The pump runs without pressure. However, the pump may be SEVERELY DAMAGED, due to excessive overheating, if left running in the “bypass mode” or “Gun-Off” situation for more than 6 minutes.

SAFETY RELIEF VALVE

The Relief Valve prevents the machine from being subjected to abnormally high pressures. If this situation occurs, the valve will blow off relieving the pressure in the coil. This valve may also operate if the unloader is adjusted too high.

THERMOSTAT

The built-in thermostat stops the unit from overheating. Maximum temperature of the unit is 300° F. (150° C) Above this temperature, the thermostat contactor turns off the third set of heaters.

LOW PRESSURE SWITCH

The Pressure Switch ensures that there is pressure, and therefore there is water flow at the head of the pump. This control does not operate at less than 3 psi. Therefore if the water is turned off, the machine will not operate.

HIGH LIMIT SWITCH

The high limit switch is a thermostat which operates at a higher temperature than the thermostat, about 305° F (150° C). This switch is not adjustable and will only operate when the other controls fail to keep the water temperature within the normal operating range. This switch cuts the power to all of the heaters.

FUSIBLE PLUG

The fusible plug is a safety relief device designed to operate at about 380° F. At this temperature it should only blow off if all of the other safety devices have failed. This is a one time device and must be replaced if it releases. More importantly, the cause of this blow off must be determined before refitting the machine.

THINGS TO CHECK REGULARLY

1. Check for SYSTEMS LEAKS. Leaks in the pressure side of the system can cause premature wear (or even failure) of the pump. The WARNING signal for this kind of leak is "frequent" cycling of the Unloader. ("FREQUENT" means more than once every 2 minutes in the "Gun-Off" position.) Check the gun and swivel joints for leaks.
2. Check the OIL LEVEL at least once a week. Add ONLY the type and grade of oil specified for this pump. (See Parts List.)
3. CHANGE OIL as recommended.
4. After you use chemical additives, thoroughly FLUSH the system with clean water.
5. Inspect the POWER CORD regularly. Also check the POWER OUTLET SOCKET. For safety, replace worn or damaged parts immediately.
6. Never run the washer without water. TURN WATER ON FIRST.
7. PROTECT FROM FREEZING! When transporting your washer in temperatures below 32°F (0°C), WINTERIZE the pump, hoses and gun.

WINTERIZING YOUR PRESSURE WASHER

1. Shut off the water supply and disconnect the hose at the water source.
2. Put the end of the water hose into a 4 litre jug of windshield washer anti-freeze.
3. Turn on Cleaner and open gun until liquid comes out of nozzle "foamy" or "soapy".
CAUTION: If your high pressure hose is longer than 26 feet, the 4 litre bottle of anti-freeze may empty before liquid from the nozzle gets foamy.
4. Put gun in "OFF" position for 5 seconds to get anti-freeze into bypass line. Shut off motor.
5. Disconnect the water hose at the machine.
6. The unit, pressure hose and gun are now winterized.

SERVICE AND MAINTENANCE

Before carrying out maintenance work or repairs, disconnect the plug from the power supply.

MAINTENANCE SCHEDULE:

WEEKLY:

Check the oil level of the high pressure pump. If the oil is milky or the oil level is below the minimum mark, change or fill with SAE 20W or 30W non-detergent oil.

YEARLY:

Oil Change: Remove the drain plug of the water pump, drain the oil, and clean and replace the drain plug. Fill oil up to the red dot inside the oil glass (Use SAE 20W or 30W non-detergent oil).

Coil Maintenance: Liming of the coils is caused by mineral deposits from the water and occurs in hard water areas. The deliming procedure requires special caution and tools. It is recommended that the local service person is contacted if problems arise.

Checking For Scale or Liming in Coil

1. Remove outlet orifice and check for liming. Clean orifice if needed.
2. Remove outlet gun.
3. Install a pressure gauge between the water pump and coil inlet.
4. Check condition of your water pump and unloader valve. Water pump and unloader valve failure will cause low pressure readings.
5. Turn on pump without water outlet gun or outlet orifice. If pressure reading is above 50 psi, have your machine descaled.
6. If your machine is satisfactory, reassemble.

Descaling: If pressure drop of over 50 psi is experienced in the coil, descaling is recommended. Descaling requires the use of highly corrosive chemicals as well as the use of special protective clothing.

1. Have a 20L pail of descaling chemical available.
2. Plumb the pump section into the pail of descaling compound with a screen on the end of the suction line.
3. Plumb a hose from the machine outlet back into the pail of descaling compound.
4. Turn the pump on and circulate the compound through the machine for about 20 minutes.
5. After that time the chemical being pumped out of the coil should be running thin and dirty rather than foaming heavily.
6. Remove the extra plumbing and reconnect machine together and run clean cold water through the machine for five minutes.

SPECIFICATIONS, FEATURES & OPTIONS

Electric Model Specifications

*Output temperatures are based on an input temperature of 55 deg. F

	EH-2303-0M30	EH-3004-0M30
Pressure PSI - Steam	-	-
Pressures PSI - Press	2300	3000
Volume GPH - Steam	-	-
Volume GPM - Press	3.0	3.9
Water Flow Supply Rate @ 5 psi	6.0	8.0
Nozzle Size	4.0	4.5
Temperature Steam °C	-	-
Temperature Steam °F	-	-
Temperature Press °C	60	82
Temperature Press °F	140	180
Electric Motor - HP	5	7.5
POWER REQUIREMENTS		
Volts (3 Phase)	575/460	575/460
Amps @ 575V	42	80
Amps @ 460V	51	125
KW	36	72
DIMENSIONS		
Length	38	38
Width	21	21
Height	30	30

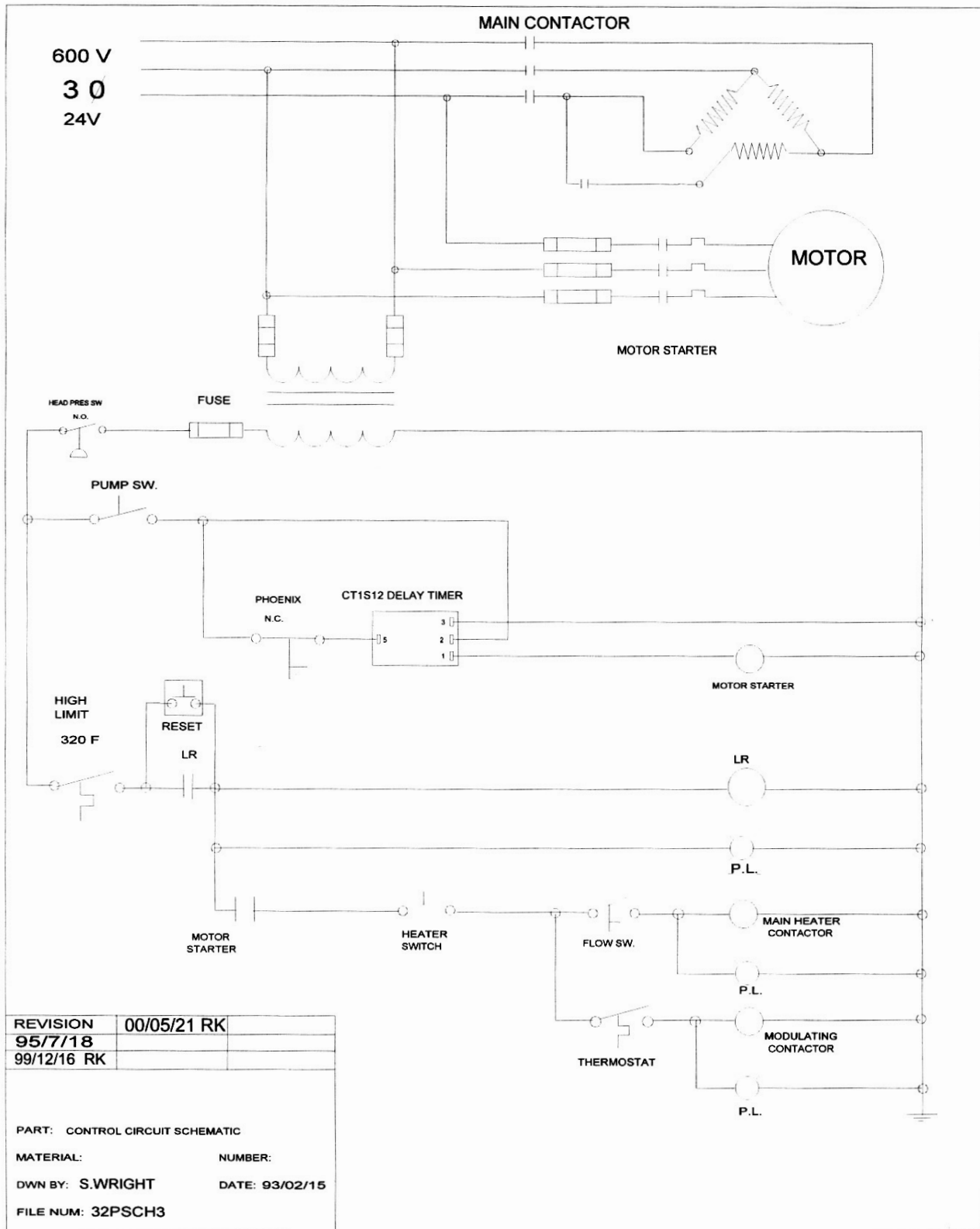
NOTES:

1. Standard features include CSA Inspection, auto start/stop, and 50' of hose.
2. Portability cart is optional

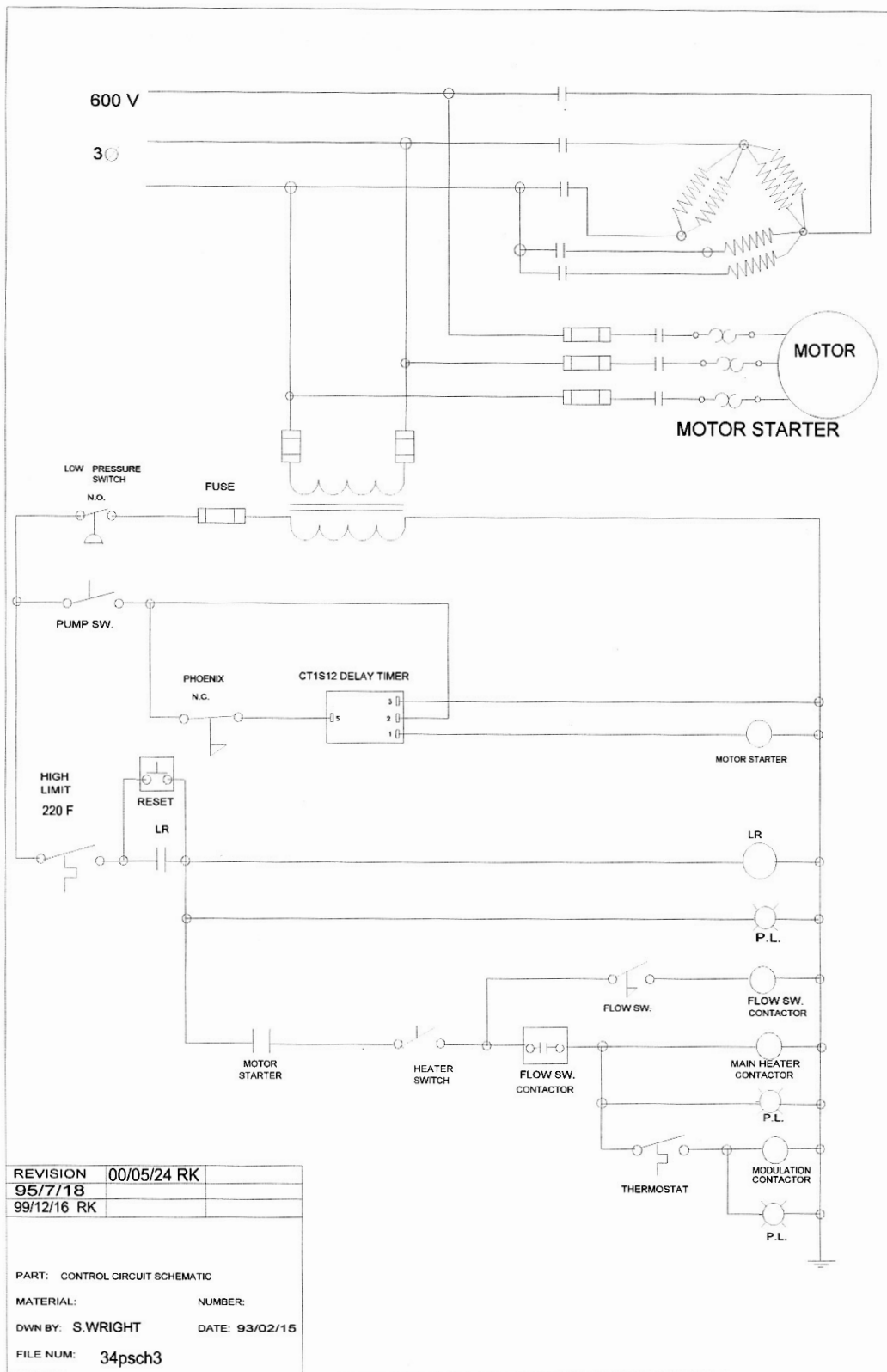
HOSE: Pressure washer hose is rated for 3000 psi and 250 F.

WATER PUMP: Three-Plunger high pressure pump with ceramic plungers

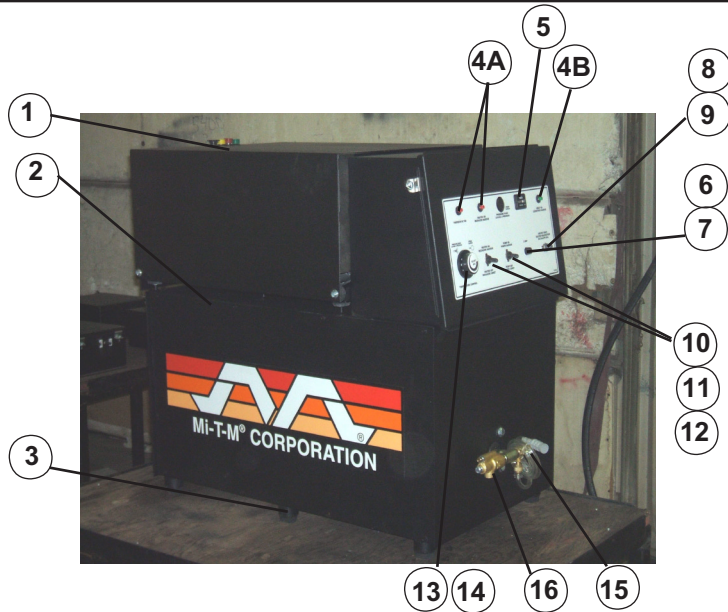
EH-2303-0M30 SCHEMATIC



EH-3004-0M30 SCHEMATIC

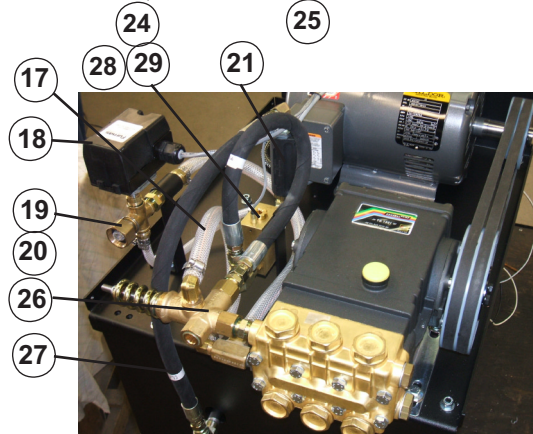


ELECTRICALLY HEATED PARTS BREAKDOWN

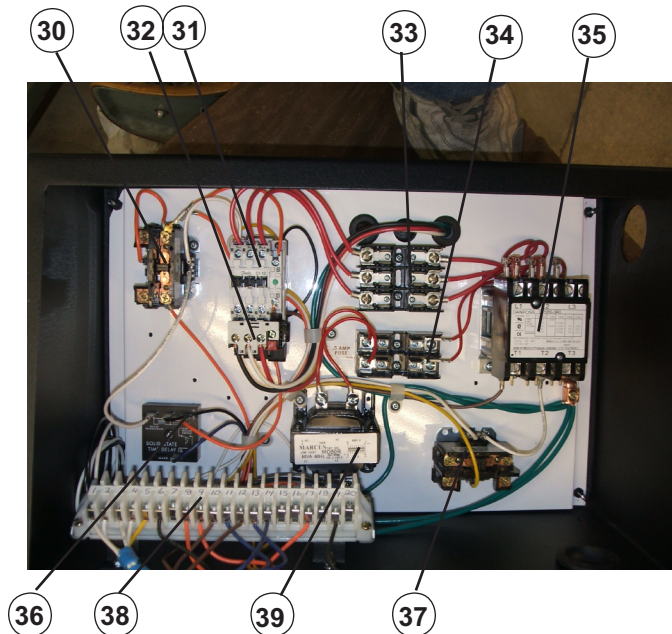


ITEM NO.	PART NO.	DESCRIPTION
1	EP: 24751	Cover
2	EP: 24757	Frame Panels
3	FA: 315-006	Rubber Feet
4A	EL: 2191L1-24V	Red Pilot Lights
4B	EL: 2191L5-24V	Green Pilot Lights
5	EL: GO-891-202	24v Counter Hour Meter
6	EL: GGC5	1 1/4 Fuses
7	EL: 345603	Fuse Holder
8	EL: 110PMOFF	Reset Push Button Switch
9	EL: N3030	Push Button Switch Boot
10	EP: 703701	On/Off Plate
11	EL: 1131/26	Pump Toggle Switch Boot
12	EL: CA201-73	Heater Toggle Switch
13	EL: TR86	Thermostat
14	EP: 40034	Thermostat Knob
15	EP: 22208	Snap Coupling
16	PU: SRI	Relief Valve

ITEM NO.	PART NO.	DESCRIPTION
17	FI: PVC128	PVC Bypass Hose
18	EL: 69WR3	Inlet Pressure Switch
19	FI: 201-W	Cap Nut
20	EP: 22191	Cap Nut Adapter
21	PU: ST5	Flow Switch
22	EN: KH22	5.0 HP Motor - EH-2303-0M30
22	EN: KH27	7.5 HP Motor - EH-3004-0M30 DR A 41
23	DR: 2AK44	Motor Pulley - 5 HP
23	DR: 2AK49	Motor Pulley - 7.5 HP
24	TS1331	General Pump - EH-2303-0M30
24	TS1511	General Pump - EH-3004-0M30
25	DR:2AK59QT	Pump Pulley - TS1511
26	PU: UVP1060	Unloader
27	FI: A48LD18	18" Coil To Panel Hose
28	PU:103012PV	Auto Shut Down Flow Switch
29	EP: 24766	Auto Shut Down Flow Switch Bracket

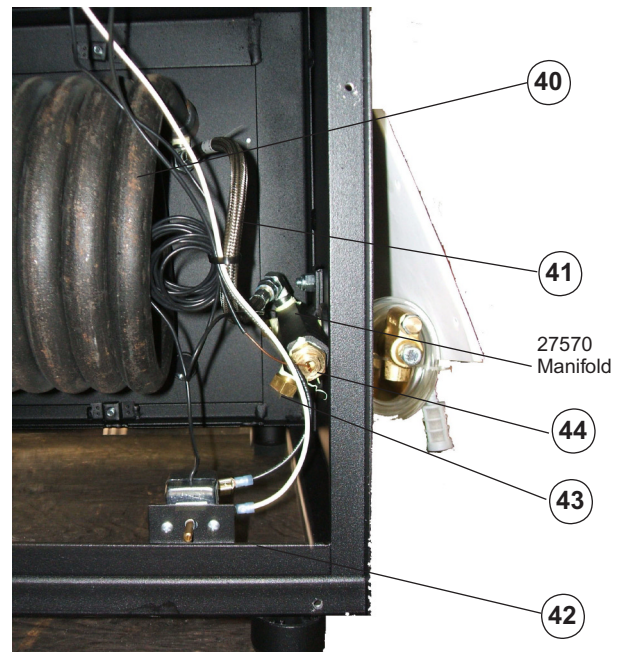
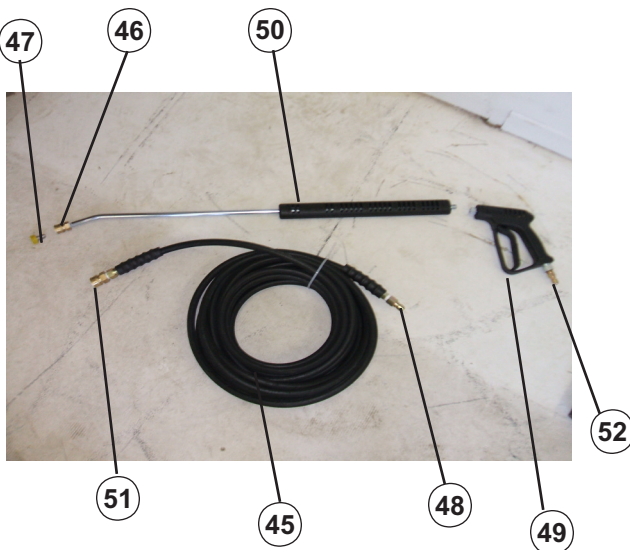


ELECTRICALLY HEATED PARTS BREAKDOWN



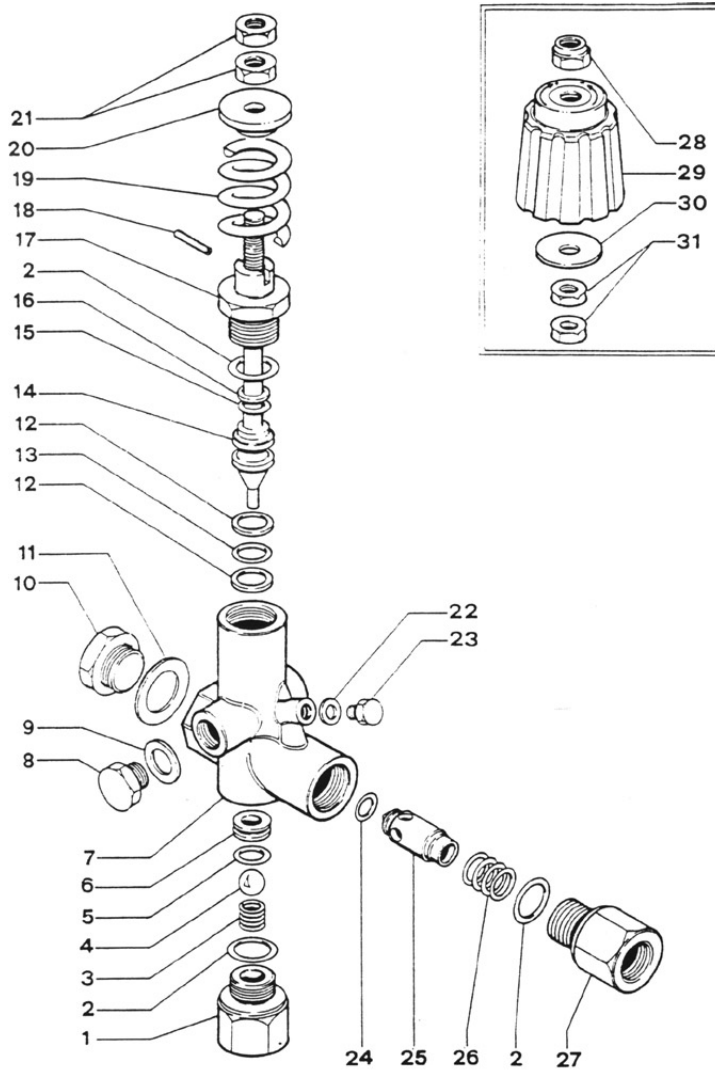
ITEM NO.	PART NO.	DESCRIPTION
30	EL: 45DG10AJ	Reset Contactor & Flow Switch Contactor
31	EL: CI12	Motor Starter
32	EL: T9EI	Overload Relay
33	EL: TCL.10	5 HP Motor Circuit Fuses (EH2303-0M30)
33	EL: TCL.20	7.5 HP Motor Circuit Fuses (EH3004-0530)
33	EL: TCFH.30	Cube Fuse Holder
34	EL: ATMR.5	Fuse
34	EL: 6M30A2SQ	Fuse Holder
35	EL: 42DF35AJ	Heater Contactor - EH-2303-0M30
35	EL: 42GE35AJ	Heater Contactor - EH-3004-0M30
36	EL: CT1S30	Delay Timer - All Machines
37	EL: 45DG10AJ	Thermostat Contactor - EH-2303-0M30
37	EL: 45EG20AJ	Thermostat Contactor - EH-3004-0M30
38	EL: 1492-CA1	Terminal Blocks
39	EL: MH50CG	480/24 Volt Transformer
40	EP: 40171	Heater Coil - 36 KW
41	FI: 2807-6-14	Heater Hoses 14"
41	FI: 2807-6-18	Heater Hose 18"
41	FI: 2807-6-36	Heater Hose 36"
42	EL: TR86	High Limit Switch
43	EP: 50760	Fuseable Plug
44	EP: 40096	Thermostat Well Bushing

ITEM NO.	PART NO.	DESCRIPTION
45	EL: 21186	50' Hose
46	EP: 22242FP	Nozzle Coupler
47	Q MEG	High Pressure Nozzle (See pg. 4)
48	EP: 22209	Snap Plug
49	PU: G250V	Trigger Gun
50	PU: Z9	Lance
51	EP: 22208	Snap Coupling
52	EP: 22209	Snap Plug



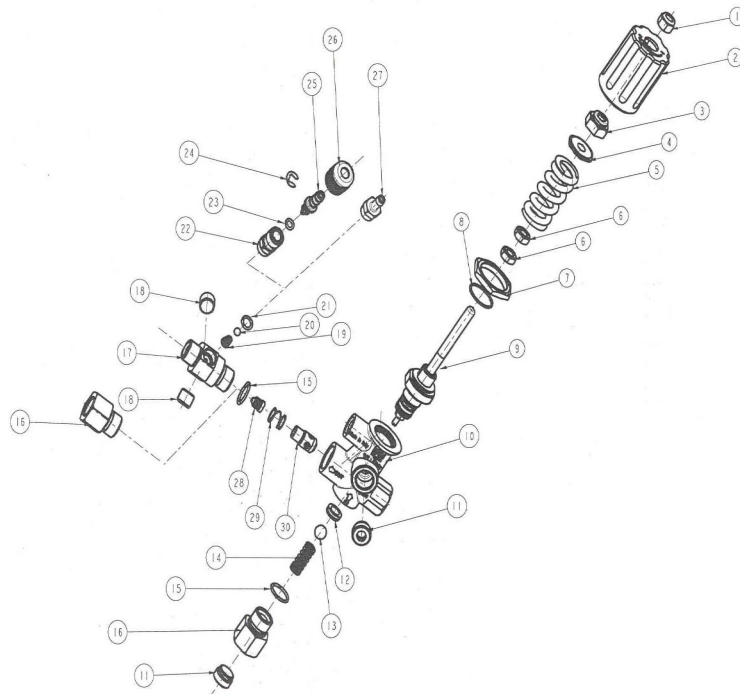
UNLOADER VALVE

UVP 1060



ITEM	DESCRIPTION	PART NUMBER
1	Inlet Fitting	60.0024.31
2	O Ring	10.3068.00
3	Ball spring	60.0015.51
4	S. S. Ball	14.7443.10
5	O Ring	10.3059.01
6	Seat	30.0011.51
7	Valve Housing	60.0020.35
8, 10	Plug	60.0028.31
9, 11	Washer	14.4042.00
12	Back Ring	10.4013.00
13	O Ring	10.3060.00
14	Piston Rod	60.0013.51
15	Back Ring	10.4008.01
16	O Ring	10.3055.00
17	Piston Housing	60.0014.31
18	Pin	153.1021.00
19	Spring	60.0032.61
20	Spring Guide	60.0011.31
21	Nut	11.4574.00
22	Washer	14.3911.00
23	Plug	28.0013.31
24	O Ring	10.3213.00
25	Check Valve	60.0017.31
26	Spring	60.0018.51
27	Outlet Fitting	60.0019.31
28	Nut	11.4589.10
29	Handle	60.027.22
30	Washer	14.3720.40

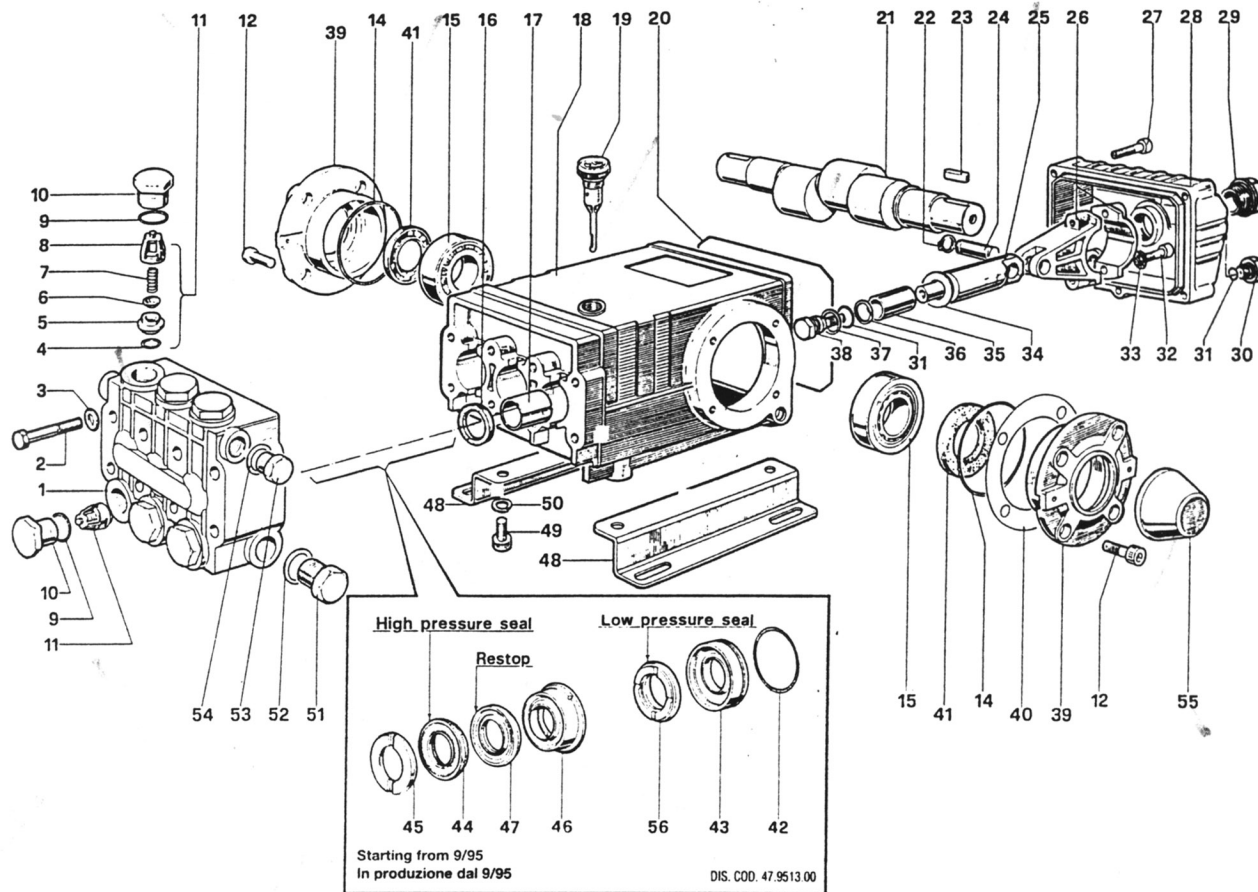
UNLOADER - MTM



Part #	Code	Description	No.
1 OT354127		Cental Body	1
2 BK400111		Ring Antiextrusion SR111	2
3 OR403043		O-Ring 3043 NBR	1
4 IX402552		Threaded Stelo M8x1 L.94	1
4 IX384244/1		Threaded Stelo M8x1 L.115	1
5 BK400109		Ring Antiextrusion SR109	1
6 OR400272		Connecting O-Ring 0272 NBR	1
7 OR403062		Connecting O-Ring 3062 NBR	1
8 OT402549		Connector M18x1	1
9 SE406873		Pin 3x14	1
10 M0354240		Spring 120	1
10 M0354241		Spring 180	1
11 OT402550		Spring Plate	1
12 VI387473		Nut. M8x1	1
13 OT354458		Cap G 1/4	1
14 OR350112		O-Ring Viton 112	1
15 SF351332		Ball 13/32" AISI 440	1
16 M0354676/1		Spring Inox	1
17 OT384674		Connector Guide Ball	1
18 VI355588/1		Nut M8x1 Zinc	2
19 OR400117		O-Ring 0117 NBR	3
20 OT402554		Connector G 3/8	2
21 IX402553		Ball	1
22 SF230000		Ball 11/32" AISI 440	1
23 M0400001		Spring	1
24 MA350000/1		Knob	1
25 PL354152		Knob Cover	1
26 OT354457		Cap G 3/8	1
27 OT355293		Plate Ball	1

Note: Kit 00035150 includes: Part# 2,3,5,6,7,9,14,15,16,18,19,21,22,23,27)

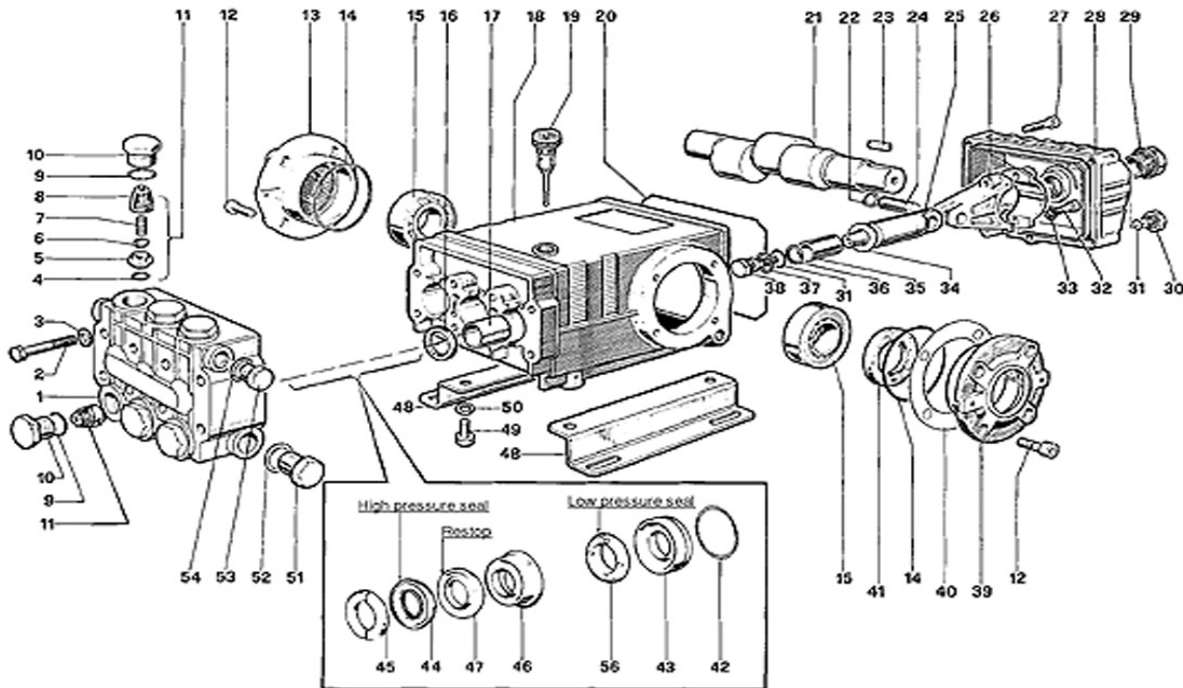
GENERAL PUMP TS1331



ITEM	DESCRIPTION	PART #	QTY	INCLUDED IN KIT
1	Pump Head	47.1208.41	1	
2	Screws	99.3206.00	8	
3	Washers	96.7020.00	8	
4	O-Rings	90.3841.00	6	1
5	Valve Seals	36.2003.66	6	1
6	Valve Plates	36.2001.76	6	1
7	Springs	94.7376.00	6	1
8	Valve Guides	36.2002.51	6	1
9	O-Rings	90.3847.00	6	5
10	Caps	98.2220.00	6	5
11	Valve Assembly	36.7032.01	6	1
12	Screws	99.3039.00	8	
14	O-Rings	90.3913.00	2	
15	Tapered Roller Bearings	91.8375.00	2	
16	Oil Seals	90.1625.00	3	2
17	Bushings	90.9126.00	3	
18	Crankcase	47.0104.22	1	
19	Oil Dip Stick	98.2106.00	1	
20	Cover Gasket	90.3922.00	1	
21	Crankshaft - T1331	47.0204.35	1	
22	Snap Rings	90.0557.00	6	
23	Key	91.4878.00	1	
24	Wrist Pins	97.7380.00	3	
25	Piston Guides	47.0505.54	3	
26	Connection Rods	47.0300.01	3	
27	Screws	99.1837.00	5	
28	Rear Crankcase Cover	47.1601.22	1	
29	Oil Level Indicator	97.5968.00	1	

ITEM	DESCRIPTION	PART #	QTY	INCLUDED IN KIT
30	Cap	98.2041.00	1	
31	O-Rings	90.3585.00	4	6
32	Screws	99.3099.00	6	
33	Washers	96.7014.00	6	
34	Washers	96.7286.00	3	6
35	Pistons	47.0404.09	3	
36	Anti-Extrusion Rings	90.5067.00	3	6
37	Washers	96.7280.00	3	6
38	Piston Screws	47.2195.66	3	6
39	Side Crankcase Cover	47.1500.22	1	
40	Shims	97.5678.00	2	
41	Oil Seal	90.1648.00	1	3
42	Oil Rings	90.3616.00	3	28
43	Packing Retainers	47.0805.70	3	28
44	Packings	90.2705.00	6	8 & 28
45	Head Rings	46.1000.51	6	7 & 28
46	Intermediate Rings	47.2169.70	3	9 & 28
47	"Long Life" Rings	90.2704.00	3	9 & 28
48	Pump Feet	47.2000.74	2	
49	Screws	99.3644.00	4	
50	Washers	96.7106.00	4	
51	Cap	98.2176.00	1	
52	Washer	96.7514.00	1	
53	Cap	98.2100.00	1	
54	Washer	96.7380.00	1	
55	Cover Cap	47.2124.51	1	
56	Packings	90.2710.00	3	29 & 148

GENERAL PUMP TS1511



ITEM	DESCRIPTION	PART #	QTY IN KIT	INCLUDED	ITEM	DESCRIPTION	PART #	QTY IN KIT	INCLUDED
1	Manifold	47.1208.41	1		30	Cap	98.2041.00	1	
2	Screws	99.3206.00	8		31	O-Rings	90.3585.00	4	6
3	Washers	96.7020.00	8		32	Screws	99.3099.00	6	
4	O-Rings	90.3841.00	6	1	33	Washers	96.7014.00	6	
5	Valve Seats	36.2003.66	6	1	34	Washers	96.7286.00	3	6
6	Valve Plates	36.2001.76	6	1	35	Piston	47.0404.09	3	
7	Springs	94.7376.00	6	1	36	Anti-Extrusion Rings	90.5067.00	3	6
8	Valve Guides	36.2002.51	6	1	37	Washers	96.7280.00	3	6
9	O-Rings	90.3847.00	6	4	38	Piston Bolt	47.2195.66	3	6
10	Caps	98.2222.00	6	4	39	Crankcase Cover (open)	47.1500.22	2	
11	Valve Unit	36.7032.01	6	1	39	Crankcase Cover (closed)	47.1501.22		
12	Screws	99.3039.00	8		40	Shim	97.5678.00	2	
14	O-Rings	90.3913.00	2		41	Oil Seal	90.1648.00	2	3
15	Roller Bearings	91.8375.00	2		42	O-Rings	90.3616.00	3	10-28
16	Oil Seals	90.1625.00	3	2	43	Packing Retainer	47.0805.70	3	10-28
17	Bushings	90.9126.00	3		44	Packings	90.2705.00	3	28-69
18	Crankcase	47.0104.22	1		45	Head Rings	47.1000.51	3	7-28
19	Oil Dip Stick	98.2106.00	1		46	Intermediate Rings	47.2169.70	3	28-71
20	O-Ring	90.3922.00	1		47	Backing Rings	90.2704.00	3	28-69-71
21	Crankshaft - T1511	47.0201.35	1		48	Foot	47.2000.74	1	
22	Circlips	90.0557.00	6		49	Screws	99.3644.00	4	
23	Key	91.4878.00	1		50	Washers	96.7106.00	4	
24	Piston Pins	97.7380.00	3		51	Cap	98.2176.00	1	
25	Piston Guides	47.0505.54	3		52	Washer	96.7514.00	1	
26	Connection Rods	47.0300.01	3		53	Cap	98.2100.00	1	
27	Screws	99.1912.00	5		54	Washer	96.7380.00	1	
28	Crankcase Cover	47.1601.22	1		55	Cap	47.2124.51	1	
29	Oil Level Indicator	97.5968.00	1		56	Packings	90.2710.00	3	28-29

TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	REMEDY
Low Pressure	Loose belt on pump	Tighten pump
	Leaks in water system	Tighten all fittings
	Insufficient water supply	Fill tank or increase line size to machine
	Outlet orifice worn or wrong size	Replace with correct orifice. CAUTION: Do not use smaller than recommended. Excessive pressure will damage pump.
	Gun control unloader valve bypass leak	Repair or replace unloader valve
	Dirty or worn check valves in pump	Replace or clean. Refer to high pressure pump manual.
Excessive Pressure	Cylinder cups leaking and/or worn cylinder sleeves	Replace. Refer to high pressure pump manual.
	Outlet orifice restricted	Remove orifice at tip of gun and clean. Flush coil with water before replacing.
	Scale or dirt in coils	Descale coils
Relief Valve Operates	Pump speed too high	Check water output GPM
	Relief valve set at low pressure	Re-adjust relief valve
	Relief valve dripping after adjustment	Replace valve
Weak or no chemical at nozzle	Unloader valve stuck	Repair unloader valve
	Clogged soap screens	Clean or replace
	Air leak around soap siphon	Tighten all fittings and tubings check valve and/or metering valve leaking
Pump motor heating or overloading	Motor wet	Allow to dry. Have motor checked by qualified repair station.
Pump motor heating and clean.	Outlet orifice restricted	Remove orifice at tip of gun or overloading
	Undersize outlet orifice	Replace with correct size
	Coil scaling up	Descale coil
	Water pump out of oil	Fill to correct level. Check for leaks
	Overload switch operated	Allow motor to cool CAUTION: Switch may automatically reset.
	Faulty motor	Repair or replace
Water temperature too low	Thermostat adjustment	Adjust the thermostat to desired temperature
	Coils liming up	Descale



Mi-T-M® CORPORATION

MI-T-M® WARRANTY

Warranty does not include damage from negligence, abuse or freezing and is limited to the repair or replacement of the part(s).

Warranty parts(s) will be repaired or replaced F. O. B. our factory or at any Mi-T-M® authorized depot, without charge, providing permission is first obtained from our factory and the part(s) returned prepaid. If on site inspection is requested, a labour charge will apply.

All parts will be repaired or replaced at Mi-T-M® discretion.

	WARRANTY PERIOD	LABOUR
PUMP		
- oil end	ORIGINAL MFR'S WARRANTY	1 year
- manifold	ORIGINAL MFR'S WARRANTY	1 year
- wet end	ORIGINAL MFR'S WARRANTY	no labour
(includes 'o' rings, packing and valves)		
MOTOR / ENGINE	Original Manufacturer's Warranty	
FABRICATED PARTS	1 year	1 year
(coil wrap, handle, frame, belt guard, etc.)		
BURNER	1 year	1 year
TRANSFORMER	1 year	1 year
MISCELLANEOUS	1 year	1 year
(cords, floats, electrodes, switches, fuel pumps, thermostats, blower fans etc.)		
UNLOADER	90 days	90 days
CONTROL & SAFETY SWITCHES	1 year	1 year
WEAR ITEMS	No Warranty	No Labour
(belts, hose, gun, wand, nozzle, quick couplers, 'o' rings, seals, gaskets, filters, chemical injectors, etc.)		
HEAT EXCHANGE COIL		
Schedule 40	2 years	1 year
Schedule 80	3 years	1 year
Electric	3 years	1 year

Any replacement during the warranty period will have a warranty of one (1) year or the balance of the original warranty, whichever is greater.

Mi-T-M® will not replace coils under warranty if the coils have been subjected to misuse such as:

1. freezing
2. lime deposit
3. other foreign material deposit
4. shock or vibration.

