Part No. 41488

Astro-Pop

20oz. Popcorn Machine

Instruction Manual

2010E

GOLD MEDAL®

FUNFOOD EQUIPMENT & SUPPLIES

Cincinnati, OH 45241-4807 USA

SAFETY PRECAUTIONS

⚠ DANGER

Machine MUST be properly grounded to prevent electrical shock to personnel. Failure to do so could result in serious injury, or death. Do NOT immerse the kettle, warmer, or any other part of this equipment in water. Always unplug the equipment before cleaning or servicing. Do not use excessive water when cleaning.

⚠ WARNING

To avoid serious burns, do NOT touch the kettle while it is hot.

⚠ WARNING

ALWAYS wear safety glasses when servicing this equipment.

⚠ WARNING

Any alterations to this equipment will void the warranty and may cause a dangerous situation. NEVER make alterations to the equipment. Make sure all machine switches are in the off position before plugging the equipment into the receptacle.

⚠ CAUTION

Do NOT allow direct contact with this equipment and the general public when used in food service locations. Only personnel that are trained and familiar with the equipment should operate the equipment. Carefully read all installation instructions before operation.

⚠ CAUTION

This machine is NOT to be operated by minors. Minors are classified as anyone under the age of 18.

NOTE

Improvements are always being made to Gold Medal Products equipment. This information may not be the latest available for your purposes. It is critical that you call Gold Medal Products technical service department at 1-800-543-0862 for any questions about machine operations, replacement parts, or any service questions.

INSTALLATION INSTRUCTIONS

CHECKING SHIPMENT

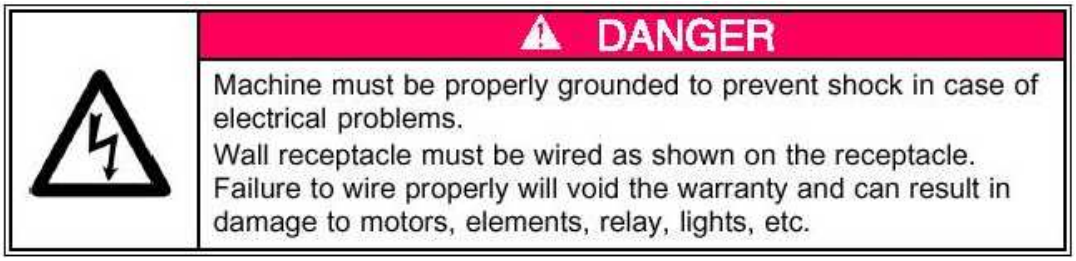
Unpack all cartons and check thoroughly for any damage that may have occurred during transit. Damage claims should be filed immediately with the transportation company. Gold Medal is not responsible for damage that occurs in transit.

Domestic models only: 120v/208v or 120v/240v 60 Hz.

A 30 amp – 4 wire wall receptacle is shipped with each machine. This receptacle will accept the attachment plug on the popper and must be used. Your electrician must furnish sufficient current for proper operation of your machine. We recommend this popper be on a dedicated and circuit protected line. (note: The Astro Pop "uses" both "hot to neutral" legs, 120v. The machine does not "use" the 208v or 240v, "hot to hot" connection.

Domestic - 120/208V or 120/240V, 60 HZ

Note: Fire suppression components are in accordance with ANSUL R-102 specifications.



FINAL PREPARATIONS

The popcorn machine was adjusted, inspected, and tested before it left the factory. After the machine has been installed, mount the kettle assembly in the hanger arms and plug in the kettle lead-in cord. Tighten the ring on the kettle lead-in plug.

Connect the clear oil line from the pump to the aluminum line from the popper with the supplied hose clamp. Connect the 6 pin connector from the popper to the receptacle on the oil pump. Both Bucket pump (2114E) and Bag-in-a-Box pump (2257) have the same receptacle.

The Bag-in-Box oil pumps are pre-calibrated before leaving the factory, however, should the oil setting need to be adjusted – **see page 6** of this manual. The proper amount of oil for the 20oz. Pop-O-Gold is between 6 oz. and 7 oz.

To check for proper amount of oil, and assure oil is liquid, dispense a "shot" into the measuring cup that is provided with the machine.

OPERATING INSTRUCTIONS

CONTROLS AND THEIR FUNCTIONS

LIGHT SWITCH
Operates on all the lights, interior and dome, on your popcorn machine.

WARMER SWITCH
Operates the forced air popcorn crisping system.

KETTLE HEAT SWITCH
Operates the heating elements in the popping kettle.

KETTLE MOTOR AND EXHAUST SWITCH
Operates both the kettle agitator motor, and the exhaust blower. The exhaust blower is only required when popping corn.

OIL SYSTEM MASTER SWITCH
Sends power to the oil pump. (Either the Bucket Pump or Bag-in-a-Box models) The warmer/blower on the oil pump is activated, as well as the heated line kits (If provided / purchased separately). The warmer/blower on the oil pump will keep coconut popping oil liquid if the doors on the base are kept closed. It may be desirable to keep this switch on at night, if you have problems keeping the coconut oil liquid. Coconut oil will congeal at temperatures below approximately 76º F [24º C].

"RED" OIL DISPENSE MOMENTARY SWITCH

When pushed, will dispense the pre-set amount of oil into the kettle.

YELLOW LIGHT & AUDIBLE SIGNAL (LOAD – DUMP)

Alerts the operator to:

1. Load the corn and oil *or*
2. Dump the popped corn from the kettle *or*
3. Turn off the kettle heat switch if they are done popping corn

SALT-SWEET SWITCH (IF EQUIPPED)
Changes the temperature setting to 50ºF lower for the sweet option.

POPPING CORN

1. Turn on all Switches.
2. When popping with coconut oil, be sure the oil is liquid before attempting to pop corn.
3. When the kettle is ready (about 5-8 minutes), the Yellow Light and Audible Signal will turn on. Lift the kettle lid and pour in 20 oz. of corn (use the supplied corn cup) and 4 teaspoons (20 cc – use the supplied salt scoop.) of Flavacol. Close lid.
4. Press the RED oil pump button. The proper amount of oil will dispense into the kettle. The light and audible signal will turn off after approximately 30 seconds.
5. When the popcorn has completed popping, the light and audible signal will turn on. Dump the popcorn.
6. On the final kettle of corn, turn the “KETTLE HEAT” switch off, just as the lids are forced open by the popping corn. This saves electricity, and helps eliminate excessive smoke/steam after you have stopped popping.

REMEMBER:

If the Yellow Load - Dump light is turned on and the Signal is sounding ***one*** of the following actions should be taken:

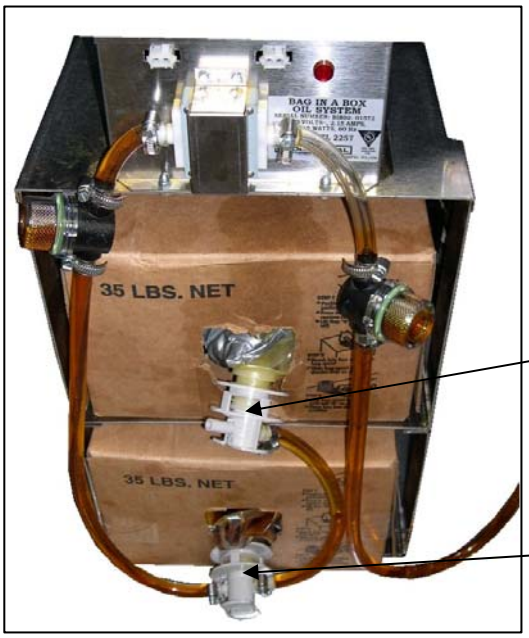
1. Load the corn and oil ***or***
2. Dump the popped corn from the kettle ***or***
3. Turn off the kettle heat switch if you are done popping corn

When you are finished popping, make sure “KETTLE HEAT” and “KETTLE MOTOR” switches are turned “OFF”.

NEVER LEAVE THE HEAT ON WHEN YOU ARE NOT POPPING CORN.

Setting the Amount of Popping Oil with a Gold Medal BIB System

In March 2003, we introduced the model 2257 with the E-Z Set control.



Note: When connecting the bag-in-box system, you must be sure to connect the bag connectors as shown in the picture to the left.

The dead-leg connector (With only one hose connected to it) must be installed on the top box.

The Pass-thru connector (With two hoses connected to it) must be installed on the bottom box.

With this system, it is not necessary to set a mechanical timer. To adjust the oil amount, follow these instructions:

Holding down the RED *Oil Dispense* push button (on the popper) while turning on the *Oil System Master* switch (on the popper), and continuing to hold the RED *Oil Dispense* button in for 5 seconds, puts the unit in the program mode. The oil light (on the popper) will start to blink off and on indicating that the timer is in the program mode.

When in the program mode press and release the *Oil Dispense* switch to start the oil flowing. When the correct amount of oil has been dispensed into the measuring cup push the *Oil Dispense* switch again to stop the oil flow. The oil amount can be “topped off” by pushing the *Oil Dispense* switch on/off as many times as needed to finalize the oil amount. Turning the *Oil System Master* switch off and then back on puts the unit in the regular mode. The unit will now dispense the “programmed” amount of oil when the *Oil Dispense* switch is pushed. The oil light will light only when the oil pump is on.

You will need to perform this procedure with the oil lines full of oil. Otherwise, you are setting both the amount of oil that goes in the kettle, and the amount of oil required to fill the lines. Just fill the lines using the process above, then reset the amount as described above.

NOTES:
Model 2257D has the capability of “remembering” two different settings for poppers with the “Salt/Sweet” option or “Flexi-Pop option.
- For Salt/Sweet models, just put the switch in the “salt” position, and set the oil amount as described above. Then put the switch in the “sweet” position and repeat the setting procedure. The pump will remember both settings.
- For Flexi-Pop models, just put the “Load” switch in one position, 32oz. for example, then set the oil amount. Then put the load switch in the other position, 18oz. for example. And repeat the setting procedure.
- Model 2457 is the heated line option for the 2257 pump.

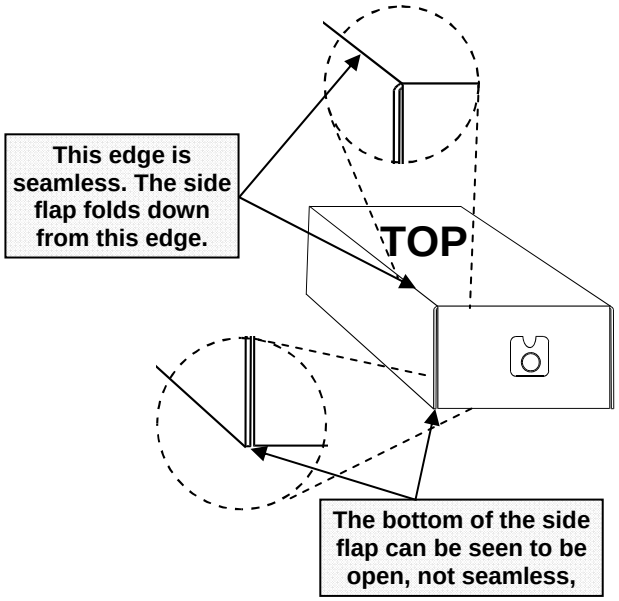
Preventing and Troubleshooting Oil Delivery Issues

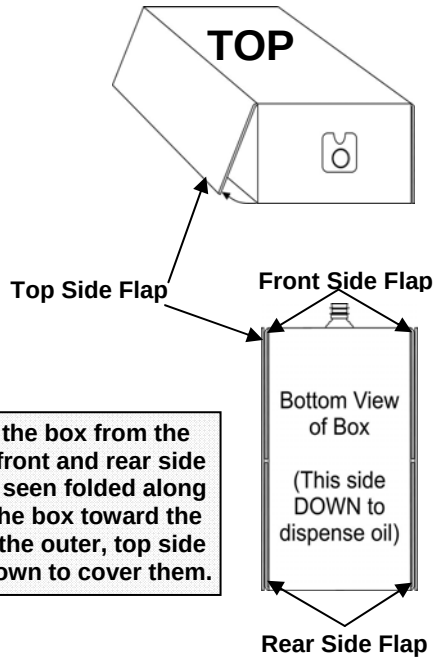
It may occur at times that the Bag-In-Box oil pumping system does not deliver oil to the kettle, or delivers it in incorrect amounts. This section is intended to list the most common causes of these problems, and the procedures necessary to prevent and, if necessary, correct them.

Oil Temperature – Coconut oil becomes a solid at temperatures above the average room temperature. For this reason, it is necessary to ensure that the oil has been permitted to come to working temperature before attempting to pump it through the system. If the machine has not been used for several days, the oil master switch should be turned on the night *before* it is expected that the machine will be used. For machines which are in daily use, even if not round the clock, ***leave the oil master switch on at all times***, and ***keep the base cabinet doors closed***, to prevent the oil from becoming solid.

Bag-In-Box Mounting – Because the bag's dispensing connector is offset toward the bottom of the box, to permit free oil flow and complete emptying of the oil from the bag, the box should never be mounted upside down. Most boxes supplied will be clearly marked as to which side should be up during dispensing. (Note that in some cases the box is intended to be stored with one side up, but to be turned and used in dispensing with the other side up.) Be sure to double check to ensure that the box is mounted in the correct dispensing orientation.

You may encounter boxes with no clear markings to indicate dispensing orientation. A reliable guide in this case (and also for those boxes which are marked), is the direction that the top side flap of the corrugated box is folded. When the box is properly mounted for dispensing, the top side flap will fold *down* from the top edge of the box, so that if one were to attempt to separate the flap it would be necessary to pull up from the bottom edge. See the illustrations below.





Looking at the box from the bottom, the front and rear side flaps can be seen folded along the side of the box toward the middle, and the outer, top side flap folded down to cover them.

NOTE

The Bag-In-Box oil pumping system is NOT designed to function when the bag has been removed from the box. Service results in such a situation are unpredictable. Do not attempt to operate the system with a bag which has been removed from the box.

Bag and Hose Connector Issues – There are two different types of dispensing nozzles employed on the Bag-In-Box oils, as well as two different types of connectors installed on the oil pumping system hoses which connect to the bag's dispensing nozzles. The particular combination of connectors in your system will determine the appropriate method for connecting the Bag-In-Box oil bag to the system hosing. These combinations will be illustrated and explained in the following section.

Bag Dispensing Nozzle – Blue Insert

Bag dispensing Nozzle – White Insert

Blue Insert Bag Nozzle with Blue/White Hose Connector

1. With the blue collar on the hose connector retracted toward crosspiece, slide hose connector shell onto bag nozzle.

2. Holding the bag nozzle behind the flange, slide the blue collar forward to lock the hose connector onto the bag nozzle.

3. Connector shown with shell correctly engaged and collar forward in lock position.

White Insert Bag Nozzle with Blue/White Hose Connector

4. Place fingers behind flange and use thumbs to slide the crosspiece forward into the nozzle. Oil flow is initiated.

1. With the blue collar on the hose connector retracted toward crosspiece, slide hose connector shell onto bag nozzle.

2. Holding the bag connector, slide the blue collar forward to lock the hose connector onto the bag nozzle.

Blue Insert Bag Nozzle with Gray Hose Connector

3. Connector shown with shell correctly engaged and collar forward in lock position. Oil flow commences. ***Do not slide crosspiece forward.***

1. Grasp the bag nozzle and slide the gray hose connector on from the side.

2. With the hose connector in place, place fingers behind flange on connector and press plunger forward to lock.

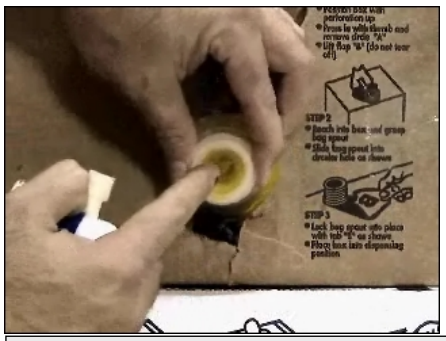
White Insert Bag Nozzle with Gray Hose Connector

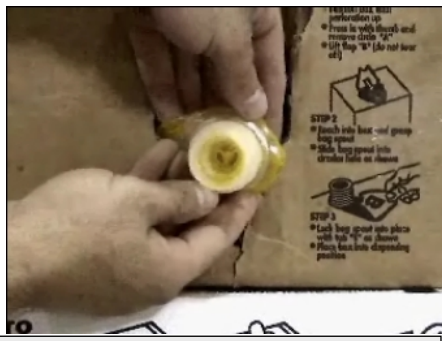
3. Connector shown with shell correctly engaged and plunger forward in lock position. Oil flow commences.

1. Grasp the bag nozzle and slide the gray hose connector on from the side.

2. With the hose connector in place, place fingers behind flange on connector and press plunger forward to lock.

3. Connector shown with shell correctly engaged and plunger forward in lock position. Since the White Insert Bag Nozzle is not designed to work with the insert pressed forward, this configuration may or may not work. If it does not, remove the gray hose connector and order the blue hose connector from Gold Medal.





NOTE: If the oil does not flow after engaging plunger on gray hose connector, or if the crosspiece is inadvertently pushed forward when using the blue hose connector with the white insert nozzle, the nozzle center slider insert will be left pushed back into the bag, as shown above left.

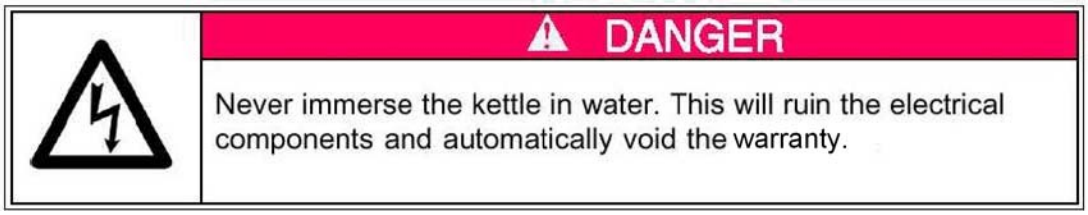
To correct this, place fingers behind nozzle as shown above right. You will feel the center slider protruding slightly into the bag. Holding the nozzle body from the front, press the slider from the back side of the nozzle until it snaps outward into its correct position. The nozzle is now ready to be used with a blue hose connector.

CLEANING INSTRUCTIONS

DAILY:

Clean the Kettle

1. **Under no circumstances should the kettle be removed from the machine for cleaning, nor should excessive water be used to wipe down the kettle lead-in cord. Severe kettle damage will result.**
2. As you pop corn, wipe the kettle with a clean cloth. It is easy to keep the outside clean when the kettle is warm and the oil is not baked on. CAUTION: The hot kettle will cause burns if you touch it with your hand. Allow the kettle to cool for at least 1 hour before attempting to clean.
3. Every night, mix a gallon of Heat'n Kleen solution (2 tablespoons per gallon of water). Turn on the kettle heat. When the water starts to boil, turn off the heat and let it work overnight.
4. The next morning, dump the solution into a bucket and wipe the inside of the kettle with a cloth.
5. A CLEAN-IN-PLACE hook is located behind the operator side kettle support arm. Just tilt the kettle to the dump position, and swing the hook into position to hold the kettle in the dumped position. This feature will safely enable you to clean the kettle, with out removing it from the machine.



Clean the Popcorn Machine

1. Wipe the stainless steel parts with a clean cloth and cleaner designed for stainless steel. ***Do not use oven cleaners, as they will damage parts of the machine.***
2. Remove and clean the 1st stage mesh filter. Cover removal not required. Clean filter in warm soapy water.
3. Ammonia cleaners will damage the plastic doors. ***Use only non-ammonia cleaners, such as Gold Medal's – Watchdog Glass Cleaner – item number 2588.***

WEEKLY:

Clean the filters in the popcorn machine

1. Loosen the 2 screws (no tools required), on the filter cover plate on the ceiling inside the popper. Remove the cover, the bag and mesh filters. Clean the bag filter and the mesh filters in warm soapy water. Let dry overnight and reinstall.
   CAUTION: Keeping the filters clean is important to let the exhaust system "do its job".
2. Check the condition of the clear oil lines and tighten or replace as required.

Item No.	Part No.	Description
1	41250	Metal mesh filter
2	41169	Oil Mist Bag Filter
3	82015	Filter Pack (Includes all three filters)

MAINTENANCE INSTRUCTIONS

⚠ DANGER

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the Installation,Operating, and Maintenance Instructions thoroughly. Installation should be performed by a certified electrician.

⚠ WARNING

Adequate eye protection must be used when servicing this equipment to prevent the possibility of injury.

⚠ CAUTION

THE FOLLOWING SECTIONS OF THIS MANUAL ARE INTENDED ONLY FOR QUALIFIED SERVICE PERSONNEL WHO ARE FAMILIAR WITH ELECTRICAL EQUIPMENT. THESE ARE NOT INTENDED FOR THE OPERATOR.

ELECTRONIC TEMPERATURE CONTROL

Operation

The control temperature jumper is factory set, and stops power to the kettle when the thermocouple reaches the setpoint. On the Pop-O-Gold machine, this is the ideal point to dump the popped corn out of the kettle. On the first start-up this is also the ideal time to load the corn and oil. Therefore if the kettle heat switch is turned on and the buzzer is sounding ***one*** of the following actions should be taken:

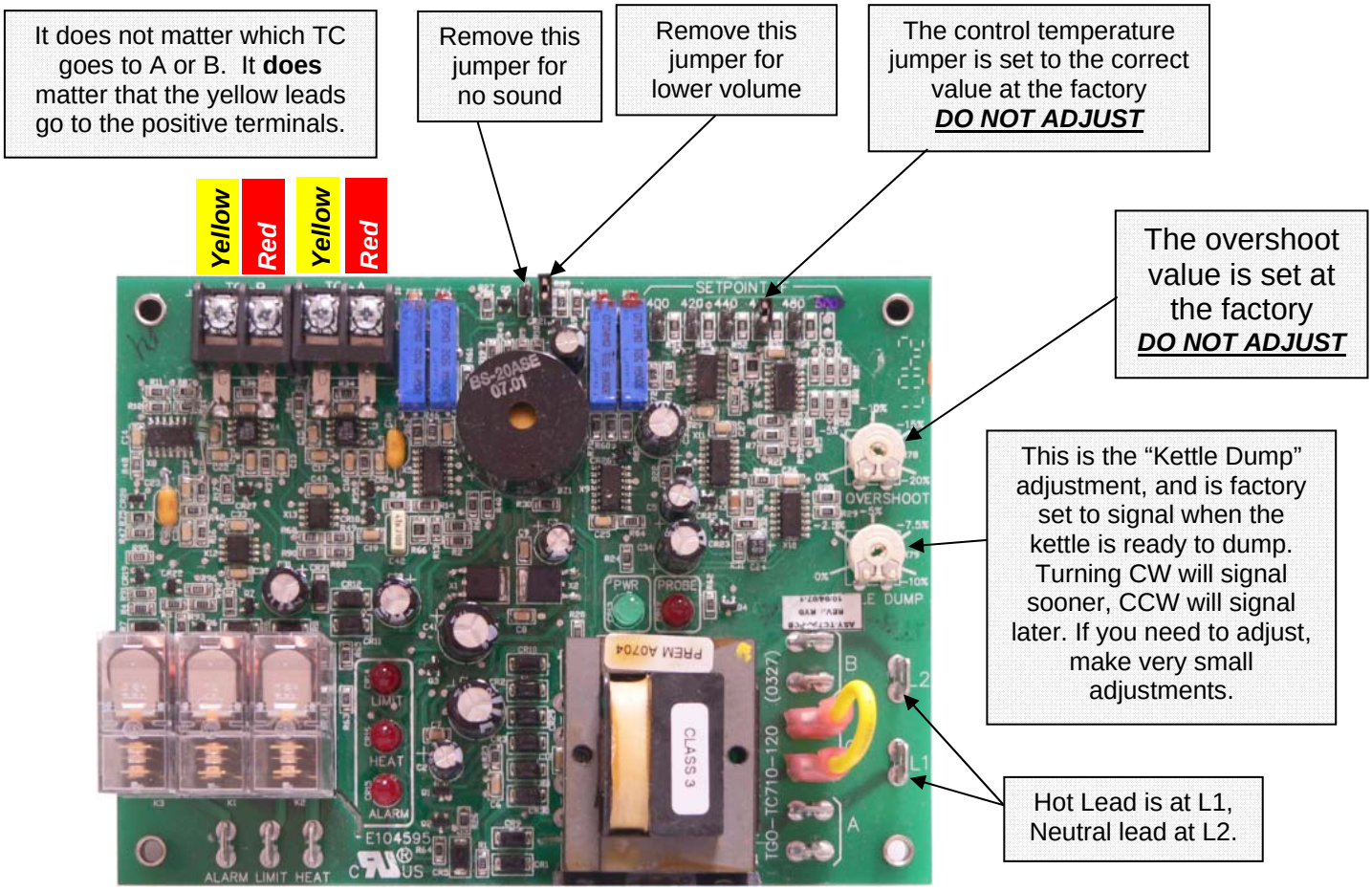
- Load the corn and oil ***or***
- Dump the popped corn from the kettle ***or***
- Turn off the kettle heat switch if you are done popping corn

Adjustment of Electronic Control

The Pop-O-Gold has an electronic kettle control with 2 thermocouples, one for control and one for limit. There are no mechanical thermostats in this kettle.

There are (4) factory adjustments on the control:

1. Control temperature – **do not** adjust.
2. Signal to dump – If you want the signal to dump to be a little sooner or later you can adjust the potentiometer marked “kettle dump”. CW is sooner, CCW is later.
3. The patented overshoot circuit is tuned for the kettle, **do not** adjust this potentiometer.
4. The audible signal to dump has three options; full volume, half volume, no sound (just the yellow light). Adjustments are by jumper positions. We ship with the signal at full volume.



Qualified service personnel only please see Appendix A, Service Bulletin 0074

TROUBLESHOOTING

LONG POPPING CYCLES

If your pop cycle is longer than 4 minutes, it can be the result of several things:

A. LOW VOLTAGE - If the machine is operated on low voltage, this could cause the kettle not to reach the proper operating temperature.
B. INADEQUATE SUPPLY LINES - Inadequately sized electrical supply lines, in addition to being a fire hazard, would also prevent the kettle from reaching the proper operating temperature. Check with a qualified electrician.
C. INFERIOR CORN - Inferior quality corn would result in longer popping cycles. Use only top quality hybrid popcorn from reputable suppliers. Even then, if you let your corn pick up moisture or dry out, your popping cycles will be slow.

KETTLE DOES NOT HEAT

Before you go any further, make sure the kettle lead-in cord is plugged in, and the **kettle shunt trip breaker** is not tripped. **(See figure 4.11 on page 23)** The shunt trip breaker may trip during transit, if the machine has been handled in a rough manner. If the breaker is re-set - then trips again - contact a service technician for inspection/repair before going further.

A. KETTLE HEAT SWITCH - Check the voltage to and from the “KETTLE HEAT” switch, and if the switch is defective replace it.
B. CONTROL - A defective thermocouple lead will cause the kettle not to heat. Check for good connections from the kettle to the control.
C. MAIN RELAY. **(See Figure 4, item 4.6)**

MOTOR WILL NOT TURN AGITATOR

WARNING! If the kettle agitator shaft is not rotating, ***DO NOT*** pop corn. Adjust the clearance between the kettle bottom and the stir blade to 1/32” (use a dime). Loosen the set screw in the collars above and below the crossbar and adjust the agitator shaft as necessary. Then re-tighten the set screws in the collars.

OIL PUMP DOES NOT DELIVER OIL TO KETTLE

If the pump is operating but oil is not dispensed, the oil may be solid in the oil lines.
If the pump is not operating at all, see the pump manual for instructions.

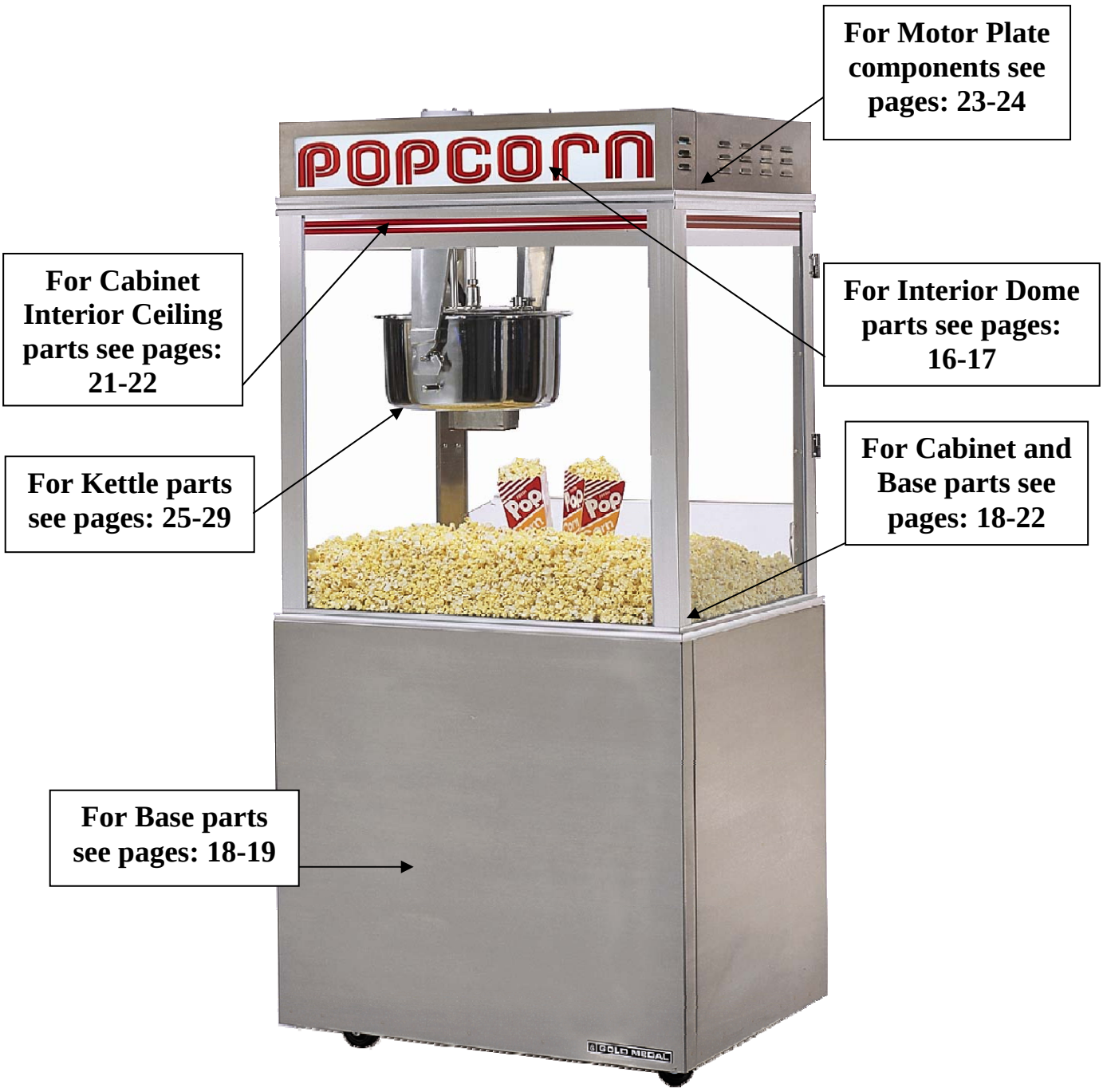
ORDERING SPARE PARTS

1. Identify the needed part by checking it against the photos, illustrations, and/or the parts list.
2. When ordering, please include part number, part name, and quantity needed.
3. Please include the machine's model name, serial number, and date of manufacture (located on the machine nameplate) with your order.
4. Address all parts orders to:

Gold Medal Products Co.
10700 Medallion Drive
Cincinnati, Ohio 45241-4807
(800) 543-0862
(513) 769-7676
Fax: (513) 769-8500

or, place orders at:
E-mail: info@gmpopcorn.com
Web Page: www.gmpopcorn.com

Where To Find Parts



Parts Location Guide

Dome Assembly

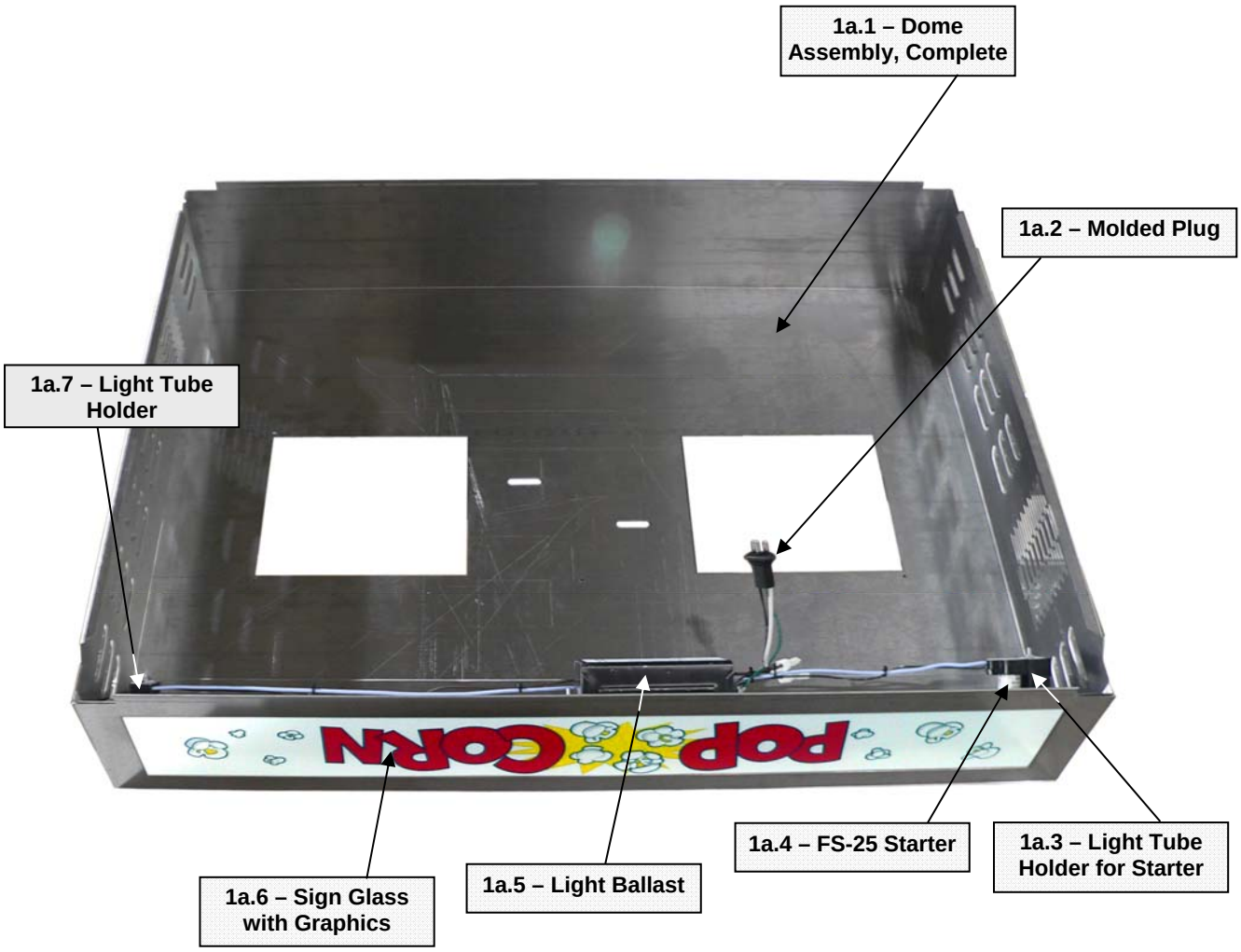


Figure 1a – Dome Assembly, Fluorescent Light

Dome Assembly, Fluorescent Light (Figure 1a)		
Item Ref.	Part No.	Description
1a.1	41511	Dome Assembly, Complete
1a.2	47726	Molded Plug
1a.3	41021	Light Tube Holder for Starter
1a.4	41508	FS-25 Starter
1a.5	41509	Light Ballast
1a.6	41506	Sign Glass with Graphics
1a.7	41020	Light Tube Holder

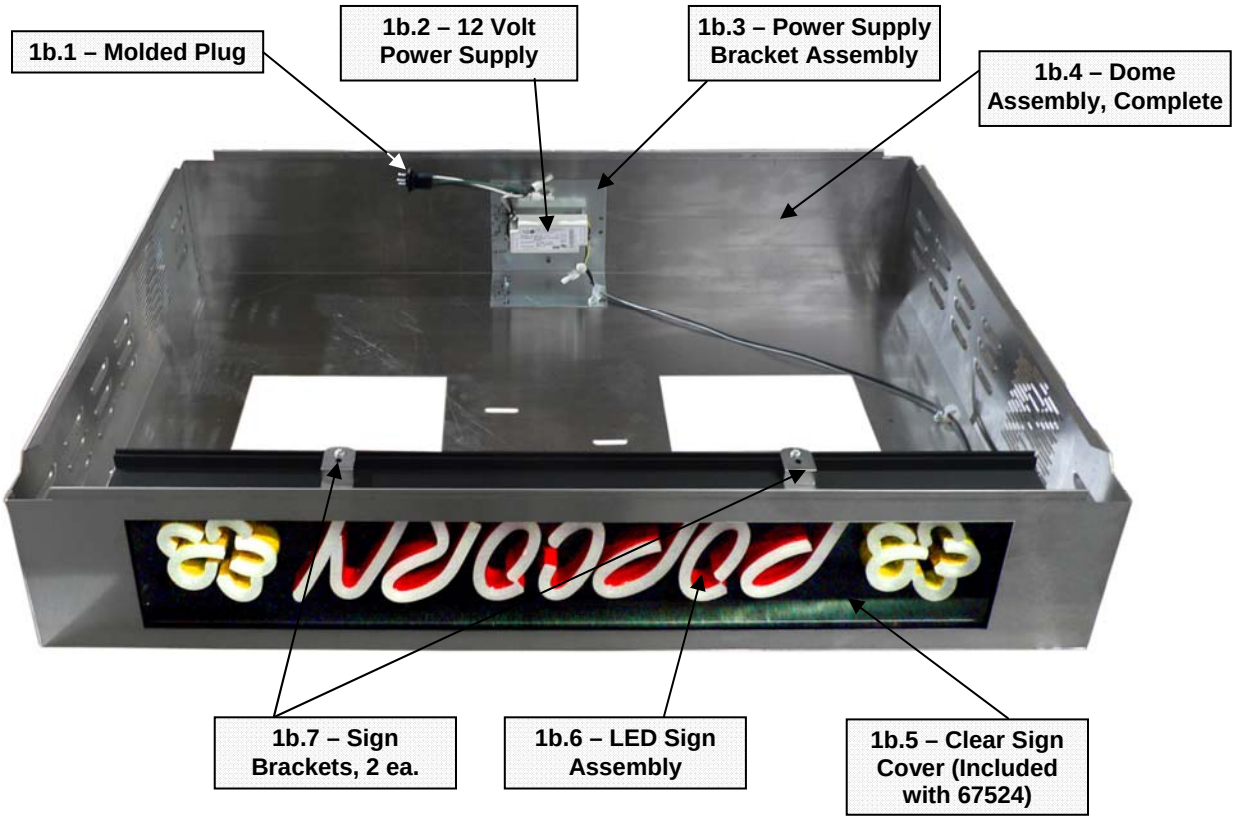


Figure 1b – Dome Assembly, LED/Neon Light

Dome Assembly, LED/Neon Light (Figure 1b)		
Item Ref.	Part No.	Description
1b.1	47726	Molded Plug
1b.2	55231	12 Volt Power Supply
1b.3	55233	Power Supply Bracket Assembly
1b.4	48560	Dome Assembly, Complete
1b.5	67418	Clear Sign Cover (Included with 67524)
1b.6	67524	LED Sign Assembly
1b.7	67488	Sign Brackets, 2 ea.

Cabinet Breakdown

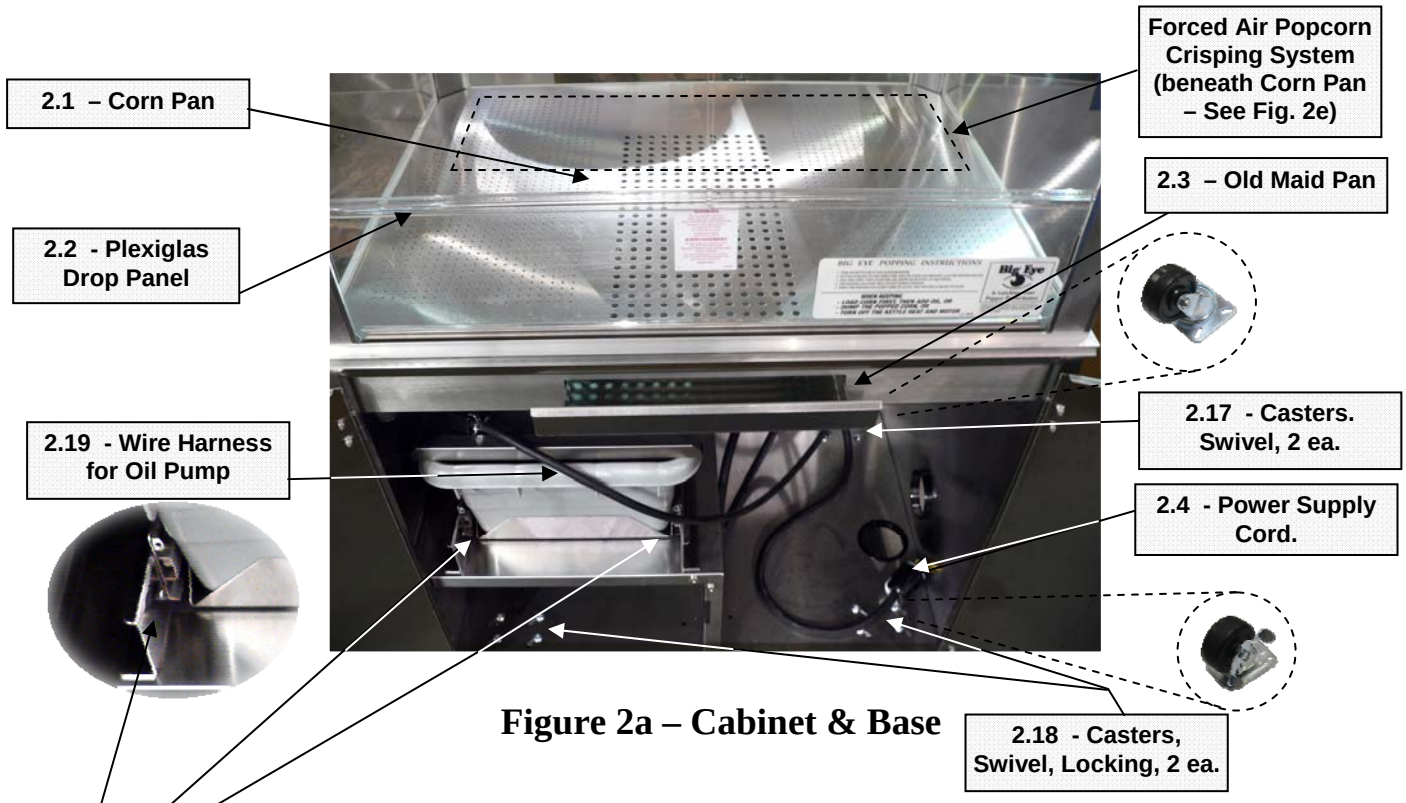


Figure 2a – Cabinet & Base

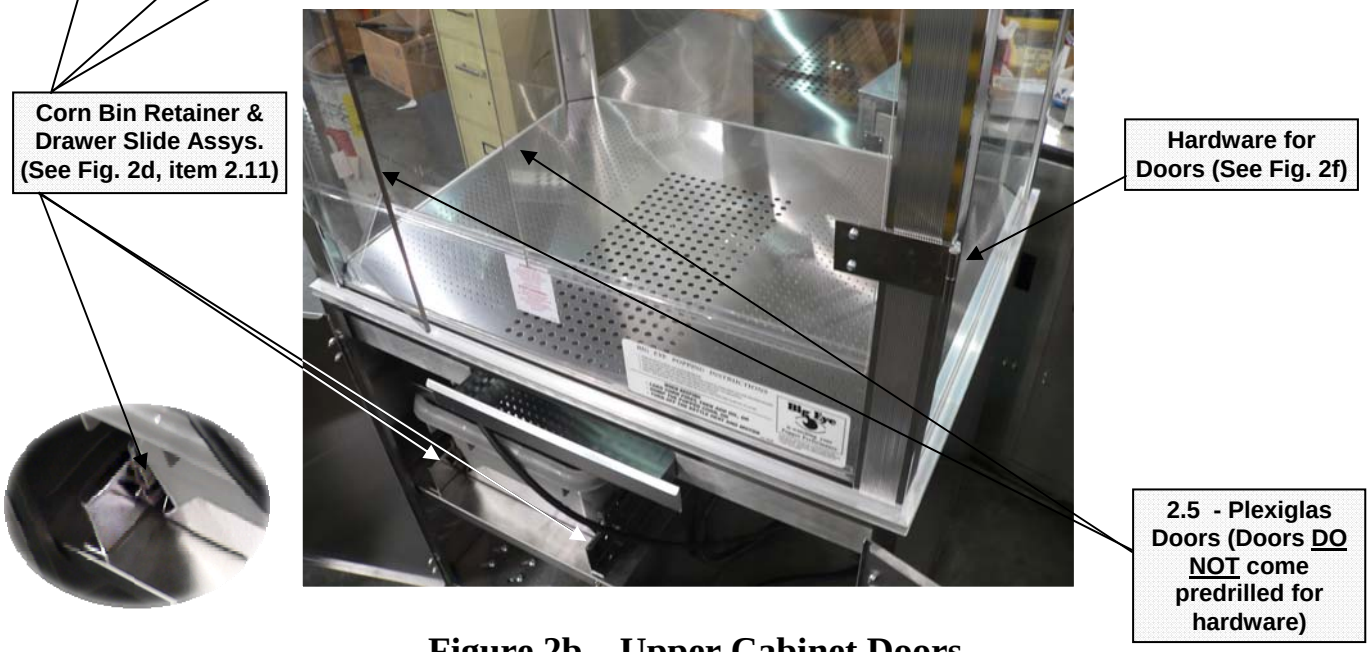


Figure 2b – Upper Cabinet Doors

Figure 2c – Cabinet Drawer Slides

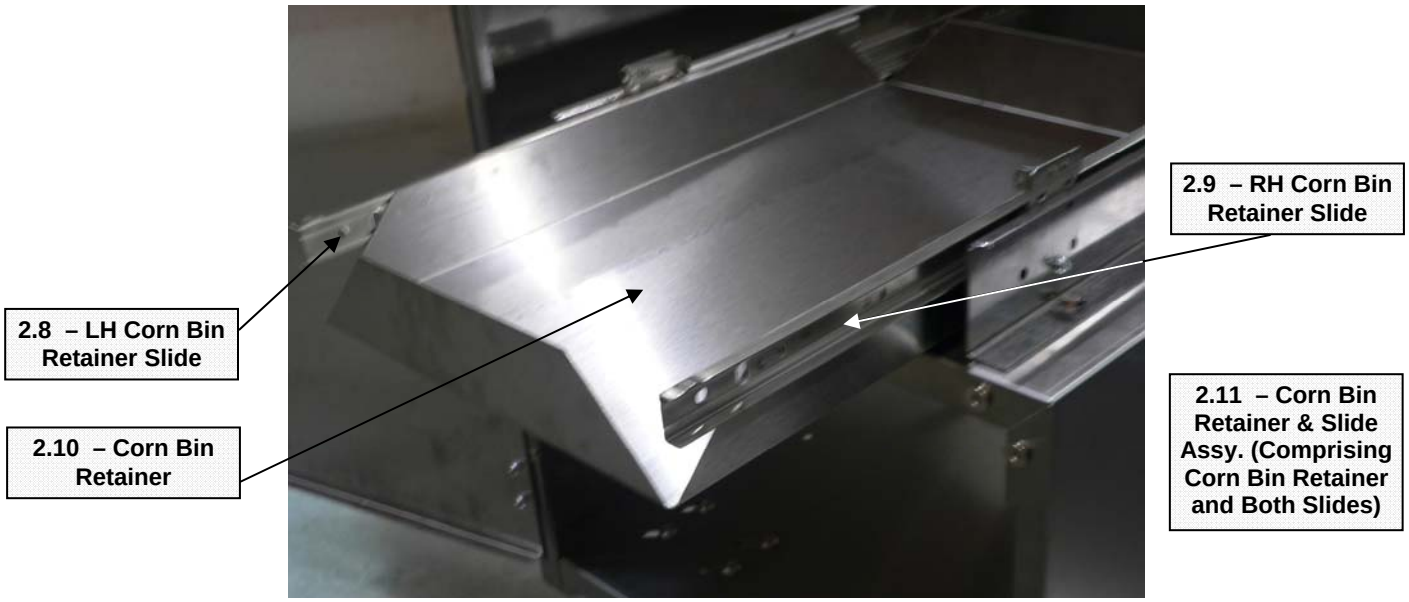
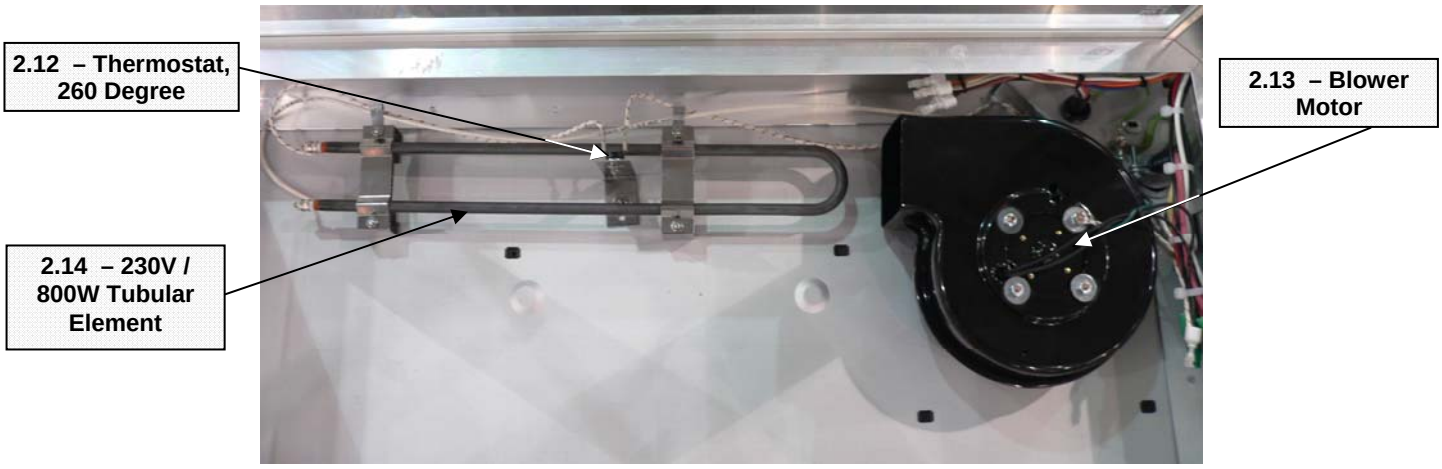


Figure 2d – Corn Bin Retainer & Drawer Slides



***WARNING*: This element will be covered. For proper operation, you MUST remove cover and clean underneath the element every 3-4 months. Be sure machine is off and power is disconnected before cleaning**

Figure 2e – Forced Air Popcorn Crisping System (Under Rear of Corn Pan in Upper Cabinet)

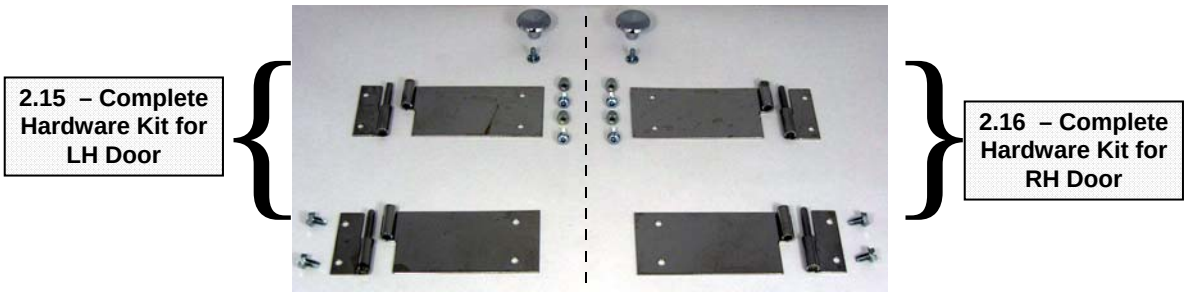


Figure 2f – Door Hardware Kits

Cabinet Base & Doors Parts (Figure 2)		
Item Ref.	Part No.	Description
2.1	41285	Corn Pan
2.2	61126	Plexiglas Drop Panel
2.3	40276	Old Maid Pan
2.4	16050	Power Supply Cord
2.5	61129	Plexiglas Doors (Doors DO NOT come predrilled for hardware)
2.6	46512	LH Cabinet Drawer Slide
2.7	46511	RH Cabinet Drawer Slide
2.8	41237	LH Corn Bin Retainer Slide
2.9	41217	RH Corn Bin Retainer Slide
2.10	41686	Corn Bin Retainer
2.11	41661	Corn Bin Retainer & Slide Assy. (Retainer + LH & RH Slides)
2.12	74748	Thermostat - 260 Degree
2.13	61123	Blower Motor
2.14	61128	120Volt / 800W Tubular Element
2.15	47054	Complete Hardware Kit for LH Door
2.16	47055	Complete Hardware Kit for RH Door
2.17	37513	Swivel Casters, 2 ea.
2.18	37514	Swivel Casters, Locking, 2 ea.
2.19	41499	Wire Harness for Oil Pump

Cabinet Interior – Ceiling Components

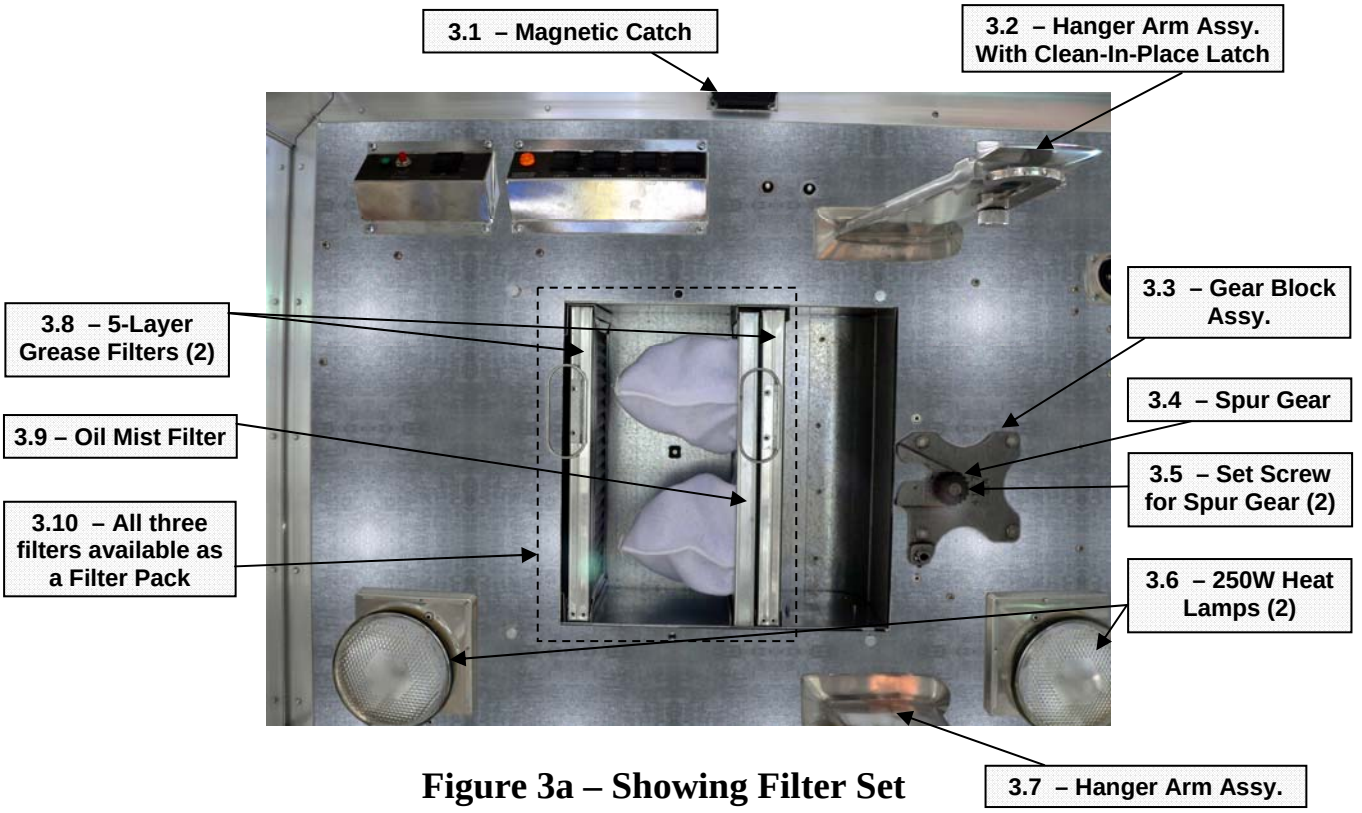


Figure 3a – Showing Filter Set

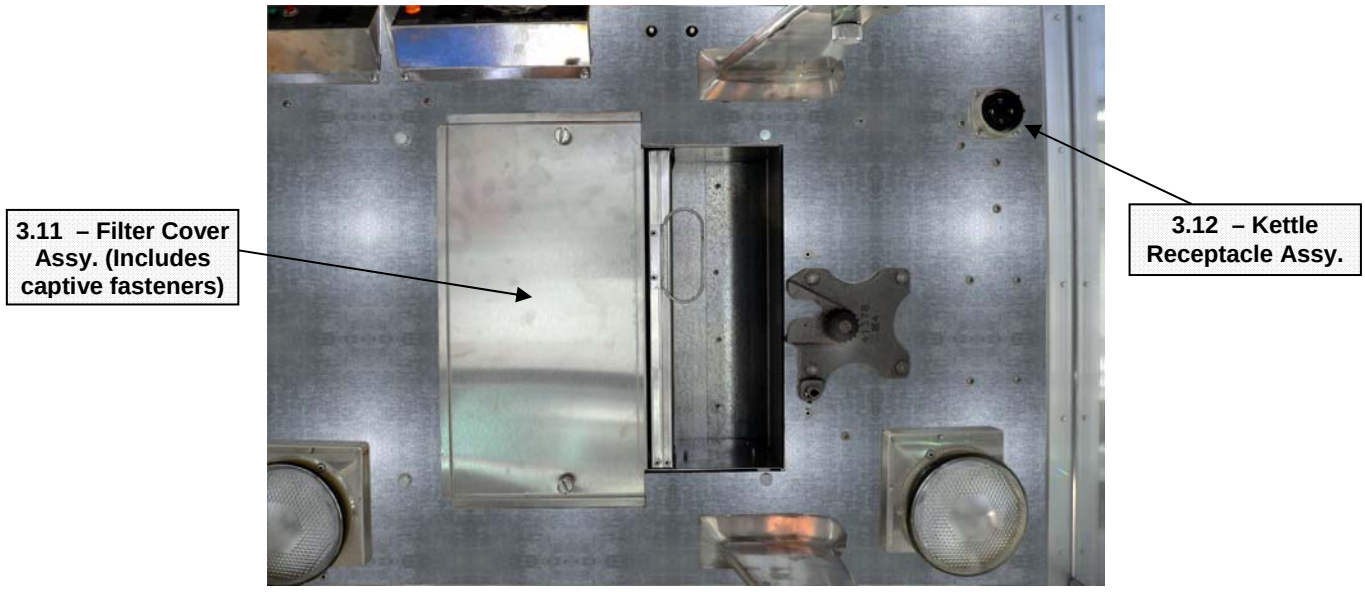


Figure 3b - With Filter Cover Installed

Cabinet Interior - Ceiling Parts (Figure 3)		
Item Ref.	Part No.	Description
3.1	47561	Magnetic Catch
3.2	49505	Hanger Arm Assy. With Clean-In-Place Latch
3.3	41432	Gear Block Assy.
3.4	41380	Spur Gear
3.5	41742	Set Screw for Spur Gear (2 ea. 10-32 x 3/16)
3.6	41979	75W Halogen Flood Lamps
3.7	41944	Hanger Arm Assy.
3.8	41250	5-Layer Grease Filters (2)
3.9	41169	Oil Mist Filter
3.10	82015	Filter Pack - 2 ea. 5-Layer Grease Filter, 1 ea. Oil Mist Filter
3.11	41934	Filter Cover Assy.
3.12	55172	Kettle Receptacle Assy.

Top - Motor Plate Assy.

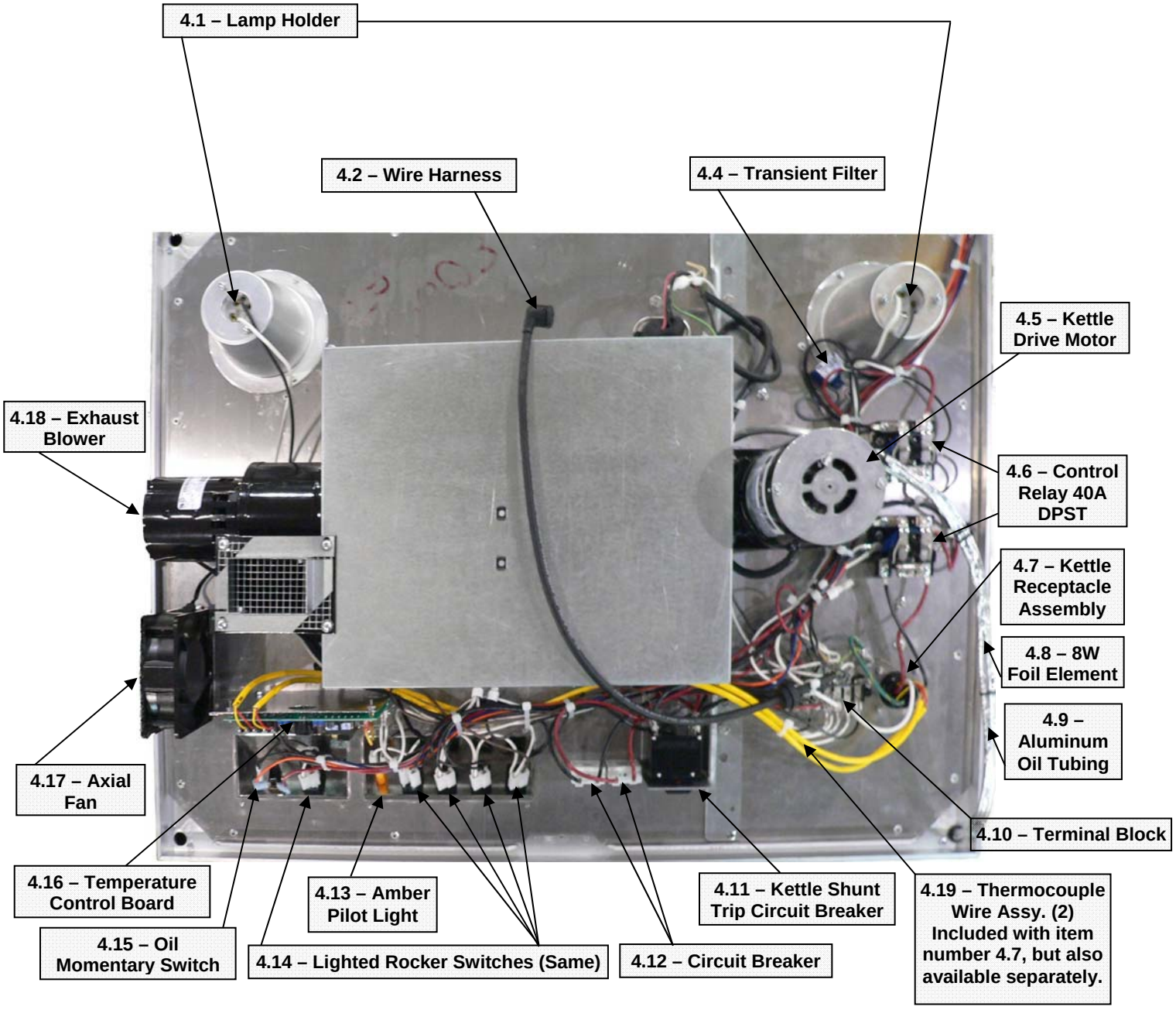


Figure 4 – Motor Plate Assembly

Motor Plate Assembly Parts (Figure 4)		
Item Ref.	**Part No.**	**Description**
4.1	47047	Lamp Holder
4.2	41712	Molded Receptacle for Fluorescent Dome Light
4.4	89087	120V Transient Filter
4.5	41449R	120V Kettle Drive Motor
4.6	55219	Contactor, 120V IEC
4.7	55172	Kettle Receptacle Assembly
4.8	41640	125V 8W Foil Element
4.9	41047	Aluminum Oil Tubing (Sold By The Foot.)
4.10	47208	Terminal Block
4.11	55222	Kettle Shunt Trip Breaker
4.12	47364	Circuit Breaker, 15A
4.13	55039	120V Amber Pilot Light
4.14	42798	Lighted Rocker Switches
4.15	41031	Oil Momentary Switch
4.16	41001	Temperature Control Board
4.17	48018	Axial Fan
4.18	41015	115V Exhaust Blower
4.19	55164	Thermocouple Wire Assembly (2) Included with item number 4.7
4.20	55440	White Salt/Sweet Switch
4.21	48660	Green Oil System Pilot Light

Kettle Shell Components

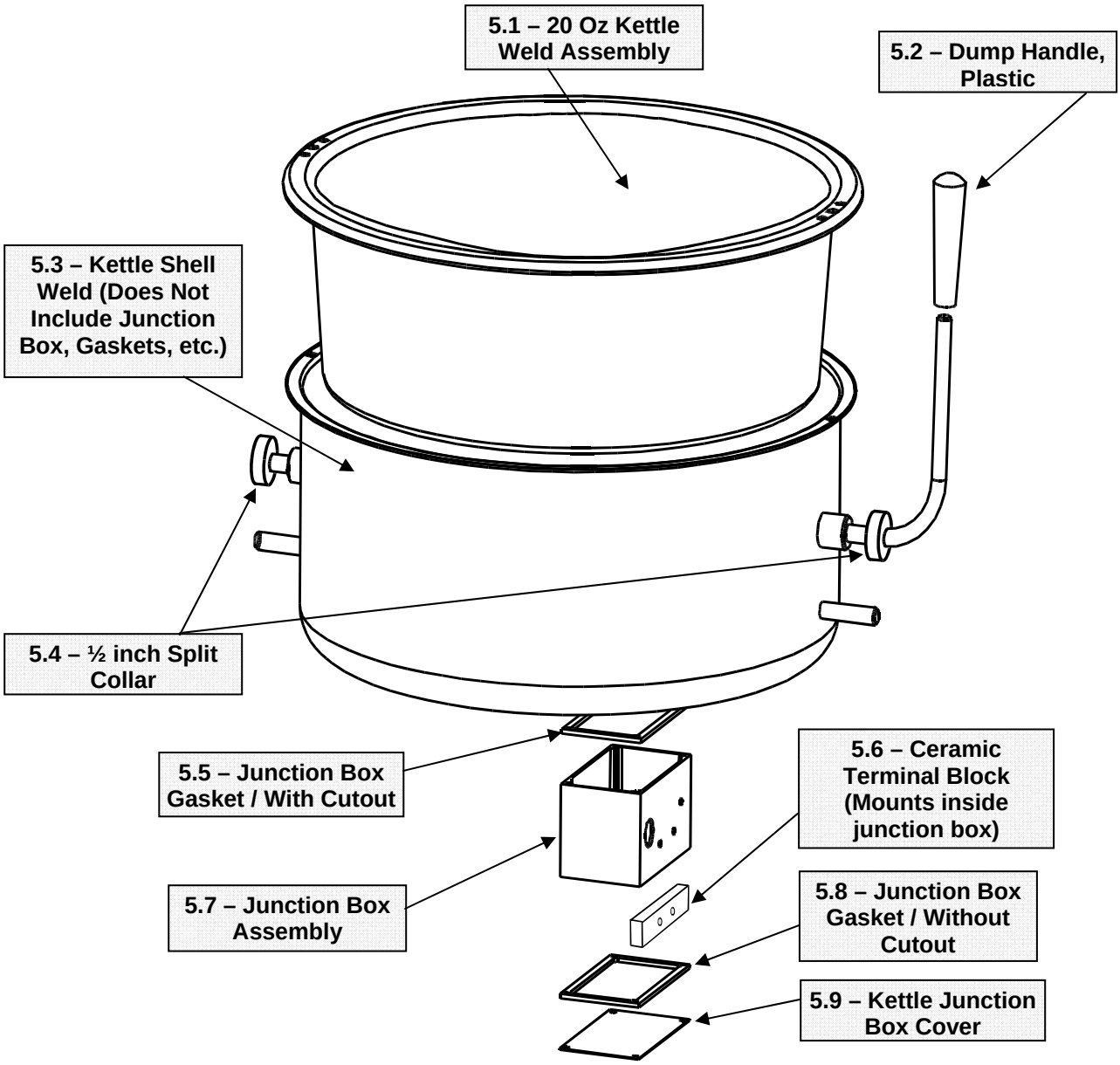


Figure 5 - Kettle Shell Components

20 Oz. Kettle Shell Components (Figure 5)		
Item Ref.	Part No.	Description
5.1	41908E	20 oz. Kettle Weld Assembly
5.2	41139	Plastic Dump Handle
5.3	41834	Kettle Shell (Does Not Include Junction Box, Gaskets, Etc.)
5.4	69815	1/2" Split Collar
5.5	40963	Junction Box Gasket / With Cutout
5.6	41129	Ceramic Terminal Block
5.7	61090	Junction Box Assy. - For Kettle Lead-in Cord (see page 25)
5.8	40965	Junction Box Gasket / Without Cutout
5.9	41296	Junction Box Cover

Kettle Bottom

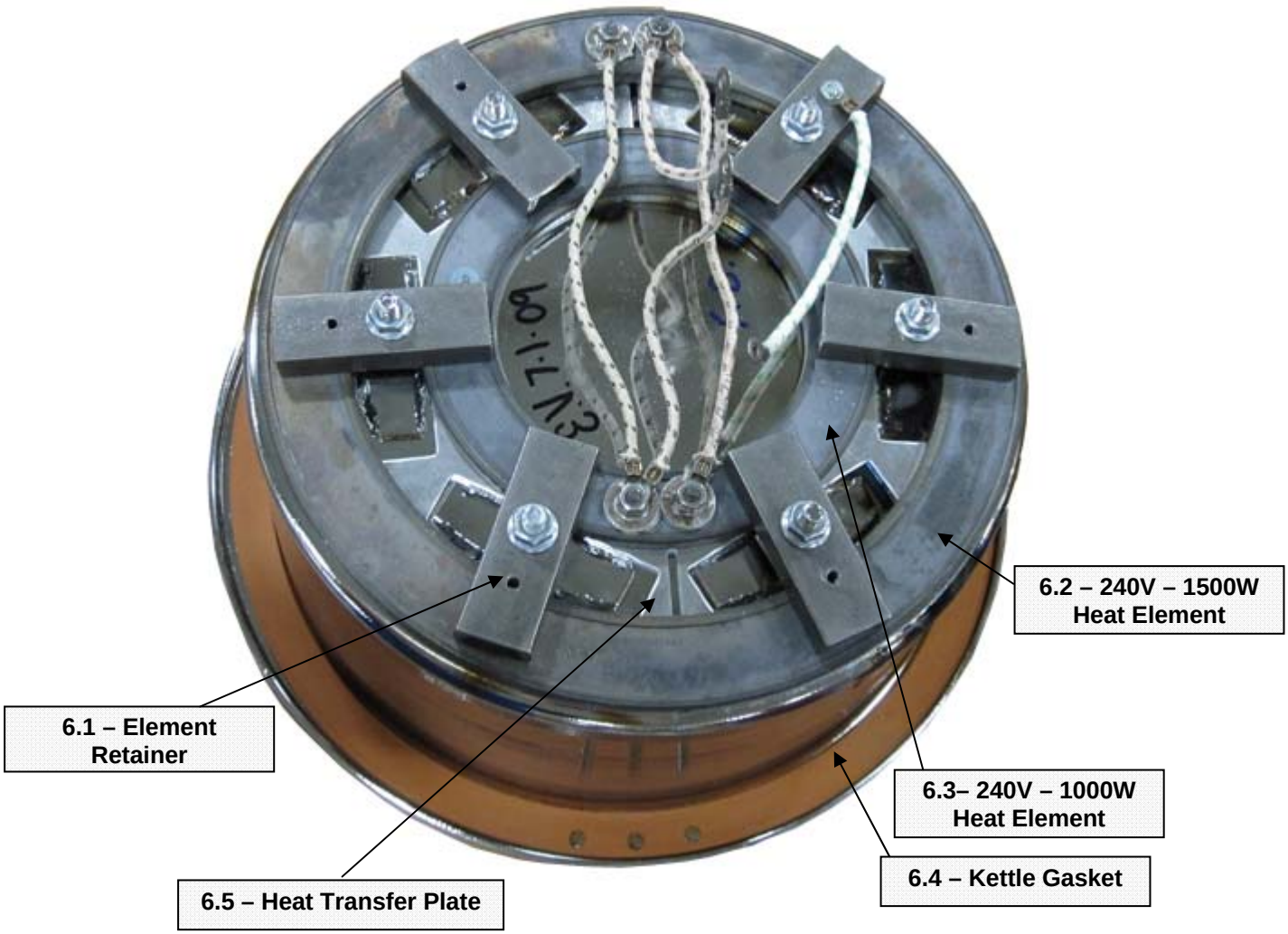


Figure 6 – Kettle Bottom

Kettle Bottom (Figure 6)		
Item Ref.	Part No.	Description
6.0	2155	Kettle Complete 208V
6.0	2156	Kettle Complete 240V
6.1	41878	Element Clamp
6.2	41195	208V – 1500W Heat Element
6.3	41849	208V – 1000W Heat Element
6.2	41539	240V – 1500W Heat Element
6.3	41846	240V – 1000W Heat Element
6.4	41832	Kettle Gasket
6.5	41534	Heat Transfer Plate

Lid And Agitator Assy.

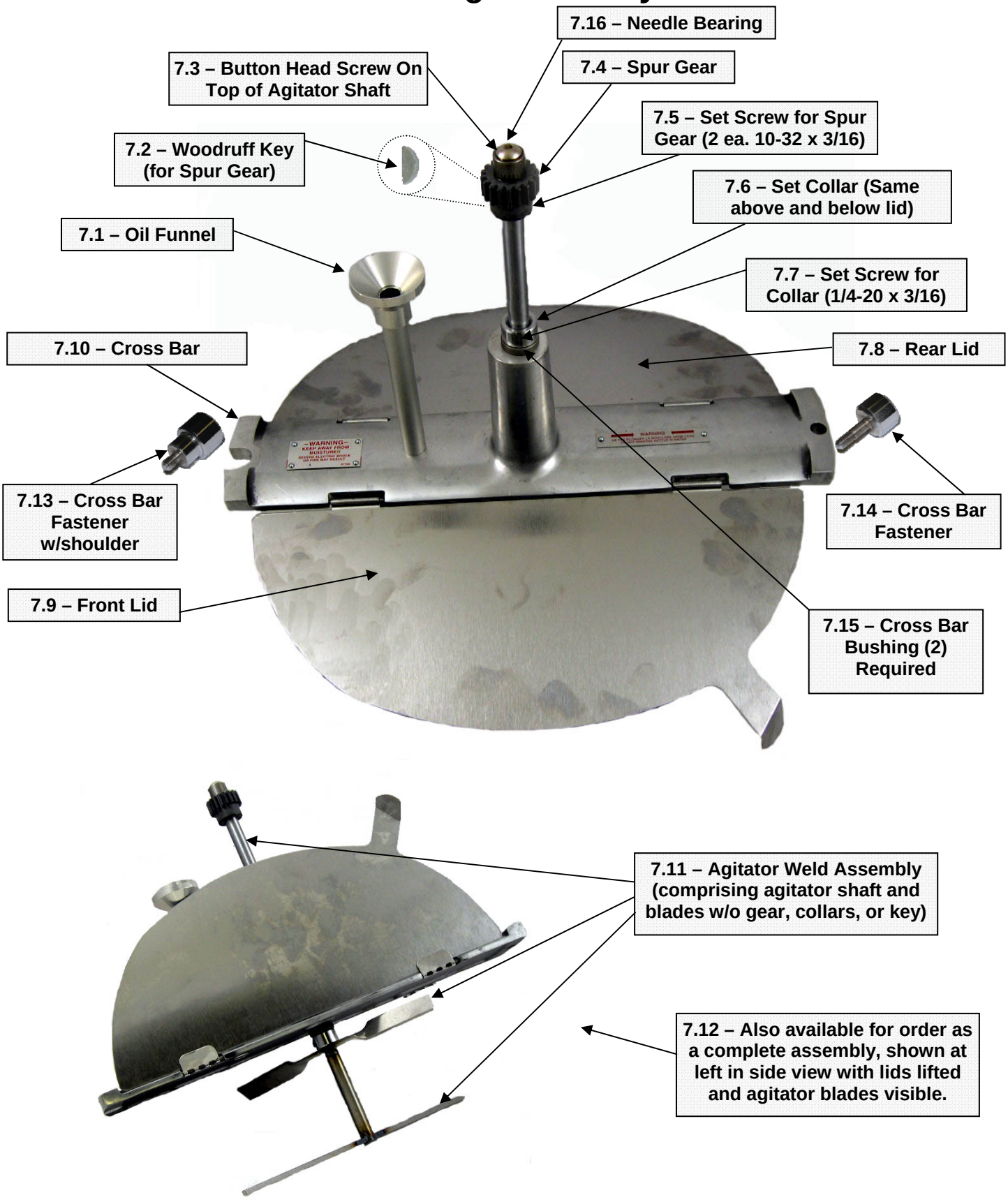


Figure 7 – Lid and Agitator Assembly

Lid and Agitator Assembly Parts (Figure 7)		
Item Ref.	**Part No.**	**Description**
7.1	41239	Oil Funnel
7.2	41730	Woodruff Key (for Spur Gear)
7.3	12611	Button Head Screw (Top of Agitator Shaft)
7.4	41380	Spur Gear
7.5	41742	Set Screw for Spur Gear (2 ea. 10-32 x 3/16)
7.6	47326	Set Collar (2 ea., One above and one below Cross Bar Assy.)
7.7	47751	Set Screw for Collar (1/4-20 x 3/16)
7.8	41824	Rear Lid
7.9	41823	Front Lid
7.10	47331	Cross Bar
7.11	41906	Agitator Weld Assembly
7.12	41904	Lid and Agitator Assembly, Complete
7.13	47976	Cross Bar Fastener, with shoulder
7.14	47977	Cross Bar Fastener
7.15	48977	Crossbar Bushing (2) Required - Included with item number 7.10
7.16	41400	Needle Bearing

Kettle Lead-In Cord Assy – Part Number 55171

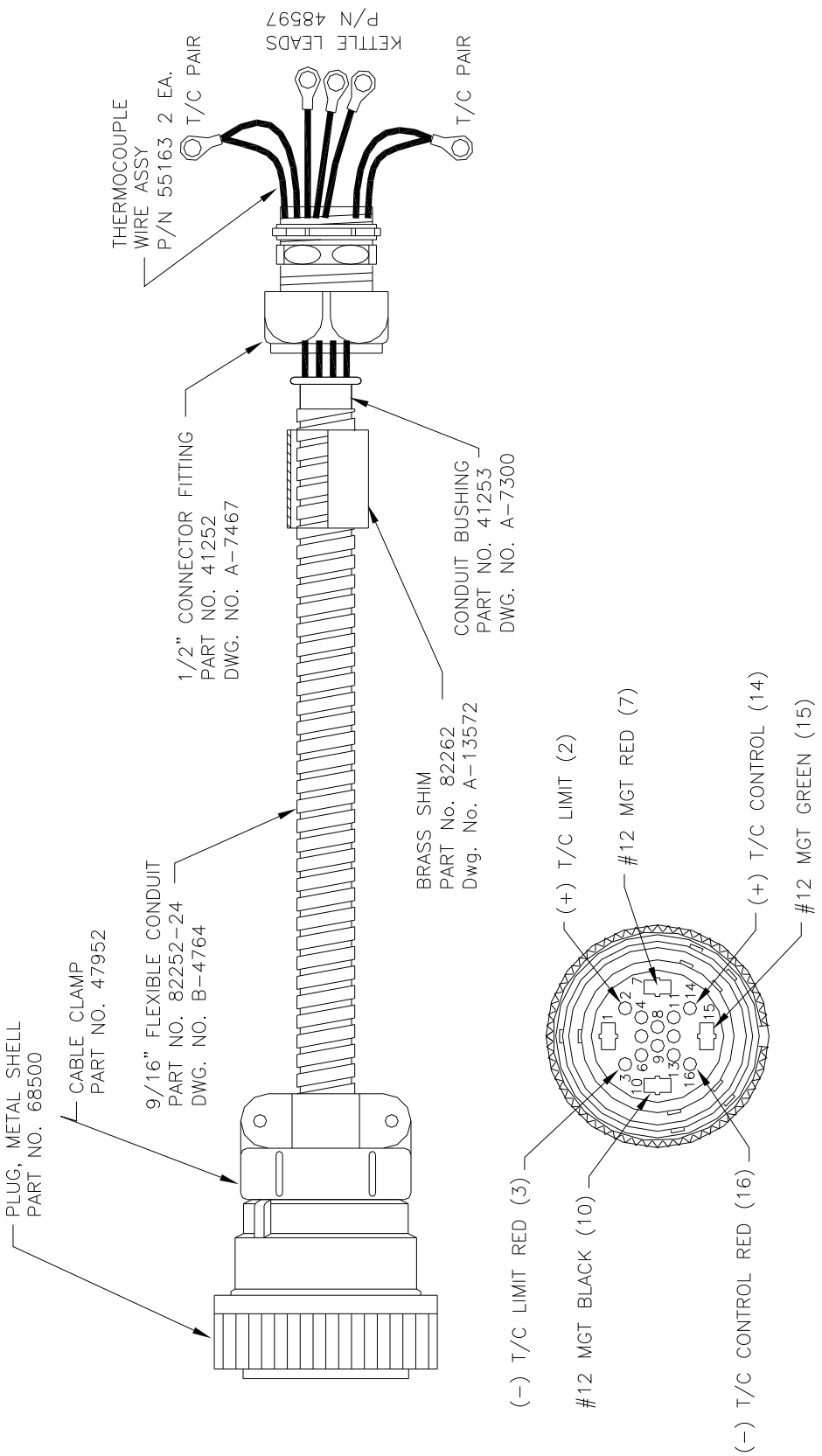
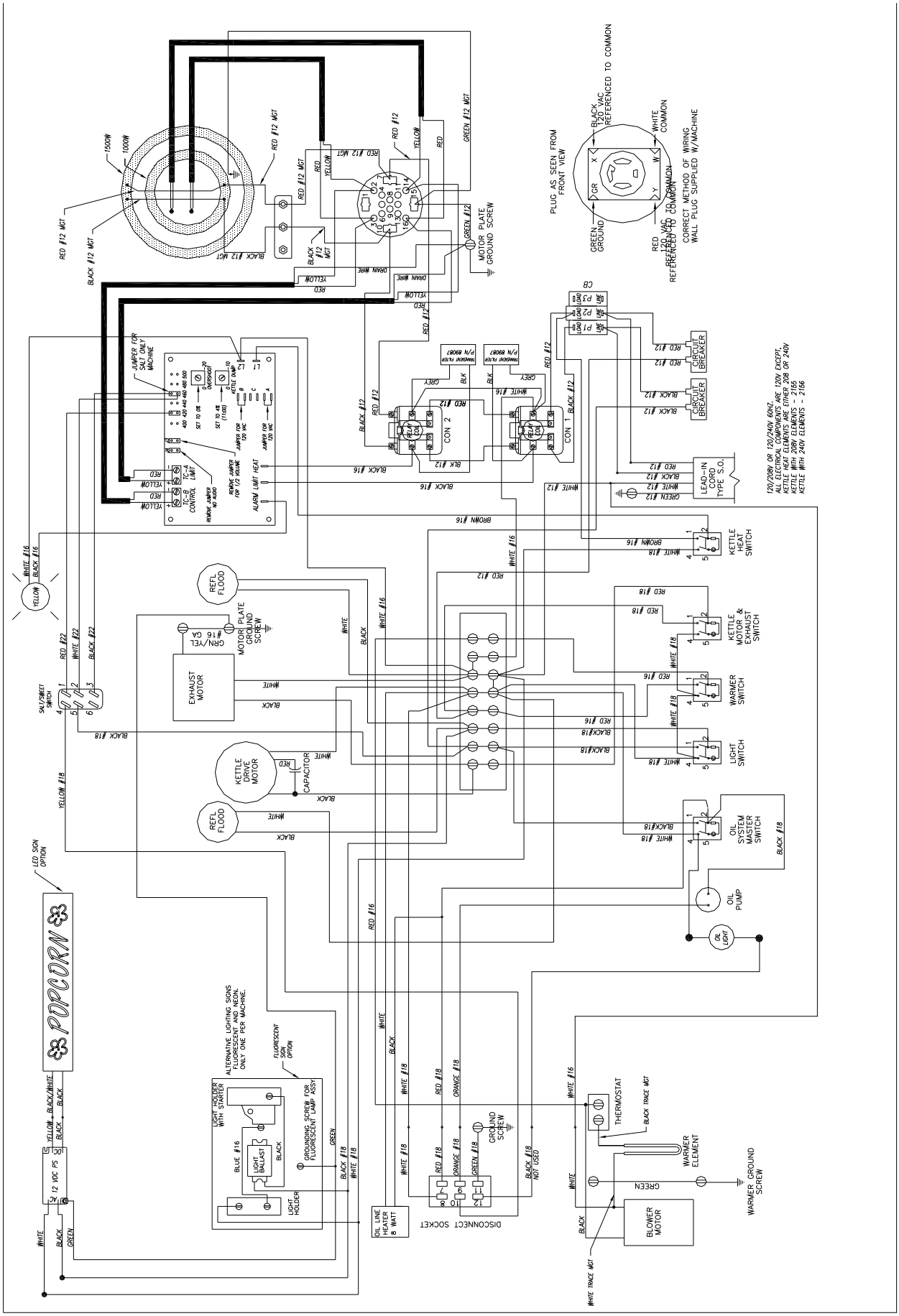


Figure 8 – Kettle Lead-In Cord / Part Number 55171

Electrical Schematic



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SERVICE BULLETIN 0074

Date Issued – *8/23/04 revised 12/15/04*

Model(s) Affected- All Poppers with NCC Electronic Temperature Control

This bulletin describes popcorn machines equipped with an Electronic Temperature Control manufactured by NCC for Gold Medal Products. There are no mechanical thermostats used with this control. The mechanical thermostats are replaced by two Thermocouple Sensors, one for the High Limit and one for Temperature Control. This model is also equipped with a beeper and an indicator light that activate when the kettle heat switch is on and the kettle is at or over the dump temperature set point.

Note: **All components listed in this service bulletin are shown in Figure 1 on page 36.**

Operation

The control is factory set to a temperature which stops power to the kettle when the thermocouple in the kettle reaches the set temperature. See Table 1 for a list of temperature jumper settings. There is a Kettle Dump Potentiometer that is used to set the Alarm point for loading and dumping the kettle. This potentiometer will subtract up 10% of the set point jumper value to fine tune the alarm point. If the kettle heat switch is turned on and the beeper is sounding *one of the* following actions should be taken:

4. Load the corn and oil *or*
5. Dump the popped corn from the kettle *or*
6. Turn off the kettle heat switch if you are finished popping corn.

The High Limit Control is fixed at 550ºF and cannot be adjusted.

Overshoot Potentiometer

For a stainless steel kettle the Patented First Time Overshoot Circuit Potentiometer is set to -20%, full clockwise (CW). DO NOT change this setting. This setting prevents the kettle from getting too hot during the first time heat up.

When power is applied to the kettle and the kettle temperature is below the first time overshoot temperature set point the power to the kettle will be turned off at the overshoot temperature. The alarm will NOT sound. The kettle will then cool to a point below the first time overshoot value and start to reheat. When the kettle reaches the alarm temperature the alarm will sound and it is time to load the kettle with corn and oil. The kettle will now operate from the alarm and jumper set points. The first time overshoot set point is based on the power set point jumper setting. For

example if the power set point jumper is set at 460ºF the first time overshoot set point will be 368ºF (460ºF-92ºF). The 92ºF is 20% of the 460ºF value.

Adjustment of Alarm Set Point

If you would like to have the beeper sound sooner or later than the factory setting, adjust the temperature setting as follows:

1. To sound the beeper sooner, turn the Kettle Dump pot clockwise (CW) towards the -10% mark on the control board. This will lower the alarm set point without changing the power set point jumper value. For example if Set Point jumper is set at 400ºF and the Kettle Dump pot is at -5% the kettle alarm temperature will be 380 ºF (400ºF - 20ºF), the power set point stays at 400ºF. If the pot is set at 0% the alarm and power set points are the same, 400ºF. If the pot is set at -10% the alarm set point is 360ºF (400ºF -40ºF) and the power set point is 400ºF. A change of 1% CW on the potentiometer will subtract about 3 seconds from the alarm set point.
2. To sound the beeper later, turn the Kettle Dump pot counterclockwise (CCW). A change of 1% CCW on the Dump potentiometer will add about 3 seconds to the alarm set point.

Adjustment of beeper Sound Level

If you would like to lower the beeper volume, remove jumper J3 shown in figure 1. To stop the beeper remove jumper J4.

Salt / Sweet Option

The control board will have two separate set point jumpers. The lower value jumper is the sweet temperature. These jumpers have wires attached to them going directly to a salt/sweet switch or a salt /sweet relay. The salt/sweet switch selects which jumper is active.

Factory Set Point Jumper Settings

Model	Temperature Salt °F	Temperature Sweet °F	Overshoot Potentiometer
Macho Pop/Pappy's	460	400	-20%
2102E Citation	440	400	-20%
52 oz. Medallion	460	420	-20%
32 Oz. Pop-O-Gold	440	400	0%
2010 Astro Pop	460	420	0%
28 oz. Cornado	440/460	400	0%
36 oz. Cornado	440/460	420	0%
48 oz. Cornado	440/460	420	0%

Table 1

Trouble Shooting for Service Personnel

1. If the kettle does not heat and there are no beeper sounds, look on the heat control to see if the green PWR LED is on. The PWR LED indicates there is power to the control board. If the LED is not on, check the Heat Switch and wiring. Check for 120 VAC (230 VAC) across terminals L1 & L2.

2. If the kettle does not heat and/or the beeper sounds continuously check to be sure there is a set point jumper in one of the 6 locations. Remove the jumper and clean the pins off, sometimes the conformal coatings gets on the pins and acts as an insulator.

3. If the kettle does not heat and/or the beeper sounds continuously, look on the heat control to see if the red Probe LED is on. The Probe LED indicates there is a thermocouple problem.
    a. If the Probe LED is **on** and the Limit & Heat LED's are **off** and the beeper is **on** there is a problem with the Heat Thermocouple, TC-B wiring. Look at the terminal blocks for a loose connection. Check the kettle wiring for a loose or broken thermocouple wire.
    b. If the Probe and Heat LED's are **on** and the beeper is **off** there is a problem with the Limit thermocouple, TC-A wiring. Look at the terminal blocks for a loose connection. Check the kettle wiring for a loose or broken thermocouple wire.
    c. If the Probe LED is **not on** the thermocouple connections are **OK**. If the Limit LED and Alarm LED's are **on** and the beeper is **on** check the Set Point Jumpers. Most likely the jumper has come off. If the Jumper is in place temporarily move it to a different temperature setting to see if the control then works.

4. If the kettle heats for a very short time and then stops.
    a. If the Probe, Heat and Alarm LED's are **on** and the beeper is **on** the Heat Thermocouple, TC-B is wired reverse. Check for reversed thermocouple leads, see note 2 below. If the thermocouple leads are reversed the kettle will heat up to about 130°F and stop with the Probe LED on. The leads could be reversed at either the heat control itself or the terminal block.
    b. If the Probe and Heat LED's are **on** and the beeper is **off** the Limit Thermocouple, TC-A is wired reverse, troubleshoot as in item 3-a above. Note this is similar to 2-b above, the difference is the kettle started to heat and then quit.

5. The kettle is popping normally but the beeper does not sound, check for a missing jumper at J4.

5. Salt or Sweet temperature is not working correctly. Check to make sure both temperature set point jumpers are in place and wired correctly. Be sure the common wire for the switch or relay is connected to a bottom pin of one of the set point jumpers.

Notes:

1. Do **not** adjust the (4) painted potentiometers numbers R89, R36, R73 and R74 on the electronic heat control. If adjusted, the performance will be erratic and could result in an over temperature condition.
2. Thermocouple wire consists of (2) different wires made of different materials that are color-coded polarity. It is important that red (-) is connected to red (-), and yellow (+) is connected to yellow (+), at the lead-in plug, the receptacle, and at the electronic heat control. Note that the red lead is magnetic if you have trouble determining which is which.
3. This control includes a patented first time overshoot circuit. On power up if the kettle is below the first time overshoot temperature it is normal for the heat light to go off and the kettle to stop heating before the set dump temperature. The kettle will continue to heat as soon as the kettle temperature drops below the first time overshoot temperature.
4. The Limit, Heat and Alarm LED's indicate the state of the output relays of the temperature control board. If an output LED is lit there should be 120 VAC on the respective ¼" faston with respect to common. The main voltage to the temperature control must be wired such that the hot 120 VAC (230 VAC) is connected to L1. The L2 connection is for the neutral or common voltage wire.

If you have any questions, please feel free to call **Technical Service** or **Engineering** at **Gold Medal Products Co.** Toll Free Phone Number **1-800-543-0862**

TC-B is the Control Thermocouple Input. + is Yellow Wire.

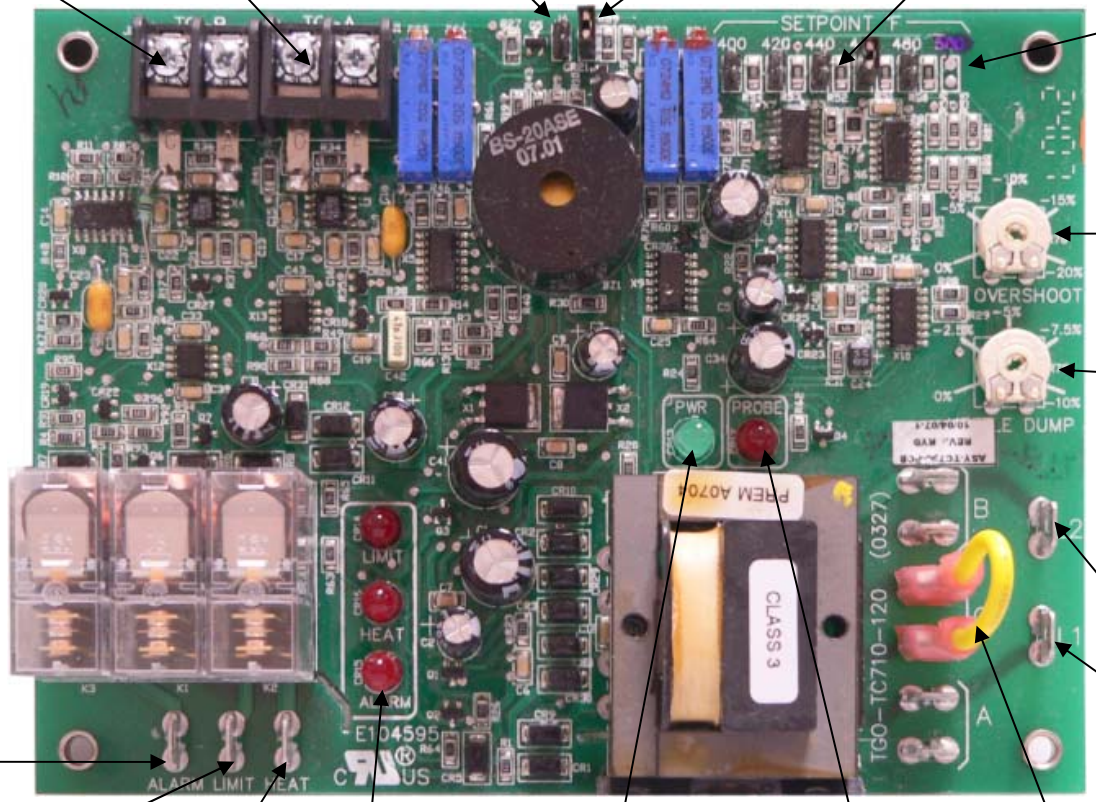
TC-A is the Limit Thermocouple Input. + is Yellow Wire.

Beeper Off/On Jumper. Remove for no Sound.

Beeper Volume Jumper. Remove For lower Sound.

Set Point Jumper. See Table 1 for Location.

Salt/Sweet there are two jumpers with wires. The common wire is connected to a bottom jumper pin.



First Time Overshoot Pot. Factory Set. **DO NOT ADJUST**!

Kettle Dump Pot. Minus 0-10%. Turning CW will signal sooner, CCW will signal later.

FIGURE 1

Alarm Light Output

L2 is neutral wire. **L1** is hot wire.

Limit Contactor or Relay Output.

Heat Contactor or Relay Output.

Limit, Heat & Alarm LEDS.

Power On LED.

Probe Fault LED.

Jumper A&B for 120 VAC. **Jumper C** only for 230 VAC.

WARRANTY

WE WARRANT to the original purchaser the Gold Medal equipment sold by us to be free from defects in material or workmanship under normal use and service. Our obligation under this warranty shall be limited to the repair or replacement of any defective part for a period of six (6) months from the date of sale to the Original Purchaser with regard to labor and two (2) years with regard to parts and does not cover damage to the equipment caused by accident, alteration, improper use, voltage, abuse, or failure to follow instructions.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON OUR PART, INCLUDING THE IMPLIED WARRANTY OF MERCHANTIBILITY. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. We neither assume, nor authorize any other person to assume for us, any other obligation or liability in connection with the sale of said GOLD MEDAL equipment or any part thereof.

The term “Original Purchaser” as used in this warranty shall be deemed to mean that person, firm, association, or corporation who was billed by the GOLD MEDAL PRODUCTS COMPANY, or their authorized distributor for the equipment.

THIS WARRANTY HAS NO EFFECT AND IS VOID UNLESS THE ORIGINAL PURCHASER FIRST CALLS GOLD MEDAL PRODUCTS COMPANY AT 1-800-543-0862 TO DISCUSS WITH OUR SERVICE REPRESENTATIVE THE EQUIPMENT PROBLEM, AND, IF NECESSARY, FOR INSTRUCTIONS CONCERNING THE REPAIR OR REPLACEMENT OF PARTS.

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