

# STEAM GENERATOR

## TECHNICAL MANUAL

*2 GALLON SERIES*



**JEL-1, JEL-2, JEL-3, JEL-4, JEL-6**  
**ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7**



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**HOFFMAN NEW YORKER  
MANUFACTURER'S WARRANTY  
ELECTRIC STEAM GENERATORS & BOILERS**

The warranty herein provided covers Electric Steam Generators and Boilers manufactured by Hoffman New Yorker (H/NY). H/NY offers no warranty on parts manufactured by others but will pass on to buyer the warranty received from the seller or manufacturer of such parts and assist in obtaining buyer's rights per such warranty. H/NY's only obligation will be to furnish replacement parts in accordance with the herein listed schedule for parts that H/NY determines to have been defective in material or workmanship. The buyer agrees to return the defective part to H/NY identified and in accordance with H/NY return material authorization (RMA) policy, freight prepaid within 30 days of receipt of the replacement part. Replacement parts are warranted only for the remainder of the original warranty. No advice or information, oral or written, by employees, affiliates, agents, representatives, licensors, authorized or unauthorized persons will create a warranty, nor should you rely on such advice or information.

**Schedule**

The pressure vessel, electrical and mechanical components are warranted for one year from the date of sale to an original end user with the limitations provided hereinafter.

Damage to the generator or boiler in transit shall not be considered a defect under this warranty and such damage claims must be presented to the shipping carrier by buyer. H/NY liability, if any, will not exceed the price of H/NY products claimed to be defective. The warranty is contingent upon proper installation, use and maintenance of the generator or boiler in strict accordance with H/NY Technical Manuals furnished with the product. Users are responsible for the suitability of the products to their application. There is no warranty damage resulting from improper installation, abuse, power failure, fire, flood, lightening, improper water, misuse, improper specification, misapplication or other operating conditions beyond our control or parts that are normally expendable in usual course of operation. H/NY is not liable for labor or other costs incurred in the removal, reinstallation, unauthorized repair of this product, or damages of any type whatsoever including incidental or consequential damages.

**THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, DISCLAIMERS AND CONDITIONS EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO ONE IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES, GUARANTEES OR REPRESENTATIONS ON BEHALF OF H/NY. H/NY'S SOLE LIABILITY AND YOUR EXCLUSIVE REMEDY WITH RESPECT TO SERVICE AND TO DEFECTS IN THE PRODUCT OR PARTS SHALL BE AS SET FORTH IN THIS WARRANTY AND IN NO EVENT SHALL H/NY BE LIABLE FOR DAMAGES, CONSEQUENTIAL OR INCIDENTAL FROM DEFECTS IN THE PRODUCT OR PARTS SOLD BY H/NY AND MANUFACTURED BY H/NY OR MANUFACTURED BY OTHERS. H/NY RESERVES THE RIGHT TO IMPROVE, MODIFY, OR CHANGE THE DESIGN OF ANY PRODUCT WITHOUT BEING HELD LIABLE FOR MAKING SAID IMPROVEMENT, MODIFICATION, OR CHANGE ON ANY PRODUCT PREVIOUSLY SOLD.**

# STEAM GENERATOR MANUAL

## 1.0 INTRODUCTION

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This manual contains the installation, operation and maintenance instructions, troubleshooting guide, repair parts illustrations and lists for the Hoffman/New Yorker Electric Steam Generators. The Steam Generators are designed and manufactured with constant attention to quality, performance, operator safety and energy efficiency. With proper installation, operation and maintenance, the Hoffman/New Yorker Electric Steam Generator will last a lifetime.

The Steam Generators are composed of a pressure vessel, a safety valve, piping, a heating element, controls and the enclosure.

The pressure vessel is manufactured from high strength steel or cast bronze. It is rated at 100 pounds per square inch of steam pressure. The vessel, safety valve and piping have been designed to the standards set forth in the American Society of Mechanical Engineers Boiler and Pressure Vessel Code. It meets or exceeds their requirements for safety. Many Steam Generator assemblies are UL and/or CUL listed. Consult your Hoffman/New Yorker distributor for their identification.

The Heating Element is a flange mounted immersion element. Immersion elements are the most energy efficient heating elements available. This is due to the element making contact with the working fluid (water), transferring all the energy required for heating water into steam.

Some electric steam generator models use a thermostat controller to regulate the steam pressure. The controller senses the temperature and regulates the current to the heating element to provide the desired output. Larger generators are regulated with pressure switch controllers.

Steam pressure and temperature are related. The higher the steam pressure, the higher the temperature. For a listing of pressures and corresponding temperatures see Chapter 6, Table 6.1.1.

Hoffman/New Yorker also offers a wide variety of options for the steam generators. For a listing of the options available, please contact your Hoffman/New Yorker Distributor.

### **1.1 INTENDED USE**

The generators listed in this manual are intended for small steam usage requirements. They may be used for jewelry steam cleaning, dental lab steam cleaning, auto trim, furrier glazing of garments, or for use with steam irons, etc.

The units are capable of producing high-pressure steam. They should not be used for applications that require low-pressure steam unless provisions are made to limit the steam pressure (i.e. autoclaves, steam bath applications, etc.).

The machines are not intended for space heating purposes.

### **1.2 REGISTRATION WITH LOCAL JURISDICTION**

The steam generator may need to be registered with your local or state government. Check with your municipality for requirements.

### **1.3 PRELIMINARY DELIVERY INSPECTION**

INSPECT BOX/CRATE AND STEAM GENERATOR FOR SHIPPING DAMAGE AND SHORTAGE. ANY DAMAGE OR SHORTAGE IN SHIPMENT SHOULD BE NOTED ON THE FREIGHT BILL BEFORE IT IS SIGNED. CALL THE CARRIER IMMEDIATELY TO REPORT ALL DAMAGE OR SHORTAGE AND ARRANGE TO FILE A CLAIM. THE CARRIER IS RESPONSIBLE TO YOU FOR THE SAFE ARRIVAL OF THE EQUIPMENT.

### **1.4 WARRANTY ACTIVATION**

To activate the Warranty coverage on your Hoffman/New Yorker equipment, please complete and return the Warranty Card supplied with the unit.

### **1.5 SAFETY AND PRECAUTIONS**

It is vital that the purchaser of a Steam Generator read this manual and fully understand the instructions before installing or operating the unit. Safety statements are made throughout the manual in the format stated on this page and the next page. Supervisors must assure that the personnel assigned to operate this Steam Generator are instructed on and understand the operating and safety features of the unit. The foregoing is imperative, along with safe working habits of the operator, to assure worker safety.

#### **1.5.1 SAFETY NOMENCLATURE**

NOTES, CAUTIONS and WARNINGS are used through out this manual to emphasize important and critical instructions.

- **NOTE: A NOTE IS USED TO EMPHASIZE OPERATING PROCEDURES AND CONDITIONS THAT ARE ESSENTIAL TO HIGHLIGHT.**

#### **CAUTION**

**A CAUTION IS USED TO INDICATE A HAZARDOUS SITUATION THAT MAY RESULT IN PERSONAL INJURY OR DAMAGE TO THE MACHINE.**

#### **WARNING**

**A WARNING IS USED TO INDICATE A HAZARDOUS SITUATION THAT HAS SOME PROBABILITY OF DEATH OR SERIOUS PERSONAL INJURY.**

#### **1.5.2 SAFETY FEATURES**

The following are safety features, which are incorporated into the Steam Generator:

1. ASME Pressure Vessel.
2. ASME Pressure Relief Valve.
3. Steam Pressure Gauge to show internal pressure.
4. Sight Glass to show internal water level.
5. Sight Glass Shield to prevent inadvertent glass breakage.
6. Built in Low Water Cutoff.
7. Electric system designed, manufactured and tested to UL and/or CUL Standards.

### 1.5.3 SAFETY SUMMARY

The following are general safety precautions that are not related to any specific instructions and therefore do not appear elsewhere in this manual. These are recommended precautions that personnel must understand and apply during all phases of operation and maintenance.

#### **WARNING**

**DO NOT OPERATE OR SERVICE THIS MACHINE BEFORE READING AND UNDERSTANDING THIS INSTRUCTION MANUAL.**

#### **WARNING**

**COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND LAWS REGARDING THE INSTALLATION OF THIS MACHINE IS REQUIRED.**

#### **WARNING**

**IT IS THE RESPONSIBILITY OF THE PURCHASER OF THIS MACHINERY TO TRAIN THE OPERATING PERSONNEL IN THE PROPER MANNER OF OPERATION. IT IS FURTHERMORE UNDERSTOOD THAT HOFFMAN/NEW YORKER ASSUMES NO RESPONSIBILITY FOR INJURY, DISABILITY OR DEATH RESULTING FROM THE IMPROPER OPERATION OF, REMOVAL FROM OR BYPASSING THEREOF ANY ELECTRICAL OR MECHANICAL SAFETY DEVICES INCORPORATED IN THE DESIGN AND MANUFACTURING OF THIS MACHINERY.**

#### **WARNING**

**THIS MACHINE DEVELOPS HIGH TEMPERATURES AND USES PRESSURIZED STEAM, AS WELL AS HIGH ELECTRICAL VOLTAGES. BEFORE SERVICING THIS MACHINE, DISCONNECT SOURCES OF ELECTRICITY AND STEAM, THEN BLEED STEAM FROM THE MACHINE. ENSURE THAT ALL HEATED SURFACES ARE COOL AND ALL MECHANISMS ARE IN THEIR ZERO POSITION.**

#### **WARNING**

**OSHA'S LOCKOUT/TAGOUT STANDARD (29 CFR 1910.147) REQUIRES THAT ALL ENERGY SOURCES BE TURNED OFF AND "LOCKED OUT" WHILE MACHINES ARE BEING SERVICED OR MAINTAINED.**

#### **WARNING**

**WHEN SERVICING THIS MACHINE, USE ONLY APPROVED HOFFMAN/NEW YORKER REPLACEMENT PARTS.**

## 2.0 INSTALLATION

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### CAUTION

**SOME ASSEMBLY MAY BE REQUIRED. FOLLOW THE ASSEMBLY INSTRUCTIONS PROVIDED WITH THE UNIT. PERFORM ALL ASSEMBLY BEFORE INSTALLING THE UNIT.**

1. Some generator models are supplied with mounting holes. Mount the generator to a bench or to the floor.

### CAUTION

**ASSURE FLOOR/TABLE BEARING CAPACITY IS ADEQUATE FOR THE LOAD IMPOSED BY THE STEAM GENERATOR.**

2. On models with a Watts Water Feeder, mount the generator perfectly level to insure proper operation of the feeder.
3. Make sure that the generator is oriented so that the safety relief valve is pointed away from any aisle or work area. Discharge piping from the relief valve is recommended and may be required by local law.
4. If discharge piping must be installed on the safety relief valve, make sure that the piping is so supported that it imposes no load on the valve itself. The discharge pipe must be equal to or larger in pipe size than the outlet of the safety relief valve. See yellow card attached to the Safety Valve for instructions.
5. A water supply line must be connected to a generator with automatic water feed (Watts Water Feeder or Pump). Use a Strainer on the water supply line to protect the Watts Water Feeder or Pump.
6. Power the generator from a separate fused supply line. The amperage ratings for various generators are indicated in Chapter 6, Table 6.2.1. Never power the generator from a line that is rated less than that required to run the unit.

### WARNING

**ALWAYS PROPERLY GROUND THE UNIT BEFORE OPERATING. ONLY A LICENSED ELECTRICIAN SHOULD SERVICE OR INSTALL A HOFFMAN/ NEW YORKER STEAM GENERATOR.**



### 3.0 OPERATING INSTRUCTIONS

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1. Open the gauge glass valves on the top and bottom of the gauge glass assembly (on units supplied).
2. Check the drain valve to be certain that it is closed.
3. Filling the boiler:
  - A. For *Manual Water Feed Models*: Open the water fill valve on the side of the boiler. Fill the boiler until the water reaches the “Full” mark ( $\frac{3}{4}$  the height of the glass).
    - **NOTE: IT MAY BE NECESSARY TO OPEN THE STEAM OUTLET VALVE TO ALLOW AIR TO BREATHE FROM THE SYSTEM. AIR BOUND SYSTEMS WILL BE HARD TO FILL. THERE IS AN AIR BREATHER VALVE LOCATED ON THE STEAM GAUGE LINE ON SOME MODELS.**
    - **NOTE: IT IS RECOMMENDED TO USE DISTILLED WATER FOR OPTIMUM PERFORMANCE.**
    - **NOTE: DO NOT OVERFILL THE BOILER. OVERFILLING WILL CAUSE WET STEAM OR CAUSE DIRT PARTICLES TO DISCHARGE FROM THE STEAM NOZZLE.**
  - After the unit is full, close the water fill valve.
  - B. For *Automatic Water Feed Models with a Watts Water Feeder*: Connect the water line. Turn the water supply on. The Water Feeder will fill the boiler.
    - **NOTE: THE WATTS WATER FEEDER MUST BE SUPPLIED WITH A HIGHER WATER PRESSURE THAN OPERATING PRESSURE OF THE STEAM GENERATOR.**
  - C. For *Automatic Water Feed Models with a Pump*: Connect the water line, continue with the following steps. The pump will fill the boiler when the boiler power is turned on.
4. Turn the ON/OFF switch to the “ON” position.
5. For Steam Pressure Adjustment:
  - A. For *Thermostat Controlled Units*, turn the black dial to the “10” position. This will allow the steam generator to heat to the maximum pressure. Setting the dial at less than “10” will allow the unit to be run at lower pressures.
  - B. *Pressure Switch Controlled Units* are factory set and do not require adjustment.
6. For *Models with a Low Water Cutoff with Manual Reset*: Once the power is turned on and the boiler is filled with water, push the reset switch. This will energize the heating element, the low water light will shut off and the heating light will turn on.
7. Allow some time for the boiler to build up pressure, then use as required. The heating light will shut off when the boiler comes up to pressure.

## **4.0 MAINTENANCE**

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The Hoffman/New Yorker Electric Steam Generator is compact, easy to clean and easy to maintain. It is strongly suggested that the following steps be followed to ensure a long and trouble free life for the boiler.

### **4.1 CLEANING THE BOILER**

1. Turn the Thermostat to "OFF."
2. Allow the boiler to cool. Check by opening steam valve.
3. Drain the boiler. Close the valve.
4. Fill the boiler to the "Full" mark or halfway up the sight glass with a solution of three parts water to one part vinegar.
5. Bring the boiler up to pressure. Allow the boiler to heat for 30-60 minutes.
6. Blow the boiler down. See Section 4.3 "Blowing Down the Boiler" for the proper procedure.
7. Repeat if necessary.

### **4.2 CLEANING THE SIGHT GLASS**

1. Turn the Thermostat to "OFF."
2. Allow the boiler to cool. Check by opening steam valve or drain valve.
3. Drain the boiler. Leave the valve open.
4. Open the petcock at the bottom of sight glass (if so equipped).
5. Remove the sight glass and clean with a bottle washer. Use a plastic bristle brush. A metal wire brush could scratch the glass and is not recommended.
6. Install the sight glass.

### **4.3 BLOWING DOWN THE BOILER**

This procedure should be performed at start up once a week providing the water is clean. In areas with high mineral content or rusty water this procedure should be performed once a day. The boiler should be flushed with a cleaning solution at least twice a year.

1. Allow the pressure to reach 2 to 3 psig.
2. Turn the power off.

#### **WARNING**

**THE WATER IN THE STEAM GENERATOR IS VERY HOT, THE DRAIN VALVE MUST BE PIPED TO A DRAIN TO PREVENT A POSSIBLE BURN.**

3. Open the drain valve and drain the boiler.
4. Close the drain valve.

### **4.4 CLEANING THE STRAINER**

1. Turn the power off.
2. Allow the boiler to cool.
3. Drain the boiler. Leave the valve open.
4. Remove Strainer Cap and clean Screen.
5. Replace Cap.

## 5.0 TROUBLESHOOTING & SERVICING

### 5.1 TROUBLESHOOTING TABLE

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Unit does not heat up.	Lack of power.	Check incoming power.
		Check fuses.
		Check On/Off switch is in “ON” position.
	Thermostat set too low.	Adjust thermostat to “10” setting
	Lack of water.	Fill unit and reset low water switch.
	Low water switch tripped.	Fill with water and reset low water switch.
	Bad Heating Element.	Replace. See Section 5.5 – Replacing the Heating Element.
	Bad Thermostat.	Replace. See Section 5.3 – Replacing the Thermostat.
	Bad On/Off Switch.	Replace. See Section 5.8 – Replacing the On/Off Switch.
	Bad Low Water Switch.	Replace. See Section 5.6 – Replacing the Low Water Switch.
Unit heats, but shuts off at a lower pressure than normal.	Thermostat set too low.	Adjust thermostat to “10” setting.
	Thermostat out of adjustment.	See Section 5.2 – Adjusting the Steam Pressure
Safety valve leaking.	Foreign material under seat.	Caution: Make sure discharge is away from people and work areas. Pop safety valve while steam is in unit to dislodge foreign material.
		Replace valve.
Fill valve leaking Steam.	Water between valve and fill cup.	Water must be drained or allowed to boil off to stop leaking.
	Packing nut loose.	When boiler is cool and pressure is at zero (test by opening steam outlet valve) tighten the nut on the handle stem.
	Bad fill valve.	Replace.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Water is dark brown or black.	Rust in Water.	See Section 4.3 – Blowing Down the Boiler. Rust is a normal occurrence in steam generator shells. The rust appearance in the water will slowly disappear after a few weeks of use. The steam generator must be blown down in accordance with instructions given in this manual. Blowing down will minimize the visual amount of discolored water.
No steam comes from the Solenoid Valve.	Bad Foot Switch.	Check Switch. See Section 5.7 – Replacing the Electric Foot Switch.
	Bad Solenoid Valve.	Replace. See Section 5.10 – Replacing the Electric Solenoid Valve.
Can not fill with water.	Breather valve not open.	See Section 3.0 – Operation.
	Check Valve is stuck.	Lightly tap valve.
		Clean valve seat. Disconnect power and remove pressure from the boiler. Check no pressure by leaving the breather open.
	Water Inlet Solenoid Valve fails to operate.	Replace valve. Replace Water Inlet solenoid Valve.
Boiler keeps filling.	Inlet solenoid Valve is dirty.	Clean seat in Solenoid Valve. <b>WARNING:</b> Disconnect Power before servicing. Drain Boiler.
Wet Steam.	Too much water in Boiler.	Drain tank until water level fills sight glass approximately 75%.
Hard to see through the Sight Glass.	Minerals have coated the glass.	Clean or replace. See Section 4.2 – Cleaning the Sight Glass or Section 5.4 – Replacing the Gauge Sight Glass.

## **5.2 ADJUSTING THE STEAM PRESSURE**

### **5.2.1 THERMOSTAT CONTROL**

1. Power the boiler.
2. Turn the thermostat to “10.”
3. Allow the boiler to come up to pressure.
4. Remove the dial from the thermostat.
5. Using a small screwdriver, turn the screw inside the stem clockwise to reduce the pressure, counter clockwise to increase the pressure.  
Turn the stem in ¼ turn (90 deg.) increments. Allow the unit to heat or cool. The final high pressure is reached when the heating light goes out.
6. Use a dab of nail polish to secure the screw in position.
7. Put the dial back on the thermostat.
8. The maximum pressure setting shall be 90 psig. Attempting to raise pressure higher will result in relief valve venting.
9. All field wired units are supplied with a knock-out sized to UL specifications. Inside the electrical panel is a wiring schematic for power and ground connections.

## **5.3 REPLACING THE THERMOSTAT**

**(To be performed by a licensed electrician)**

1. Turn the power to the boiler off by pulling the plug or turning off the power at the branch switch or circuit breaker.
2. Remove the wires on the thermostat.
3. Remove the dial from the thermostat.
4. Remove the mounting screws that hold the thermostat to the enclosure.
5. Remove the temperature sensing probe from the heating element.
6. Mount the new thermostat to the enclosure.
7. Insert the temperature sensing probe into the heating element. The sensing probe may not go in all the way. This is normal. Insure that the sensing tube is bent slightly up and out of the way of the heating element electric connections. Do not kink the capillary tube.
8. Rewire the thermostat.
9. Power the steam generator. Adjustment may be necessary. If the pressure comes too close to the safety valve rating (within 10 psig) turn the unit off and adjust the thermostat in accordance with instructions given in this manual.

## **5.4 REPLACING THE GAUGE SIGHT GLASS**

1. Turn off power to the boiler by pulling the plug or turning off power at the branch switch or the circuit breaker.
2. Allow the boiler to cool to zero pressure.
3. Drain the water from the boiler. Leave the drain valve open.
4. Remove the Sight Glass Guard.
5. Remove the fittings that hold the glass in position. Top and Bottom nuts hold the glass in position.
6. Replace the gauge glass. Do not over tighten. Always use new seals when replacing the gauge glass.
7. Check for straight alignment of gauge glass. Brass fittings should not be touching glass, realign if necessary.
8. Reinstall Sight Glass Guard.
9. Check for leaks during initial operation.

## **5.5 REPLACING THE HEATING ELEMENT**

**(To be performed by a licensed electrician)**

1. Turn off the power to the boiler by pulling the plug or turning off the power at the branch switch or the circuit breaker.
2. For models with *manually operated steam outlet valves*, allow the boiler to cool to zero pressure. Test by opening steam outlet.  
For models with *pedal controlled steam outlet valves*, turn power on, turn thermostat to off. Allow boiler to cool to zero pressure. Test by stepping on pedal. At zero pressure, turn power off at branch switch or circuit breaker or pull the plug.
3. Drain the water from boiler. Leave drain valve open.
4. Remove the front cover to the boiler enclosure.
5. Disconnect the wires from the heating element.
6. Remove the bolts on the heating element.
7. Remove “old” heating element.
8. Seal the gasket on both sides of the “new” heating element with a gasket sealer. Use a “new” gasket.

- **NOTE: FOR MODELS WITH THERMOSTATIC CONTROL AND THERMOSTATIC RESET (THERMODISC), IT IS IMPERATIVE TO INSTALL THE NEW ELEMENT WITH THE THERMOWELL TUBES IN THE TOP POSITION.**

9. Insert the “new” heating element, and tighten the bolts. If generator has the thermostatic control/thermostatic reset (thermodisc), install sensing probe(s) in heating element thermowell tubes.
10. Rewire the heating element.
11. Fill the boiler to the normal level, and CHECK FOR ANY LEAKS.
12. Power the boiler and allow the boiler to come up to pressure. CHECK FOR ANY LEAKS.
13. Remount the front of the boiler enclosure.
14. Periodically, check for leaks during first few days after installing new element.

## **5.6 REPLACING THE LOW WATER SWITCH**

**(To be performed by a licensed electrician)**

1. Turn off the power to the boiler by pulling the plug or turning off the power at the branch switch or the circuit breaker.
2. Allow the boiler to cool to zero pressure. Drain the boiler. Leave the valve open.
3. Disconnect the wires from the Low Water Switch.
4. Remove the screws holding the Low Water Switch to the Cover. Save the screws, they will be re-used.
5. Remove sensing probe from heating element.
6. Remove “old” Low Water Switch.
7. Re-attach the “new” Low Water Switch to the cover using the screws.
8. Insert sensing probe into the heating element. The sensing probe may not go in all the way. This is normal. Insure that the sensing tube is bent slightly up and out of the way of the heating element electric connections. Do not kink the capillary tube.
9. Rewire the Low Water Switch.
10. Fill the boiler to the normal level.
11. Power the boiler and allow the boiler to come up to pressure. If the boiler does not heat, push the reset button in the center of the switch to reset the Low Water Switch.

## **5.7 REPLACING THE ELECTRIC FOOT SWITCH AND/OR CORD**

**(To be performed by a licensed electrician)**

**For Models: JEL-3, JEL-4, JEL-6**

1. Turn off the power to the boiler by pulling the plug or turning off the power at the branch switch or the circuit breaker.
2. Allow the boiler to cool to zero pressure. Drain the boiler. Leave the valve open.
3. Remove the front cover to the boiler enclosure.
4. Remove the top cover of the foot switch.
5. Disconnect the cord wires from the foot switch.
6. Check continuity through the switch while holding the switch lever down. If the switch passes the test, skip to number 10.
7. If the switch fails the continuity test, loosen two screws on the bottom side of the switch housing and remove the switch from the cord.
8. Insert cord through strain relief on the “new” foot switch and tighten strain relief screws enough so that the switch cannot be pulled from the cord.
9. Reconnect the wires to the switch and reassemble the switch housing.
10. Check continuity through cord.
11. If cord fails the continuity test, disconnect the cord from the switch.
12. Remove strain relief from the side of the boiler cabinet.
13. Reconnect the wires to the foot switch from the new cord.
14. Inside the boiler cabinet, reconnect the “new” foot switch wire to the same place that the “old” one was removed. Use the strain relief connection from the “old” switch. The strain relief pops into the cabinet’s side.
15. Remount the front of the boiler enclosure.
16. Test unit.

## **5.8 REPLACING THE ON/OFF SWITCH**

**(To be performed by a licensed electrician)**

1. Turn off the power to the boiler by pulling the plug or turning off power at the branch switch or circuit breaker.
2. Allow the boiler to cool to zero pressure. Drain the boiler. Leave the valve open.
3. Remove the front cover to the boiler enclosure.
4. Disconnect the wires from the ON/OFF switch.
5. Remove the nut, which holds the switch to the cover. Located on the outside of the cover.
6. Remove “old” ON/OFF switch.
7. Insert the “new” On/OFF switch.
8. Rewire the switch.
9. Remount the front of the boiler enclosure.
10. Test the unit.

## **5.9 CLEANING THE ELECTRIC SOLENOID VALVE**

**(To be performed by a licensed plumber)**

**For Models: JEL-3, JEL-4, JEL-6**

1. Turn off the power to the boiler by pulling the plug or turning off power at the branch switch or at the circuit breaker.
2. Allow the boiler to cool to zero pressure.
3. Drain the water from the boiler. Leave the valve open.
4. Loosen the Romex connector screws.
5. Remove the large brass nut on the solenoid valve.

### **CAUTION**

**THIS SOLENOID VALVE IS SUBJECTED TO HIGH PRESSURE STEAM. INSURE THAT THE SOLENOID VALVE IS TIGHTLY SCREWED INTO THE STEAM OUTLET PIPING.**

6. Slide off the electric box from the solenoid valve or remove nut, and remove valve coil.
7. Remove stem from valve.
8. Clean off seat in valve and clean the Teflon seat on the plunger. Do not scratch the seat in the valve or on the plunger.
9. Reassemble valve.



## **5.10 REPLACING THE ELECTRIC SOLENOID VALVE**

**(To be performed by a licensed electrician)**

**For Models: JEL-3, JEL-4, JEL-6**

1. Turn off the power to the boiler by pulling the plug or turning off the power at the branch switch or at the circuit breaker.
2. Allow the boiler to cool to zero pressure. Drain the boiler. Leave the valve open.
3. Disconnect the wires from the solenoid valve.
4. Remove the “old” solenoid valve.
5. Install the “new” solenoid valve.

- **NOTE: MAKE SURE THAT PORT #1 IS CONNECTED TO THE BOILER VESSEL SIDE AND PORT #2 IS CONNECTED TO THE OUTLET SIDE.**

### **CAUTION**

**THIS SOLENOID VALVE IS SUBJECTED TO HIGH PRESSURE STEAM. INSURE THAT THE SOLENOID VALVE IS TIGHTLY SCREWED INTO THE STEAM OUTLET PIPING.**

6. Rewire the solenoid valve to the unit.
7. Test the unit.

## 6.0 TABLES

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### 6.1 PRESSURE VS. TEMPERATURE

The following table shows the relationship between steam pressure in pounds per square inch (psig), and temperature in degrees Fahrenheit (°F). This table can be useful in determining the steam temperature at a corresponding pressure. It is helpful in setting the pressure when the steam generator is connected to auxiliary equipment that requires temperature adjustment.

Table 6.1.1

<u>PRESSURE (psig)</u>	<u>TEMPERATURE (°F)</u>
1	213
5	228
10	240
15	250
20	259
25	267
30	274
35	281
40	287
45	293
50	298
55	303
60	308
65	312
70	316
75	320
80	324
85	328
90	331
95	335
100	338

### 6.2 ELECTRICAL SPECIFICATIONS

The following table illustrates the voltage and amperage requirements of the various models of Steam Generators.

Table 6.2.1

<b>MODEL NUMBER</b>	<b>KW</b>	<b>VOLTAGE</b>	<b>PHASE</b>	<b>AMPS</b>
JEL-1	1.5	120	1	13
JEL-2	1.5	240	1	7
JEL-3	1.5	120	1	13
JEL-4	1.5	240	1	7
JEL-6	3.0	240	1	13
ELG-4	1.5	120	1	13
ELG-4.2	1.5	240	1	7
ELG-5	1.5	120	1	13
ELG-5.2	1.5	240	1	7
ELG-6	3.0	240	1	13
ELG-7	3.0	240	1	13

## 7.0 DRAWINGS & PARTS LIST

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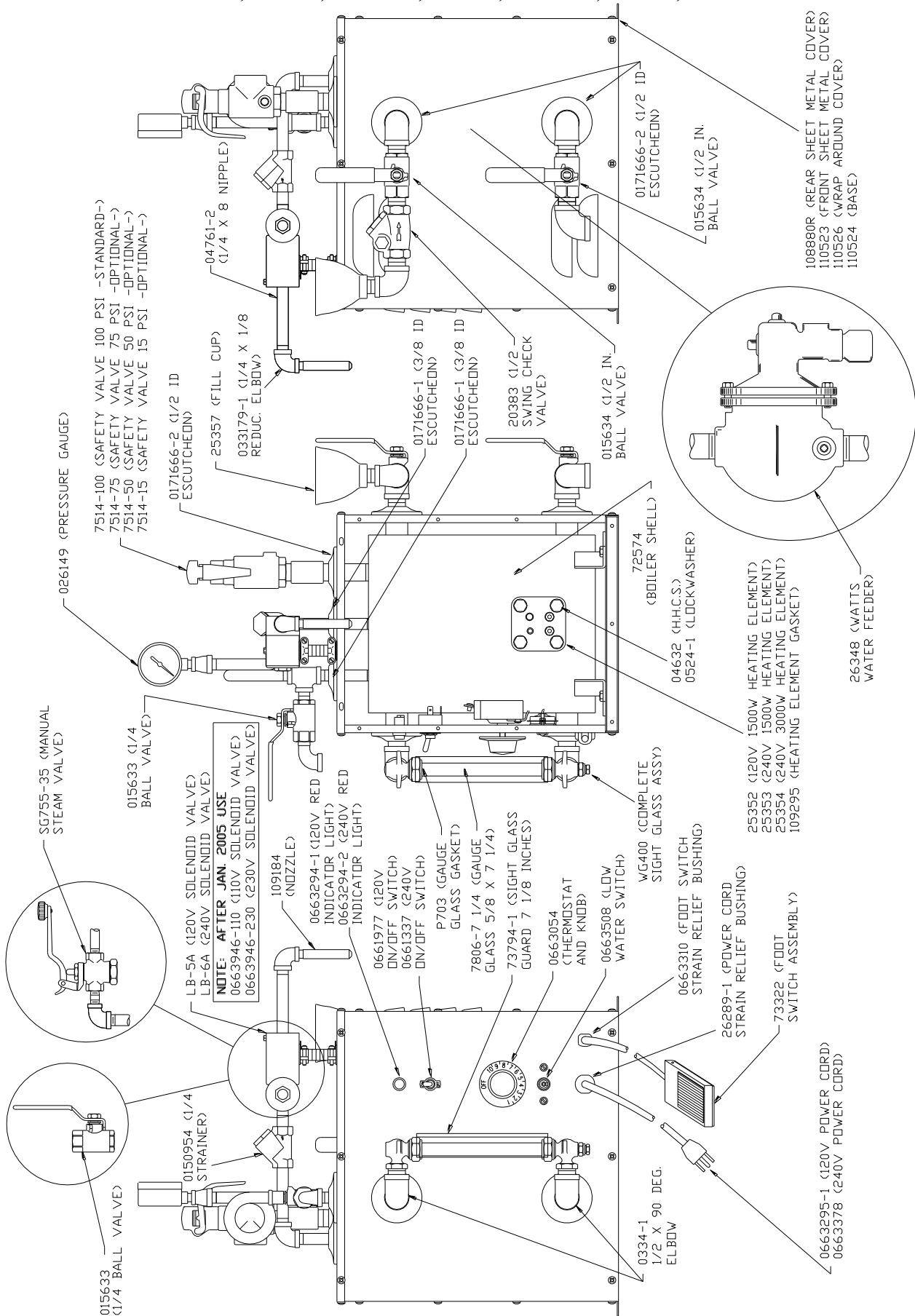
Figure 7.1 - Assembly for Models: JEL-1, JEL-2, JEL-3, JEL-4, JEL-6, ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7

Figure 7.2 - 52488 (rev B) Wiring Diagram for Models: JEL-1, JEL-2, JEL-3, JEL-4, JEL-6, ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7

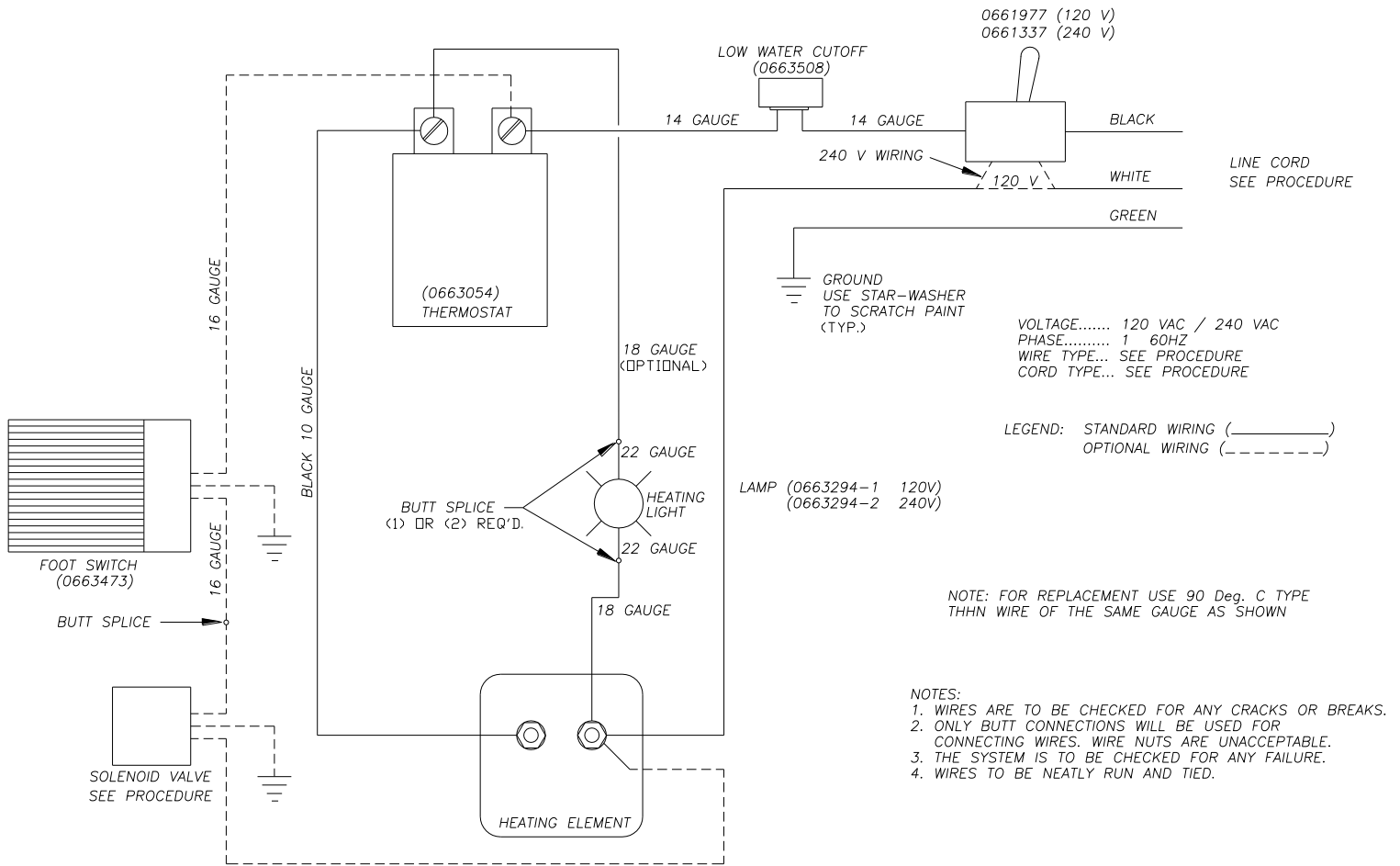
Optional Parts List

**FOR ORIGINAL QUALITY PARTS: 1-800-221-0146**

**Figure 7.1 – Assembly for Models: JEL-1, JEL-2, JEL-3, JEL-4, JEL-6, ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7**



**Figure 7.2 – 52488 (rev C) Wiring Diagram for Models:  
JEL-1, JEL-2, JEL-3, JEL-4, JEL-6,  
ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7**



## OPTIONAL PARTS LIST

<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY.</u></b>
108577-1	Caster Plate Models: ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7	1
SG755	Manual Steam Gun Models: ELG-4, ELG-4.2, ELG-5, ELG-5.2 ELG-6, ELG-7	1
08133-A	Electric Steam Gun Models: JEL-3S	1
108578	Handle Models: ELG-4, ELG-4.2, ELG-5, ELG-5.2, ELG-6, ELG-7	1
23086	Teflon Hose	3 Feet
23082	Teflon Hose	5 Feet
23083	Teflon Hose	6 Feet
23084	Teflon Hose	7 Feet
23085	Teflon Hose	8 Feet
23087	Teflon Hose	10 Feet

# **HOFFMAN NEW YORKER**

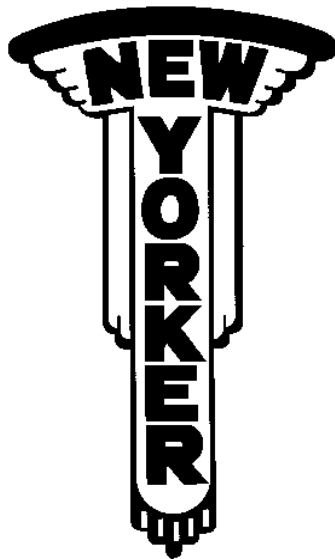


**FOR ORIGINAL QUALITY PARTS CALL:**

**1-800-221-0146**

**OR FAX:**

**1-570-928-9807**



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