

American Metal Ware® Coffee Urn

Installation, Operation & Service Manual

For

Model 67710E

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Electric

Steam

Special Features

After completing installation and set-up, the equipment owner should keep this manual for future reference.



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(800) 695-4500 (USA and Canada only)
(800) 568-5715 (technical service only)
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WARNING

**ELECTRIC SHOCK
HAZARD**



WARNING: DANGEROUS ELECTRIC VOLTAGE IS PRESENT WITHIN THIS APPLIANCE. TO REDUCE THE RISK OF INJURY OR DEATH, DO NOT OPERATE UNLESS THE CONTROL ACCESS PANEL IS SECURE. INSTALLATION, SERVICE, AND ADJUSTMENTS SHOULD BE PERFORMED ONLY BY QUALIFIED SERVICE PERSONNEL.



CAUTION

HOT LIQUID HAZARD

CAUTION: SCALDING HOT LIQUIDS ARE PRESENT WITHIN THIS APPLIANCE. TO PREVENT BURNS, TAKE CARE WHEN OPERATING, CLEANING, AND PERFORMING MAINTENANCE ON THIS MACHINE.

Introduction

Thank you for purchasing this American Metal Ware product. American Metal Ware has been building beverage equipment since 1883. This product has been designed for the quality and cost conscious restaurant operator in mind. Our metal craftsmen proudly build each product with great attention to detail.

This manual has been prepared to compliment your equipment. Take a few minutes to become familiar with the equipment before you start operation. Within, you will find information on the set-up, operation, and maintenance of the equipment. This information will help you use this equipment to produce the best possible beverage product.

The installation and setup instructions will help get the equipment running quickly. You will also learn the functions of all controls. Follow the cleaning and maintenance instructions to ensure a long life for your equipment and to preserve its attractive appearance. If this product requires service or adjustment, see the Adjustment section of this manual. This section will explain the safest and easiest procedures for finding and making adjustments. A repair parts section will help you identify the parts you need.

About the 67710E Coffee Urn

General Description

This coffee urn has been engineered to suit the special needs of the prison environment. This section highlights the characteristics and special features of the product.

The urn is a large capacity, high-speed, coffee brewing and holding unit. The body is constructed of two walls of stainless steel with insulation between. Inside is a large capacity water tank where the brew is heated. Two ten gallon liners fit into that tank. Each liner has its own controls which start and stop the brew process with the push of a button. A pump draws water from the tank and sprays it over the grounds which are placed above the liners. Faucets on the front of the urn allow the dispense of coffee from each liner and hot water from the tank. A control automatically refills the tank as water is drawn off. A thermostat regulates the temperature by switching electric heating elements inside the tank.

Features of This Model

Safety and Security

- No parts removable by hand.
- No breakable parts.
- Minimization of screw fastened parts on exterior. All remaining screws are one way.
- Lockable covers over control compartment and brewing area. When locked, there is no access to hot water or coffee except through faucet.
- Security faucets with wrench tight, metal bonnets and self closing handles.
- Insulated body stays cooler.
- Lock our brew controls.
- Drain handle located inside control enclosure.
- Flanged feet may be bolted to table.

Operation

- Fully automatic brew cycle with automatic air agitation.
- Adjustable timer, by-pass, sprayover rate, and thermostat.
- Sensors indicate coffee in liner - no gauge glass.
- Automatic Refill and Low-Water, Heater Cutoff.
- Stainless steel mesh coffee filter.
- High Speed Brewing - Brew in both liners simultaneously.

Maintenance

- All components are easily accessible in the side control enclosure.
- Replace most components without draining the urn.
- Durable, easy to clean, 304 stainless steel construction.

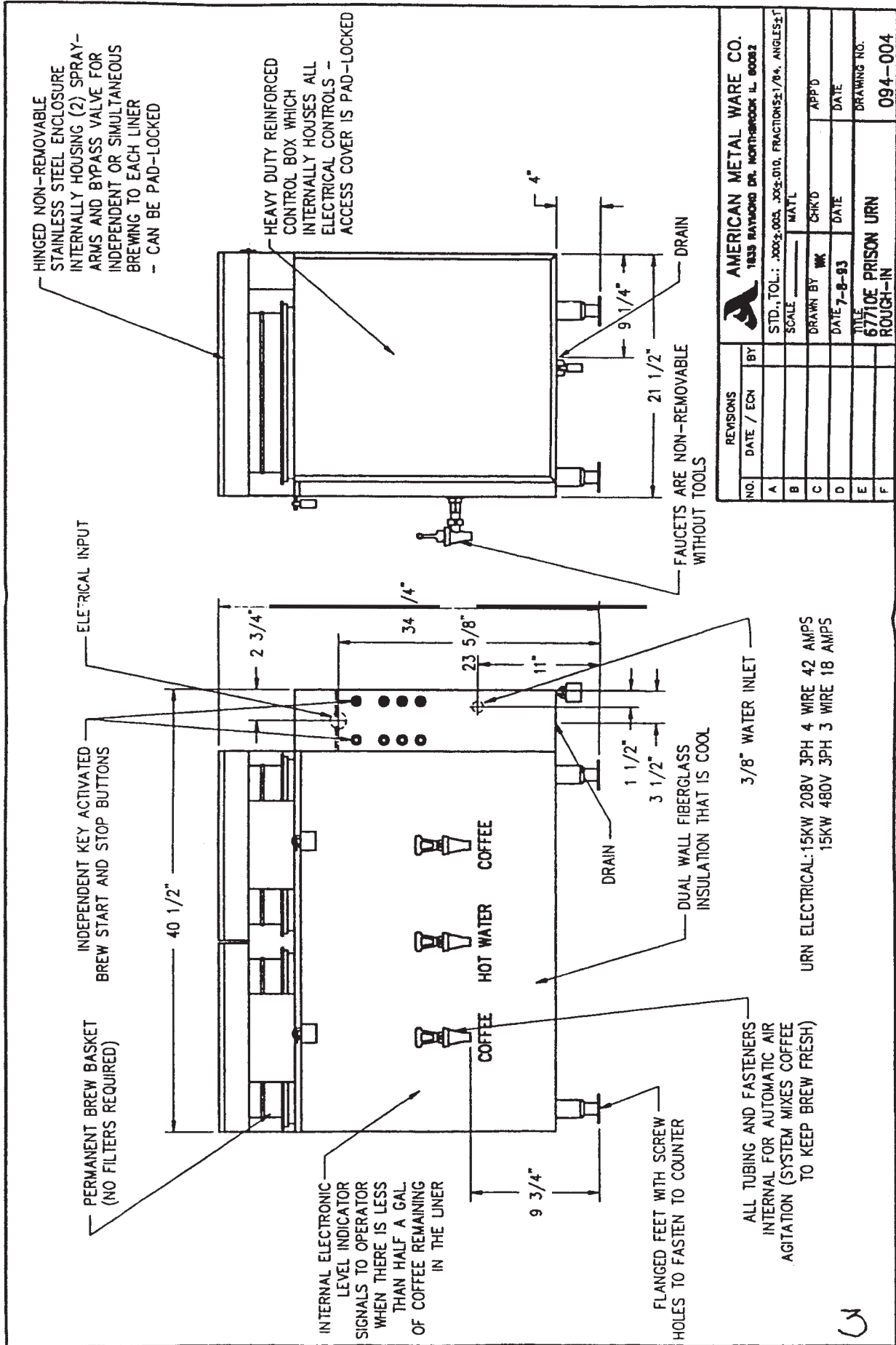
Pre-Installation

Package Contents

This coffee brewer should be packed in a box on a wooden skid. Check to make sure the box contains the following parts:

- 1) The Urn
- 2) Two stainless steel mesh brew baskets.
- 3) Three pad-locks and one set of three identical keys.
- 4) This instruction manual.
- 5) Two clamps for pump tubing - in the control enclosure.
- 6) Two sets of two keys to turn on brew controls.

The next page shows a rough-in drawing, number 094-004. Refer to this drawing for information required for installation. The drawing shows the locations of the electric and water inlets, and some important dimensions of the brewer.



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AMERICAN METAL WARE CO.
1835 RAYMOND DR. NORTH-BROOK IL 60062

STD., TOL.: .003-.005, .003-.010, FRACTIONS ± 1/8", ANGLES ± 1°

SCALE: _____ MATL: _____

DRAWN BY: MK CHK'D: _____ APP'D: _____

DATE: 7-8-83 DATE: _____ DATE: _____

TITLE: 67710E PRISON URN DRAWING NO.: 094-004

ROUGH-IN

If you still need help, call our service department at (800) 568-5715 Ext. 3 or (502) 425-4776 (Monday through Friday, 8 am - 6 pm EST) or an authorized service center in your area. Please have the model and serial numbers ready so that accurate information may be given.

Prio authorization must be obtained from Grindmaster Corporation's Technical Services Department for all warranty claims.

Installation



WARNING, ELECTRIC SHOCK HAZARD
INSTALLATION SHOULD BE PERFORMED BY QUALIFIED
SERVICE PERSONNEL ONLY.

Initial Considerations

Unpack the Urn

Remove the cardboard carton from around the urn. Be careful not to scratch the stainless steel with any tools. Unwrap any plastic wrapped items. Open both liner covers and remove materials inside the liners. Remove the control enclosure to expose electric connections.

Select a sight for the urn

The Urn must be placed on a sturdy, leveled table. The table must have a tray to collect liquid from the faucets. To set up initially and adjust later, the installer must have access to the side of the urn where the controls are located. Be sure to allow for space in the sight selection.

Water and Electric

The electric ratings are printed on the nameplate of the urn and on the rough-in drawing. The urn must be connected to a branch circuit with its own shut-off.

A water line must be run to the connection location. The urn has a 3/8" NPT water inlet as shown on the rough-in drawing. Use 3/8" OD copper tubing for the connection. For especially long runs where pressure drop is likely to be a problem, use larger tubing. The water line should have a shut-off valve near the urn. The water pressure at the urn should be between 30 and 70 psig.

Softened water does not make good coffee. For best results, use cold tap water. Cold water will require a recovery time between brews. You may connect hot water if it is necessary to brew in both liners continuously. Chlorine and lime in water are the biggest problems in the operation of coffee brewers. Be sure the water is free of chlorine which will deteriorate the stainless steel. Filters may be purchased to help control lime. American Metal Ware's warranty does not cover water problems.

Place Urn

Position the urn on the table in its operating position. Level the urn front to back and left to right. The height of the feet is adjustable for this purpose.

Complete the Hook Up

Water Hook-Up

The water connection is on the back of the urn's control enclosure - see figure 1.

It is a 3/8 Female NPT connection. See the rough-in drawing for details on location. You may wish to install a water line filter to inhibit lime deposits especially if your area has particularly hard water. Lime, which precipitates as the water is heated, will eventually build up inside the urn.

Electric Hook-Up

Before starting any work, be sure the electric line has been turned off. Check the nameplate on the urn for the electric ratings of the urn. A wiring diagram is also provided inside the control enclosure and in this manual. Use the appropriate circuit breaker and cord for the electric service that this urn that requires. Secure the cord to the rear of the control enclosure with the appropriate cord grip bushing. The hole for electric connection is located on the rear of the urn's control enclosure as shown in figure 1 and on the rough-in drawing.

Wire the cord to the terminal block and the ground connection shown in figure 2. Be sure the connection is secure and no strands touch adjacent wires.

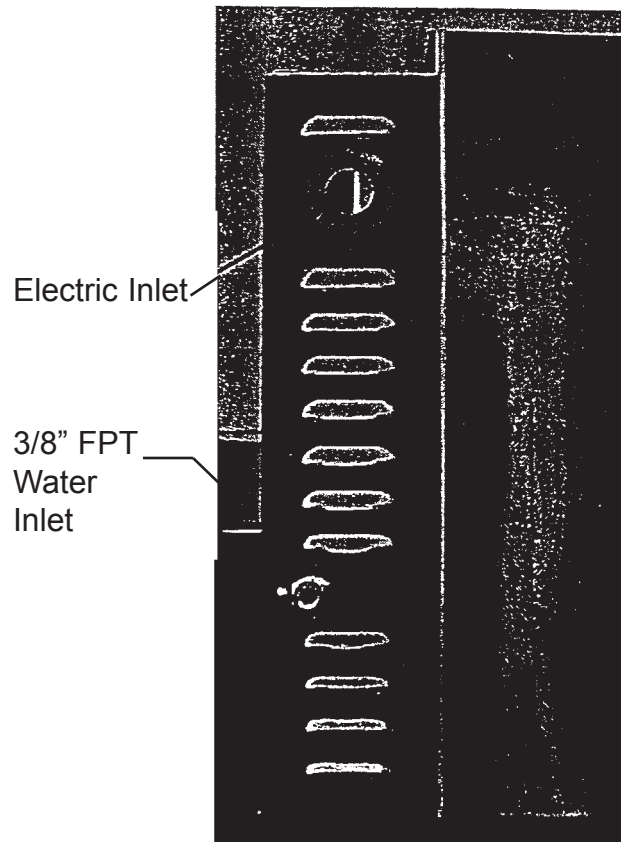


Figure 1, Service Hookup Locations

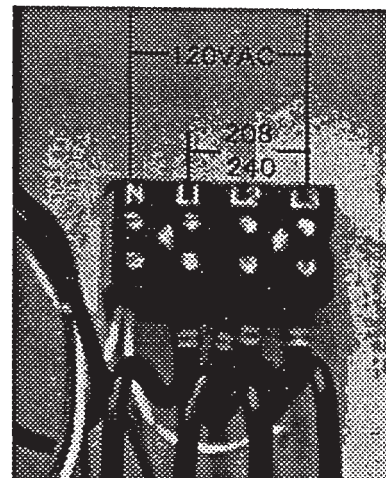


Figure 2, Terminal Block

Initial Start Up

Now that the brewer is connected, it can be started and checked.

- Leave the access cover open.
- Turn on the water supply.
- Turn on the electricity to the urn.

The urn will now begin to fill. The heaters should still be off. When the water level is above the heaters, the contactor will close to turn on the heaters.

Check for leaks in the water connection and inside the control enclosure. Assuming all is working correctly, close the control enclosure and allow to finish filling. An indicator light labeled **FILLING** is lit while the fill valve is open. When the light turns off, the urn is full. The urn will take approximately 15 minutes to fill.

If cold water is used, the heat-up time is approximately 30 minutes depending on the electric ratings of the urn. An indicator light labeled **WATER HOT** will turn on when the heaters have shut off.

Operation

Now that the urn has been installed and started up, it is ready for operations. This section describes the brew process from start to finish. Before brewing the first batch of coffee, follow the procedure outlined here to brew an initial batch of water only into each liner. This will rinse the components and set the gaskets and seals.

Load the Coffee

- Remove the pad lock which secures the liner cover over the liner into which you want to brew.
- Lift the cover to expose the brew basket. Note that the brew basket has a mesh bottom so filter paper is not required.
- If there are used grounds in the basket, dispose of them and rinse the basket
- Fill the brew basket with the proper amount of ground coffee to brew ten gallons. Pour the coffee directly into the basket - do not use filter paper. See the following section for instructions on the amount and grind of coffee.
- Check the liner. The liner should be empty and clean before brewing a batch. If the liner is not empty, it will overflow when brewing.
- Place the brew basket over the liner and close the lid. You may padlock the lid at this time to prevent tampering.

Start the Brew

- Turn the brew lock key to **ON** for the liner you are brewing to.
- Check the **WATER HOT** light to be sure the water is up to temperature. If the light is off, wait a few moments for the urn to finish heating.
- Be certain to close the cover over the liner you wish to use.
- Press the **START** switch for the liner you are brewing to.

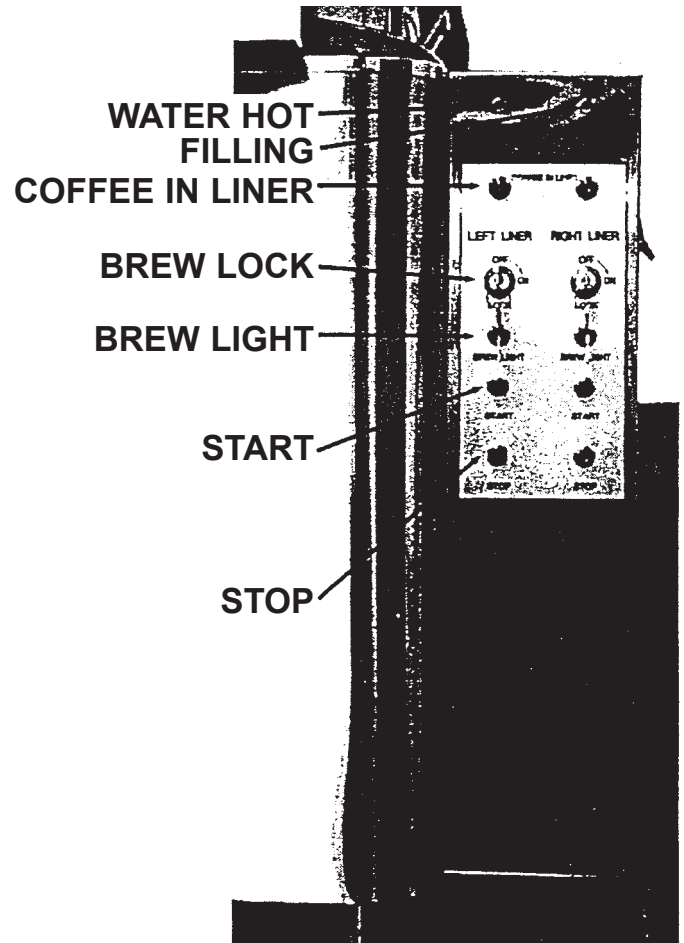


Figure 3, Brew Controls

- The pump will run for 12 1/2 minutes to spray over the water required for 10 gallons of coffee. The **BREW** light stays on while the pump is running. As water in the tank is used, it is refilled automatically. The **FILL** light indicates that the fill valve is open. The light should alternate on and off, even when brewing to both sides. If the **FILL** light stays on during the brew cycle, see the Adjustment section for instructions on speeding the fill rate.
- Press the **STOP** switch if you need to stop the brew. The timer will reset when **STOP** is pressed, so be sure the liner is empty before you press **START** again.

After the Brew is Finished

When the brew cycle has automatically shut off, you should have ten gallons of coffee. The level will be higher in the liner if you brew with no grounds. If the level is not correct, see the Adjustment section.

- Allow about two minutes for the grinds to stop dripping.
- **CAREFULLY** open the liner cover.
- Remove the brew basket, dispose of the used grounds, and rinse the basket.
- Replace the basket on top of the liner and close the lid. The lid may be locked again.
- Monitor the level of coffee by checking the flashing light labeled **COFFEE IN LINER WHEN LIT**. If this light is flashing, the liner is almost empty.

Adjustments



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Bypass Adjustment

See figure 4.

Each liner has an independent bypass which is adjustable. The Bypass valve controls the ratio of water sprayed over the grounds to the water poured directly into the liner -bypassing the grounds.

The urn is shipped from the factory with the bypass open 3 1/2 turns. This means approximately 25% of the water bypasses the coffee grounds. See the next section on Brew Techniques about the effect of bypass on coffee.

If you desire more of the water to go through the coffee grounds, close the valve. Open the valve to allow more water to bypass the coffee. Each liner's valve must be adjusted separately. You may need to adjust the brew timer slightly if you adjust the bypass to maintain the correct volume.



Figure 4, Bypass Valve

Thermostat Adjustment

See figure 5.

The thermostat controls the temperature of the water in the tank by switching the heater contactor on and off. A capillary tube monitors temperature near the heaters. The thermostat is calibrated such that when the shaft is turned all the way on, the temperature is 200 degrees Fahrenheit.

To change the water tank temperature:

- Turn off power to the urn.
- Remove the control enclosure access cover.
- Locate the thermostat shaft inside the control enclosure.
- Turn the shaft full on.

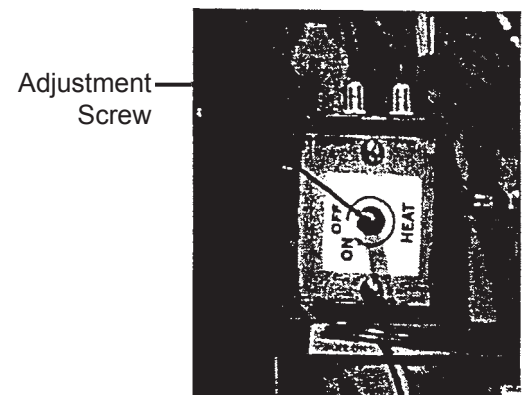


Figure 5, Thermostat

To Change the Water Tank Temperature (cont)

- Insert a miniature, flat screwdriver into the center of the shaft.
- Turn the screw slightly to make adjustments: clockwise to increase the temperature, counterclockwise to lower.
- Turn the power back on and allow the temperature to equalize. The water hot light turns on when the heaters are off.
- Check the water temperature inside the tank. Repeat adjustment if needed.

Timer Adjustment

See figure 6.

Two timers control the brew cycle including the air agitation. When a start switch is pressed, the timer sends power to the pump through the normally open contact. Also, the brew light is turned on. These stay on for the set amount of time. After the time is up, the air agitation turns on to stir the coffee.

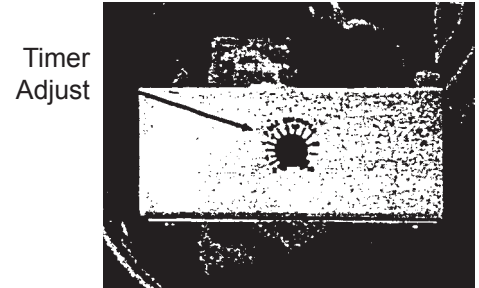


Figure 6, Brew Timer

The time is set by turning an adjustment potentiometer, see figure 6. This potentiometer is factory set to spray for 12 1/2 minutes.

To Adjust the Timer:

- Turn off power to the urn.
- Remove the control enclosure access cover.
- Locate the timer you need to adjust.
- Find the marked adjustment potentiometer on the front of the timer.
- Insert a screwdriver and turn the potentiometer to the approximate time you need.
- Restart the brewer and measure the time of a brew - start button pressed to sprayover stop.
- Re-adjust the potentiometer to make fine corrections if needed.

Flow Rate Adjustment

See figure 7.

Two valves - one for each liner - control the flow rate of water from the pump to the sprayover. They have been factory set to provide proper rate for a twelve minute brew time. Only adjust these if the rate has obviously come out of adjustment.

Spray Over Rate
Control

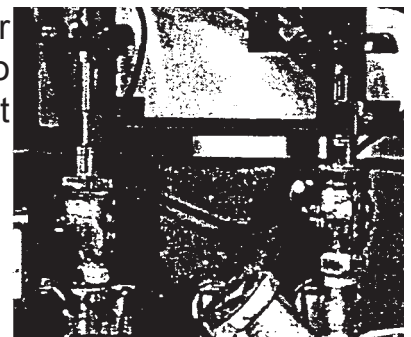


Figure 7, Flow Valve

To Adjust the Rate:

- Turn off all power to the urn.
- Remove the control enclosure access cover.
- Locate the valve to the liner you want to adjust.
- Open the valve slightly for faster sprayover, close for slower sprayover.
- Turn the urn back on and wait for the water hot light to turn on.
- Brew water into the liner for the standard 12 1/2 minutes. Adjust the timer if it does not run the pump for the correct time.

To adjust the rate (cont)

- The level in the liner should be one inch below the line where the liner ring attaches to the liner wall.
- Re-adjust until the level is correct.

Fill Rate Adjustment

The fill rate depends on the water line pressure and the opening of the **FAST FILL VALVE**, see figure 8. If the urn does not refill as fast as it uses water during a brew cycle, you may adjust the fill rate. If you adjust for maximum fill rate and the level still cannot keep up, either the pressure is too low or the fill system may have a clog. See Troubleshooting.

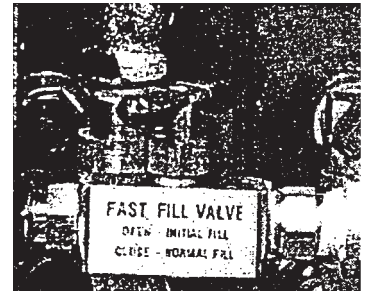


Figure 8, Fill Rate Valve

To Adjust the Fill Rate:

- Remove the control access cover.
- Locate the needle valve labeled, **FAST FILL VALVE**.
- Open the valve a few turns.
- Brew water into both liners simultaneously. Watch the **FILLING** indicator.
- If the light cycles on and off, the rate is fast enough.
- If the FILLING light stays on, the rate is too slow. Re-adjust.

Cleaning

Cleaning your coffee brewer will help the machine last longer, produce better coffee, and keep its attractive appearance. Cleaning regularly does not take much time. Follow these steps for daily and weekly cleaning. Cleaning brushes may be purchased from American Metal Ware or your restaurant equipment dealer. Do not use soap, scouring powders, or abrasive materials to clean your equipment. These will damage the stainless steel finish.

After Each Use

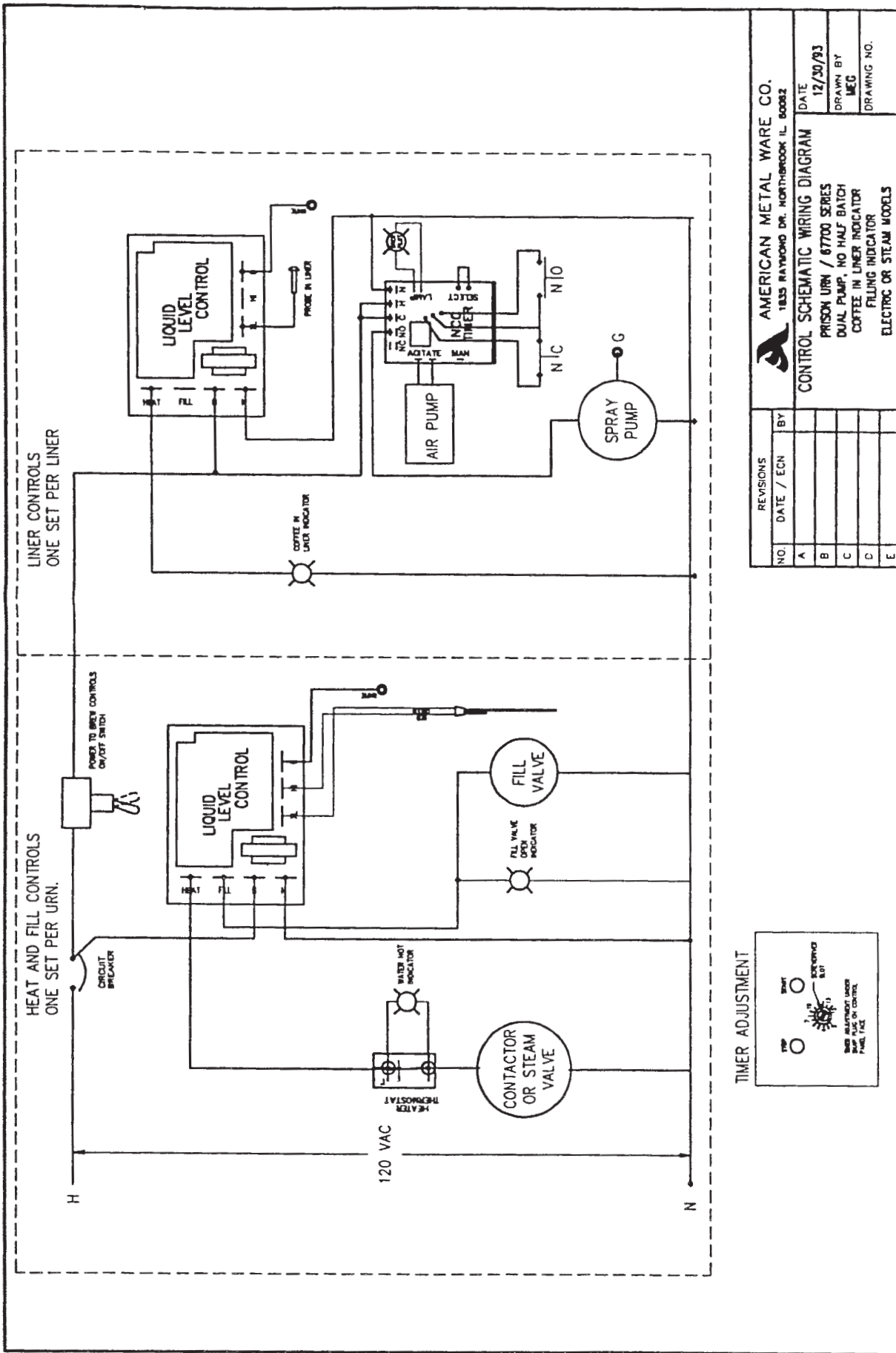
- Empty and rinse brew basket.
- Drain and rinse urn liner.
- Add some hot water to liner and brush liner interior. To add small amounts of hot water to liner, close cover and press start and stop switches to control amount.
- Rinse again and urn is ready for next brew.

Each Day

- Brush urn liner well, rinse well.
- Wipe exterior surfaces with a damp rag. The stainless steel may be cleaned with stainless steel cleaner.
- After the last use and cleaning, fill brew water into the liners to help any coffee oils from staining the metal.

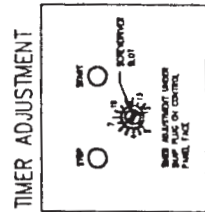
Semi-Weekly

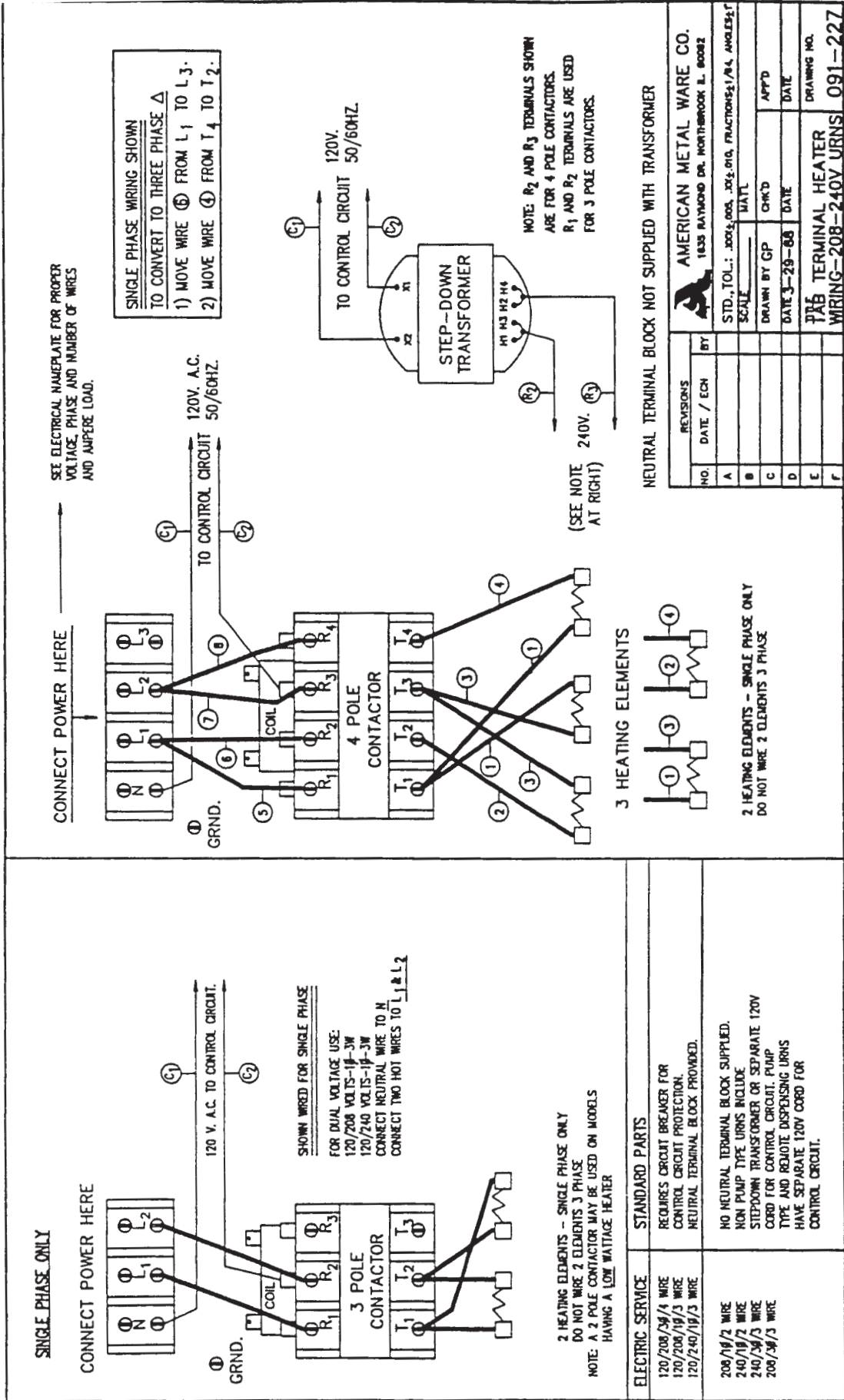
- Clean the liners with urn cleaner, never use bleach or chlorine based products on stainless steel.
- Fill the liner 3/4 with hot water. Follow the cleaner's instructions and allow to stand in hot urn for 30 minutes.
- Coffee brewer cleaners which have been used successfully:
 - DIP-IT from Economics Laboratory, White Plains, NY
 - OXYLITE from Avril, Inc., Syndet Division, Reading, PA
 - TEMP-KLEEN from Caddy Corp. of America, Pitman, NJ
- Scrub inside the liner with a long handled brush. Clean the nut in the bottom of the liner.
- Be sure the liner is empty. Remove the bonnet, or the cap and handle part, of the coffee faucets. Brush inside of the faucet body. Clean the silicone faucet seal.
- Also, with the liners empty, remove the coffee faucets from their shanks. Brush clean the tube interior which leads to the center of the liners.



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AMERICAN METAL WARE CO.
 1835 RAYMOND DR. NORTHBROOK IL 60062
CONTROL SCHEMATIC WIRING DIAGRAM
 PRISON URN / 67700 SERIES
 DUAL PUMP, NO HALF BATCH
 COFFEE IN LINER INDICATOR
 FILLING INDICATOR
 ELECTRIC OR STEAM MODELS





Notes



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