

# OPERATING INSTRUCTIONS

PRINCE CASTLE INC.   
WORLDWIDE

## Rectangular Shortening Filter Model No. 108-A Series

### *Frequent Fryer*



The Prince Castle rectangular shortening filter was designed and constructed to perform an important part in the operation and maintenance of fryers. This filter was designed to give excellent service and save hundreds of dollars by keeping oil as clean as possible. The rectangular design makes this filter easy to store and use. Like all Prince Castle filters, this unit saves money by keeping oil clean and providing conditions which result in a better tasting product.

### ELECTRICAL SPECIFICATION

**108**  
120 Volts  
60 Hz  
6.5 Amps  
780 Watts  
NEMA5-15P

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### LIMITED WARRANTY

This product is warranted to be free from defects in material and/or workmanship for a period of one (1) years from date of original installation, not to exceed 18 months from date of shipment from our factory.

Any component which proves to be faulty in material and/or workmanship will be replaced or repaired (at the option of Prince Castle, Inc.) without cost to the customer for parts or labor.

This warranty is subject to the following exceptions/conditions:

- Use of non-genuine Prince Castle spare parts will void this warranty.
- This equipment is portable; charges for on-location service (e.g., trip charges, mileage) are only included in the first 30 days from original installation.
- All labor should be performed during regular work hours. Overtime is not covered under the provisions of this warranty.
- Damage caused by carelessness, neglect, and/or abuse (e.g., dropping, tampering or altering electrical parts), equipment damaged in shipment, by fire, flood or an act of God is not covered under this warranty.
- Running water through the pump rusts internal parts and will void this warranty.

PRINCE CASTLE INC.   
WORLDWIDE

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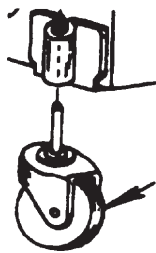
Toll Free: 1-800-PCASTLE

## INSTALLATION

1. After you have removed the shortening filter from the carton, inspect the unit for signs of damage. If there is damage to the unit:
  - Notify carrier within 24 hours after delivery.
  - Save carton and packing materials for inspection purposes.
  - Contact the Prince Castle Customer Sales Department at 1-800-722-7853 to arrange for a replacement to be sent.
2. Verify that all parts have been received.
  - Motor and Pump Assembly
  - Ring Weight and Screen Assembly
  - Standpipe
  - Hose Assembly
  - Casters

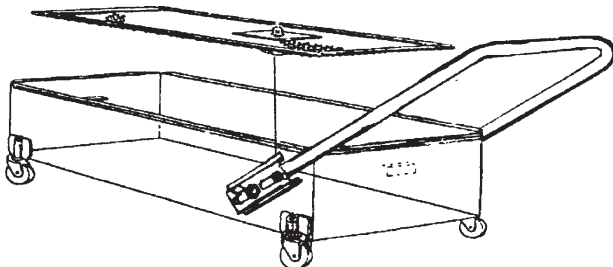
3. Insert (4) casters into caster bracket weldments. The two locking casters should be inserted on the handle end of the tank. See figure 1.

figure 1



4. Place screen assembly, with thread facing up, inside filter tank. See figure 2.

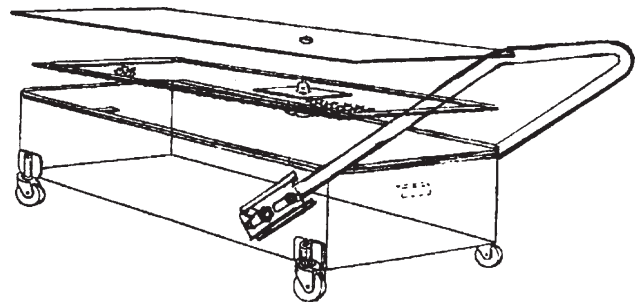
figure 2



**IMPORTANT:** Tank should be dry.

5. Place filter paper (Prince Castle No. 108-128) over thread on top of screen. See figure 3.

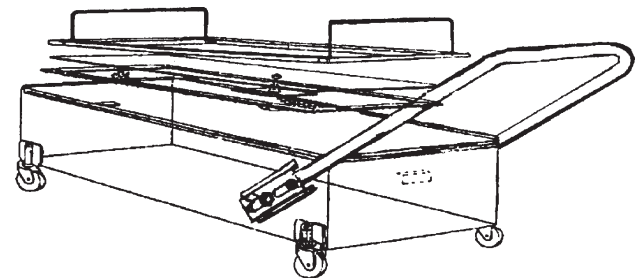
figure 3



**IMPORTANT:** Center paper properly so it lays flat on the screen and overlaps on each end. If incorrect, torn, or no filter paper is used the unit will not filter properly.

6. Spread approximately 16oz, by volume, of filter powder (Prince Castle No. 712) over filter paper before installing ring weight.
7. Place the ring weight on the filter paper. See figure 4.

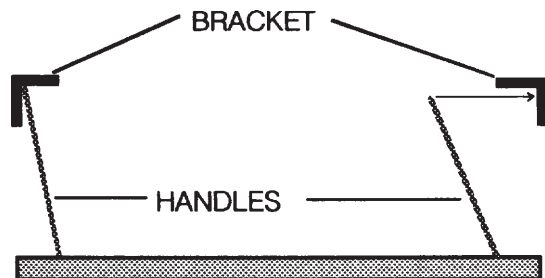
figure 4



**IMPORTANT:** Make sure paper is not folded or creased under the ring weight.

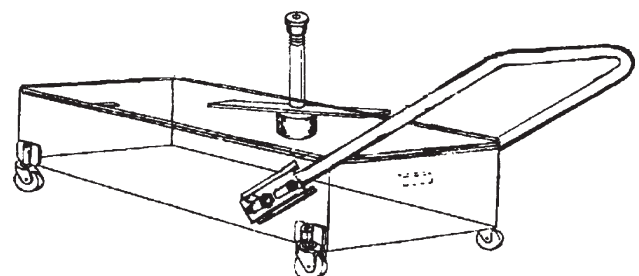
8. Snap handles on ring weight under brackets on each end of the tank. See figure 5.

figure 5



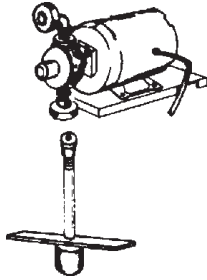
9. Hand-tighten standpipe to screen. See figure 6.

figure 6



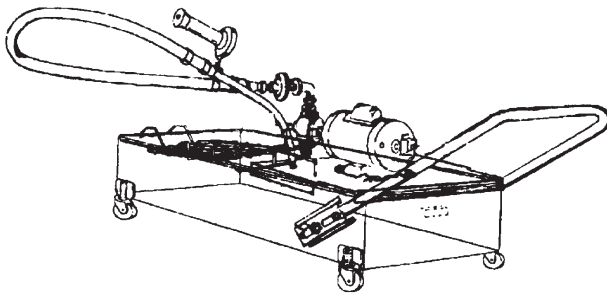
10. Grasp motor assembly by handle on motor and set it on the edge of the tank so pump lines up with standpipe. Hand tighten the union nut to the standpipe making sure the connection is tight. See figure 7.

figure 7



11. Place safety guard on tank opposite motor assembly.  
12. Hand tighten hose to the pump union nut, making sure connection is tight. See figure 8.

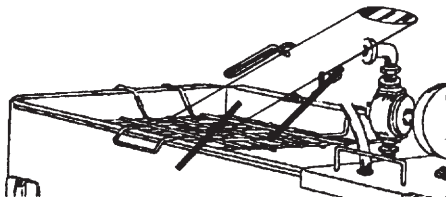
figure 8



**IMPORTANT:** This hose is flexible, it can bend up to a radius of 6" (15.2 cm), however, excessive bending can crease or crack the hose causing hot oil to leak. Do not use a or cracked hose.

13. If using the optional anti-splash tube (Prince Castle No. 108-151), place tube on filter tank by hooking the tube over rim. Make sure the diffuser end of tube is closest to the safety guard. See figure 9.

figure 9



## OPERATION

### Required Protective Equipment:

- Face Shield
- Rubber Gloves
- Apron



**CAUTION:** Handle and hose are hot.



**CAUTION:** Disconnect power plug before performing service on motor or pump.



**CAUTION:** Maximum normal operating pressure 50 PSI (35, 155 KGS/SQ Meter).

1. Remove cooking probes from fryer, if present.
2. Turn on fryer and set thermostat to cooking temperature.

**IMPORTANT:** Do not turn off fryer until you are ready to filter. This allows shortening to remain hot for filtering.

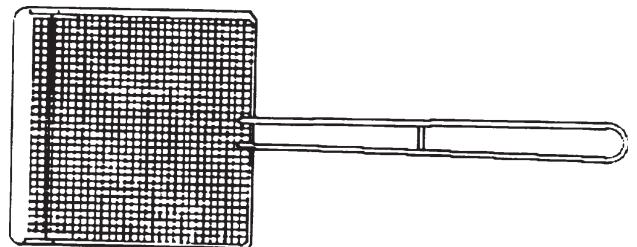
3. Slowly agitate the shortening in all the fryers with the wood paddle provided. This will blend hot and cold shortening, boil off excess moisture and bring any debris to the surface.



**CAUTION:** Excessive moisture could cause fryer to boil over. Agitate until all boiling ceases.

4. Skim off any debris from the shortening surface (use a Prince Castle fry vat skimmer). See figure 10.

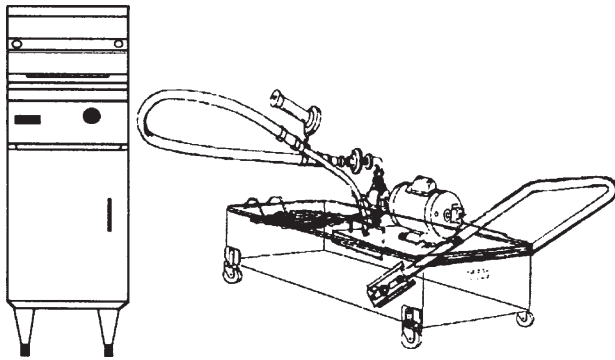
figure 10



**IMPORTANT:** Failure to skim the fryer thoroughly could cause excess food particles to clog the drain valve or the filter machine pump.

5. Roll assembled filter machine to fryer and plug power cord into wall outlet. Turn off fryer and engage locking casters. See figure 11.

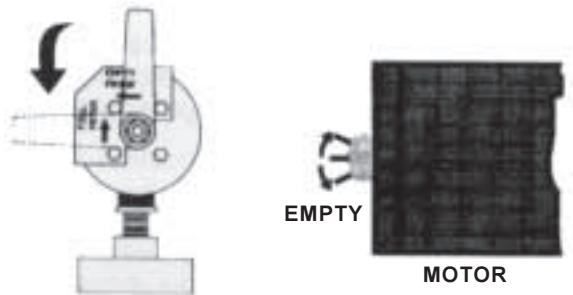
figure 11



**IMPORTANT:** Do not pull filter machine by hose assembly or power cord.

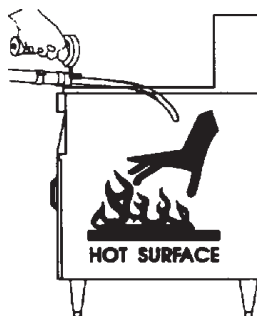
6. For **108 and 108-REC with Recirculating Motor**, connect drain extension to drain (of fryer if available) and place a strainer under the drain to catch large food particles. Open drain slowly and let hot shortening enter the tank. If drain valve is clogged use a drain line clean out rod to free the drain.
- 6A. For **108-REV with Reversible Motor**, insert nozzle of hose into the fryer and turn the valve to the empty fryer position. Switch motor to empty. See figure 12.

figure 12



7. When shortening covers ring weight insert nozzle of hose into the fryer and turn the motor on. See figure 13.

figure 13



- 7A. For a **Recirculating Motor** move the **recirculating valve** to filter. For a **Reversible Motor** turn valve to fill and switch motor to fill. This will flush particles out of fryer.

8. When the fryer is clean of particles, turn the motor off and put hose in hole on motor mount.
- 8A. For the **Recirculating Motor** leave the **Recirculating Valve** to the center.
9. Let shortening drain from the fryer and proceed to clean the fryer according to your accepted method. (For safe and effective cleaning of fryers use Prince Castle Model No. 257-SL fryer cleaning tool.)
- 9A. For the **Recirculating Motor** move the **3-Way Valve** to the **Recirculating position** and turn the motor on allowing the shortening to recirculate in the tank for a minimum of 4 to 5 minutes. See figure 14.

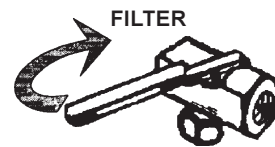
figure 14



**IMPORTANT:** Do not leave filter machine unattended while filtering.

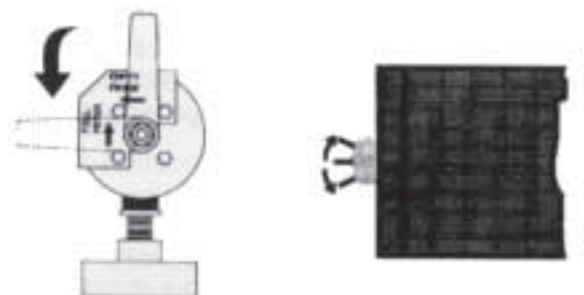
10. After cleaning, insert the hose nozzle into the fryer and turn the motor on leaving the fryer drain open. Rinse the fryer clean. Direct the flow of shortening against the sides of the fryer to minimize splashing.
- 10A. For the **Recirculating Motor** turn the **3-Way Valve to Hose (Back to the center)** before turning the motor on. See figure 15.

figure 15



- 10B. For **Reversible Motor**, turn valve to fill fryer and switch motor to fill. See figure 16.

figure 16



11. Close drain valve and fill the fryer with the filtered shortening until the filter machine tank is empty.
  12. Turn the fryer on and make sure the thermostat is set to proper cooking temperature. Using fresh shortening carefully refill the fryer to proper level. A small amount of shortening will be left in the filter tank, which is normal.
  13. Replace the cooking computer probes.
- IMPORTANT:** Make sure the floor around the filtering area is free from anti-splattering. Floor should be kept clean and dry. See figure 15.
14. Repeat procedures for the remaining fryers.
  15. The number of fryers that can be filtered with one dose of powder will depend on the product being cooked and the amount of debris in each fryer.

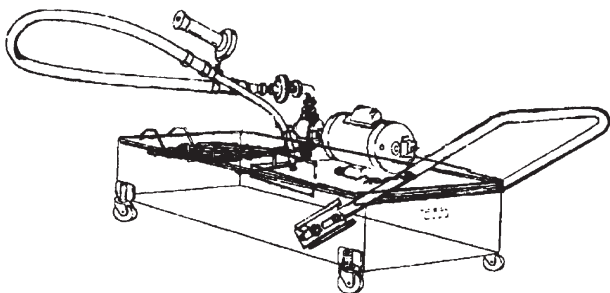
## CLEANING



**CAUTION: Parts are extremely hot!**

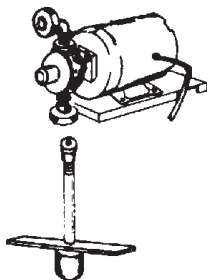
1. Unplug power cord.
2. Immediately disconnect the hose from the pump union nut and drain excess shortening from hose into the tank. See figure 17.

figure 17



3. Disconnect standpipe and remove motor assembly from tank. See figure 18.

figure 18



**CAUTION: Filter paper may be hot.**

4. Remove the anti-splash tube, safety guard and ring weight from the tank and place in the sink.
5. Disassemble the standpipe from the screen and place in the sink.
6. Remove filter paper from screen and discard.
7. Remove screen from tank and place it in the sink.
8. Discard any shortening left in tank into proper waste container.
9. Wash anti-splash tube (if applicable), ring weight, standpipe, screen and tank with very hot water.
10. Wipe all parts dry with a clean towel.

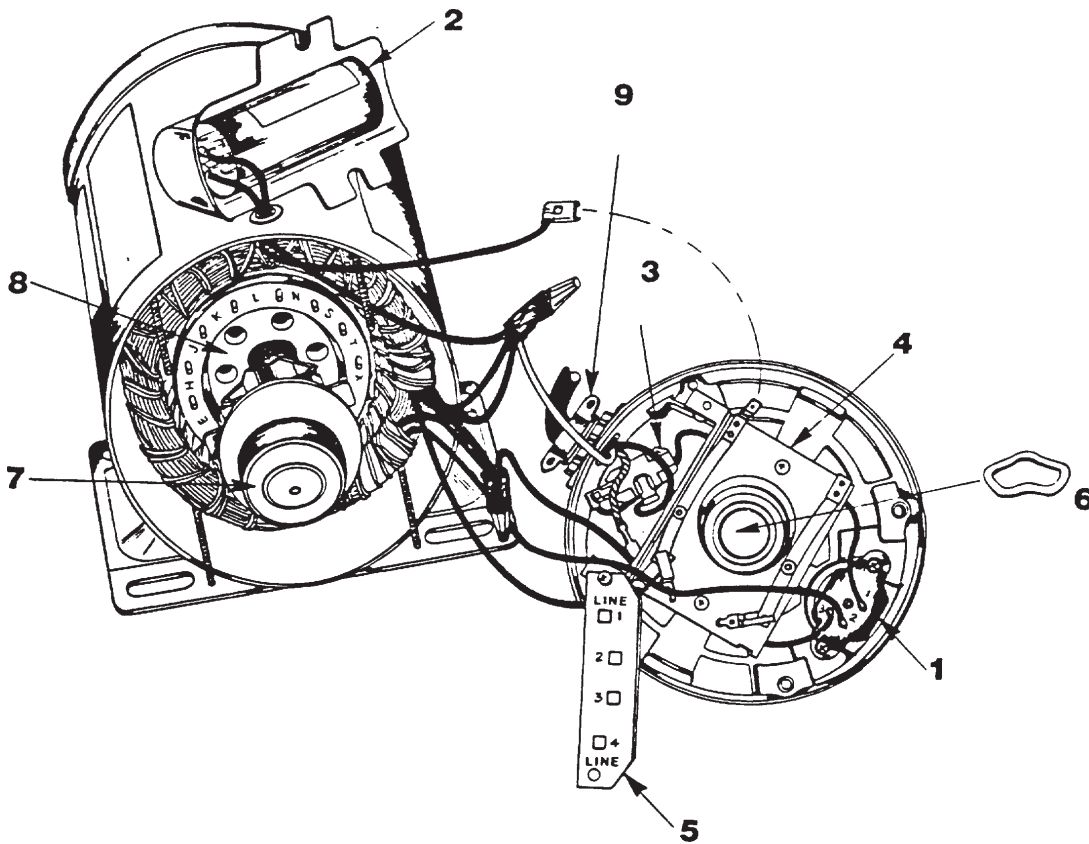
**IMPORTANT:** Do not run water through the motor and pump assembly at any time. This will cause the pump to rust internally and void the warranty.

11. Place all the parts (excluding the motor and pump) inside the tank and roll into the storage area.

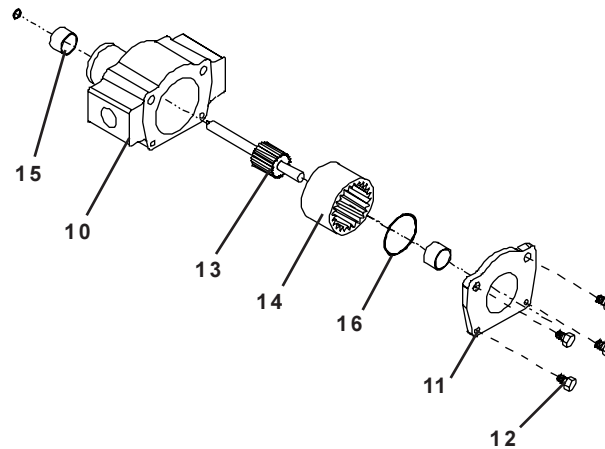
**IMPORTANT:** Do not store motor and pump assembly on the screen. This could cause the screen to warp or cause grease to damage the power cord and motor.

12. Slide handle down and forward so it lays on the side of the tank while machine is stored.

## 108-385S MOTOR ASSEMBLY (110 V)



## 105-77 BLUE PUMP EXPLODED VIEW



## PARTS LIST

ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	78-120	Overload Protector Switch	10	105-140	Casting
2	63-077	Starting Capacitor	11	105-144	Cover
3	78-108	On/Off Plastic Rocker Switch	12	105-145S	Screw (Pkg of 4)
4	102-202	Starting Switch (Old Style)	13	102-128S	Drive Shaft
5	102-211	Insulator	14	105-73S	Idler Gear
6	102-210	Spring Wave Washer	15	93-021S	Oil Seal (Includes items 17 & 18)
7	102-209	Bearing	16	105-139	O' Ring
8	102-193	Rotor Switch (115 V)			
	102-194	Rotor Switch (220 V)			
		(International Only)			
9	72-296S	Power Cord			



## TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Filter will not pump shortening or pumping shortening slowly.	Filter paper too thick.	Try a sheet from another part of the package.
	Dirt or nick on standpipe or pump fittings which results in leaking air into the pump.	Clean off dirt. Replace standpipe assembly. Replace standpipe coupling.
	Oil seal and O'Rings	Replace oil seal and o'rings.
	Motor not running.	Check motor reset. Check circuit breaker. Replace on/off switch. Clean shortening debris in pump.
	Cold shortening.	Ensure vat is at cooking temperature.
	Hose clogged. Hose not drained at finish of previous operation (caution: hose may burst if used in this condition). Pump clogged with debris. Using too much filter powder.	Soak in hot water until loose (Make sure there is no water in hose before reconnecting to pump).  Clean pump of debris. Use recommended amount (16 oz. by volume).
	Loose connections.	Check all fittings for tightness.
	Shortening too cool. (will cause paper to clog and machine to pump slowly).	Keep vat at cooking temperature until emptied into filter machine.
	Using too much Gycor or filter aid causing pump to clog.	Use recommended amount (16oz by volume) and clean pump of debris.
	Power cord attached improperly or not in good repair.	Repair or replace cord.
	Motor not operating correctly.	Repair or replace motor.
	O-rings or oil seal defective.	Replace O-rings and oil seal.
Shortening cannot be completely pumped out.	Filter paper not centered or creased under ring.	Ensure paper is centered and placed flat on screen.
	Ring weight is bent or warped.	Warped or bent ring should be replaced.
	Tank rim is bent or not clean.	Clean bowl thoroughly. Remove dents or replace bowl.
	Tank not level (can cause seal to break).	Repair or replace wheels on filter machine.
	Filter paper clogged.	Machine must be broken down, cleaned and set up again.
	Too much filter aid or Gycor. Excessive food particles.	Use 16oz. by volume. Skim vats before filtering.
	Shortening too cool.	Shortening must be at cooking temperature prior to filtering.
Filter powder pumped back into fryer.	Ring weight bent.	Straighten or replace.
	Nick or debris on seal surface on tank.	Replace bowl.
	Screen assembly bent.	Straighten or replace.
	Filter paper torn.	Replace filter paper.

## PARTS LIST

ITEM	PART NUMBER	DESCRIPTION
1	108-279	Tank Assembly (65 lbs)
	108-290	Tank Assembly (80 lbs)
	108-288	Tank Assembly (110 lbs)
2	89-112S	Casters (Package of 2)
	89-410S	Locking Casters (Package of 2)
3	108-272	Handle, Filter Tank
4	108-278S	Screen Assembly
5	108-128	Filter Paper (100 Sheets)
6	108-115	Standpipe (65 lbs)
	108-119	Standpipe (80 lbs)
	108-178	Standpipe (110 lbs)
7	108-261	Ring Weight
8	108-100	Safety Guard
9	108-126	Motor Mount
10	83-011S	Motor Handle With Hardware
11	108-378	Motor, Pump & Hardware (115 Volt used on 108-A, 108-AM & 108-AL)
	108-379	Motor, Pump & Hardware (115 Volt used on 108-AREC, 108-AMREC & 108-ALREC)
	108-380	Motor, Pump & Hardware (115 Volt used on 108-AREV, 108-AMREV & 108-ALREV)
•	102-385S	Motor Only (110 Volt)
•	108-395S	Motor Only (115 Volt Reversible)
11a	105-77	Pump
•	102-171	3-Way Valve (REC Models)
•	93-075	3-Way Valve (REV Models)
11b	72-296S	Power Cord (115 Volt)
11c	78-108	On/Off Switch (Standard)
	78-216	On/Off Switch (REV)
12	100-58	Reducing Bushing
13	100-57	Street Elbow
14	100-59	Long Close Nipple
15	102-32	Union Nut
16	102-33	Female Union
•	100-5	Hose Coupling & Nipple Assy. (Includes Items 12 through 16)
17	102-110	Long Close Nipple
•	102-117S	Standpipe Coupling Assy. (includes items 12, 15, 16 & 17)
18	108-373	Hose Assembly
	108-377	Hose Assembly (REV)
19	100-62	Male Union Fitting
21	126	Wood Paddle
22	108-151	Anti-Splash Tube (Optional)
•	712	Filter Powder (50 lb Case)
B	76-303	Pan Head Screws <sup>10</sup> / <sub>32</sub> X <sup>1</sup> / <sub>2</sub>
	79-034	Split Lock Washer
C	76-061	Hex Head Cap Screws <sup>1</sup> / <sub>4</sub> -10 X <sup>3</sup> / <sub>4</sub>
	79-030	Flat Washer
	79-028	Split Lock Washer
	73-022	Hex Nut <sup>1</sup> / <sub>4</sub> -20
•	108-130	Clamping Handle , Ring Weight
•		Indicates item is not shown.



## EXPLODED VIEW

