TAYLOR®

model

C602

Operator Pocket Guide

A guide for equipment operation and troubleshooting.

Table of Contents

Please refer to the Operator's Manual for complete instructions on using and maintaining your Taylor freezer.

Parts Lubrication

The following **shake** parts must be lubricated (highlighted in yellow):

Drive Shaft Seal

Drive Shaft

Spinner
Shaft Seal

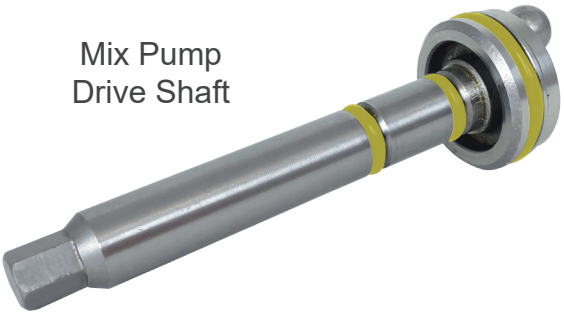
Driven
Spinner

Spinner

Draw Valve

Door

Mix Pump
Drive Shaft



Feed Tube

Pump
Cylinder

Parts Lubrication

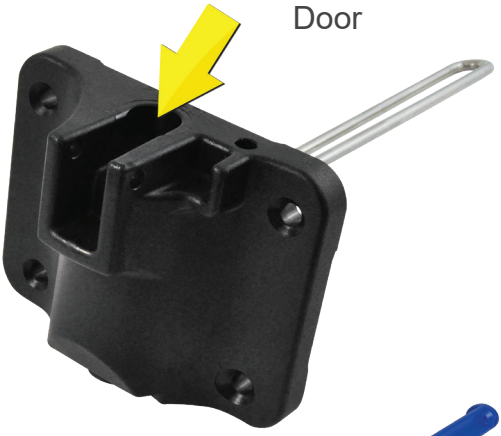
The following **soft serve** parts must be lubricated (highlighted in yellow):

Drive Shaft Seal

Drive Shaft

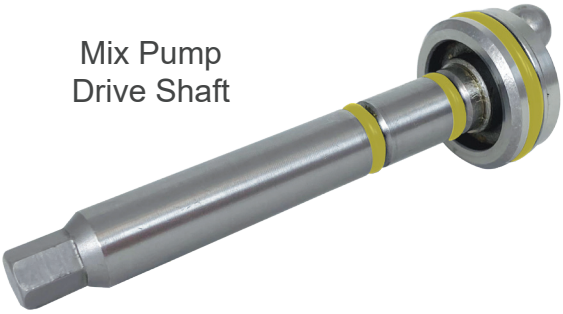
Draw Valve

Door



new design

Mix Pump
Drive Shaft



Feed Tube

Pump
Cylinder

Parts Replacement

The following parts must be replaced at least every **three months**:

All Red and Black O-Rings

Drive Shaft Seals

Spinner Shaft Seal

The following parts must be replaced at least every **three months**:

Door Gasket

Check Rings

Pump Gaskets

Duckbill Valves

The following parts must be replaced at least every **three months**:

Restrictor Cap

Beater Shoes

Front Bearings

IMPORTANT!

Soft serve scraper blades must be replaced at least every **three months**:

Failure to replace scraper blades results in **compressor failure**, and negatively affects product quality.

IMPORTANT!

Shake scraper blades must be replaced at least every **six months**:

Failure to replace scraper blades results in **compressor failure**, and negatively affects product quality.

Shake Beater Assembly

1. Lubricate the **drive shaft**, and then slide the **seal** on so it snaps into place. Add more lubricant to fill the seal. Install the shaft into the rear shell bearing at the back of the freezing cylinder.

2. Attach **scraper blades** to the **beater** and slide the beater into the freezing cylinder, making sure it is in position over the drive shaft.

Shake Door Assembly

1. Slide the two o-rings onto the **draw valve** and lubricate.

2. Lubricate the **spinner shaft seal** and insert it into the bottom of the draw valve using the **cup seal installation/removal tool**.

3. Lubricate the top of the **shake door** and insert the draw valve.

Shake Door Assembly

4. Lubricate the **driven spinner** and insert it into the bottom of the draw valve until it snaps into place.

5. Place the **door o-ring** on the back of the shake door and slide the **front bearing i**nto the door hub.

6. Install the freezer door using the **handscrews**, tightening in a criss-cross pattern.

Shake Door Assembly

7. Lubricate the **spinner shaft** and insert it through the bottom of the draw valve. Raise the locking collar to lock the **spinner** in position.

8. Snap the **restrictor cap** onto the door spout and install **syrup hole plugs** for sanitizing.

9. Install the **front drip tray** and **splash shield**.

10. Be sure all black **drip pans** are installed.

Soft Serve Beater Assembly

1. Lubricate the **drive shaft**, and then slide the **seal** on so it snaps into place. Add more lubricant to fill the seal. Install the shaft into the rear shell bearing at the back of the freezing cylinder.

2. Attach **scraper blades** to the **beater** and slide the beater halfway into the freezing cylinder.

Soft Serve Beater Assembly

3. Install the **beater shoes**, and then slide the beater the rest of the way into the freezing cylinder, making sure it is in position over the drive shaft.

Soft Serve Door Assembly

1. Slide the three o-rings onto the **draw valve** and lubricate.

2. Lubricate the top of the **soft serve door** and insert the draw valve.

3. Place the **door gasket** on the back of the shake door and slide the **front bearing** onto the door hub.

Soft Serve Door Assembly

4. Install the freezer door using the **handscrews**, tightening in a criss-cross pattern.

5. Install the **draw handle** and secure with **pivot pin**.

6. Install the **front drip tray** and **splash shield**.

7. Be sure all black **drip pans** are installed.

Mix Pump Assembly

1. Slide the red o-ring onto the **piston**. DO NOT LUBRICATE.

2. Lightly lubricate the inside of the **pump cylinder** at the retaining pin hole end.

3. Insert the piston into the retaining pin hole end of the pump cylinder.

4. Slide the red o-ring onto the **valve cap**. DO NOT LUBRICATE.

Mix Pump Assembly

5. Slide the **pump gasket** into the holes on the valve cap. **DO NOT LUBRICATE**.

6. Insert the valve cap into the hole in the **mix inlet adapter**.

7. Insert the mix inlet assembly into the pump cylinder.

8. Secure the pump with the **retaining pin**.

9. Slide the **check ring** into the groove of the feed tube.

Mix Pump Assembly

10. Install the two red o-rings onto the **mix feed tube** and lubricate.

11. Lay pump parts in the mix hopper for sanitizing.

12. Slide the o-rings onto the **mix pump drive shaft** and lubricate.

13. Install the mix pump drive shaft into the rear wall of the mix hopper.

Sanitizing

1. Pour **sanitizing solution** into hoppers and allow it to flow into the freezing cylinders.

2. Install the **air/mix pumps** at the rear of the mix hoppers. Secure with **pump collars**.

3. **Clean** hoppers and parts with blue hopper brush.

4. Place power switch in the **ON** position.

5. Place **pails** beneath the door spouts.

Sanitizing

6. Touch the **WASH** symbols.

7. Touch the **PUMP** symbols to sanitize the pump parts.

8. After 5 minutes, **draw off** sanitizing solution from each side of the freezer.

9. Touch the WASH and PUMP symbols to stop WASH and PUMP modes.

10. Place the **agitators** on the agitator drive shaft housings.

Sanitizing

11. Disassemble feed tubes and stand them in the corners of the mix hoppers.

12. Remove the restrictor cap and syrup hole plugs from the shake door.

13. Sanitize the shake door spout and syrup ports using the appropriate **brushes** and **squeeze bottle**.

14. Install the **syrup valves** and restrictor cap onto the shake door.

Shake Priming

1. Place a pail beneath the door spout.

2. Touch any FLAVOR SELECT symbol to open the draw valve.

3. Pour fresh mix into the hopper and allow it to flow into the freezing cylinder.

4. When full strength mix is flowing from the door spout, touch any FLAVOR SELECT symbol to close the draw valve.

Shake Priming

5. When mix stops bubbling, reinstall the feed tube and secure with cotter pin.

6. Install the shake cup holder.

7. Select the AUTO symbol. (Freeze down time approximately 7 minutes.)

8. Fill the hopper with fresh mix and put the hopper cover in position.

Soft Serve Priming

1. Place a pail beneath the door spout.

2. When mix stops bubbling, reinstall the feed tube and secure with cotter pin.

3. Select the AUTO symbol. (Freeze down time approximately 7 minutes.)

4. Fill the hopper with fresh mix and put the hopper cover in position.

Syrup Priming

1. Place the feed tube into the full syrup container and place in syrup cabinet.

2. Remove the syrup valve from the freezer door and hold it over an empty cup.

3. Touch the CALIBRATION symbol to display menu options.

4. Select “SYRUP PRIME” from the menu.

Syrup Priming

5. Touch the corresponding FLAVOR SELECT symbol to run the syrup pump at maximum speed.

6. When a steady stream of syrup is flowing from the syrup valve, touch any FLAVOR SELECT symbol to stop the pump.

7. Touch the CALIBRATION symbol to exit the syrup prime mode.

Syrup Calibration

1. Touch the CALIBRATION symbol to display menu options.

2. Select “SYRUP CALIBRATION” from the menu.

3. Disconnect the syrup valve from the freezer door.

4. Hold the small portion of the calibration cup under the valve for the flavor to be calibrated.

Syrup Calibration

5. Touch the corresponding FLAVOR SELECT symbol to start the flow of syrup.

6. Touch the same FLAVOR SELECT symbol to stop the syrup flow at the 1 oz. position on the calibration cup.

7. Touch the CALIBRATION symbol to exit the calibration mode.

Overrun

What Is Overrun?

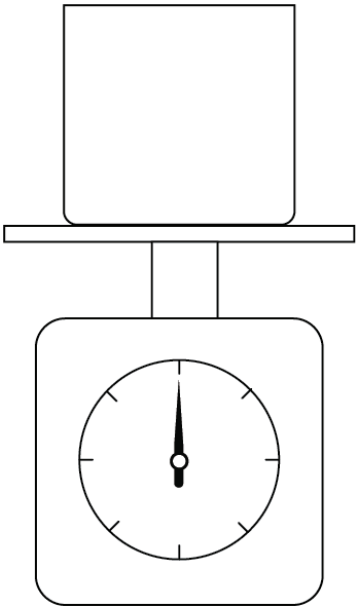
Overrun is the **air to mix ratio** of the product. During the freezing process, mix is blended and frozen with air. The frozen mix absorbs air and therefore increases the volume of the mix.

Example: If 1 gallon of mix yields 1.5 gallons of frozen product, the mix volume has been increased by 50 percent, so the overrun is 50%.

Requirements for overrun vary depending on the mix used and the desired end product.

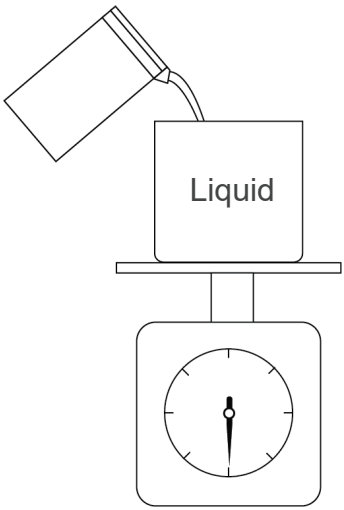
Calculating Overrun:

1. Place a cup on a scale and adjust the scale to read “zero”.



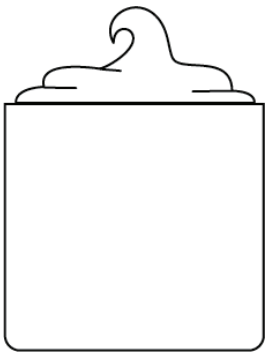
Calculating Overrun:

2. Fill the cup completely with unfrozen, fresh mix and weigh the cup of mix. Write down the exact weight. Discard the liquid mix and rinse the cup.



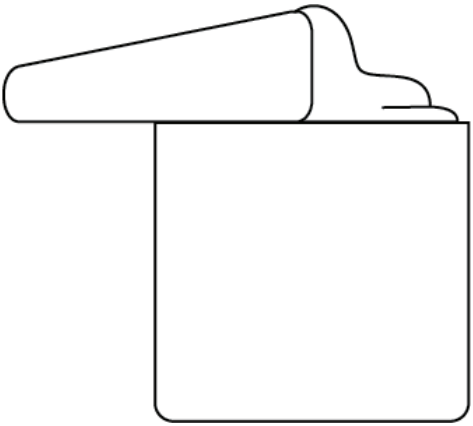
Calculating Overrun:

3. After the freezer has completed a refrigeration cycle, draw frozen product into the same cup. As the cup fills, lightly pack the product to prevent air pockets. Slightly overfill the cup and then close the freezer draw valve.



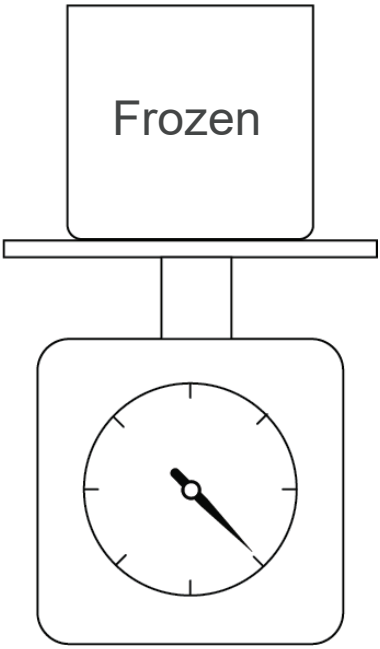
Calculating Overrun:

4. Skim off the excess product at the brim of the cup.



Calculating Overrun:

5. Place the cup of frozen product on the scale and record the weight.



Calculating Overrun:

6. Divide the unfrozen fresh mix weight by the frozen product weight. The answer indicates the increase in volume.
   Example: 18÷12=1.**50**
   50% Overrun

$$\frac{\text{UNFROZEN FRESH MIX WEIGHT}}{\text{FROZEN PRODUCT WEIGHT}}$$

$$\frac{\text{Liquid}\ 18\ \text{oz.}}{\text{Frozen}\ 12\ \text{oz.}}$$

Brushes

All brushes must be replaced at least **annually**.

Blue Bristle Brush (3”x7”)
Used to clean the mix hopper, pump cylinder, hopper cover, parts tray, drip pans, beater, front bearing, splash shield, front drip tray, and piston.

All brushes must be replaced at least **annually**.

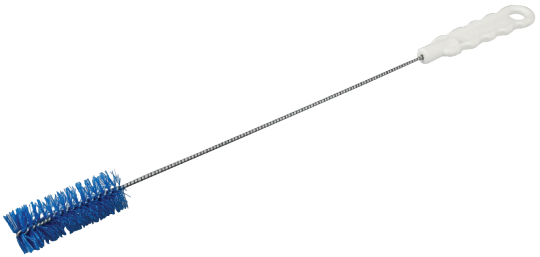
Black Bristle Brush
Used to clean rear shell bearing and mix pump drive hub.

All brushes must be replaced
at least **annually**.

Blue Bristle Brush (1/2”x3”)
Used to clean the topping pump.

All brushes must be replaced at least **annually**.

Blue Bristle Brush (1”x2”)
Used to clean the product entry ports in back of freezer door, scraper blade, draw handle, beater drive shaft, spinner blade, and drive shaft boot seal.

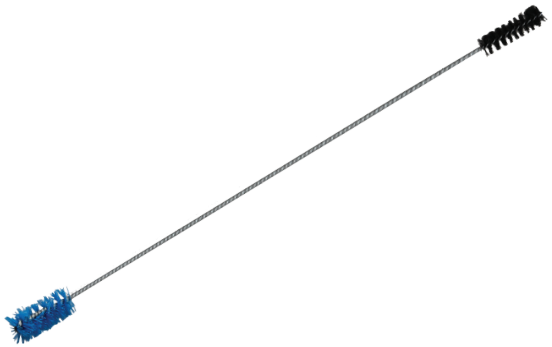


All brushes must be replaced at least **annually**.

Blue Bristle Brush (1.5”x3”)
Used to clean the agitator and the draw valve core in the freezer door.

All brushes must be replaced at least **annually**.

Double-Ended Brush
Used to clean o-rings, holes in metal parts, piston grooves, mix inlet tube, mix inlet adapter, o-ring grooves, draw valve core, valve caps, syrup line port holes in freezer door, syrup container feed tube, retaining pin, handscrew, pivot pin, and mix feed tube.



All brushes must be replaced at least **annually**.

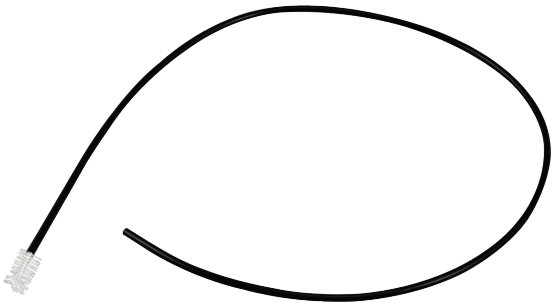
Brush Set
Used to clean the syrup port holes, syrup valve retainer port holes, and mix feed tube holes under check band.

All brushes must be replaced at least **annually**.

Blue Bristle Brush (1”)
Used to clean the syrup ports and door spouts.

All brushes must be replaced at least **annually**.

Pump Spout Brush
Used to clean the topping pump.



Troubleshooting

Contents

Soft lock message appears on display.

Probable Cause	Remedy
An equipment fault has occurred.	Determine reason the failure occurred. Correct cause for failure, then select HEAT symbol to start a heat cycle or WASH to disassemble and brush clean the machine.
More than 24 hours since the last HEAT cycle.	The freezer must go through a HEAT cycle every 24 hours. The freezer must now be disassembled and brush cleaned or placed in a heat cycle.

Soft lock message appears on display.
(Continued)

Probable Cause	Remedy
The power switch is in the OFF position.	The power switch must be in the ON position. The freezer must now be disassembled and brush cleaned or placed in a heat cycle.
The freezer is not in the AUTO or STANDBY mode when the heat cycle was programmed to start.	The freezer must be in the AUTO or STANDBY mode. The freezer must now be disassembled and brush cleaned or placed in a heat cycle.

Soft lock message appears on display.
(Continued)

Probable Cause	Remedy
Mix out condition.	The level of mix in the mix hopper must be up to the fill level indicator on the agitator paddle. The freezer must now be disassembled and brush cleaned, or placed in a heat cycle.
The agitator is not installed.	The agitator must be cleaned and installed before starting the HEAT cycle. The freezer must now be disassembled and brush cleaned or placed in a heat cycle.

Hard lock message appears on display.

Probable Cause	Remedy
Brush clean interval exceeded.	The freezer must be disassembled and brush cleaned within 24 hours when the counter indicates one day remaining.
A barrel or hopper thermistor is faulty.	Call an authorized service technician.

No product is being dispensed.

Soft Serve Probable Cause	Remedy
Low on mix. The MIX OUT light is on.	Add mix to the mix hopper. Return to AUTO mode.
The power switch is in the OFF position.	Place the power switch to ON and select AUTO.
Machine not in AUTO mode.	Select AUTO and allow machine to cycle off before drawing product.
Beater motor is out on reset, BEATER OVERLOAD message displayed.	Call an authorized service technician.

No product is being dispensed. *(Continued)*

Soft Serve Probable Cause	Remedy
The pump motor is not running in the AUTO mode.	Push the pump reset button. Check pump motor is operating when the draw valve is raised.
Freeze-up in mix inlet hole.	Call an authorized service technician.
The mix pump ball crank is broken.	Call an authorized service technician.
Feed tube or check ring not properly installed.	Make sure feed tube and rubber check ring are properly installed.

No product is being dispensed. *(Continued)*

Shake Side Probable Cause	Remedy
Menu is displayed making flavor select keys inoperative.	Exit the menu by moving the cursor arrow to “EXIT” and touching the CAL symbol. This will restore the control keys to their normal function.
Draw valve not opening.	Draw valve not aligned with actuator bracket when freezer door installed. Reassemble with correct alignment.

The product is too soft.

Shake Side Probable Cause	Remedy
Too much syrup. 1 fl oz (30 ml) in 5 seconds. For Triple Thick Shake Syrup: 1 oz (30 ml) ±1 1/8 oz (4 ml) in 7 seconds.	Calibrate the syrups.

Soft Serve Probable Cause	Remedy
Draw rate is set too fast.	Adjust draw rate of 5 to 7 1/2 oz. (142 g. to 213 g.) of product by weight in 10 seconds.

The product is too soft.

Probable Cause	Remedy
Product is over-beaten from worn scraper blades.	Replace soft serve scraper blades every 3 months, and shake scraper blades every 6 months.

The product is too thick.

Shake Side Probable Cause	Remedy
Not enough syrup. 1 fl oz (30 ml) in 5 seconds. For Triple Thick Shake Syrup: 1 oz (30 ml) ± 1/8 oz (4 ml) in 7 seconds.	Calibrate the syrups. Check that the syrup containers are not empty.

The product is too thick.

(Continued)

Probable Cause	Remedy
Freezing cylinder not primed correctly.	Drain the freezing cylinder and reprime the machine.
Air/mix pump incorrectly assembled.	Follow assembly procedures carefully.
The viscosity control is set too cold.	Call an authorized service technician.
Freeze-up in mix inlet hole.	Call an authorized service technician.

The mix in the hopper is too warm.

Probable Cause	Remedy
Hopper cover is not in position.	Clean and sanitize hopper cover and place in position.
The agitator is not installed.	Clean and sanitize the agitator and install.
The hopper temperature is out of adjustment.	Call an authorized service technician.

The mix in the hopper is too cool.

Probable Cause	Remedy
The hopper temperature is out of adjustment.	Call an authorized service technician.

Mix low and mix out probes are not functioning.

Probable Cause	Remedy
Milkstone buildup in the hopper.	Clean hoppers thoroughly.

Product is collecting on top of the draw valve.

Shake Side Probable Cause	Remedy
Inadequate lubrication of spinner shaft or seal.	Lubricate properly.
Spinner shaft seal is missing or worn.	Install or replace the spinner shaft seal.

Product is collecting on top of the freezer door.

Probable Cause	Remedy
The top o-ring on draw valve is improperly lubricated or worn.	Lubricate properly or replace the o-ring.

Excessive mix leakage from the bottom of the door spout.

Probable Cause	Remedy
Bottom o-ring on draw valve is improperly lubricated or worn.	Lubricate properly or replace the o-ring.

Excessive mix leakage into the long drip pan.

Probable Cause	Remedy
The seal on drive shaft is improperly lubricated or worn.	Lubricate properly or replace the seal.
The seal is installed inside-out on the drive shaft.	Install correctly.
Inadequate lubrication of the drive shaft.	Lubricate properly.
The drive shaft and beater assembly work forward.	Call an authorized service technician.

Excessive mix leakage into the long drip pan. *(Continued)*

Probable Cause	Remedy
Worn rear shell bearing.	Call an authorized service technician.
Gear box out of alignment.	Call an authorized service technician.

The drive shaft is stuck in the drive coupling.

Probable Cause	Remedy
Mix and lubricant collected in drive coupling.	Brush clean the rear shell bearing area regularly.
Rounded corners of drive shaft, drive coupling, or both.	Call an authorized service technician.
Gear box is out of alignment.	Call an authorized service technician.

The freezing cylinder walls are scored.

Shake Side Probable Cause	Remedy
Missing or worn front bearing.	Install or replace the front bearing.

Soft Serve Probable Cause	Remedy
Missing or worn front bearing and beater shoes.	Install or replace the front bearing and beater shoes.
Broken freezer door baffle rod.	Replace freezer door.

The freezing cylinder walls are scored. *(Continued)*

Probable Cause	Remedy
Sanitizing solution was still in the freezing cylinder when unit was placed in AUTO.	Unit must NOT be placed in AUTO during sanitizing. Place in AUTO only after unit has been primed and all sanitizing solution has been removed.
Broken beater pins.	Replace beater assembly.
Beater assembly is bent.	Replace beater assembly.
Gear box is out of alignment.	Call an authorized service technician.

The product makes a popping sound when drawn.

Soft Serve Probable Cause	Remedy
Draw rate is set too fast.	Adjust draw rate of 5 to 7 1/2 oz. (142 g. to 213 g.) of product by weight in 10 seconds.

Probable Cause	Remedy
Pump assembled incorrectly	Assemble and lubricate according to instructions in this manual.
Freezing cylinder not primed correctly.	Drain the freezing cylinder and reprime the machine.

No control panel functions with power switch ON.

Probable Cause	Remedy
Machine is unplugged.	Plug into wall receptacle.
Circuit breaker OFF or blown fuse.	Turn the breaker ON or replace the fuse.

The draw valve is not opening.

Shake Side Probable Cause	Remedy
The power switch is off.	Place the power switch in the ON position.
The shake side is in the STANDBY mode.	Cancel the STANDBY mode.
A heat cycle is in progress.	Wait for the completion of the heat treatment cycle.
The menu is displayed, making the flavor select keys inoperative.	Exit the menu by moving the cursor arrow to “EXIT” and touching the CAL symbol. This will restore the control keys to their normal function

The draw valve is not opening.
(Continued)

Shake Side Probable Cause	Remedy
The draw valve wasn't aligned with the actuator bracket when the freezer door was installed.	Reassemble with the correct alignment. Tighten the handscrews in a criss-cross pattern when installing the freezer door.
The draw valve was not lubricated.	Lubricate the draw valve and o'rings.
The shake actuator assembly is out of alignment or is malfunctioning.	Call an authorized service technician.
Draw valve solenoid failed.	Call an authorized service technician.

The draw valve is not closing.

Shake Side Probable Cause	Remedy
The draw valve was not aligned with the actuator bracket when the freezer door was installed.	Reassemble with the correct alignment. Tighten the handscrews in a criss-cross pattern when installing the freezer door.
The draw valve was not lubricated.	Lubricate the draw valve and o'rings.
The spinner shaft was not lubricated.	Lubricate the spinner shaft.

The draw valve is not closing.
(Continued)

Shake Side Probable Cause	Remedy
The spinner blade became disengaged from the driven spinner when the draw valve was raised.	Call an authorized service technician to check the spinner coupling position on the motor.
The product is too thick.	Check that the product temperature is within specification. (See problem “Product Too Thick.”)
The shake actuator assembly is out of alignment or is malfunctioning.	Call an authorized service technician.

The mix pump will not operate in the PUMP mode.

Shake Side Probable Cause	Remedy
Pump motor is not running.	Push the pump reset button.

The mix pump runs constantly in the AUTO mode.

Soft Serve Probable Cause	Remedy
Draw valve is not fully closed.	Raise draw handle so draw valve is closed all the way.

Probable Cause	Remedy
Mix pump motor failed.	Call an authorized service technician.

Syrup cannot be calibrated or inconsistent calibration readings.

Shake Side Probable Cause	Remedy
The pump tube has collapsed.	Replace pump tube.
Syrup temperature too cold.	Allow the syrup to warm up before using. Note: Never refrigerate the syrup. Keep a replacement container near the shake machine location so the syrup temperature can stabilize before use.
Thick syrup in bottom of container.	Shake well before use.

Syrup cannot be calibrated or inconsistent calibration readings.

(Continued)

Shake Side Probable Cause	Remedy
Syrup leak.	Inspect syrup system for leaks.
Syrup lines are not matched with the syrup flavor or are not properly connected.	Match the color of the syrup pick-up tube and cap with the correct syrup container. Make sure the tube is properly connected.
Plugged syrup line fitting at freezer door connection.	Clean the syrup line fitting.
The pick-up tube is pinched or kinked.	Adjust the line routing so that it is not pinched or kinked.

Syrup cannot be calibrated or inconsistent calibration readings.

(Continued)

Shake Side Probable Cause	Remedy
The syrup line is plugged or restricted.	Flush and sanitize the syrup lines. Clean the syrup system weekly. Do not attach the short syrup line to the door when the line is not primed with syrup.
Air in syrup line.	Follow syrup line priming procedure to remove air from line.
Air intake line to pump will not hold syrup prime.	Lubricate pump tube fitting o-rings. Inspect the intake line for leaks.
Syrup line compression fitting loose.	Call an authorized service technician.

Syrup continues to flow after drawing a shake.

Shake Side Probable Cause	Remedy
Air in syrup line.	Follow syrup prime procedure.
Duckbill valve damaged.	Remove syrup nose fitting and clean. Replace duckbill valve.
Motor reversing time set incorrectly.	Call an authorized service technician.

Spinner shaft will not rotate to blend mix and syrup.

Shake Side Probable Cause	Remedy
Flexible coupling is broken.	Call an authorized service technician.
Pin is missing in quick disconnect of spinner coupling.	Call an authorized service technician.
Spinner motor is out on thermal overload.	Allow the spinner motor to cool. Check lubrication on the spinner shaft.

Syrup toppings are not hot.

Soft Serve Probable Cause	Remedy
Topping heaters are not ON.	Select topping heater symbols. Symbols will be lit when heaters are ON.
No water is in topping well.	Fill to indicating mark.
The water is not hot enough.	Using a thermometer, check the water temperature in the topping well. It should be 140° F (60° C).

C602 Pocket Guide — English
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