



We invented the popcorn machine  
THEN JUST KEPT GOING!

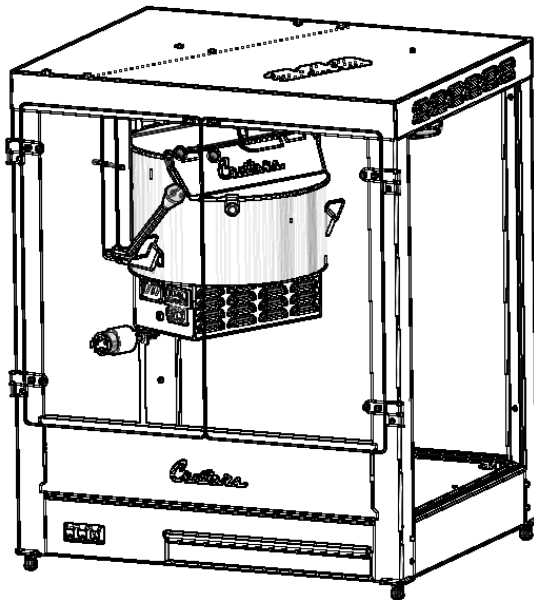
---

176 MITTEL DRIVE, WOOD DALE, IL 60191

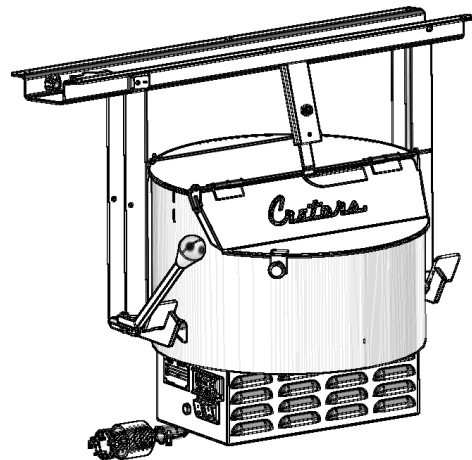
---

## INDEPENDENT POPPER OPERATION MANUAL

230 Volt,  
Single Phase, 50/60 Hz



COUNTER MODEL



HANGER MODEL



**READ** and **UNDERSTAND** these operating and safety instructions before operating this popcorn machine!

---

## TABLE OF CONTENTS

I.	Safety Alert Symbol . . . . .	3
II.	Safety First . . . . .	3
III.	Introduction . . . . .	3
IV.	Purpose of Manual . . . . .	4
V.	Product Identification . . . . .	4
VI.	Principles of Popcorn Machine Operation . . . . .	5
VII.	Control Switches . . . . .	6
VIII.	Operating Instructions . . . . .	6
IX.	Sanitation Instructions . . . . .	8
	A. Popping Kettle	
	B. Kettle Cover and Agitator Removal . . . . .	9

---

## I. SAFETY ALERT SYMBOL

The symbol shown is used to call your attention to instructions concerning your personal safety and the safety of others. Watch for this symbol. It points out important safety precautions. It means **ATTENTION! Become Alert! Your personal safety is involved!** Read the message that follows and be alert to the risk of personal injury or death.



---

## II. SAFETY FIRST



The information in this manual is essential for the safe installation and operation of your Cretors popcorn machine. The manual must be read and understood before installing, and operating the equipment, or equivalent training must be provided.



“The employer shall instruct each employee in the recognition and avoidance of unsafe conditions, as well as, the regulations applicable to his work environment and to control or eliminate any hazards or other exposure to illness or injury”. Ref.: 29 CFR 1926.20 (b)(4)(a)(2)



It is understood that safety rules within individual companies vary. If a conflict exists between the safety procedures contained in this manual and the rules of a using company, the more stringent rule should take precedence.

---

## III. INTRODUCTION

This manual is filled with time-saving and money-saving information regarding your Cretors popcorn machine. There is nothing more important than the safety aids and warnings that are throughout this document. The Safety Alert Symbol is used to identify topics of primary safety concern wherever they appear. Furthermore, a separate section has been included which deals exclusively with service and accident prevention.

If, after reviewing this manual, anything is unclear or technical problems are encountered, contact the distributor from whom you purchased your machine for assistance. If there are any additional questions, feel free to contact our Customer Service Department at the address and/or phone number listed on the last page of this manual. Always have the model and serial number of your machine available to assist in obtaining the correct information.

---

## IV. PURPOSE OF MANUAL

This instruction manual is intended to familiarize owners with the operation and safety procedures associated with your Cretors popcorn machine.

It is important that this manual be kept available to operating personnel.



A person who has not read and understood all operating and safety instructions is not qualified to operate the machine.

## V. PRODUCT IDENTIFICATION

### INDEPENDENT POPPER

Model	Kettle	Voltage	Corn	Control	- Cabinet	Sign	Sign. Position	Custom. Doors	- Features	
IP	Independent Popper									
	32	32 Oz. Kettle								
		60 Hz								
		R	230V/160							
		50 Hz								
		E	230V/150							
			1	Salted Corn						
			2	Sugar Corn						
			D	Standard Digital Control						
			H	Kettle Hanger Frame Only						
			C	3' Counter Model						
			E	3' Floor Model, Economy Base						
			F	3' Floor Model, M5 Base						
			X	No Sign						
			1	Popcorn Decal						
			D	Operator Merchandising						
			C	Customer Merchandising						
			X	Not Apply						
			N	No Customer Access						
			1	Wing Door Customer Side						
IP										
Model	Kettle	Voltage	Corn	Control	Cabinet	Sign	Sign. Position	Custom. Doors	Features	
									X No Custom Features	
									C Custom Features	
									E Equipped for Pump	
									C Cornditioner	
									Z	

---

## VI. PRINCIPLES OF POPCORN MACHINE OPERATION

### Theory and Observations of Popcorn Machine Operation

- A. The efficient production of popcorn requires the presence of popcorn kernels, heat, and oil. The purpose of the oil is to distribute the heat throughout kernels evenly and quickly. If the heat is not distributed evenly and quickly, the kernels may burn instead of pop.
- B. In order to pop corn in oil, the kettle, oil and parts near the heating elements are necessarily and unavoidably heated to temperatures high enough to pop popcorn. The temperature is controlled using a digital temperature controller and thermocouple located inside the kettle to maintain the kettle at an operating temperature of approximately:

400-410°F (204-210°C) for salted corn  
375-385°F (190-195°C) for sugar corn



Contact with these surfaces will burn and scald you. Do not touch the kettle, oil or parts in direct vicinity of the heating elements.

- C. The kettle is provided with an agitator to assist in the quick and even distribution of heat throughout the kernels.



The oil is heated to high temperatures in a kettle provided with electric heating elements to reach a proper popping temperature. An operator is required in the vicinity of the kettle only when handling corn or dumping popped corn from the kettle. Neither of these operations requires direct contact with the kettle. Direct contact with the hot oil, kettle, or heating elements could result in serious burns or scalds. Keep away from the kettle whenever possible. Use the handle when dumping the kettle, and use the provided cups to measure corn, oil and salt.

- D. As the popcorn pops, it will push the lid open and discharge into the cabinet. When the corn finishes popping, the corn remaining in the kettle can be removed by holding the kettle handle in your right hand and rotating upwards in a counter-clockwise direction to dump the kettle. Return kettle to level position when finished.
- E. Your Cretors popcorn popper maybe equipped for a pump, which, when properly adjusted, automatically delivers the proper amount of oil to the popping kettle.
- F. OEM models are provided with a standard cord and plug and can be provided with an optional cornditioner.

---

## VII. CONTROL SWITCHES (Not all machines contain all of these switches.)

KETTLE HEAT	-Turns the kettle heat On/Off.
AGITATOR	-Turns the stirrer blade motor On/Off.
LIGHTS	-Turns interior lights On/Off.
DIGITAL CONTROLLER	- Displays and controls kettle temperature.
CORDITIONER (OPTIONAL)	-Turns the cornditioner blower and heat On/Off.
DELIVERY (OPTIONAL)	-Initiates the pump cycle.

---

## VIII. OPERATING INSTRUCTIONS



Do not attempt to operate your Cretors popcorn machine until you have read and understood this manual. Failure to do so may result in serious injury or death.



Do not attempt to operate your Cretors popcorn machine unless the installation instructions have been strictly adhered to. Failure to do so may result in serious injury or death.



Operate your popcorn machine only if it is in good sanitary condition (See **SANITATION INSTRUCTIONS**). Failure to do so may result in illness to your customers.



Always turn the kettle heat switch off when not popping corn. Failure to do so will cause oil to stain the kettle, possibly resulting in an unsanitary condition. It may also cause a “flash” fire if oil is added to a kettle left unattended with the heat on, resulting in serious burns or death.

A. To operate your Cretors popcorn popping machine:

1. Connect and adjust the pump as explained in the pump installation instructions and pre-heat the popping oil until liquid, if necessary.
2. Fill the corn measure with corn and the salt measure with the salt, and empty these into the kettle. When making sugar corn, add the correct amount of sugar, rather than salt, with the measure for corn.



**WARNING!** Always add corn to the kettle before pressing the oil delivery button or adding oil. Failure to do so may result in the oil being heated too rapidly resulting in a fire.



Avoid contact with the kettle. Contact with a hot popping kettle may result in serious burns or scalds.

3. Rotate the kettle lid closed by using the counter weight as a handle.
4. Turn on the agitator and then turn on the kettle heat and press the oil delivery button. Also turn on the conditioner (if present).



**WARNING!** After the first popping the kettle is hot. Avoid contact with the kettle when adding corn or salt. Failure to do so may result in serious burns or scalds.

Measuring cups have been provided to accurately measure the proper amounts of popcorn, salt and oil. The correct amount for each popping is:

**SALTED CORN**

<u>Kettle Size</u>	<u>VOLUMETRIC MEASURE</u>		<u>Salt</u>
	<u>Corn</u>	<u>Oil</u>	
32 oz.	32 oz. 1083 ml	12.25 oz. 360 ml	3 tsp. 15 ml

**SUGAR CORN**

<u>Kettle</u>	<u>VOLUMETRIC MEASURE</u>		
	<u>Corn</u>	<u>Oil</u>	<u>Sugar</u>
32 oz.	19.5 oz. 577 ml	7.5 oz. 225 ml	15.25 oz. 451 ml

5. As the corn pops, it will push the lid open. When the lid has moved about one and one-half inches, it will open completely, allowing the corn to discharge from the kettle. When the corn finishes popping (when there are about four seconds between pops) dump the kettle by pulling the large black handle downward and rotate as far as it will go. When the pan is emptied, return the handle to its upright position slowly (Important: Letting the handle go from the dump position can cause damage to the kettle).



Avoid contact with the kettle when dumping popped corn. Failure to do so may result in serious burns or scalds.

6. Repeat steps 2-5 to continue popping. When finished, turn kettle heat switch off.

**NOTE:** The ideal time for maximum volume (corn expansion) is between 2-3/4 to 3-1/2 minutes from the time the corn is placed into the kettle until the time it is dumped. Check the popping time after several popping cycles. The pilot light should turn off approximately 10-20 seconds before the corn finishes popping. If this is not the case, please refer to the Trouble Shooting Section in your Service Manual.

---

## IX. SANITATION INSTRUCTIONS



Be certain the machine is turned off and power is unplugged before sanitizing this machine unless a specific cleaning procedure requires power to the machine. Failure to do so could result in injury or death.



Do not clean heated surfaces until they have been given sufficient time to cool. Failure to do so may result in serious burns or scalds.

### A. Popping Kettle

1. The Cretors kettle is designed to be cleaned in place. There is no need to remove the kettle to clean.



Do not immerse an assembled kettle in water. This will damage the electrical components and may cause short circuits resulting in electrical shock hazard if power is applied.

2. Do not clean the kettle with power connected unless you are boiling the CKC cleaning compound to clean the inside of the kettle. Follow instructions in step 6.
3. The kettle is a polished stainless steel finish and is very easy to clean if oil is not allowed to burn. After the final popping, the best practice is to wait until the oil just begins to solidify, then take a cotton towel or absorbent rag and wipe the kettle. Once the oil is allowed to completely solidify, it can become more difficult to remove. We recommend coconut oil for your Cretors popper; it will not stick or burn as easily as other oils.
4. A thorough cleaning every week with CKC cleaning compound is recommended. This will prevent the accumulation of carbon on the bottom and internal sides of the kettle. When boiling the CKC cleaning compound in the kettle, do not fill the kettle with more than  $\frac{3}{4}$ " high of water inside the kettle. If the kettle has been overheated or oils that tend to carbonize are used the normal cleaning procedures may not suffice. Increase frequency as needed.

Cretors has developed a cleaning kit for your popping machine. The kit is sold separately under P/N 10837. If you need more information, please feel free to contact your local distributor or call Cretors at 1-800-228-1885.

5. Cretors Outside Kettle Cleaner COC should be used periodically to remove popping oil that may become baked on to the outside of the kettle.
6. The kettle agitator assembly should be removed daily for thorough cleaning. The stirrer blade is disassembled by removing the spring pin that goes through the top of the stirrer blade. Lift off the stirrer blade.
7. Clean all parts thoroughly, making sure to use CKC. Do not use any harsh abrasives or cleaning materials.



8. There are two new Cretors cleaners. Carbon OFF in the blue can is to be used with no heat. The red can would require the kettle to be heated. Read the directions on the cans.
9. Reassemble in reverse order, following the directions given.

#### **B. Kettle Cover and Agitator Removal**

1. To remove the kettle cover, first remove the rear pin by rotating the loop of the pin so that the pin can be pulled out of the two kettle tabs. Next, remove the front pin by rotating the loop of the pin so that the pin can be pulled straight out of the hinges and apron. As the pin is pulled out, hold the front cover as it will fall off when the pin is removed. Lastly, lift off the rear cover and then the apron. To remove the apron, lift straight up where the tabs insert into the kettle, then pull the tabs out, one side at a time until the apron is fully disengaged from the kettle.
2. The agitator assembly is disassembled by removing the anti-pack pin going through the top of the stirrer blade. Lift off the stirrer blade.
3. Clean all parts thoroughly, making sure to use CKC. Do not use any harsh abrasives or cleaning material. Pay particular attention to the interior of the blade center. Some popping oils will carbonize and build up on the interior of the blade center and create a tight fit on the pan center. (Normal clearance is 1/8" -- 3 mm). When this happens oil will 'wick-up' the narrow gap and leak down the clutch dog shaft and give the appearance that the kettle is leaking oil. In extreme cases the carbon will cause the blade center to grip the pan center and turn it.
4. Reassemble cover in reverse order, following the directions above.

This manual is filled with time-saving and money-saving information regarding your Cretors popcorn popper. There is nothing, however, more important than the safety aids and warnings found throughout this document.

If you have any questions regarding the operation or cleaning of your Cretors popcorn popper, contact your local distributor. Should you have any difficulties or are unable to reach them, feel free to contact the Customer Service Department at C. Cretors and Company.

Additional copies of this manual can be obtained from C. Cretors and Company at the address listed below. Please provide the model and serial number when requesting additional copies of this manual. There will be a nominal charge for additional copies.

Cretors guarantees this machine to be free of defects in parts, materials and workmanship for two years. Please take this time to fill out the factory registration card and return it to the factory to activate your warranty. If you have any questions concerning the Cretors' warranty, please contact your local distributor or the Customer Service Department at C. Cretors and Company.



**C. CRETORS AND COMPANY**

176 MITTEL DRIVE

WOOD DALE, IL 60191

PHONE (773) 588-1690, (800) 228-1885, FAX (847) 616-6970

WEB SITE: <http://www.cretors.com> Email: [postmaster@cretors.com](mailto:postmaster@cretors.com)

Cretors joins the information age! Check out our links <http://www.twitter.com>

<http://www.facebook.com/pages/Chicago-IL/C-Cretors-Co/90143449620>



We invented the popcorn machine  
THEN JUST KEPT GOING!

---

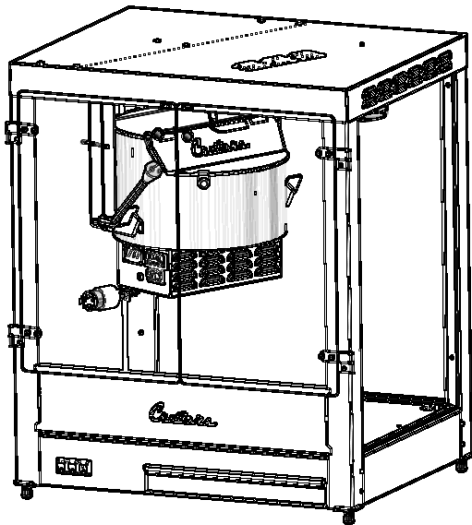
176 MITTEL DRIVE, WOOD DALE, IL 60191

---

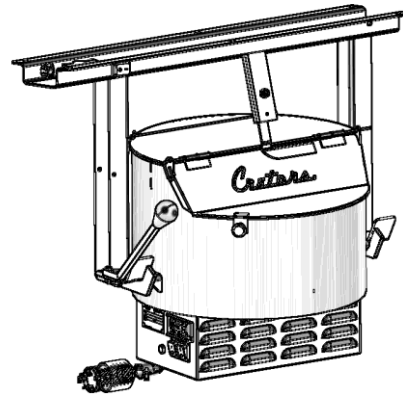
# INDEPENDENT POPPER SERVICE MANUAL

230 Volt,  
Single Phase, 50 Hz

230/380 Volt,  
Three Phase, 50 Hz.



COUNTER MODEL



HANGER MODEL



**READ** and **UNDERSTAND** these operating and safety instructions before operating this popcorn machine!

---

## TABLE OF CONTENTS

I.	Safety Alert Symbol .....	3
II.	Safety First .....	3
III.	Introduction .....	3
IV.	Specifications .....	4
	A. Electric Specifications	
	B. Size Specifications	
V.	Purpose of Manual .....	4
VI.	Installation Instructions .....	4
	A. Location	
	B. Power Supply	
	C. Connecting Machine to Power Supply	
VII.	Service Instructions .....	5
	A. Parts	
	B. Kettle Temperature Control	
	1. Temperature Control	
	2. Digital Temperature Control Adjustment	
	3. Checking Temperature Control	
	C. Kettle Removal	
	D. Kettle Installation	
VIII.	Troubleshooting .....	8

---

## I. SAFETY ALERT SYMBOL

The symbol shown below is used to call your attention to instructions concerning your personal safety and the safety of others. Watch for this symbol. It points out important safety precautions and procedures. It means "**ATTENTION! Become Alert! Your personal safety is involved!**" Read the message that follows and be alert to the risk of personal injury or death.



---

## II. SAFETY FIRST



The information in this manual is essential for the safe installation and service of your Cretors popcorn machine. The manual must be read and understood before installing, or maintaining equipment, or equivalent training must be provided.



"The employer must instruct each employee in the recognition and avoidance of unsafe conditions, regulations applicable to his work environment to control or eliminate any hazards or other exposure to illness or injury". Ref.: 29 CFR 1926.20 (b)(4)(a)(2)



It is understood that safety rules within individual companies vary. If a conflict exists between the safety procedures contained in this manual and the rules of a using company, the more stringent rule should take precedence.

---

## III. INTRODUCTION

This manual is filled with time-saving and money-saving information regarding your Cretors popcorn machine. There is nothing, however, more important than the safety aids and warnings that are found throughout this document. The Safety Alert Symbol is used to identify topics of primary safety concern wherever they appear. A separate section has been included which deals exclusively with operation and accident prevention.

If, after reviewing this manual, anything is unclear or technical problems are encountered, contact the distributor from whom you purchased your machine. For assistance and if there are any additional questions, feel free to contact our Customer Service Department at the address and/or phone number listed on the last page of this manual. Always have the model and serial number of your machine available to assist in obtaining the correct information.

---

## IV. SPECIFICATIONS

**INDEPENDENT POPPER: IP32****A. Electrical Specifications:**

IP Models are available in the following electrical configurations:

- 230 Volt, Single Phase, 50/60 Hz
- 230/380 Volts, Three Phase, 50 Hz

**B. Size Specifications:**

MODEL IP32	INDEPENDENT POPPER 32 OZ. ELECTRIC
Capacity:	32 oz. All-Steel Kettle, 640 one-ounce servings per hour
Wattage:	5590 watts
Dimensions:	
Net Weight:	74 lbs. (33.6 kg)

---

**V. PURPOSE OF MANUAL**

This instruction manual is intended to familiarize owners with the servicing and safety procedures associated with your Cretors popcorn machine.

This manual should be kept available to maintenance personnel.

---

**VI. INSTALLATION INSTRUCTIONS****A. Location**

Choose a location for your Cretors popcorn machine that maximizes the ease of operation and maintenance procedures. Giant pedestal popcorn machines are designed to be installed on the customers counter or custom design cabinet. OEM option machines are supplied with components that permit them to be installed into a user's cabinet and control the conditioner, lights and exhaust in the cabinet (see details below). Be sure to check your local building and fire codes for location restrictions.

**B. Power Supply**

1. Check the nameplate to determine the required power supply.



Connect your popcorn popper only to the correct power source. Failure to do so may result in personal injury or death and may damage your popper.

2. C. Cretors and Company recommends dedicated circuits for the Independent Popper model popcorn machine. The IP model poppers require a dedicated circuit to avoid a voltage drop in the supply wiring. Check your local electrical codes regarding fuse or circuit breaker requirements.



Make certain your popcorn machine is properly grounded. Failure to do so may result in damage to your equipment or present a shock hazard.

### C. Connecting Machine to Power Supply

1. Make certain that power supply circuit breakers are in the off position.
2. On Hanger models, locate the hanger bracket and bolt it securely using the four bolt holes provided temp mounting channel.
3. IP is supplied with a power cord. Be sure to follow the wiring diagram that was provided with this machine.

---

## VII. SERVICE INSTRUCTIONS



In the case of improper operation, only a qualified person should perform the following diagnostic checks, and, if necessary, corresponding adjustments and repairs. Many of the following procedures present an electrical shock hazard and can cause serious injury or death.



Perform work only on de-energized circuits. Failure to do so may lead to electrical shock resulting in personal injury or death.

### A. Parts

When ordering parts, refer to the parts diagram and/or wiring diagram included in this manual. Always supply the serial number, model number, and voltage of your popcorn machine.

### B. Kettle Temperature Control

1. TEMPERATURE CONTROL OPERATION
  - a. The temperature control is installed as a safety device to prevent overheating of the kettle if the machine should be left unattended momentarily while in operation. The kettle indicator light indicates the operation of the temperature control. If equipped, the indicator light is located on the switch plate. The indicator light will turn off 10-20 seconds before the corn finishes popping and the kettle is dumped. If the indicator light turns off 30 seconds or more before the corn finishes popping, the temperature control is set too low and in need of adjustment. If the indicator light remains on after corn has finished popping the digital temperature control is set too high.

- a. Digital Control does not have a thermostat but a thermocouple on the bottom of the pan.

## 2. DIGITAL TEMPERATURE CONTROL ADJUSTMENT



**CAUTION:** If the corn has dried out, it may not finish popping at normal temperatures, and the light may appear to go out early. DO NOT ADJUST KETTLE TEMPERATURE BASED ON POOR QUALITY CORN.



If set too high (over 500°F 260°C), the digital temperature control can cause a serious fire hazard.

- a. Press the “set” button.
- b. Use the up or down arrow buttons to adjust the temperature up or down.
- c. Press the “set” button again. (Note that for safety, this range is limited)
- d. The display will show the temperature go up or down.
- e. You should only raise or lower the temperature 5-10 °F at a time.
- f. Set temperature so that the power to heat elements is cut off at the correct temperature.

<u>KETTLE</u>	<u>SALTED CORN</u>	<u>SUGAR CORN</u>
32 OZ.	400-410° F. (204-210° C)	375-385° F. (190-193° C)

## 3. CHECKING TEMPERATURE CONTROL

There are two ways of checking that the temperature control is set correctly.

- a. Place the pyrometer over the thermocouple position and turn the kettle heat on. Watch to see that the kettle heat shuts off at the correct temperature. Make adjustments as needed.
- b. The temperature control may be adjusted by observing the operation of the indicator light as described in the “Temperature Control Operation” section. Adjust the temperature control so that the kettle heat is turned off 10 to 20 seconds before the corn finishes popping and the kettle is dumped.



Do not adjust the temperature so high that the pan smokes at the end of the popping cycle. If set too high (over 500°F or 260°C), the kettle can become a serious fire hazard.

- c. Observe two or three cycles of correct operation to be certain everything is working correctly. Your final setting should allow the



indicator light to cycle off 10 to 20 seconds prior to dumping the kettle.

### C. Kettle Removal

To remove the kettle assembly, perform the following operations:

1. Unplug the popcorn machine from the power supply. Make sure the kettle is not hot.
2. Unplug the kettle from the hanger.
3. Using proper lifting techniques, remove the kettle by simply lifting it off of it's hanger bracket.



### D. Kettle Installation

1. Using proper lifting techniques, set the kettle back in place on it's hanger assembly.
2. Plug the kettle back into the receptacle located at the top of the hanger assembly. Make sure power cord is clipped back to the vertical hanger channel so it does not get pinched.

## VIII. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION
Popping is slow.	Incorrect amount of corn and oil is used.	Refer to the chart located in the Operations Manual.
	Kettle indicator light goes out more than 30 seconds before the corn finishes popping.	Temperature is set too low. (Refer to "Digital Temperature Control Adjustment"). If machine is equipped with salt/sugar option and popping in salt mode, timer may be set low. (Refer to the "Salt Time Adjustment" or the "Salt/Sugar One Pop Adjustment" sections.
	Voltage may be low.	Check the voltage at the circuit breaker with the kettle heat on. Extension cords or inadequate wiring will provide full voltage, if no load is applied. Once the kettle heat and auxiliaries are turned on, the voltage may drop 5 to 10 volts.
Indicator light stays on. Digital Control never reaches temp.	One of the elements in a multi-element pan may have failed.	Use an ammeter to diagnose.
		Check the amperage draw of the heating elements, by using a clamp-on ammeter. 1. Remove the front cover by removing the screws that hold the front cover to the pedestal. 2. Turn on the kettle heat. 3. If machine has one-pop option shut off the oil switch and press the one-pop button. 4. Place the ammeter around the lead to the popper kettle as listed. The following current draws are normal. 120/208-240V and 100/200V machines black or red 230V machines-blue or brown 400V machines-black or brown.



**CAUTION:** If the corn has dried out, it may not finish popping at normal temperatures, and the light may appear to go out early. DO NOT ADJUST KETTLE TEMPERATURE BASED ON POOR QUALITY CORN.



**CAUTION:** Do not adjust the temperature so high that the pan smokes at the end of the popping cycle. If set too high (over 500°F or 260oC), the kettle can become a serious fire hazard.

KETTLE SIZE    AMPS @ 230V

32 oz.                      24.3

380V – Place the ammeter around the black or brown lead to the popper kettle

KETTLE SIZE                      AMPS @ 380V 3

32 oz.                      Phase  
8.5

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
<p>A low reading may indicate a problem in the kettle. One or more of the heat elements may not be functioning properly. If the element is not functioning, the possible causes are:</p> <ol style="list-style-type: none"> <li>1. The element has burned out.</li> <li>2. A lead wire has burned off one of the element terminals due to a loose connection.</li> </ol>		<p>In either case the kettle must be removed and the problem identified.</p> <ol style="list-style-type: none"> <li>1. Remove kettle. (See section Kettle Removal for instructions.)</li> <li>2. Check for short circuits inside the kettle.</li> <li>3. If wires must be replaced, be sure to use nickel wire supplied by Cretors. Conventional copper or “stove wire will have limited life.</li> <li>4. Make a visual check for broken, loose, burned or heat damaged wires. If there are no obvious broken or loose wires shorting out on the kettle, the elements must be checked.</li> <li>5. Perform a continuity test on the elements. It is possible that one of the elements has burned through the insulation and the casing is shorting out directly to the kettle bottom.</li> </ol>

**Continuity Test and Ohms Test**

When checking Ohms, make sure that the meter probes are making good contact on the terminals. Remove the nickel buss bars that connect the electrical terminals on the heat elements.

Using a multimeter, check each element between the following points:

Terminal to terminal	Ohm readings should match chart listed below. If Ohm readings are not close, replace.
First terminal to element case	Continuity to case from terminal indicates a grounded element; replace. No continuity – functioning properly.
Second terminal to element case	Continuity to case from terminal indicates a grounded element; replace. No continuity – functioning properly.



Do not attempt electrical repairs on the power supply circuit unless you are qualified to do so. The electrical shock associated with line voltages can cause serious injury or death.



The following procedures are performed with the power on. As with any electrical repairs, there is a shock hazard present.

<b>Elements</b>	<b>Coil</b>	<b>Relay (top to bottom) BAD</b>	<b>GOOD</b>
230 Volts	230 Volts	230 Volts	0 Volts
380 Volts	230 Volts	230 Volts (same pole)	0 Volts (same pole)

Replace failed heat elements with identical units available from your local dealer or from Cretors. Reassemble and reinstall kettle assembly onto the machine.

<b>32 oz. – 230V</b> elements	16336-4-C	750 Watt – 76.8 Ω
	16336-3-C	1500 Watt – 38.4 Ω
	16336-1-C	<u>2000 Watt – 28.8 Ω</u>
		4250 Watt - 13.6 Ω (total)

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Kettle will not heat.	The motor, light or any of the other components do not work.	Check power supply: 1. Is it plugged in? 2. Is the receptacle live? 3. Is the machine plugged into the proper voltage? (Measure with voltmeter and compare to specification on nameplate of machine.)
	Problem is in the machine.	Check the relay/contactator. The Giant temperature control uses a relay/contactator to control the power to the popper pan heat elements. To check the relay/contactator, perform the following operations: 1. To gain access to the relay/contactator, remove the front switchplate by removing the six screws on the sides of the switchplate. 2. Using a voltmeter, check the power to the relay coil, that are the small terminals in the center. 3. With the popper switch on, at room temperature, the temperature control should be calling for heat and providing power to the relay/contactator. If the coil reading is not 230 volts on 230V and 380V, 50Hz machines the problem is in the temperature control. 4. If the coil reading is 230 volts on 230V and 380V machines check the voltage between the output terminal with wire #1 and the output terminal with wire #3 from the kettle support. If this does not have a reading of 230 volts, the relay/contactator is not functioning and needs to be replaced.
Digital Temperature Control display shows EO	Thermocouple has bad connections.	Check all connections.
	Thermocouple is bad. Should read 3-5 ohms if good.	Replace thermocouple.

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>ACTION</b>
Corn Burns	Agitator is not working.	Check to be certain the stirrer blade is on the bottom of the pan and is stirring the corn.
	Check motor connections.	Loose wire.
	The motor is bad.	Replace.
	The correct amount of corn and oil were not used.	See Operations Manual for correct amounts.
	Temperature is set too high.	Adjust temperature.
Kettle leaks oil at agitator.	If the kettle is not cleaned on a regular basis the popping oil will build up and turn to carbon on the inside of the blade center. When this happens the clearance between the blade center and the pan center is reduced from 1/8" (3mm). As this clearance is reduced, the oil will "wick" up the narrow space and run down the rotating shaft and it will appear that the kettle is leaking for 20 oz. kettles.	When reassembling, lightly coat the clutch dog shaft with moly grease or a comparable high temperature lubricant.
Pump will not heat.	Pump switch is on.	Check pump switch. Remove wires from switch (mark wires for proper re-installation.) Using a multimeter, check for continuity from top to bottom of switch. If no continuity, replace switch.

If you have any questions, contact your local distributor and if there are any additional questions, feel free to contact the Customer Service Department at C. Cretors and Company.

Additional copies of this manual can be obtained from C. Cretors and Company at the address listed below. Please provide model and serial number when requesting additional copies of this manual. There will be a nominal charge for additional copies.

Cretors guarantees this machine to be free of defects in parts, materials and workmanship for two years. Please take this time to fill out the factory registration card and return it to the factory to activate your warranty. If you have any questions concerning the Cretors' warranty, please contact your local distributor or the Customer Service Department at C. Cretors and Company.



We invented the popcorn machine  
**THEN JUST KEPT GOING!**

**C. CRETORS AND COMPANY**

176 MITTEL DRIVE

WOOD DALE, IL 60191

PHONE (773) 588-1690, (800) 228-1885, FAX (847) 616-6970

WEB SITE: <http://www.cretors.com> Email: [postmaster@cretors.com](mailto:postmaster@cretors.com)