

Model C712 Operator Training



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Product

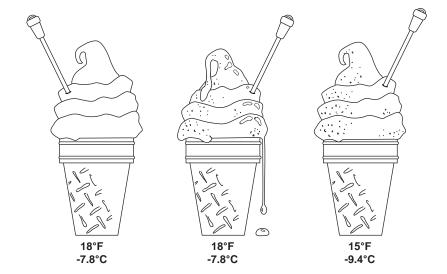
Temperature

Temperature is a key factor in product appearance.

The recommended temperatures are:

Soft Serve: 16 to 18°F (-7.8 to -8.8°C)

However, you can see in the illustration that a soft serve cone at the proper temperature can still appear drippy.



A seven minute freeze-down time is necessary to make frozen product (18° F/-7.8° C) from liquid mix (40° F/4.4°C).

Once the product is frozen, subsequent refrigeration cycles are necessary. The machine will cease refrigeration for 10 minutes to maintain servable product during the day.

Product that is overbeaten is "broken down." Broken down product is caused by longer than normal freeze times.

Longer than normal freeze times can be caused by:

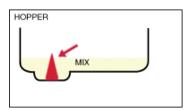
- Worn scraper blades
- Insufficient air space around the freezer
- Dirty condensers or air filters
- Loss of refrigerant (refrigerant leak)

Control

Mix Low



The Cause



Solution

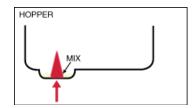
Open the hopper lid and fill the hopper with new mix. The indicator light will turn off after the mix covers the top sensor.

Make sure the mix low indicators on the front of the machine are off to assure successful operation and product dispensing.

Milkstone build-up can cause an erroneous mix low indication.



The Cause



Solution

Open the hopper lid and fill the hopper with new mix. The mix out indicator light will turn off after the mix covers the bottom sensor. The mix low indicator light will turn off after the mix covers the top sensor.

Note: There may be a beeping sound when a mix light is lit.

When the machine experiences a mix out condition, the machine enters the STANDBY mode of operation.

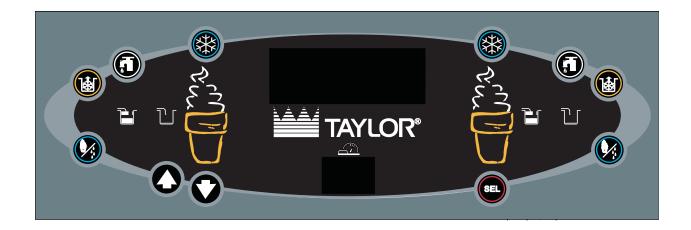
Brush Clean Counter



The Brush Clean Counter will display the number of hours since the freezer was last brush cleaned.

After hour 99, the brush clean counter will change to a letter and a number (example: A0, A1...B0, B1, etc.).

Accessing Data



Pump Symbol: Used to turn on the pump.

Wash Symbol: Used to enter the WASH mode.

Auto Symbol: Sets the machine in AUTO mode.

Mix Low Symbol: Illuminates when the mix hopper has a low supply of mix and should be refilled as soon as possible.

Mix Out Symbol: Illuminates when the mix hopper has an insufficient supply of mix to operate the freezer. The AUTO mode will be locked out and the machine will be placed in the STANDBY mode.

Standby Symbol: Indicates when the machine is in the STANDBY mode.

Select (SEL) Symbol: Used to advance the cursor position and select options in the menu.

Arrows: Down - Decreases the value above the cursor and is used to scroll downward in text displays. Up - Increases the value above the cursor and is used to scroll upward in text displays.

Menu (Entry/Exit): Used to select the Manager's Menu or to exit the Menu Display.

Vacuum Fluorescent Display (VFD): Screen which displays menu options and notifies operator if a fault is detected.

Brush Clean Countdown: Displays the number of hours since the freezer was last brush cleaned.

Menu Simulator

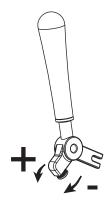
INTERACTIVE MODULE:

Click your mouse on the panel to navigate through the simulator.



Operating Procedures

Draw Handle Calibration



Use the screw on the draw handle to control the speed of product dispensing. For optimum product quality the rate of dispensing should be 5 to 7.5 oz (142-213 g) in a 10 sec. draw. If the dispensing rate is set higher or lower, the risk is poor product quality and potential damage to the machine.

To increase the flow rate, turn the screw clockwise, and counter-clockwise to decrease the flow rate.

The draw handle adjustment knob is intended to slow the product delivery speed.

Assembly

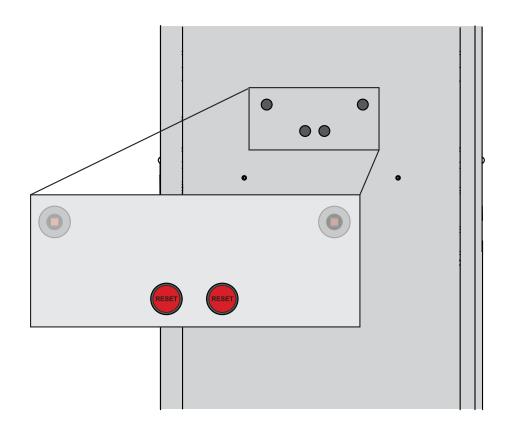
Freezing Cylinder

	of wear. If any nicks are present, or if the blades are worn, replace both blades. If the blades are in good condition, install the scraper blade clips over the scraper blades. Place the rear scraper blade over the rear holding pin on the beater.
Step 7	Holding the rear blade on the beater, slide it into the freezing cylinder halfway. Install the front scraper blade over the front holding pin.
Step 8	Install the beater shoes.
Step 9	Slide the beater the remainder of the way into the freezing cylinder and over the end
отер э	of the drive shaft. The beater should fit snugly but not so tightly that the beater cannot be turned slightly to engage the drive shaft.
	Make sure the beater assembly is in position over the drive shaft. Turn the beater
	slightly to be certain that the beater is properly seated. When in position, the beater will not protrude beyond the front of the freezing cylinder.
Step 10	Repeat these steps for the other side of the machine.
Step 10	Repeat these steps for the other side of the machine.

Freezer Door

Step 1	Place the door gaskets into the grooves on the back of the freezer door. Slide the front bearings over the baffle rods. The flanged edges should be against the door. DO NOT lubricate the gaskets or bearings.
Step 2	Slide the two o-rings into the grooves on each prime plug. Apply an even coat of Taylor Lube to the o-rings and shafts.
Step 3	Insert the prime plugs into the holes in the top of the freezer door and push down.
Step 4	To install the freezer door, insert the baffle rods through the beaters in the freezing cylinders.
	With the door seated on the freezer studs, install the handscrews. Use the long handscrews on the top and the short handscrews on the bottom. Tighten them equally in a criss-cross pattern to insure the door is snug.
Step 5	Slide the o-rings into the grooves of each standard draw valve. Slide the H-ring and o-ring into the grooves of the center draw valve. Lubricate the H-ring and o-rings.
Step 6	Lubricate the inside of the freezer door spouts, top and bottom.
Step 7	Insert the draw valves from the bottom until the slot in the draw valves come into view.
Step 8	Slide the fork of the draw handles in the slot of the draw valves, starting from the right. Slide the pivot pin through each draw handle as they are inserted into the draw valves.
Step 9	Snap the design caps over the bottom of the door spouts.
Step 10	Slide the drip pans into the holes in the panels.
Step 11	Install the front drip tray and splash shield under the door spouts.

Freezing Cylinder Reset



	by insufficient mix in the freezing cylinder. If this occurs, inspect the pump to verify it is properly assembled.					
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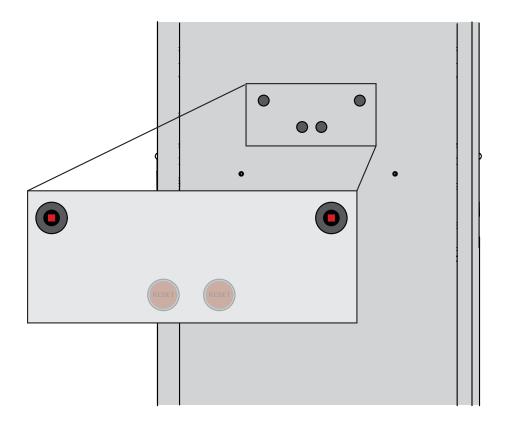
Freezing Cylinder Checklist

- 1. Replace scraper blades if they are nicked or damaged. Before installing the beater, be certain that the scraper blades are properly attached.
- 2. Check the rear shell bearing for signs of wear (excessive mix leakage in the side drip pan) and be certain it is properly cleaned.
- 3. Using a brush and cloth towel, keep the rear shell bearing and the female hex drive socket clean and free of lubricant and mix deposits.
- 4. Dispose of o-rings and seals if they are worn, torn, or fit too loosely. Replace with new ones.
- 5. Follow all lubricating procedures as outlined in "Assembly"
- 6. Check the condenser and filter for accumulation of dirt and lint. A dirty condenser or filter will reduce the efficiency and capacity of the machine. The condenser should be cleaned monthly with a soft brush. The filter should be cleaned weekly.
- 7. On water cooled units, check the water lines for kinks or leaks. Kinks can occur when the machine is moved back and forth for cleaning or maintenance purposes. Deteriorated or cracked water lines should be replaced only by an authorized Taylor Technician.

Pump Assembly

Step 1	Assemble the piston. Slide the red o-ring into the groove of the piston. DO NOT lubricate the o-ring.
Step 2	Apply a thin layer of lubricant to the inside of the pump cylinder at the retaining pin hole end.
Step 3	Insert the piston into the retaining pin hole end of the pump cylinder.
Step 4	Assemble the valve cap. Slide the o-ring into the groove of the valve cap. DO NOT lubricate the o-ring.
Step 5	Slide the pump valve gasket into the holes on the cap. DO NOT lubricate the gasket.
Step 6	Insert the valve body cap into the hole in the mix inlet adapter.
Step 7	Insert the mix inlet assembly into the pump cylinder. The adapter must be positioned into the notch located at the end of the pump cylinder.
Step 8	Secure the pump parts in position by sliding the retaining pin through the cross holes located at one end of the pump cylinder. Note: The head of the retaining pin should be located at the top of the pump when installed.
Step 9	Install one red o-ring on each end of the mix feed tube, and thoroughly lubricate.
Step 10	Slide the check ring into the groove of the feed tube.
Step 11	Lay the pump assembly, pump clip, cotter pin, and mix feed tube assembly in the bottom of the mix hopper for sanitizing.
Step 12	Slide the large black o-ring and the two smaller black o-rings into the grooves on the drive shaft. Thoroughly lubricate the o-rings and shaft. DO NOT lubricate the hex end of the shaft.
Step 13	Install the hex end of the drive shaft into the drive hub at the rear wall of the mix hopper. Note: For ease in installing the pump, position the ball crank of the drive shaft in the 3 o'clock position.
Step 14	Repeat these steps for the other side of the machine.

Pump Reset



The pump reset button protects the pump motor from being "overworked."

If the pump motor stops working, it will be necessary to press the corresponding reset button on the rear of the machine.

	pump drive shaft removal tool to ease the shaft from the assembly position.						
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Pump Checklist

1.	Dispose of o-rings and seals if they are worn, torn, or fit too loosely. Replace with new ones.
2.	Follow all lubricating procedures carefully.
3.	To avoid nicks and cracks, handle plastic pump parts with care.
4.	Be sure the air/mix pump is properly attached to the drive hub, or severe and costly damage may occur.

Sanitizing

Step 1 Prepare an approved 100 PPM sanitizing solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5® or 2 gal. [7.6 liters] of Stera-Sheen®). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS. Pour the sanitizing solution over all the parts in the bottom of the mix hopper and Step 2 allow it to flow into the freezing cylinder. Note: You have just sanitized the mix hopper and parts; therefore, be sure your hands are clean and sanitized before continuing with these instructions. Step 3 While the solution is flowing into the freezing cylinder, take particular care to brushclean the mix level sensing probe on the bottom of the hopper, the mix hopper, the mix inlet hole, the air/mix pump, the pump clip, the mix feed tube, and the locking clip. Step 4 Install the pump assembly at the rear of the mix hopper. To position the pump on the drive hub, align the drive hole in the piston with the drive crank of the drive shaft. Secure the pump in place by slipping the pump clip over the collar of the pump, making sure the clip fits into the grooves in the collar. Step 5 Install the pump end of the mix feed tube and secure with the cotter pin. Failure to follow this instruction could result in sanitizer spraying on the operator. Step 6 Prepare another pail of approved 100 PPM sanitizing solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5® or 2 gal. [7.6 liters] of Stera-Sheen®). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS. Step 7 Pour the sanitizing solution into the mix hopper. Step 8 Brush the exposed sides of the hopper. Step 9 Place the power switch in the ON position. Step 10 Touch the WASH symbol. This will cause the sanitizing solution in the freezing cylinder to be agitated. Wait at least 5 minutes before proceeding with these instructions. Step 11 With a pail beneath the door spouts, open the draw valve and touch the PUMP symbol. When a steady stream of sanitizing solution is flowing from the prime plug opening in the bottom of the freezer door, open the draw valve. Momentarily open the center draw valve to sanitize the center door spout. Draw off the remaining sanitizing solution. Step 12 Once sanitizer stops flower from the door spout, touch the WASH and PUMP symbols and close the draw valve. Step 13 Repeat these steps for the other side of the machine.

Priming

Note: Use	only FRESH MIX when priming the freezer.
Step 1	Place an empty mix pail beneath the door spouts. With the prime plug in the UP position, pour 2-1/2 gallons (9.5 liters) of FRESH mix into the mix hopper and allow it to flow into the freezing cylinder. Open the draw valve to remove all sanitizing solution. When only fresh mix is flowing, close the draw valve.
Step 2	Once a steady stream of mix starts to flow from the prime plug opening in the bottom of the freezer door, push the prime plug down.
Step 3	When mix stops bubbling down into the freezing cylinder, remove the cotter pin from the outlet fitting of the mix pump. Insert the outlet end of the mix feed tube into the mix inlet hole in the mix hopper. Place the inlet end of the mix feed tube into the outlet fitting of the mix pump. Secure with cotter pin.
Step 4	Select the AUTO symbol.
	Fill the hopper with fresh mix and place the mix hopper cover in position.
	Repeat these steps for the other side of the machine.

Manual Brush Cleaning

Draining Product

Step 1	With a pail beneath the door spouts, touch the WASH and PUMP symbols and open the draw valve.
Step 2	Drain the product from the freezing cylinder and the mix hopper.
Step 3	When the flow of product stops, touch the WASH and PUMP symbols, cancelling the WASH and PUMP modes. Close the draw valve and push the prime plug down.
Step 4	Remove the cotter pin, mix feed tube, pump clip and the assembled air/mix pump.
Step 5	Repeat these steps for the other side of the machine.
Rinsing	
Step 1	Pour two gallons (7.6 liters) of cool, clean water into the mix hopper. With the white hopper brush, scrub the mix hopper and the mix level sensing probe. Using the double ended brush, brush clean the mix inlet hole.
	Note: Do not brush clean the mix inlet hole while the machine is in the WASH mode.
Step 2	With a mix pail beneath the door spout, raise the prime plug and touch the WASH symbol.
Step 3	When a steady stream of rinse water is flowing from the prime plug opening in the bottom of the freezer door, open the draw valve.
Step 4	Drain all the rinse water from the door spout. Close the draw valve and push the prime plug down. Touch the WASH symbol, cancelling the WASH mode.
	Repeat rinsing using clean, warm water until the water being discharged is clear.
	Repeat these steps for the other side of the machine.

Hopper Cleaning

Note: Failure to follow these steps will result in milk-stone build-up.

- Step 1 Prepare an approved 100 PPM cleaning solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5® or 2 gal. [7.6 liters] of Stera-Sheen®). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS.
- Step 2 With the prime plug pushed down, pour the cleaning solution into the hopper and allow it to flow into the freezing cylinder.
- Step 3 Using the white hopper brush, clean the mix hopper and the mix level sensing probes. Using the double ended brush, clean the mix inlet hole.

Note: Do not brush clean the mix inlet hole while the machine is in the WASH mode.

- Step 4 Touch the WASH symbol. This will cause the cleaning solution in the freezing cylinder to come in contact with all areas of the freezing cylinder. Wait atleast 5 minutes before proceeding with these instructions.
- Step 5 Place an empty pail beneath the door spouts and raise the prime plug.
- Step 6 When a steady stream of cleaning solution is flowing from the prime plug opening in the bottom of the freezer door, open the draw valve. Draw off all the solution.
- Step 7 Once the cleaning solution stops flowing from the door spout, close the draw valve and push the prime plug down. Touch the WASH symbol, cancelling the WASH mode.

Repeat these steps for the other side of the machine.

Disassembly

- Step 1 Place the power switch in the OFF position.
- Step 2 Remove the handscrews, freezer door, beaters and scraper blades, and drive shafts with drive shaft seals from the freezing cylinders.
- Step 3 Remove the beater shoes and scraper blades from the beater assemblies. Remove the scraper blade clips from the scraper blades.
- Step 4 Remove the drive shaft seal from each drive shaft.
- Step 5 From each pump cylinder, remove the retaining pin, mix inlet adaptor, valve cap, pump gasket, and the piston. Remove the o-ring from the piston and valve cap.

Step 6 Remove the design caps, pivot pin, draw handles, draw valves, prime plugs, front bearings, and freezer door gaskets. Remove the o-rings from the draw valves and prime plugs. Step 7 Remove the pump drive shafts from the drive hubs in the rear wall of the mix hoppers. Step 8 Remove the two small o-rings and one large o-ring from each pump drive shaft. Step 9 Remove the front drip tray and splash shield. Step 10 Remove all drip pans. Take them to the sink for cleaning. Note: If the drip pans are filled with an excessive amount of mix, it is an indication that the drive shaft seal(s) should be replaced or properly lubricated. **Brush Cleaning** Step 1 Prepare an approved 100 PPM cleaning solution (examples: 2-1/2 gal. [9.5 liters] of Kay-5® or 2 gal. [7.6 liters] of Stera-Sheen®). USE WARM WATER AND FOLLOW THE MANUFACTURER'S SPECIFICATIONS. Make sure all brushes provided with the freezer are available for brush cleaning. Step 2 Thoroughly brush clean all disassembled parts in the cleaning solution, making sure all lubricant and mix film is removed. Be sure to brush all surfaces and holes, especially the holes in the pump components and freezer door. Step 3 Rinse all parts with clean, warm water. Place the parts on a clean, dry surface to air dry overnight. Step 4 Return to the freezer with a small amount of cleaning solution. Using the black brush, clean the rear shell bearing at the back of each freezing cylinder. Step 5 Using the black brush, clean the drive hub opening in the rear wall of each mix hopper. Step 6 Wipe all exterior surfaces of the freezer with a clean, sanitized towel.

Troubleshooting

Hopper

The mix in the hopper is too cold.

Cause: The hopper temperature is out of adjustment.

Remedy: Call an authorized service technician.

The mix in the hopper is too warm.

Cause: Hopper cover is not in position.

Remedy: Clean and sanitize hopper cover and place in position.

Cause: The hopper temperature is out of adjustment.

Remedy: Call an authorized service technician.

Mix Low and Mix Out probes are not functioning.

Cause: Milkstone build-up in the hopper.

No control panel functions with power switch ON.

Remedy: Clean hoppers thoroughly.

LCD

	-
	Machine is unplugged. Plug into wall receptacle.
	Circuit breaker is OFF or blown fuse. Turn the circuit breaker ON or replace the fuse.

Cylinder

Freezing cylinder walls are scored.

Cause: Missing or worn front bearing and beater shoes.

Remedy: Install or replace the front bearing and beater shoes.

Cause: Broken freezer door baffle rod.

Remedy: Replace the freezer door.

Cause: Broken beater pins.

Remedy: Replace the beater assembly.

Cause: The beater assembly is bent.
Remedy: Replace the beater assembly.

Cause: The gear box is out of alignment.
Remedy: Call an authorized service technician.

The drive shaft is stuck in the drive coupling.

Cause: Mix and lubricant collected in drive coupling. Remedy: Brush clean the shell bearing area regularly.

Cause: Rounded corners of drive shaft, drive coupling, or both.

Remedy: Call an authorized service technician.

Cause: The gear box is out of alignment.
Remedy: Call an authorized service technician.

Door

No product is being dispensed.

Cause: Low on mix. The MIX OUT light is on.

Remedy: Add mix to the mix hopper. Return to AUTO mode.

Cause: The power switch is in the OFF position.

Remedy: Place the power switch in the ON position and select AUTO.

Cause: Beater motor is out on reset, BEATER OVERLOAD message displayed.

Remedy: Turn the machine off. Press the reset button. Restart the machine in AUTO.

Cause: Machine not in AUTO mode.

Remedy: Select AUTO and allow machine to cycle off before drawing product.

Cause: The feed tube or check ring is not properly installed.

Remedy: Make sure the feed tube or check ring is properly installed.

Cause: The pump motor is not running in the AUTO mode.

Remedy: Push the pump reset button. Check if the pump motor is operating when the draw

valve is raised.

Cause: Freeze-up in mix inlet hole.

Remedy: Call an authorized service technician.

Cause: The mix pump ball crank is broken.

Remedy: Call an authorized service technician.

Product is collecting on top of the freezer door.

Cause: The top o-ring on the draw valve is improperly lubricated or worn.

Remedy: Lubricate properly or replace the o-ring.

Excessive mix leakage from the bottom of the door spout.

Remed	<i>e:</i> y:	Lubricate properly or	repl	w valve is im lace the o-rir	ng.	ubricated or	worn.	

Drip Pan

Excessive mix leakage into the long drip pan.

Cause: The seal on the drive shaft is improperly lubricated or worn.

Remedy: Lubricate properly or replace the seal.

Cause: The drive shaft seal is installed inside-out.

Remedy: Install correctly.

Cause: Inadequate lubrication of the drive shaft.

Remedy: Lubricate properly.

Cause: The drive shaft and beater assembly work forward.

Remedy: Call an authorized service technician.

Cause: Worn rear shell bearing.

Remedy: Call an authorized service technician.

Cause: Gear box out of alignment.

Remedy: Call an authorized service technician.

Product

The product is too soft.

Cause: Draw rate is set too fast.

Remedy: Adjust the draw rate to 5 to 7.5 oz. (142-213 g) of product by weight in 10 seconds.

The product is too thick.

Cause: Freezing cylinder not primed correctly.

Remedy: Drain the freezing cylinder and reprime the machine.

Cause: The mix pump incorrectly assembled.
Remedy: Follow assembly procedures carefully.
Cause: The viscosity control is set too cold.
Remedy: Call an authorized service technician.

Cause: Freeze-up in mix inlet hole.

Remedy: Call an authorized service technician.

Cause: Butterfat is in the pump.

Remedy: Disassemble, clean and reinstall the pump.

The product makes a popping sound when drawn.

Cause: Draw rate is set too fast.

Remedy: Adjust the draw rate to 5 to 7.5 oz. (142-213 g) of product by weight in 10 seconds.

Cause: The mix pump incorrectly assembled.
Remedy: Follow assembly procedures carefully.
Cause: Freezing cylinder not primed correctly.

Remedy: Drain the freezing cylinder and reprime the machine.

Parts

Three Months Parts Replacement

Every 3 months replace the following parts:

	Design Caps	0	Mix Feed Tube O-Ring
0	Draw Valve O-Ring	0	Prime Plug O-Ring
	Draw Valve H-Ring (Center)	00	Pump Drive Shaft O-Ring (Small)
	Beater Drive Shaft Seal	0	Pump Drive Shaft O-Ring (Large)
\bigcirc	Freezer Door Gasket	0	Pump O-Ring
	Front Bearing		Pump Valve Gasket
	Front Beater Shoes		Scraper Blades
	Mix Feed Tube Check Ring		
Most of the liste	d parts are available in the tune-up	kit.	
Refer to the Tay	rlor Operator Manual or local Taylor	Distributor for part nu	umbers.

Six Months Parts Replacement

Every 6 months replace the following accessories:

	Black Bristle Brush, 1" x 2" Double-Ended Brush
Control of the second of the s	Pump Brush Set (3)
	Pump Spout Brush
	White Bristle Brush, 1" x 2"
	White Bristle Brush, 3" x 7"
	Yellow Bristle Brush

Quiz

Instructions:
This game is intended to reemphasize some of the information provided on this CD, but should not be used as a formal evaluation. Wrong answers are indicated by red and correct answers are indicated by green. After clicking on the correct answer, click the forward arrow to the right of the answers to move to the next question. The arrow will not be available until the correct answer is selected.

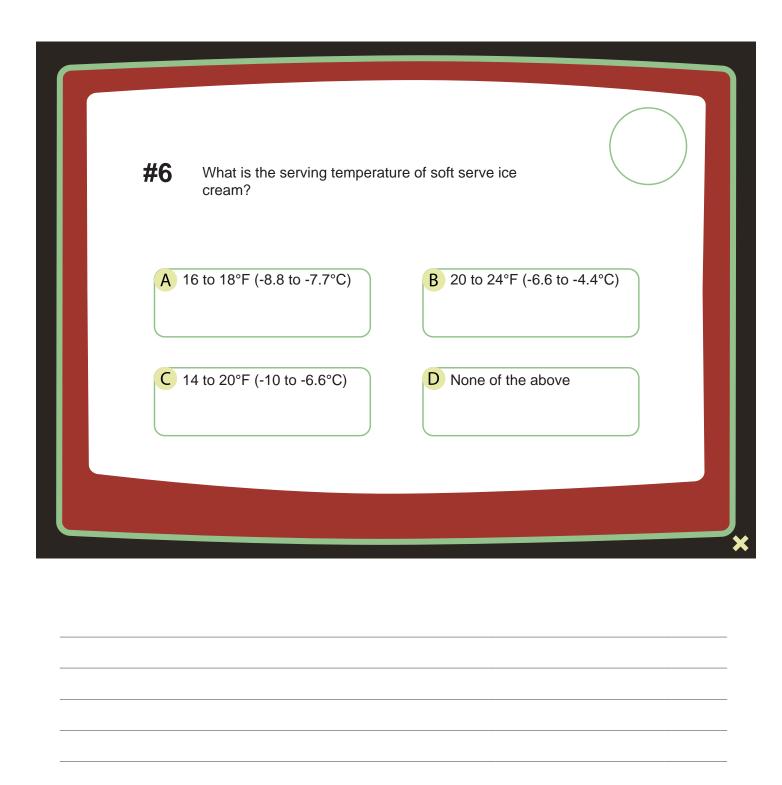


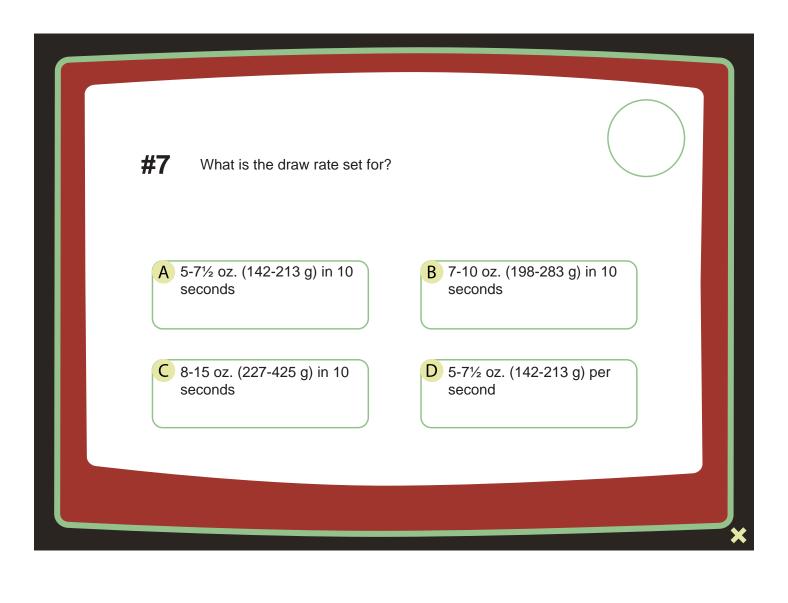
#2 What will happen if the air orifice is not installed on the mix tube?
A Product will have incorrect air to mix ration B The product will freeze too stiff
C No product will dispense D All of the above

#3 What is the cause when a rear drip pan fills with an excessive amount of mix?
A Worn rear shell bearing B Incorrect lubricating procedures
C Worn, damaged, or incorrect drive shaft seal

#4 How often should scraper b	lades be replaced?
A Every 4 months	B Every 3 months or as needed
C Never	D None of the above

#5 If the mix out light on the control is lit, what mode will the freezer be in?
A Auto B Wash
C Heat D Standby





#8 What is the term "broken down product" used to describe?
A Un-servable product B Over-beaten product
C Wet appearing, soft product D All of the above

#9 How often should tune up kits be installed?	
A Monthly B Every 3 months	
C Yearly D None of the above	re

