



CONTENTS

Introduction.....	iii
Safety Alert Symbol.....	iv
Purpose of Manual.....	iv
Product Identification.....	v
Parts Diagrams.....	vi
Principles of Operation.....	1
Installation Instructions.....	3
Trouble Shooting and Service.....	8
Sanitation Instructions.....	9
Operating Instructions.....	10

7900 BAG-N-BOX PUMP

MODEL 7900, 7901 and 7902
7900-E



READ and UNDERSTAND these operating, servicing, and safety instructions before operating or servicing this oil pump.

Safety First:



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

I. 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. Further, 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, first contact the dealer from whom you purchased your machine for assistance and then, if there are any additional questions, feel free to contact our Customer Service Department at the address and/or phone number listed on the front and back covers of this manual. Always have the model and serial number of your machine available to assist in obtaining the correct information.

II. 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.



III. PURPOSE OF MANUAL



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



This manual should be kept available to operating and maintenance personnel.



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

IV. PRODUCT IDENTIFICATION

CRETORS OIL PUMPS
MODELS: 7900

SPECIFICATIONS:

MODEL 7900	7900 AUTOMATIC OIL PUMP MODEL
Capacity:	(2) 35 lb. boxes of oil
Electrical:	120 volt, 60 cycle, single phase, 250 watts, 1.5 amps
Dimensions:	16-1/2" H x 18-1/4" D x 14-3/4" W
Net Weight:	30 lbs.
Shipping Weight:	39 lbs.

OPERATING CONTROLS

Indicator light - indicates power applied to pump.

Heat elements - are turned on when pump switch on machine is in "on" position.

Push button switch - activates timer and motor to dispense oil - located on popper.

Pump switch - turns on the power to oil pump - located on popper.

V. PARTS DIAGRAMS

When ordering parts, always supply the serial number, model number, and voltage of your popcorn machine.

VI. PRINCIPLES OF POPCORN MACHINE OPERATION

Theory and Operation of Bag-n-Box Pump

1. 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 and reduce your popcorn machine's capacity.



2. 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 thermostat located inside the kettle, maintains the kettle at an operating temperature of approximately 500° F. Contact with these surfaces will burn and scald you. Do not touch the kettle, oil or parts in the direct vicinity of the heating elements.

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



4. 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.

5. As the popcorn pops, it conveys itself from the kettle. When the corn finishes popping, the corn remaining in the kettle can be removed by using the kettle handle to dump the popcorn into the popcorn case.

6. Your 7900 model Cretors oil pump, which when properly adjusted, automatically delivers the proper amount of oil to the popping kettle.



7. Sanitation of your popcorn machine and oil pump is imperative for production of an appetizing product. Failure to follow proper sanitation procedures for food contact surfaces or usage of contaminated ingredients (salt, oil, seasonings) could result in poor product quality and may cause illness to your customers. Your Creators oil pump is National Sanitation Foundation (NSF) listed, and can be easily cleaned to assure a high quality product. Use pure ingredients, always emphasize machine sanitation, and follow the sanitation procedures outlined in this manual to protect the welfare of your customers.



8. Do not immerse an assembled pan or oil pump in water. This will damage the electrical components and may cause short circuits resulting in electrical shock hazards if power is applied.

THEORY OF PUMP

The 7900 model remote controlled pump is designed as with previous models to deliver an appropriate amount of oil directly into the kettle.

The 7900 pump is designed as a unit that will support two 35 pound boxes of popping oil. A flexible hose connector with a quick connect will mount to the spout on the box connecting the box to the pump. The pump is controlled by a timer which is started by a push button switch located on the popcorn machine. Oil is dumped from the oil box to the kettle of the popcorn machine.

There are three heat elements; each being 50 watts. Two are on the bottom side of the top shelf and one is on the bottom side of the lower shelf. These heat elements are thermostatically controlled and provide enough heat to keep the oil in the box warm enough to flow easily throughout the system.

After the hose and electrical connections have been made, the pump operation is basically the same as in previous models.

The 7900 offers improvements and benefits which will prove advantageous for all involved.

- a. There are no moving parts that the operator will come in contact with for any reason.

- b. Capacity has increased from one 50 lb. can to two 35 lb. boxes which are handled more easily.
- c. There is very little waste - it has been tested that less than 3 ounces are recovered from an empty bag-n-box.
- d. Bag-n-boxes are easily stored and when empty, are disposed of with less mess - no lids to look for.
- e. The two trays allow for instant replacement with no down time.

Your 7900 model Cretors oil pump, which when properly adjusted, automatically delivers the proper amount of oil to the popping kettle.

VII. INSTALLATION INSTRUCTIONS

A. Location

Choose a location for your Cretors popcorn machine and oil pump to maximize the ease of operation and maintenance procedures. Check your local building and fire codes for location restrictions.

B. Power Supply

Determine the required power supply.

1. The 7900 Oil Pump is provided with 120 volt components, which requires a 120 volt circuit for proper operation.



Connect your popcorn machine and oil pump 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 popcorn machines. Check your local electrical codes regarding cut-off requirements.



Connect your popcorn machine and oil pump only to circuits of the proper voltage. Failure to do so may result in damage to your equipment or present a shock hazard.



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

C. Connecting Oil Pump to Power Source



1. Perform work only on de-energized circuits. Failure to do so may lead to electrical shock resulting in personal injury or death.
2. Make certain that power supply circuit breakers are in the off position.
3. Make certain all switches on the machine are in the off position before plugging in your 7900 Model Cretors oil pump.
4. Plug your machine and oil pump into the correct type of outlet, turn on the circuit breaker and then turn on the machine switches. If the motor groans, the receptacle in the wall may have been improperly wired. Contact an electrician.

Make certain all switches are in the off position before plugging in your Cretors popcorn machine and oil pump.

D. Pump Installation

1. Make certain the pump switch on the control panel is in the off position.
2. Receiving a 7900 pump as a replacement for 7700 or earlier models.
 - a. On units equipped with wood bases, remove the (2) screws on back flange of oil pail tray (p/n 1349) and remove tray. This tray is not needed for 7900 model.
 - b. Replace existing plastic hose (#1223) (7" on Diplomat, 19" on President) with 20" or 24" plastic hose respectively. The existing hose clamps (#1069) and socket (#5216) are still used. If the existing hose length was shortened so the socket (#5216) does not have sufficient length to connect to the plug (#5217) on the pump, replace the entire length - 110" (for Merchant and Profiteer).



- c. The 7900 model weighs approximately 30 lbs., so use proper lifting techniques and slide pump into cabinet. Allow at least 3" from front edge of pump to back side of door. This will ensure door, when closed, will not interfere with a properly connected bag connector.

- d. Connect hose (#1223) simply by pushing socket (#5216) into plug (#5217) and make sure it has snapped into place. Test engagement by pulling up on hose near connection, fittings will not disengage.



- e. Connect pump cord and plug (#2009-A) to pump receptacle (#2011) located on top back of 7900 model.

- f. Loading the oil - each box is filled with approximately 35 lbs. of oil. As this time we do not supply the oil or the boxes they come in, but we can supply the appropriate bag connector (available from your local authorized Cretors distributor).



- g. Using proper lifting techniques, load one box into bottom tray and one on top. Following instruction on the box itself, connect the bag connector to the Bag-n-Box nozzle. You are now ready to adjust the pump as outlined in section "E. Pump Adjustment".

E. Pump Adjustment



1. Make sure that the popper heat switch is off during pump adjustments. This is to avoid touching a hot kettle, which may result in serious burns.

- * NOTE: if either shelf is not occupied by the Bag-n-Box, use caution around these surfaces - they will be hot!!

2. Make sure that the pump power switch and the auxiliary switch are on.

3. To check the output adjustment, place the kettle in the dump position and hold the oil measure cup under the oil delivery tube.

Never hold the oil measure cup under the oil delivery tube if kettle is hot; injuries or burns may result.



4. Press the delivery button (#1066) and wait for the pump to cycle. Dispose of the oil, and cycle the pump again.
5. After three cycles, the amount of oil delivered will be consistent. Check this amount with the measuring cup.
6. If the amount of oil is not correct, it may be adjusted. To adjust the pump:
 - a. Turn off the pump switch.
 - b. To set the oil quantity delivery:
 - i) Remove the snap out plug on the front side of the bottom cover to expose the timer.
 - ii) Check to make sure the timer has good contact by pushing down lightly on timer, making certain not to push any of the switches.
 - iii) Switches 1 through 10 are each assigned a certain amount of seconds of delay time. Each successive switch is double the amount of delay time for the switch before it. The amounts of delay time are written at the top, along the "OPEN"/"OFF" line (i.e. 1, 2, 4, 8, etc).
 - iv) The switch must be in the UP position along the "OPEN"/"OFF" line for the delay time to apply. An example of this for three seconds would have the switch corresponding to 1 on the "OPEN"/"OFF" line up along with the switch corresponding to 2 on the "OPEN"/"OFF" line

MACHINE	AMOUNT OF OIL	SET TIMER TO X SECONDS*
PT14	4.5 OZ.	3 SECONDS
MR16	5.5 OZ.	4 SECONDS
DI20 PR20 G20	7.5 OZ.	5 SECONDS
DI32 PR32 G32E G32G	11 OZ.	9 SECONDS
G48E	16 OZ.	12 SECONDS

- f. Turn on the pump switch and re-check the oil output using steps 1-5 in the Pump Adjustment section.

- g. Install snap out plug [which was removed in step b), i)].

E. Bag-n-Box Connector

1. To prepare the box for use: Break the perforated opening on the box and bend back the corrugated tab. Reach inside and grasp the bag spout. Place the last ring of the spout into the box slot and lock into place with the corrugated tab.
2. Place the bag-in-box in the appropriate shelves. Next remove the travel cap from the spout. The travel cap prevents dirt and dust from coming into contact with the internal slider for sanitary hook-up.
3. Snap the locking plate over the bag spout. The tapered probe on the connector is then pushed into the bag spout and locks into place. This bi-directional locking action does two things. One, it eliminates any possibility of accidental disconnect, giving the user a "foolproof" positive connection and two, it opens the channel allowing product to follow.
4. When the bag-in-box container is empty. To disengage the connector, snap the connector probe into the out position and remove it from the bag spout. This disconnects and reseals the bag. All product contact surfaces are protected ensuring a sanitary situation.
5. No disassembly of connector is required when switching from one Bag-n-box container to another. Repeat steps 1 - 3 to properly re-connect Bag-n-box to pump.

***NOTE:** Prior to each attachment of Bag-n-box connector, ensure that the probe has not been contaminated. If this has occurred, clean connector as described in Section IX - **Sanitation Instructions**.

VIII. TROUBLE SHOOTING AND SERVICE INSTRUCTIONS



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

1. Nothing works:

QUESTION: Is the pump plugged in?

QUESTION: Is the switch on?

2. Pump not heating:

Check element.

3. Motor hums, but will not turn:

Debris in pump - motor burns out, because it cannot turn.

4. Pump runs all the time:

- a. Timer set incorrectly - reset (See Pump Adjustment).
- b. Bad timer - replace.

5. Motor runs, but does not dispense oil:

- a. Check for oil in the box - exchange.
- b. Plastic bundled up by nozzle, pump sucking plastic bag, not oil.

6. Amount of oil delivered is not consistent:

- a. Check oil tubing for leakage and for restrictions.
- b. Bag-n-box connector improperly installed.
- c. Oil is not in liquid state.
- d. See also Number 5.

***NOTE:** Do not attempt to operate pump if the Bag-n-Box is in the upright position.

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.

The design of the 7900 pump is a closed system and should remain aseptic.

If you believe your pump system to be contaminated, then you will need to clean the system.

The pump is most easily cleaned by the following steps:

1. Remove the Bag-n-Box connector.
2. Place the end of the oil tube into hot soapy water in a pail.
3. Cycle pump sufficiently to flush system. Be sure to have a container to catch the water at the discharge tube near the kettle.
4. Change the oil tube to clean hot water and cycle pump to flush hot soapy water from system.
5. When system is clean, you must then cycle the system with oil to prevent any damage to the pump casting. Never leave the pump wet with water only.
6. Reinstall Bag-n-Box connector and reconnect to bag container.

To Clean Bag-n-Box Connector

1. Remove from tubing.
2. Remove probe body from clamp by spreading clamp body tabs and sliding clamp body tabs and sliding probe body out.
3. Remove probe spout adapter from probe body by unscrewing stem from probe body.

4. Remove seal body and spring from stem and nut assembly by unsnapping seal body from stem.
5. Clean all parts in accordance to NSF and local requirements (Hot, soapy water , rinse). Do not use petroleum based cleaning agents or abrasive cleaners. Damage to sealing surfaces may occur and jeopardize the sanitary integrity of the connector.
6. Inspect the three "O" rings for damage or inbedded particulates. Replace as required.
7. Reassemble by reversing steps 1 - 4.

X. OPERATING INSTRUCTIONS



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



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



- C. Operate your popcorn machine and oil pump only if it is in sanitary condition. Failure to do so may result in illness to your customers.



- D. Always turn off the kettle heat switch 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.

- E. To operate your Cretors 7900 oil pump:

1. Turn on pump switch.
2. Fill the corn measure with corn and the salt measure with salt, and add these to the kettle.



NOTE: Avoid contact with the kettle when adding corn or salt. Failure to do so may result in serious burns or scalds.

Measuring devices have been provided to accurately measure the proper amounts of popcorn, salt and oil. The correct amount for each popping is stated in the machine manual. As a general rule: use three (3) parts corn to one (1) part oil for correct popping.



Always add corn to the kettle before adding oil. Failure to do so may result in the oil being heated too rapidly resulting in a fire.



3. Close the lid on the kettle. Avoid contact with the kettle. Contact with a hot popping kettle may result in serious burns or scalds.
4. Push the oil pump button which will provide the correct amount of oil based on previously setting and testing the timer.
5. As the corn pops, it will push the lid open, allowing the corn to discharge from the kettle. When the corn finishes popping, dump the popper pan.



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



6. Exchange boxes by disconnecting bag connector from bottom and connecting to top.
7. Follow the recommended sanitation procedures.

Safety First:



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

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 dealer 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 multiple copies.

Cretors guarantees this machine to be free of defects in parts, materials and workmanship for one year. 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 dealer or the Customer Service department at C. Cretors and Company.



C. CRETORS AND COMPANY
3243 NORTH CALIFORNIA AVENUE
CHICAGO, IL 60618
PHONE(773)588-1690, (800)228-1885, FAX(773)588-2171