

SHORTENING FILTER  
PRINCE CASTLE NO. 107-MC and 107-FMCL  
110 VOLT, 220 VOLT SERIES



Place this chapter in the Small Equipment/  
Miscellaneous Section of your *Equipment  
Manual*.

MANUFACTURED  
EXCLUSIVELY FOR  
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<b>HAZARD COMMUNICATION STANDARD (HCS) – THE PROCEDURES IN THIS CHAPTER INCLUDE THE USE OF CHEMICAL PRODUCTS. THESE CHEMICAL PRODUCTS WILL BE HIGHLIGHTED WITH BOLD FACE LETTERS FOLLOWED BY THE ABBREVIATION (HCS). SEE THE HAZARD COMMUNICATION STANDARD (HCS) MANUAL FOR THE APPROPRIATE MATERIAL SAFETY DATA SHEET(S) (MSDS).</b>	

**WARRANTY**

This product is warranted to be free from defects in material and/or workmanship for a period of one year from the date of original installation. Any component which proves to be faulty during the warranty period will be replaced without cost to the customer.

This warranty is subject to the following exceptions/conditions:

- (1) This equipment is portable; charges for on-location service (e. g., trip charges, mileage) are only included in the provisions of this warranty for a failure which occurs within the first 30 days of installation.
- (2) Damage caused by carelessness, neglect, and/or abuse (e.g., using wrong current, dropping, tampering with or altering electrical components) voids this warranty.
- (3) Running water through pump rusts internal parts and will void the warranty.

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## INTRODUCTION

This filter is used for cleaning the shortening used in frying. **The Filter Aid (HCS)** is sprinkled evenly onto the filter paper (refer to your *Operations and Training Manual*).

The shortening is drained from the fry vats to the filter. The shortening is recirculated thru the filter paper and **Filter Aid (HCS)** to remove impurities.

## PARTS IDENTIFICATION/FUNCTION

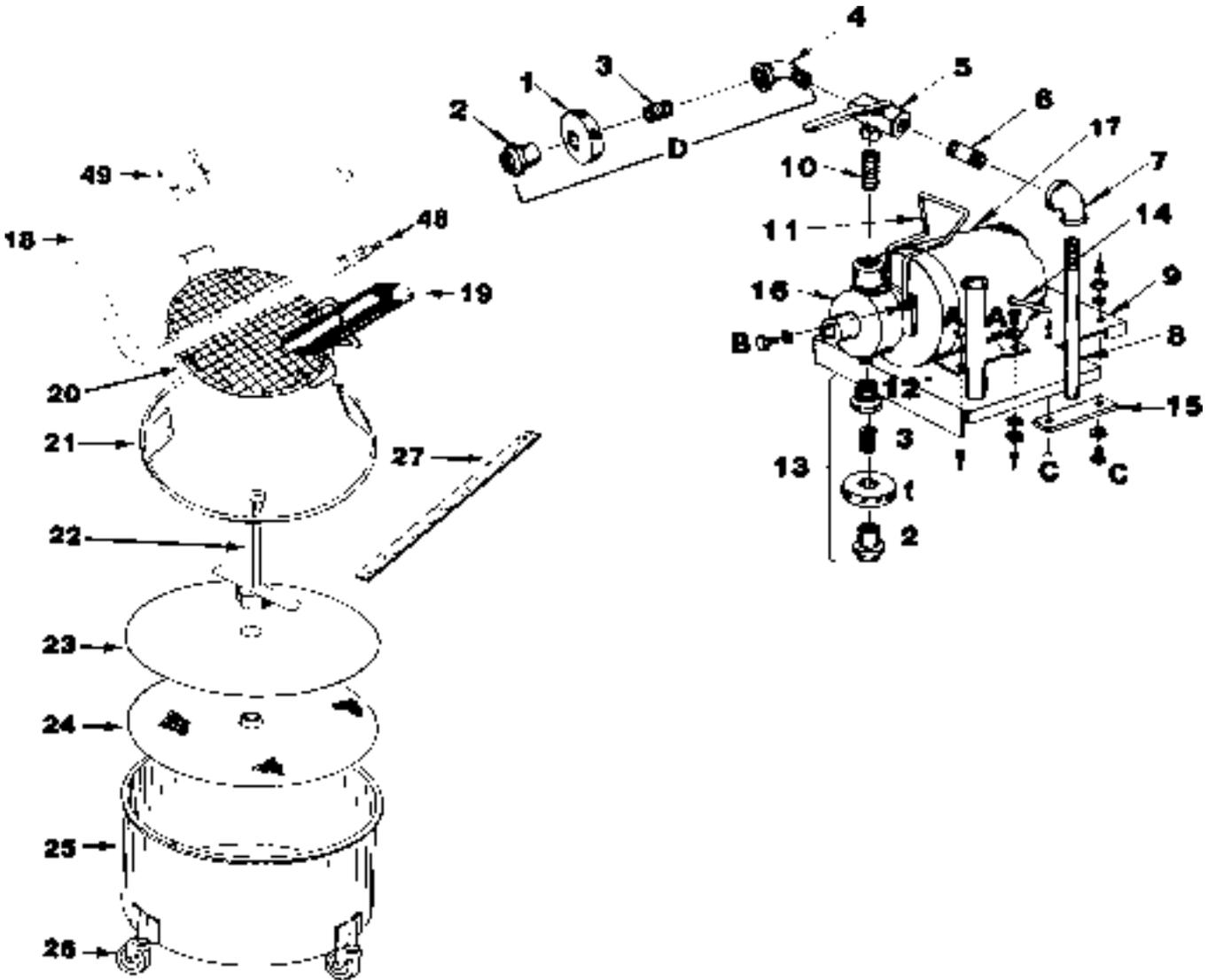
ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
1	102-32	Union Nut, Knurled	2	Used to attach hose assembly and standpipe to pump.
2	102-33	Female Union	2	When used with male union, forms a seal.
3	100-59	$\frac{3}{8}$ " NPT x 1" (10 X 25 mm)	2	Used to attach female union to the standpipe coupling.
	102-110	$\frac{3}{8}$ " NPT x 1 $\frac{1}{4}$ " (10 X 32 mm) Long Close Nipple (For 102-117)	1	
4	100-57	1" (10 mm)– 18 NPT Street Elbow	1	Used to attach female union to the hose coupling.
5	102-171	Three way Valve & Bushing	1	Directs the flow of the shortening to the hose or the recirculating nipple.
6	93-027	Nipple 1/2" NPT X 1 $\frac{1}{2}$ " Long (13 X 38 mm)	1	Parts used for recirculating the hot shortening into the filter bowl.
7	93-026	Elbow (1/2" NPT 90°)	1	
8	93-023	Nipple (1/2" NPT) (13 mm)	1	
9	107-4	Motor Base Assembly	1	Attaches to the motor and holds up the motor and pump when it is placed on top of the filter bowl. Also holds the hose nozzle when not in use.
10	93-003	Close Nipple 1/2" NPT (13 mm)	1	Attaches 3-way valve to the pump.
11	107-6	Handle	1	Used for carrying the motor and pump assembly.
12	100-58	Reducing Bushing 1/2" to $\frac{3}{8}$ " (13 to 10 mm) NPT X 3/4" (19 mm) Long	1	Used to attach the motor and pump to the standpipe assembly.
13	100-6	Standpipe Coupling Assembly for Gray Pump	1	Used to attach the motor and pump to the standpipe assembly.
	102-117	Standpipe Coupling Assembly for Blue Pump	1	
14	105-43	Power Cord	1	Transfers electrical power from the wall outlet to the motor.
15	100-22	Rubber Strip	2	Absorbs vibrations from the motor when it is running.
16	105-77	Pump Assembly (Blue)	1	Creates a vacuum and pulls the hot shortening thru the paper and filter powder up the standpipe, thru the pump and out the filter hose.
	107-36	Replacement Pump Assembly (For Gray Pump)	1	
*16A	102-219	Set Screws (Pkg. of 3)	1	Mounts blue pump to blue motor.

\* Not Shown

ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
17	108-385S	Motor Assembly (Blue)	1	Turns the gears in the blue pump (or turns the impeller in the gray pump) creating a vacuum, which then moves the shortening from the filter bowl then through the standpipe, and pump assembly to the hose and into the fry vat.
	72-296S	Line Cord only for 108-385S		
	102-189	Motor Assembly (Blue) 220 volt 50 hz (International Only)	1	
*	88-409	Strain Relief (Not shown)	1	Securely holds power cord to motor.
*	100-19	Strain Relief (Wire Mesh) (not shown)	1	
A B C	76-061	1/4" #20 X 3/4" (19 mm) Hex Head Screw		Hardware used to attach motor and pump assembly to base.
	79-028	1/4" I.D. Split Lockwasher (6 mm)		
	79-030	1/4" (6 mm) I.D. Flatwasher		
	73-022	1/4" – #20 (6 mm) Hex Nut		
	76-049	5/16" – 18 X 5/8" (16 mm)		
	79-046	Hex Head Screw 5/16" (10 MM) I.D. Split Lockwasher		
	76-061	1/4" – 20 X 3/4" (19 mm)		
	79-028	Hex Head Screw 1/4" (6 mm) Split Lockwasher		
	79-030	1/4"(6 mm) I.D. Flatwasher		
	73-022	1/4" –20 (6 mm) Hex Nut		
D	100-5	Hose Coupling Assembly	1	Used to attach hose assembly to pump.
18	108-373	Hose Assembly	1	Transfers the hot shortening from the pump to the fry vats.
19	110	Anti-Splash Tube	1	Prevents the hot shortening from splashing onto the floor when draining the shortening from the fry vat into the filter bowl.
20	102-125	Safety Screen	1	Prevents hands and feet from accidentally going into the bowl.
21	105-22	Ring Weight	1	Seals the filter paper to the filter bowl.
22	102-10	Standpipe	1	Connects the filter pump with the screen assembly and transfers the shortening from the bowl to the pump.
23	–	Filter Paper (available from your purveyor)	1	Removes unwanted solids. When used with filter-aid also removes moisture and frees fatty acids, extending the life of the shortening.
24	100-13	Screen	1	Support for the filter paper and powder. Provides attachment for standpipe.
25	105-21	Bowl with Casters	1	Holds the filter paper, screen, ring weight and shortening for filtering.
* Not Shown				

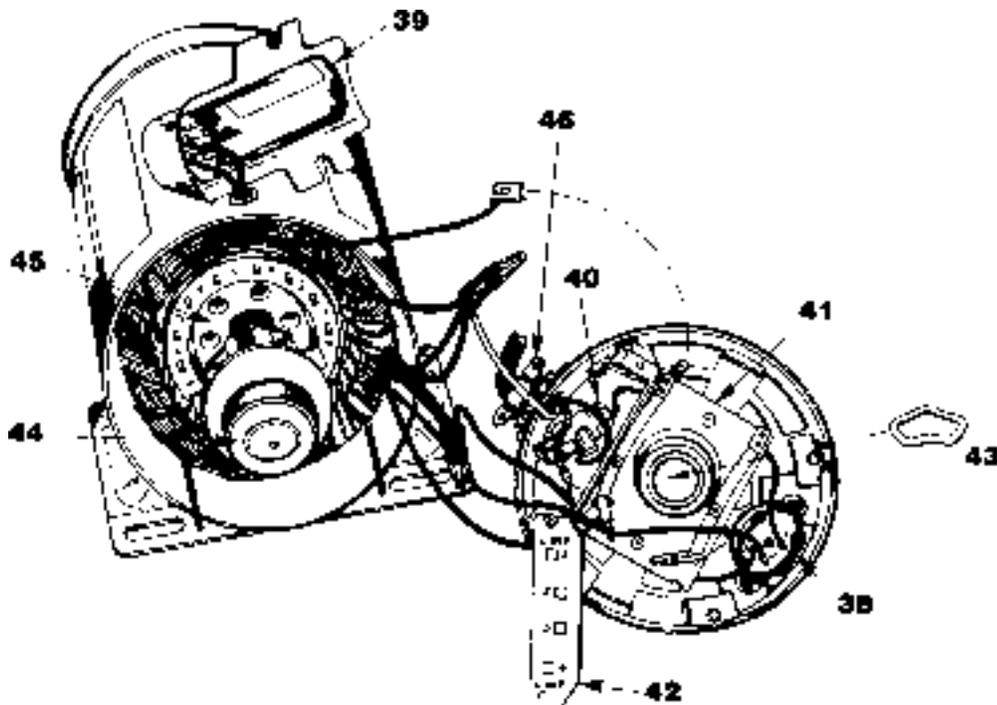
ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
26	89-112S	Caster (Pkg of 2)	2	Used to easily move the shortening filter from one fry vat to another.
	89-410S	Caster (Locking) (Pkg of 2)	2	
27	126	Maple Wood Paddle	1	Used to stir the shortening after the filter powder has been added.
*28	107-33	Complete Motor and Pump Assembly with Hardware, 220-volt, 50 Hertz, (International only) (Not shown)	1	Transfers the shortening through the filter paper into the fry vat.
	107-57	Complete Motor and Pump Assembly with Hardware (Canada only) (Not Shown)	1	
	107-3	Complete Motor and Pump Assembly 110V	1	

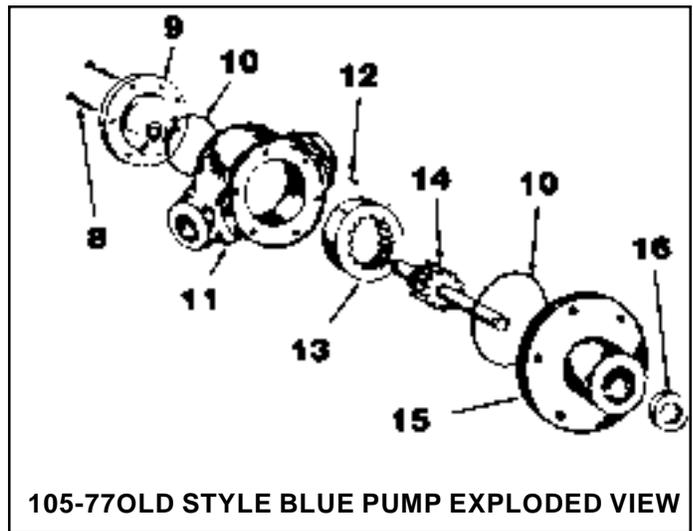
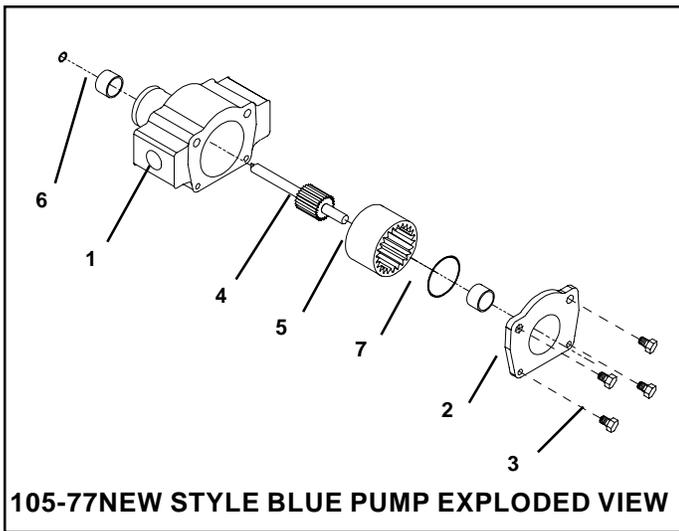
\* Not Shown



ITEM	PART NO.	DESCRIPTION	QTY.	FUNCTION
38	78-120	Overload Protector Switch	1	Protects motor from overheating. Must be reset manually.
39	63-077	Starting Capacitor	1	Provides extra power to start motor.
40	78-129	ON/OFF Toggle Switch	1	Turns unit ON when switch is up and OFF when switch is down.
	78-108	ON/OFF Plastic Rocker Switch		
	78-143S	ON/OFF Plastic Rocker Switch (220V)		
41	102-202	Starting Switch	1	When ON/OFF Switch is activated, turns ON capacitor.
42	102-211	Insulator	1	Protects switches from shorting.
43	102-210	Spring Wave Washer	1	Keeps bearing and shaft from binding on end cap.
44	102-209	Bearing	1	Allows armature and shaft to rotate freely.
45	102-93	Rotor Switch (115V)	1	Provides power to field when first starting, at higher R.P.M. moves out of circuit.
	102-194	Rotor Switch (120V) (International Only)		
46	88-409	Strain Relief	1	Protects power cord from misuse.
*47	578-61	Switch Guard	1	Provides protection for switch against accidental activation or breakage.
48	100-62	Male Union Fitting	1	Provides connection for hose assembly to pump union nut.
49	102-240S	Handle w/Hardware	1	Allows a safe method to hold the nozzle when returning the shortening to the fry vat.

\* Not Shown





ITEM	PART NO.	DESCRIPTION	QTY.	
1	105-140	Casting	1	Holds the Gears
2	105-144	Pump Cover	1	Holds the gears in the pump housing.
3	105-145S	Screws (Pkg. of 4)	4	Used to hold the pump covers to the pump housing
4	102-128S	Drive Shaft	1	Provides movement for the Idler Gear
5	105-73S	Idler Gear	1	Creates a vacuum which draws the shortening
6	93-021S	Oil Seal	1	Seals the pump cover to the pump body.
7	105-139	O' Ring	1	Seals the pump covers to the pump housing.
8	102-228	Screws (Pkg. Of 6)	6	Used to hold the pump covers to the pump housing
9	102-79S	Pump Cover (Outside)	1	Holds the gears in the pump housing.
10	105-71S	O-Ring	2	Seals the pump covers to the pump housing.
11	102-72S	Pump Housing	1	Holds the gears.
12	68-019	Grove Pin	2	Locates the proper position for the pump covers.
13	105-73S	Idler Gear	1	Creates a vacuum which draws the shortening through the filter paper.
14	102-128S 107-42S	Drive Gear for 105-77 Drive Gear for 107-36	1 1	Provides movement to idler gear which moves shortening.
15	102-80S	Pump Cover (Inside)	1	Holds the gears in the pump housing.
16	102-221	Package of one Oil Seal and 2 O-Rings	1	Seals the pump to the motor.

# EQUIPMENT SET-UP, CALIBRATION, CLEANING AND CLOSE PROCEDURES

*Figure 4*

## Set-up

**IMPORTANT:** Clean out any remaining water from filter machine bowl.

1. Place the screen, with its thread facing up, inside the filtering bowl. See figure 1.

*Figure 1*

2. Place filter paper (manufactured to McDonalds specifications) over the threads and on top of the screen. Be sure the hole in the paper is centered to fit over the shoulder so the paper will lay flat. See figure 2.

*Figure 2*

3. Screw on the standpipe. Tighten by hand. See figure 3.

*Figure 3*

4. Place the ring weight on the filter paper. Make sure paper is not folded or creased under the ring. See figure 4.

5. Center safety grid over standpipe. This will allow the grid to suspend over the rim of the filtering bowl. See figure 5.

*Figure 5*

6. Set the motor on the edge of bowl and screw the union to the standpipe by hand. Make sure the connection is hand tight. See figure 6.

*Figure 6*

7. Place the anti-splash tube on filter bowl by doing the following:
  - A. Grasp tube by handle.
  - B. Hook prongs under lip of bowl.
  - C. Rotate downward until tube rest is against the shortening filter bowl.

The anti-splash tube has 2 ends. One end has a diffuser plate attached inside the tube, and the opposite end is open. Hook the tube over the filtering bowl rim so that the end with the diffuser is closest to the safety grid.

8. Attach hose to pump. Make sure the connection is hand tight. Put the nozzle in its holder.



**CAUTION: This hose is made to bend up to a radius of six inches (15.2 cm). If the hose is bent under six inches (15.2 cm) or if the hose is crimped, it could crack, causing it to leak hot oil which may cause burns. If the hose is cracked and/or leaking, do not use until it has been replaced or repaired.**

When finished filtering each vat, roll the unit to the next vat by using the handle attached to the motor and pump assembly.



**CAUTION: Do not pull the unit by the power cord or the hose.**

#### OPERATING INSTRUCTIONS

Refer to your *McDonald's Operations and Training Manual* for the proper procedures to filter your Fry Vats. If your manual does not contain this procedure, contact your Regional Training Department.

#### Close

After the filtering, the filter must be cleaned and stored so that it will be ready for next use. Follow these cleaning procedures:



**CAUTION: Parts are hot. Handle with care, and use filter shortening gloves.**

1. Unplug the power cord. Return the filtering machine to the back sink to disassemble.
2. IMMEDIATELY disconnect the hose from the pump and drain the shortening from the hose into the bowl.
3. Unscrew the pump from the standpipe and lift the motor assembly from the bowl.
4. Remove the safety grid, ring weight, anti-splash tube, and place them in the back sink. Unscrew the standpipe assembly from the screen assembly and place in the back sink.
5. Remove and discard filter paper.
7. Discard any shortening left in the bowl into the shortening disposal cart/shortening drum.
8. Wash the ring weight, standpipe, screen and bowl with the hottest water possible and fryer cleanser to prevent carbon buildup. (Do not use APC.)
9. Wipe dry with a clean towel.
10. Wipe the motor assembly and filter hose using a clean towel.
11. Reassemble bowl, filter screen and ring weight. Place the standpipe assembly, and filter hose inside the bowl.
12. Roll filtering equipment into storage location.



**CAUTION: Do not store motor and pump assembly on the screen assembly. This could cause the screen to warp, tear away from the welds or cause grease to damage the power cord and motor.**



**CAUTION: Do not pump water through the motor and pump assembly. This will cause the pump gears to rust and void the warranty.**

## TROUBLESHOOTING CHART

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Filter will not pump shortening.	Filter paper too thick.	Use new sheet of paper.
	Dirt or nick on standpipe pump fittings which results in leaking air into the pump intake.	Clean off dirt.
		Replace standpipe assembly.
	Leaking gaskets.	Replace standpipe coupling.
	Oil seal leaking.	Return for service.
	Motor not running.	Return for service.
		Check power supply.
	Cold shortening.	Return for service.
	Cold shortening.	Ensure vat is at operating temperature.
		Soak in hot water until loose. <b>CAUTION: Make sure there is no water in hose before reconnecting to pump.</b>
	Hose clogged. Hose not drained at finish of previous operation. <b>CAUTION: HOSE MAY BURST IF USED IN THIS CONDITION</b>	
Pump not operating.	Consult operating procedures.	
	Return for service.	
Filter paper clogged. 2" (5 cm) of shortening in bowl.	Spread filter powder around ring weight. See sealing procedure on page 11.	
	Examine ring weight and bowl for defects (ie, warps, dents). If defective, replace. Lost seal. See sealing procedure on page 11.	
	Use recommended amount <b>1 McD portion pak (HCS)</b> 10.5 oz. (300 grams).	
Using too much Gycor ( <b>HCS</b> ) or filter aid.		
Machine pumping shortening slowly.	Shortening too cool (will cause paper to clog and machine to pump slowly).	Keep vat at cooking temperature until emptied into filter machine. <b>CAUTION: Vat must be turned OFF just before vat is drained.</b>
	Using too much Gycor ( <b>HCS</b> ) or filter aid.	Use recommended amount of <b>McD portion pak (HCS)</b> 10.5 oz. (300 grams).
	Power cord attached improperly or not in good repair (Motor will not run at full power).	Return for service.
	Motor not operating correctly.	Return for service.
Shortening cannot be completely pumped out (Shortening covering surface of filter paper.)	Filter paper not centered or creased under ring.	See sealing procedure on page 11. Ensure paper is centered and placed flat.
	Ring weight is bent or warped (should be flat).	See sealing procedure on page 11. Badly warped or bent rings should be replaced.
	Bowl rim is bent or not clean (buildup of hardened shortening).	See sealing procedure on page 11. Clean bowl thoroughly. Remove dents or replace bowl.

## TROUBLESHOOTING CHART

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Shortening cannot be completely pumped out (shortening covering surface of filter paper). (cont.)	Bowl not level (Can cause "seal" to break).	See sealing procedures on page 11. Repair or replace wheels on filter machine.
	Filter paper clogged.	Machine must be broken down, cleaned, and set up again.
	Too much <b>Gycor or Filter Aid (HCS)</b> .	Must use recommended amounts to prevent clogging.
	Excessive food particles.	Skim vats more often and before filtering.
	Shortening too cool.	Shortening must be at cooking temperature prior to filtering.
Filter powder pumped back into fryer.	Ring weight bent.	Replace ring weight.
	Nick or debris on seal surface on bowl.	Replace bowl.
	Screen assembly bent.	Replace screen assembly.
	Filter paper torn.	Replace filter paper.

### SEALING PROCEDURE:

Sprinkle 5 oz. (142 g) of **Gycor (HCS)** around the edge of the ring weight. Drain the vat and re-circulate the shortening. This process should "seal" air leaks around the ring.

**CAUTION:** Use this procedure only when a leak occurs and all shortening cannot be drained. Using excess Gycor (HCS) can cause the machine to clog during filtering of last vats. **THIS SHOULD ONLY BE AN INTERIM PROCEDURE UNTIL EQUIPMENT CAN BE REPAIRED OR REPLACED.**

### ORDERING/SERVICE INFORMATION

#### 1. WHERE AND HOW TO ORDER REPLACEMENT PARTS

To order replacement parts, look on the back of your Prince Castle Price List for the name and phone number of your local Prince Castle Service Center. You may also call Prince Castle at 1-800-323-2930 (or fax us at 630-462-1460) for the name of your local Service Center.

#### 2. PARTS RETURNS

To return parts to your Service Center for credit, you must obtain authorization from your Service Center.

**IMPORTANT:** All warranty situations should be handled by your center.

#### 3. PRICES:

A. All prices are F.O.B. Prince Castle Service Center or F.O.B. factory, Carol Stream, Illinois.

B. All prices are subject to change without notice. These prices are exclusive of all sales taxes or any special taxes which may be levied by federal, state, or city governments.

#### OUTSIDE THE U.S.

Contact your kitchen equipment supplier or designated repair facility for parts and service.

#### NON-SCHEDULED MAINTENANCE

**IMPORTANT:** No user-serviceable parts are inside this motor and pump assembly. This motor and pump assembly must be serviced by a Prince Castle Authorized Service Center. Failure to do so can void the warranty.



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