

# Installation Service Manual

## EmberGlo Model ES10

*Full Pan Size Food Steamers*  
Automatic, Programable Timer Operation  
Designed to Operate Without Distilled Water



**ES10PB:** Manual Push Button

**ES10TE:** Automatic, Programmable Timer  
Operation-External Cycle Timer

### Warranty

#### Midco International Inc Warranty Policy

#### Exclusions Terms, Customer Requirements and Instructions

Only Authorized Service Providers are authorized to provide Warranty service on all EmberGlo, a Division of Midco International Inc., food equipment as described under and Midco® International Warranty Policy. A list of providers can be found on our web site: [www.emberglo.com](http://www.emberglo.com)

#### Provisions:

In lieu of an implied warranty, all repairs and replacement parts furnished under our Warranty shall be f.o.b. point of distribution, but the owner must pay the necessary freight, delivery and labor costs involved when required. Any Federal, State or Local taxes are also extra. This Warranty is effective for a period of 1 (one) Year from the date of original installation. EmberGlo® Electric Food Preparation Equipment manufactured by Midco International, sold under the EmberGlo trademark, are guaranteed to be free from defect in material and workmanship under normal use and service for a period of 1 (one) year after the date of original installation. Midco's obligation under this Warranty Policy shall be limited to repairing or replacing, at our option, any part of said equipment which Midco examination shall disclose to its satisfaction to be thus defective.

#### Exclusions:

This Warranty Policy does not apply to damages resulting from accident, misuse, abuse or alteration, nor does it apply to limed steam generators, nor does it apply to any consequential damages. Most geographical areas require the use of distilled or demineralized water. Tap water is permissible only with ES Series Steamers. Midco's obligation will be the replacement of the product or parts removed.

#### Terms:

Under the terms of this Warranty Policy, models considered portable (devices with cords and plug caps such as EmberGlo Steamers) must be taken or returned to the nearest service provider, transportation prepaid, returned transportation collect. Non-portable units with permanent wiring will be serviced on the

customer's premises. Under these terms, Midco agrees, within the terms of this Warranty period, to make all repairs at no charge by the authorized service provider. Labor and mileage charges submitted by any other provider not authorized will be the responsibility of the customer.

If a part is defective due to workmanship or materials and is removed from the product within the applicable warranty period and returned to Midco in accordance with the following procedure described, Midco will, at its option, either repair or replace the part. **Call the factory for instructions on returned goods.**

**No equipment may be returned without written authorization from MIDCO. Returned goods must be shipped prepaid to the factory.**

**No Hood Installation Required:** According to the Uniform Mechanical Codes per the International Conference of Building Officials Code EmberGlo Steamers do not require a separate hood for vapor produced during operation.

**NOTE:** EmberGlo ES10 Series Steamers use a cast aluminum steam generator with two cast in electric heating elements. For best steaming, the generator casting should contain some mineral deposits. During final inspection each generator casting is pre-seasoned with a solution of baking soda and water. The water marks and mineral deposits seen on a new generator casting when the perforated food pan is removed is your assurance that the unit has passed final inspection test and will readily produce steam.

#### Specifications:

- 240 volts 60HZ AC 3200 watts 13.3 amp or 208V 60HZ AC 2400 watts 11.6 amps
- Automatic timer operation (timer models only)
- Single shot operation
- End of cycle buzzer (10 seconds)



**EmberGlo®**

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**SAFETY INFORMATION TERMS:** The following terms are used to identify hazards, safety precautions or special notations and have standard meanings throughout this manual. When you see the safety alert symbol and one of the safety information terms, as shown below, be aware of the hazard potential.



**DANGER:** Identifies the most serious hazards which **will** result in severe personal injury or death.

**WARNING:** Signifies hazards that **could** result in personal injury or death.

**CAUTION:** Identifies unsafe practices which **would** result in minor personal injury or product and property damage.

Quality Designed for Proven Performance



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## Specifications

ES10 Steamers feature a 4" deep full size steam table pan. The steamer lid is equipped with two counter-balanced spring hinges and offers a convenient choice of four locations for installing the lid handle at the side or front of either front corner. Models Available for either manual or fully automatic steaming.

### Dimensions

	Inches	Centimeters
HEIGHT (lid closed)	9 3/4"	24.77
HEIGHT (lid open 90 degrees) with lid handle mounted on front corner of lid, projecting forward.	29"	73.66
HEIGHT (lid open 90 degrees) with lid handle mounted on side corner of lid, projecting to the side.	23"	58.42
WIDTH	22 1/2"	57.15
WIDTH with lid handle projecting to left or right side	28 1/2"	72.39
DEPTH	22"	55.88

## Electrical

Standard ES10 Steamers are designed for use with 208 VAC to 240 VAC, 4 (3 pole with ground) wire, single phase, 60 Hz, electrical service. (See Figure 1).

The generator casting contains two heating elements, each rated for 1600 Watts. 13.3 amps, 120 Volts, 60 Hz. Models are available for use on 50 Hz. (Non USA, Export only) electrical service. Call your distributor for more information.

Standard units are furnished with a six foot, four conductor (2 Hot/1 Neutral/1 Ground) cord. This cord is equipped with a male twist-lock plug and matching loose female receptacle for convenient field installation.

## Installation

**Electrical.** Female twist-lock receptacle, supplied loose with the steamer, should be installed by a qualified electrician. Refer to wiring diagrams. Figure 1.

**NOTE:** Female receptacle must be wired to assure that voltage to the individual heating elements does not exceed 150 volts. (Circuits R-W and BK-W on Fig 1 and 2.) G terminal is wired to Ground. W terminal is wired to neutral. Protect circuit with a 15 amp double pole circuit breaker.

**In the United States,** Wiring to the Female receptacle must conform to local codes, or in the absence of local codes, to the **National Electrical Code ANSI/NFPA No. 70-1990**, or latest edition. **In Canada,** Wiring to the Female receptacle must conform to local codes, or in the absence of local codes, to **Canadian Electrical Code Part 1, CSA Standard C22.1**. When choosing a location for the steamer, be sure that there is adequate space over the unit to lift lid completely.

**Water.** Connect water hose assembly to water supply system. The supply end has a 1/8" female pipe fitting and should be attached downstream of a shut-off valve. Steamer end of hose has a quick connect fitting which snaps onto mating fitting on steamer. This hose fitting has an automatic shut-off valve that allows steamer to be disconnected without shutting off water supply. After connecting, turn on water and check for leaks.

**No Hood Installation Required:** According to the Uniform Mechanical Codes per the International Conference of Building Officials Code, EmberGlo Steamers do not require a separate hood for vapor produced during operation.

## Operation

1. Push power switch to ON position (switch lights up). Allow approximately 15 minutes for steamer to reach operating temperature.
2. **MODEL ES10PB:**  
Push STEAM button momentarily for each shot of steam desired. Water is sprayed into the steam generator for as long as the button is depressed. If the STEAM button is depressed too long or too often, flooding of the steam generator will result. A one second shot of water every 20 seconds is a good rule of thumb to avoid flooding.
3. **MODEL ES10:**
  - A.) For a single-shot steaming as with the ES10PB (above), flip the CYCLE/MANUAL switch to the MANUAL side. Push the STEAM button for each shot of steam desired.
  - B.) For unattended steaming for up to 20 minutes, set the CYCLE/MANUAL switch to CYCLE. Depress the STEAM button to activate a steaming cycle. Steaming will proceed according to the timer settings.

## Installation Continued

Timers are configured as follows:

**CYCLE TIME:** Sets the total length of product cooking time, during which steam is automatically supplied at adjustable intervals. At the end of the set time, steaming stops and the buzzer sounds. Adjustable from 0.2 to 20 minutes.

**STEAM SHOT "ON" TIME:** Sets the amount of time that water is supplied to the steam generator to create steam. Adjustable from 0.1 to 0.5 seconds.

**STEAM SHOT "OFF" TIME:** Sets the amount of the time between steam shots when no steam is supplied. Adjustable from 6 to 18 seconds.

**BUZZER DURATION:** Sets the length of time that the buzzer will sound after automatic steaming is completed. Adjustable from 0.1 to 10 seconds.

**DELAY FROM LAST SHOT TO BUZZER:** Sets the length of time between the last shot of steam and the sounding of the buzzer. This dwell time allows absorption of steam into the food. Adjustable from 0.1 to 30 seconds.

The adjustment features have been located within the steamer control box and made accessible only with a screwdriver in order to discourage tampering or readjustments by unauthorized personnel.

**⚠ DANGER:** Use extreme caution when adjusting timers. Bare wire terminals and/or bare wires are exposed. Unplug male twist-lock plug or use extreme caution if steamer is plugged in when making timer adjustments. Use an insulated or fiberglass screw driver. **IMPORTANT: KEEP LID CLOSED WHEN NOT IN USE.** This keeps the food pan hot and reduces condensation in the steam chamber. When steamer is first installed, or when reconnecting water hose, operate **STEAM** button several times to purge air from lines.

## Maintenance Daily

Food Pan and Grid on all models should be removed and washed with a detergent or run through a dishwasher.

**⚠ WARNING:** Under no circumstances should the entire Steamer be run through a dishwasher. If any of the switches or timers in electric control compartment get wet they can malfunction. Never try to use a device that has been wet—replace it.

All exposed stainless steel surfaces should be wiped with a damp cloth or cleaned with a chlorine free stainless steel cleaner. Rust spots can develop on stainless steel surfaces that are not cleaned daily.

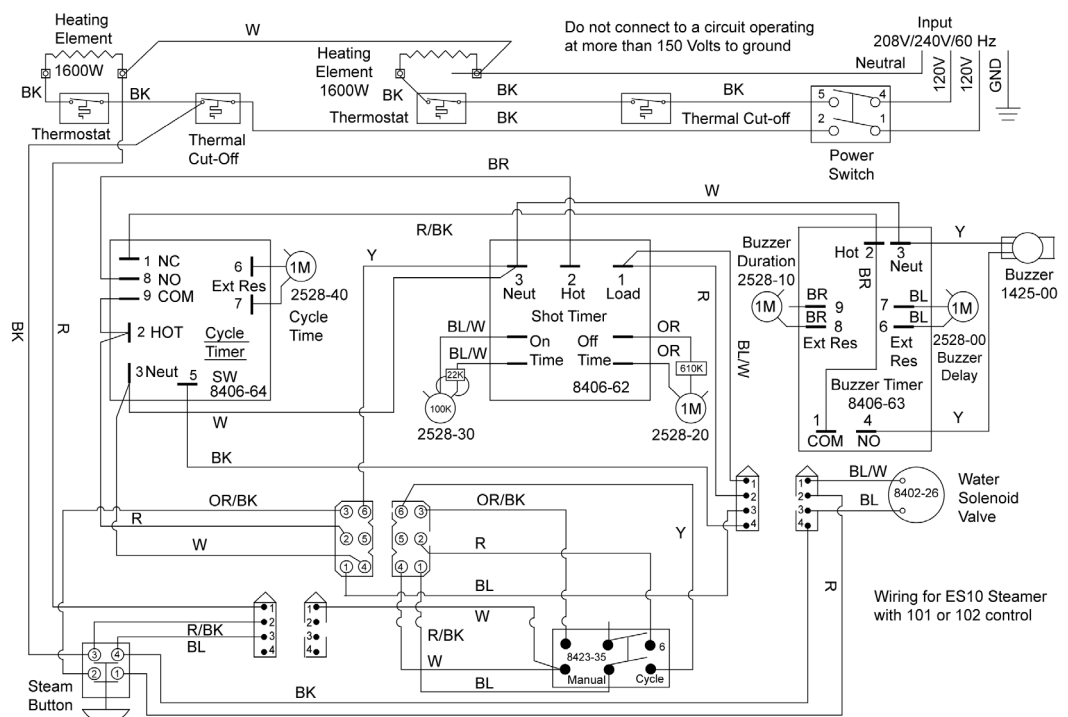


Figure 1: Wiring Diagram

# ES10 Series Installation and Service

## *Maintenance As Required*

**Generator:** The cavity in the generator casting may accumulate lime and can be cleaned by scraping or wire brushing. Do not remove all of this deposit since a thin coating improves steaming.

**Water Nozzles:** The water nozzles may be pulled out for cleaning. Clean small holes and inside of nozzle tube. Located in the nozzle tube is a tool to be used for cleaning the holes in the water tube.

**Water Inlet:** If the nozzle socket tube through the generator is limed, remove plug at bottom and push lime out with a wire or small rod.

**Strainers:** To wash strainer located in hose; first, remove hose from steamer. Remove quick connect fitting from hose. Run water through hose in reverse direction. Return to original connections.

There is a strainer in inlet of solenoid valve that normally does not require cleaning but under extreme conditions may have to be removed and cleaned.

## Trouble Chart

**⚠ DANGER: READ AND UNDERSTAND THIS BULLETIN THOROUGHLY BEFORE STARTING ANY TROUBLE SHOOTING. AN INADVERTENT SERVICE ERROR COULD RESULT IN SEVERE PERSONAL INJURY OR DEATH. ONLY A TRAINED EXPERIENCED SERVICE TECHNICIAN SHOULD ATTEMPT ANY REPAIR PROCEDURE.**

*Qualified service agencies are available at most locations—Refer to EmberGlo listing of AUTHORIZED SERVICE AGENCIES included in Standard Equipment Catalog.*

**IMPORTANT: Defective wiring or loose connections can simulate the defects outlined below. Check associated wiring before replacing a component.**

**I. UNIT DOES NOT HEAT—SWITCH ON, LIGHT OUT**

- A. Confirm male twist-lock plug is plugged in and properly twisted (rotate clockwise).
- B. Confirm twist-lock receptacle is energized—reset breaker or repair house wiring.

**⚠ WARNING: The following checks through III. D. should be done with power cord removed from receptacle.**

- C. Confirm continuity in 4-conductor cord—replace if defective.
- D. Confirm continuity in double pole, single throw Power Switch, terminals 1-2 and 4-5—replace Power Switch if defective.

**II. UNIT DOES NOT HEAT EVENLY OR STEAMS ONLY ON ONE END OF STEAM GENERATOR CASTING—SWITCH ON, LIGHT ON.**

- A. Confirm continuity of each of two Thermal Cut-offs—replace if defective.
- B. Confirm continuity of each of two Thermostats—replace if defective.
- C. Confirm continuity of each of two Heating Elements—replace entire Steam Generator Casting if defective.

**III. UNIT HEATS UP, BUT DOES NOT STEAM—NO WATER EVIDENT**

- A. Confirm Manual Water Supply Valve is open and Water Hose Assembly is properly hooked up. Refer to INSTALLATION-Water. A quick way to confirm water line is operational is to disconnect Water Hose at quick disconnect fitting and push a small probe into quick disconnect fitting—water should flow freely.
- B. Check and clean **Water Nozzles, Water Inlet and Strainers**. Refer to **MAINTENANCE-AS REQUIRED**.
- C. Confirm continuity of Steam Push Button Switch when depressed—replace if defective.
- D. Confirm continuity of water Solenoid Valve—replace if defective.
- E. Water Solenoid Valve—Power Switch on, light on, confirm 120 volts to **GND** on terminals **2** and **5** of Power Switch, both terminals of both Thermal Cut-offs, and terminal 3 of Square Steam Button. With square Stem Button depressed, confirm 120 volts to **GND** on terminal 4 of Switch and blue lead terminal of Water Solenoid Valve. An audible click should be heard when Valve is energized—if no click, jumper white lead terminal of Valve to **GND**. If click is heard with jumper attached, white neutral wires are faulty from Valve thru both heater elements to neutral on 4-conductor cord. Locate fault and repair. If no click, Water Solenoid Valve is defective and should be replaced.

**IV. UNIT FLOODS—SELECTOR SWITCH TO MANUAL; SQUARE STEAM PUSH BUTTON NOT DEPRESSED.**

- A. Water Solenoid Valve seat is dirty and valve cannot close completely or is defective—clean or replace as required.

**⚠ WARNING: The following checks through Section V part B should be done with power cord plugged in and properly twisted. Use extreme care as bare wire terminals and/or bare wires are exposed.**

**V. UNIT FLOODS—SELECTOR SWITCH TO CYCLE**

- A. Same as IV.A..
  - B. STEAM SHOT, OFF TIME set for too frequent shots—refer to OPERATION 3B.
-

## Heating & Cooking Guide

The suggestions are made only to help the operator get started. Since each location will have different portions and different requirements, each operator must determine his own operation habits. The manual model is generally operated with one or two shots at the start. If additional heat is required, operate up to three shots per minute. Since the product to be heated can only absorb heat at a certain rate, do not oversteam, exceeding three shots per minute will usually not improve performance. The timer model controls the number of steam injections per minute. The unit can be used as a warmer or cooker. When the product heating time is established, set the timer to obtain the same results.

Breads	Refridgerated	Frozen
Bread	1 to 2 shots of steam	2 min
Bagels	1 to 2 min	3 to 4 min
Croissant	15 seconds	
Muffin	1-2 shots of steam	
Pastries	1 to 2 min	3 to 4 min
Tamales	5 min	10 min
Tortillas	1 shot of steam	10 seconds
<b>Eggs</b>		
Soft Boiled	6 min	
Poached	3 min	
Scrambled (dz)	5 min	
<b>Meat</b>		
Bratwurst	8 min	16 min
Breakfast sausage	8 min	14 min
Chicken breast (lg)	15 min	25 to 30 min
Chicken breast (precooked)	5 min	15 min
Deli meats	2 to 3 min	
Hamburger (precooked)	4 min	4 min
Hot dogs	4 min	8 min
Italian sausage	4 min	8 min
Ribs (precooked)	10 min	18 min
<b>Noodles and Rice</b>		
Macaroni (2 qt. cooked, 1 pt. water, 2 oz. oil)		5 min
Egg Noodles (2 qt. cooked, 1 pt. water, 2 oz. oil)		6 to 7 min
Rice (precooked)	5 min	8 to 10 min
Spaghetti (2 qt. cooked, 1 pt. water)		5 min
<b>Vegetables</b>		
Artichokes	25 to 30 min	50 min
Asparagus	10 min	14 min
Brussels	15 min	18 min
Broccoli	10 min	12 min
Carrots sliced	4 min	8 min
Carrots whole baby (2 lb)	15 to 20 min	
Cauliflower	12 min	16 min
Corn on the cob	3 min	5 min
Fennel	10 min	
Green beans	4 min	8 min
Pea pods	6 min	9 min
Peas	5 min	8 min
Potatoes 8 whole (3 oz each)		20 min
Potatoes mashed (2 qt)	8 min	
Squash, Acorn 4 (8 oz each)	12 to 20 min	
Squash, Zucchini -sliced frozen (1b)		10 Min
<b>Seafood</b>		
Large clams	4 min	8 min
King crab	8 min	12 min
Snow crab	6 min	10 min
Fish filets	6 min	8 to 10 min
Lobster 8 oz Tails	8 min	14 to 16 min
Scallops	5 min	8 to 10 min
Shrimp	4 min	6 min

## Accessories

### Accessories for Steamers

Increase your efficiency with accessories made just for your steamer.

#### Steaming Basket Sets and Steaming Racks

Take full advantage of your EmberGlo Steamer with specially designed stainless steel Steaming Basket Sets and Steaming Racks. All sets and racks come with an easy to use removable handle. Increase your efficiency by dual steaming different items in separate baskets or in a mesh Food Pan with a separator. Freshen or heat up tortillas and pita bread in a TorPita Steaming rack.



Half Pan Size Basket - 5608-72  
 Quarter Pan Size Basket (2 pk) - 5608-73  
 3 in One Basket Set (1 Half and 2 Quarters) - 5608-70  
 (Basket Sets come with a Handle)



TorPita Rack  
 (for Tortillas & Pitas) - 5608-71

#### Generator Cleaning Brush

Scrapping off mineral build up is easy with our sturdy stainless steel Generator Cleaning Brush.



#### Egg Poacher

A quick and healthy way to serve poached eggs.



4 Cup Egg Poacher -  
 2070610



6 Cup Egg Poacher -  
 2070615

5608-71	TorPita -Tortilla/Pita Rack w/ Handle	10 1/4" L x 7 5/8" W x 3 5/32" H
5608-70	Three in 1 Basket Kit w/ Handle	10 2/3" L x 8 1/8" W x 3" H
5608-72	1/2 Size Basket w/ Handle	10 2/3" L x 8 1/8" W x 3" H
5608-73	Two of 1/4 Size Basket w/ Handle	7 7/8" L x 5 1/8" W x 3" H
2070610	4 Cup Egg Poacher	9" L x 9" W x 3" H
2070615	6 Cup Egg Poacher	12 3/4" L x 12 5/8" W x 3" H
8450-62	Steam Generator Cleaning Brush	7 3/4" L

