



3243 North California Avenue, Chicago, IL 60618

125th Anniversary Popcorn Machine Service Manual

120 Volt
Single Phase, 60 Cycle

100/120 Volt
Single Phase, 50/60 Cycle

230 Volt
Single Phase, 50 Cycle



Limited Edition
of 125



READ and UNDERSTAND these servicing, and safety
instructions before servicing this popcorn machine

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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. It means **ATTENTION! Become Alert! Your personal safety is at risk!** 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 and maintaining this equipment, or equivalent training must be provided.



"The employer shall instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment, to control and 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 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 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

A. ELECTRICAL SPECIFICATIONS:

The 125th Anniversary Popcorn Machines are available in any of the following

Electrical configurations:

120 Volt, Single Phase, 60 Cycles

100/120 Volt, Single Phase, 50/60 Cycles

230 Volt, Single Phase, 50 Cycles

B. SIZE SPECIFICATIONS:

MODEL AT2C	125 TH ANNIVERSARY 8 OZ. ELECTRIC COUNTER MODEL
Capacity:	8 oz. All – Steel Kettle, 160 one-ounce servings per hour
Electrical:	1325 watts
Dimensions:	21"D x 24"W x 65-1/2"H - - 53.3 cm D x 60.96 cm W x 167 cm H
Net Weight:	approx. 105 lbs. (48 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. A person who has not read and understood all servicing and safety instructions is not qualified to service the popcorn machine.

VI. INSTALLATION INSTRUCTIONS

A. Location

Choose a location for your Cretors popcorn machine that maximizes the ease of operation and maintenance procedures. 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 machine.

2. C. Cretors and Company recommends dedicated circuits for all Cretors model popcorn machines. The popcorn machines 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 the Rocker Switches on the popcorn popper are in the OFF position when plugging into the power source. Failure to do so may result in personal injury or death and may damage your machine.



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

C. Connecting your Machine to the Power Supply

1. Make certain that the power supply circuit breakers are in the off position.
2. Push the plug completely into the receptacle. If the cord has a twist lock plug be sure to turn to lock in position. Turn on the power supply circuit breakers and then turn on the machine rocker switch.

VII. SERVICE INSTRUCTIONS



In the case of improper operation, qualified personnel only 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.

A. Parts

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

B. Kettle Temperature Control

1. Thermostat Operation

- a. This machine is equipped with a controlling thermostat in the kettle which is preset and checked at the factory to pop corn at the correct temperature. The operation of the thermostat is indicated by the kettle indicator light. The indicator light should stay on for most of the popping cycle. The indicator light should 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 thermostat is set too low and is in need of adjustment. See instructions below for Thermostat Adjustment.
- b. There is also a high limit thermostat installed as a safety device to prevent overheating of the kettle if the thermostat should fail or is adjusted incorrectly. This high limit device **SHOULD NOT BE ADJUSTED OR MODIFIED!**



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

- c. Repair part thermostats shipped from the factory have been factory adjusted to switch off the current to the heating elements when the kettle temperature reaches approximately 465° F (241°C). The factory setting should prove satisfactory for salted corn; however, each thermostat must be checked after installation to confirm correct operation. See instructions below for Thermostat Adjustment.

2. Thermostat Adjustment

The thermostat on the 125TH Anniversary model machine is preset and sealed at the factory and should not need to be adjusted in the field. If popping cycle is fast or slow,

adjustments can be made using the following procedure.

- a. Locate the plugged thermostat adjustment hole on the bottom of the kettle retainer and remove the plug.
- b. Locate pyrometer over thermostat.
- c. Turn on the kettle heat.
- e. Press the One-Pop switch.
- f. Set temperature so that the power to heat elements is cut off at the correct temperature.



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.

KETTLE

8 OZ.

SALTED CORN

465° F. (241°C)

SUGAR CORN

390° F. (199°C)

- g. To adjust thermostat, insert a flat blade screwdriver into the slotted adjustment screw and turn counter-clockwise to lower the temperature or clockwise to raise the temperature.
- h. Do not adjust more than one-quarter turn at a time. Check temperature after each one-quarter turn adjustment.
- i. If no pyrometer is available, the thermostat may be adjusted by observing the operation of the indicator light as described in the Thermostat Operation section. Adjust the thermostat so that the kettle heat is turned off 10 to 20 seconds before the corn finishes popping and the kettle is dumped.
- j. Your final setting should allow the indicator light to cycle off 10 - 20 seconds prior to dumping the kettle.
- k. Observe two or three cycles of correct operation to be certain everything is working correctly.

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 top of the machine by pulling the locking clips away from plug and then pulling plug out of the receptacle. For all 230V machines, unplug the kettle from the top of the machine by unscrewing the plug ring then pull down on plug.
3. Remove the nut on the hinge pin and remove hinge pin to release the kettle.



Use proper lifting techniques when removing the kettle assembly to avoid injury to back.

4. Turn the kettle upside

down and remove the

screws that clamp the flexible conduit where it enters the pan.

5. Remove the nuts on the retainer.
6. Lift the retainer off of the kettle and feed cable in through the fitting. If carbon has formed, careful tapping with a piece of wood or a soft faced hammer around the edge of the retainer will break it loose.
7. When removing nuts and spacers from the threaded studs on the bottom of the pan, do not wipe off the silver lubricant. Without this lubricant ("NEVER SEEZ") the nuts may freeze on the studs and cause the studs to break when the nuts are turned, in an attempt to remove them.

D. Kettle Alignment

1. The kettle level adjustment is made with the popper pan stop, which is located on the kettle support bracket.

Loosen the locknut located on the #2621 popper support hanger. This will allow you to rotate the #2646 popper level screw, which has an offset screw head. As you rotate the screw, the kettle will go up and down. Once the kettle is level, tighten the locknut.

VIII. TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION
Popping is slow.	Incorrect amount of corn and oil 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 Thermostat Adjustment.)
	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.	The element may have started to fail.	Use an ammeter to diagnose.
		Check the amperage draw of the heating elements, by using a clamp-on ammeter. 1. Remove the top of the machine by removing the screws that hold the top panel and lift the top off. 2. Turn on the kettle heat. If machine has one-pop option, press the One-Pop button.
Thermostat is stuck in the on position.		Replace Thermostat.



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.

<u>Kettle</u>	<u>Wire Color</u>	<u>Elements</u>	<u>120V Amps</u>
8oz.	Brown Blue	2615-A (1000 watts)	8.3 amps

<u>Kettle</u>	<u>Wire Color</u>	<u>Elements</u>	<u>100/120V Amps</u>
8 oz.	Brown Blue	2615-A (1000 watts)	10 amps

<u>Kettle</u>	<u>Wire Color</u>	<u>Elements</u>	<u>230V Amps</u>
8oz.	Brown Blue	2615-C (1000 watts)	4.2 amps

PROBLEM	ACTION
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: 1. The element has burned out. 2. A lead wire has burned off one of the element terminals due to a loose connection.	In either case the kettle must be removed and the problem identified. 1. Remove kettle. (See section Kettle Removal for instructions.) 2. Check for short circuits inside the kettle. 3. If wires must be replaced, be sure to use nickel wire supplied by Cretors. Conventional copper or "stove" wire will have limited life. 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. 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.

Continuity Test and Ohms Test

When checking the 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	Ohms Reading 120V - 19.2 Ω
	100V - 10 Ω
	230V - 76.8 Ω
	No continuity-burned element; 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.

Replace failed heat element with identical units available from your local dealer or from Cretors.
Re-assemble and re-install kettle assembly onto the machine.



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.

PROBLEM	POSSIBLE CAUSE	ACTION
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 amperage draw of the heating element by using a clamp-on ammeter. Check to determine whether or not heating elements have failed. a. At room temperature, the thermostat should be calling for heat and providing power. To insure the One Pop button is working properly. Unplug the main power cord. With top cover removed, unplug the two wire connected to the One-Pop switch. Then using a Multi-Meter check for continuity across the two terminals of the switch when the switch is pressed. If no continuity, replace switch. b. With all wires reattached, plug main power cord in. Turn on the kettle heat switch and press the One Pop button. Check the input on the relay coil. Terminals #1 and #0. For a 120V machine the reading will be 120V and for a 230V machine it should be 230V. c. If the voltage is correct on the relay coil and the pilot light and kettle heat are not on. With a voltmeter check the output on the relay. From terminal #1 or the neutral from the heat switch to terminal #8. The reading should be 120V for domestic machines and 230V for export machines. If no reading, replace relay.



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

PROBLEM	POSSIBLE CAUSE	ACTION
Heat shuts off early.	Salt time is set too low.	Adjust salt timer following the instructions.
	Salt/Sugar switch failed.	Remove wire from switch using multi-meter check for continuity across terminals. With the switch on you will have continuity and with it off no continuity. If not replace switch.
With the kettle heat on and if machine is One-Pop, press the One-Pop button. With the top cover removed and before the pilot light shuts off place a voltmeter on #18 on the Salt Timer and any neutral wire that is on. Before the pilot shuts off you should have a voltage read (120V domestic – 230V export) across #18 and the neutral wire. If the pilot light shuts off and there was never any voltage the Salt Timer would need to be replaced.		
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.
	Does the agitator driveshaft engage the blade center and turn it?	See section Kettle Alignment for instructions.
	Does the kettle sag when corn is added to the kettle causing the agitator to disengage?	See section Return Spring Adjustment for instructions.
	Check motor connections.	Loose wire.
	The motor is bad.	Replace.
	The correct amounts of corn and oil were not used.	See Operations Manual for correct amounts.
	Temperature is set too high.	Adjust temperature. See Kettle Temperature Control.

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, 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 Cretors 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.



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