



We invented the popcorn machine  
THEN JUST KEPT GOING!

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176 MITTEL DRIVE, WOOD DALE, IL 60191

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**MACH 5**  
**16, 32, 48 and 60 oz**  
**POPCORN MACHINE**  
**OPERATION MANUAL**

**120/208, 120/ 240 Volt,**  
**Single and Three Phase, 60 Hz**

**230 Volt,**  
**Single Phase and Three Phase, 50 Hz**

**400 Volt, 3N~**  
**Three Phase, 50 Hz**

**Included in this manual:**

- \*One Pop Option**
- \*Salt/Sugar Option**
- \*Ansul Option**
- \*Elevator Option**



**READ and UNDERSTAND these operating, and safety instructions before operating 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 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.




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## 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, or operating this 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 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.



The purpose of equipotential bonding studs, terminals and systems is to join together the metalwork in a product, whether it needs to be grounded or not, so every point is at the same potential/voltage. This bonding is not intended to provide grounding (a separate low resistance ground-fault current path back to the source).

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## 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 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. 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.

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## 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.

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## V. PRODUCT IDENTIFICATION

### CRETORS POPCORN MACHINE MACH 5 MODELS:

M516 \_\_\_-\_\_\_-\_\_

M532 \_\_\_-\_\_\_-\_\_

M548 \_\_\_-\_\_\_-\_\_

M560 \_\_\_-\_\_\_-\_\_

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## 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 controlled using a thermostat located inside the kettle to maintain the kettle at an operating temperature of approximately:
 

**385-395°F (196-200°C) for salted corn**  
**365-375°F (185-190°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 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 when necessary 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 down in a clockwise direction to dump the kettle.
- E. Your Mach 5 model Cretors popcorn popper is equipped for a pump, which, when properly adjusted, automatically delivers the proper amount of oil to the popping kettle.
- F. A conditioner is provided consists of a blower, heating element and thermostat. The conditioner circulates hot air through the corn stored in the popcorn case to keep the product fresh and crisp.
- G. A two-stage filter system traps odor and smoke produced by popping corn. This is replaced when the Ventless Hood option is supplied. The ventless hood is integrated into the popping circuit, as such the popper will not operate if the hood is not functioning!
- H. One Pop Option only allows the kettle to pop one batch of corn at a time and then shut down. The One Pop Option makes it impossible to leave a kettle heat turned on.
- I. With the One Pop Option, the kettle heat switch is turned on; however, the kettle will not begin to heat until the One Pop button is pressed. When the One Pop button is pressed the green indicator light will go on, the kettle will begin to heat, and the kettle heat indicator light will turn on. The kettle will then heat until the temperature control opens at the end of the popping cycle. When the temperature control opens at the end of the popping cycle both the green one-pop and amber kettle heat indicators will shut off along with the kettle heat. The kettle will not begin to heat again until the kettle has cooled and the One Pop button is pressed.
- J. If the machine is equipped with an oil pump, and the pump switch is turned on, pressing the One Pop button will begin the pumping cycle, as well as, the heat cycle. (When cleaning the kettle and oil is not wanted, turn off the oil switch and the oil pump will not run.)
- L. If the machine is equipped with the Salt/Sugar option, the operator moves the toggle switch to either the salt or sugar position for desired corn type. The oil volume will be set to the appropriate amount. In the salt position, the thermostat will turn off at the sugar temperature but a timer will allow the heat to remain on until the corn has finished popping.
- K. With the Digital Temperature Control, the operator can adjust the set point of the popping cycle on the controller. There is no thermostat in side the kettle. Temperature of kettle will also be displayed. To adjust, see service manual.

- L. If the machine is supplied with the Ventless Hood, refer to the Giles instruction manual for more details on the operation and components. The popcorn popper will not operate if the Giles hood is not fully functional, as part of the UL / EPA testing requires.
- M. If the machine is supplied with the ansul option, in the case of a fire, fire suppression liquid will be discharged into the kettle and cabinet to put out the fire. Power to the circuits will be cut except to the Giles hood. **Ansul must be called to initiate the system at start up.**

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## VII. CONTROL SWITCHES (not all switches are provided on all machines)

*KETTLE HEAT	-Turns the kettle heat On/Off (see exhaust for ventless option)
AGITATOR	-Turns the stirrer blade motor On/Off.
*EXHAUST	-Turns exhaust blower On/Off.
*Ventless Hood option	-The exhaust switch must be turned on for the kettle to heat.
CORNDITIONER	-Turns the cornditioner blower and heat On/Off.
LIGHTS	-Turns interior lights On/Off.
OIL	-Provides power to the oil pump.
DELIVERY	-Initiates the pump cycle.
FUSE/CIRCUIT BREAKER	-Provides protection to all circuits, except the kettle.
ROTARY SWITCH	-Turns power On/Off to all circuits.
ONE POP SWITCH	-Turns the kettle heat on and initiates the pump cycle.
SALT/SUGAR SWITCH	-Sets the pump and kettle temperature to proper settings.
DIGITAL CONTROLLER	-Displays and controls kettle temperature.

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## 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 sanitary condition (See **SANITATION INSTRUCTIONS**). Failure to do so may result in illness to your customers.



Always turn the kettle 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.



If this machine is equipped with the Ansul option, an ansul representative must be called out to activate the ansul system prior to use. Call 1.800.TO ANSUL for the closest representative.

To operate your Cretors popcorn popping machine:

1. Fill the corn drawer with corn on floor models.
2. Fill the salt box and hang it on the inside edge of the corn drawer.
3. Connect and adjust the pump as explained in the installation instructions. Preheat the popping oil until liquid, if necessary.
4. 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.

5. Close the kettle lid by pulling the kettle cover knob down.
6. If equipped, move Salt/Sugar switch to desired mode.
7. Turn on the agitator, the exhaust fan, and then turn on the kettle heat and press the oil delivery button. For a ventless hood machine, the exhaust must be turned on and be functional for the popper heat to function. When the exhaust switch is turned on, an audible alarm will sound for a few seconds, clicking will be heard, and then the machine will be operational. If the Giles hood will not run, the popping circuit will be disabled until the problem is resolved.
8. If machine is with the One Pop option, press the One Pop button to begin the popping cycle, and oil delivery.



**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>Corn</u>	<u>Oil</u>	<u>Salt</u>
16 oz	16 oz. 473 ml	5.5 oz. 163 ml	1.5 tsp. 7.5 ml
32 oz.	32 oz. 946 ml	11 oz. 325 ml	3 tsp. 15 ml
48 oz.	48 oz. 1420 ml	16 oz. 473 ml	4 tsp. 20 ml
60 oz.	60 oz. 1775 ml	20 oz. 591 ml	5 tsp. 25 ml

### SUGAR CORN

<u>Kettle</u>	<u>VOLUMETRIC MEASURE</u>		
	<u>Corn</u>	<u>Oil</u>	<u>Sugar</u>
16 oz.	10 oz. 296 ml	4 oz. 120 ml	7.5 oz. 223 ml
32 oz.	20 oz. 591 ml	8 oz. 240 ml	15 oz. 445 ml
48 oz.	32 oz. 945 ml	11 oz. 325 ml	22 oz. 650 ml
60 oz.	48 oz. 1420 ml	15 oz. 445 ml	29 oz. 860 ml

- 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 four seconds between pops) dump the kettle by pulling the large black handle down as far as it will go. Then when the pan is empty, return the handle to its upright position.



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

- Repeat steps 4-9 as desired, adding corn to the corn drawer and salt to the salt box as necessary.
- When the oil container is empty, replace with new full container of oil. See Pump instruction manual.

**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.



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## 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 use steel wool or other similar abrasives to clean the nickel plated kettles, as they will ruin the kettle by removing the nickel plating. Stainless steel kettles can be cleaned aggressively.
3. Do not attempt to clean the kettle with power connected unless you are boiling the CKC cleaning compound to clean the inside of the kettle. Follow the instructions in step 6.



Do not attempt to clean a hot kettle. Failure to do so may result in serious burns or scalds.



Do not throw ice into a hot kettle. Doing so can cause damage to the pan and invalidate the warranty.

4. The kettle has a polished nickel finish or 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
5. 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 Mach 5 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.

6. Cretors Outside Kettle Cleaner COC should be used periodically to remove popping oil that may become baked on to the outside of the kettle.
7. The kettle agitator assembly should be removed weekly 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.
8. Clean all parts thoroughly, making sure to use CKC. Do not use any harsh abrasives or cleaning materials. Clean the interior of the kettle every week with "CKC" cleaning compound. This will prevent the accumulation of carbon on the bottom and internal sides of the kettle. When using "CKC" cleaning compound in the kettle, do not fill the kettle with more than  $\frac{3}{4}$ " high of water inside the kettle. Heat the water to boiling and turn off the kettle heat, don't boil the kettle dry. 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.
9. There are two new Cretors cleaners. Carbon OFF in the blue can is to be used with no heat and the red would require the kettle to be heated. Read the directions on the cans.
10. Reassemble in reverse order, following the directions given.

## B. Cabinet

1. Remove and empty the waste clean-out drawer daily or whenever it is full. Under heavy use this may need to be done more often.



Failure to empty the drawer and clean cabinet may result in a fire hazard due to restricted air flow.

2. The cabinet glass and cabinet base can be cleaned with any good grade glass or household cleaner suitable for glass and plastic surfaces. The inside of the cabinet can be cleaned with the same cleaner as the outside, if it is the type that has a cleaning agent to cut the oil remaining from the popping operation, and it is acceptable for food contact surfaces. Do not soak unit with water. Avoid wetting of inside of electrical enclosure.
3. The doors can be cleaned with Cretors' Plastic Polish. This product is specially formulated to clean plastic doors. Do not use cleaners that have ammonia or alcohol. The use of these cleaners will cause the doors to become brittle and crack.
4. Counter model Mach 5s require the installation of 4" legs, which are included with this unit. The use of the 4" legs is to conform to food sanitation regulations.

5. Disposable filters should be checked weekly and should be discarded and replaced once filters begin to become saturated but before grease starts to drip.
6. Ventless hood filters need to be cleaned and replaced regularly, see manual for recommended schedule and procedures. Care and caution needs to be taken when cleaning filters as to not damage them, especially the electrostatic filter

## **Cretors' elevator corn storage option**

### **Elevator**

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#### **I THEORY AND OBSERVATIONS OF MACHINE OPERATION**

The elevating corn storage option is designed to allow operators to easily adjust the level of popped corn in the heated storage bin for easy access. The cabinet is provided with a conditioning system which circulates heated air to keep popcorn warm and crisp. The handle on the outside of the unit is easily turned to raise or lower the poppercase bottom height. This reduces corn breakage and eliminates the need for the operator to reach down into the storage area when the level of popped corn is dropped. The handle may be replaced by a switch if equipped with the motorized elevator option.

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#### **II CONTROL SWITCH**

TOGGLE SWITCH                      -Raises and lowers the bin height (motorized model only)

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#### **III OPERATING INSTRUCTIONS**

1. The height of the bin should be adjusted to the level to hold the amount of corn popped in the cabinet to maximize the efficiency of the conditioning system.
2. The bin level is lowered by pulling and holding out the knob handle while turning the handle clockwise. It is raised by turning counter-clockwise. The bin level can be "locked in position" by releasing the knob handle so that the pin will rest against the underside of the frame. One revolution will raise or lower the bin level by approximately 4 inches.



3. If equipped with the motorized option, the bin level is adjusted by pressing down on the elevator switch to lower and up to raise.

## VI SANITATION AND MAINTENANCE INSTRUCTIONS

### Emptying the Clean Out Drawer

Remove and empty the clean out drawer daily, or whenever it is full. Under heavy use, this may need to be done more often. The clean out drawer is found under the bin. Doors may or may not need to be removed to expose the cleanout drawer.

### Cleaning Beneath the Popper Case Bottom

Clean the interior of the warming cabinet and beneath the popper case bottom, at least once a week. This is done by lifting out the popper case by the handles off the arms. Replace when finished. At least monthly, the divider should be removed by lifting up and out and the rest of the bin can be cleaned. While the divider is removed, the chain should be lightly lubricated with food grade grease. Replace when finished. The bottom of the divider is located between two pins or a pin and the shaft at the bottom of the warming cabinet.

This appliance shall not be cleaned with a water jet.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

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 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.



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