

**SPACEMAN** USA  
COMMERCIAL ICE CREAM & FROZEN BEVERAGE EQUIPMENT

# SPACEMAN GRAVITY SOFT SERVE TRAINING

*\*use this training guide for Spaceman USA models:  
6220, 6228H, 6235H, 6245H, 6236H, 6250H, 6260H, 6338H, and 6378H*



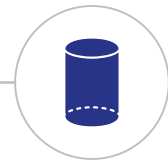
# NOTES AND FUNCTIONS OF YOUR MACHINE



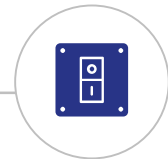
The machine you have purchased is a gravity fed soft serve machine. It is capable of producing a variety of products that include: *Soft Serve Frozen Yogurt, Ice Cream, select custard products, and sorbets.*



Product is poured into the refrigerated hopper (product should be below 41°F) where it is kept until flowing into the freezing cylinder via the air tube.



Inside the freezing cylinder, the beater mixes the product while freezing and produces a soft serve product.



On the front of your machine is an digital control to regulate and maintain consistent product quality for each flavor as an analog rocker switch to power the board on or off.



# ROUTINE MAINTENANCE OPERATIONS



Clean and Lubricate Daily



Replace Wearable Parts Every  
**1 to 3** months\*



Internal Cleaning Quarterly\*\*

*\* Based on machine usage and cleaning intervals; a Tune-Up Kit is available with all wearable parts (O-rings, gaskets, etc.) except scraper blades*

*\*\* Based on cleanliness of location and proximity to powder-based machines*



**Tune-Up Kit**



For optimal machine performance and many years of efficiency and reliability from your machine, *Spaceman USA recommends cleaning and sanitizing the machine and its parts daily.* The machine comes equipped with a brush kit specifically designed to efficiently and properly clean the machine.

# ROUTINE MAINTENANCE OPERATIONS



## IMPORTANT:

Cleaning and sanitizing schedules are governed by state or local regulatory agencies and **MUST** be followed accordingly. Routine maintenance **MUST** be performed a minimum of once every three days.



## CAUTIONS:

**Do NOT** run the machine without properly lubricating required parts.

**Do NOT** clean the machine with abrasive or toxic chemicals and cleaners. Doing so may cause damage to the stainless steel material.

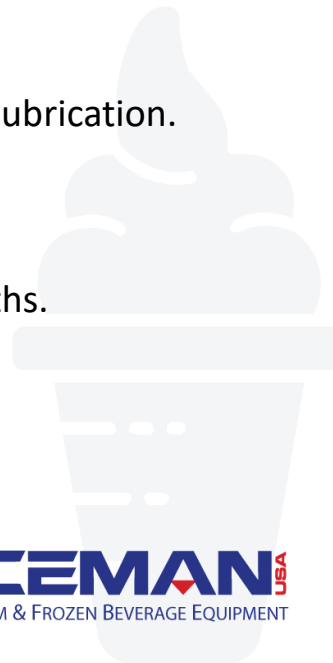
**ONLY** use Spaceman-USA-included cleaning brushes and lubrication.

**NEVER** use metal objects to clean or operate the machine.

**ALWAYS** replace wearable parts a minimum of every 3 months.

**ALWAYS** prime machine prior to operating.

**ALWAYS** inspect parts for excess wear and damage.



# DRAIN PRODUCT



## NOTE

To expedite draining, turn off machine **30** minutes prior to soften product. To expedite process, keep a bucket nearby to temporarily store removed parts.



## CAUTION

**NEVER** use warm water when rinsing the machine to prevent damage.

# DRAIN PRODUCT

1



Remove hopper lids, air tubes, and (if present) agitators

2



Place a bucket or other container below dispensing assembly

3



Turn power switches to ON

4



Press RESET buttons; press WASH buttons



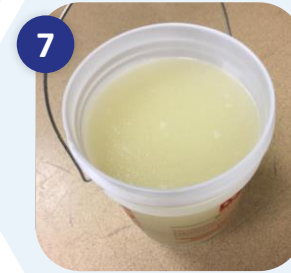
# DRAIN PRODUCT



Move draw handles to OPEN position (DOWN); CLOSE draw handles (UP) when product flow slows significantly



Press RESET buttons to pause wash cycle



Remove product and dispose or refrigerate it



Fill each hopper with one gallon of COOL water

# DRAIN PRODUCT



Use cool water and the large brush to scrub the sides and bottom of the hoppers; *be VERY careful not to damage the low-mix sensor in the hoppers*

Place a bucket or other container below the dispensing assembly



Press WASH buttons

OPEN draw handles to drain water and remaining product; CLOSE when finished





# DRAIN PRODUCT



Use the small brush kit to clean inside the feed tube at the bottom of the hoppers



Press RESET to pause wash cycle



Repeat steps 9 to 15 until water exiting the draw valves is *clear* and free of product

# DISASSEMBLE



## NOTE

Prepare dishwashing area prior to disassembly, use bucket to temporarily store large removed parts and a small container for O-rings, and have a towel nearby to capture excess water.

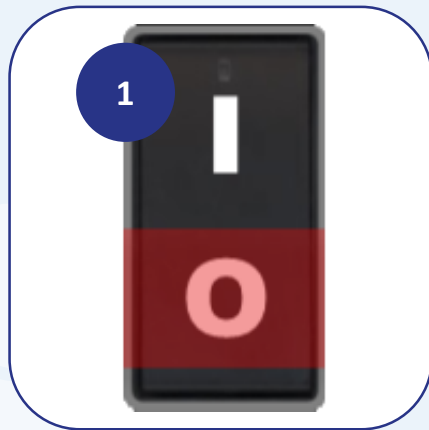


## CAUTION

**ALWAYS** separate O-rings and gaskets from metal parts to prevent damage while washing.

# DISASSEMBLE

## 1. TURN POWER SWITCHES OFF



## 2. REMOVE DISPENSING DOOR



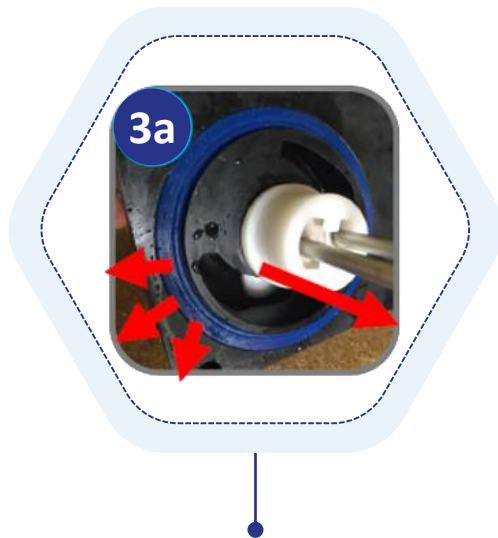
Remove dispensing-door hand-screws (4)



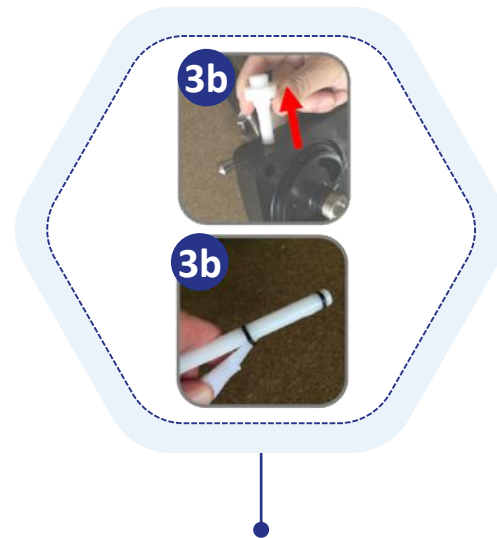
Remove dispensing door assembly from cylinders

# DISASSEMBLE

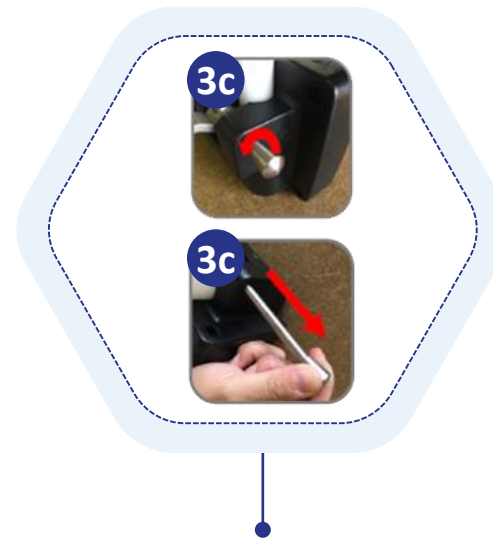
## 3. *Disassemble dispensing door*



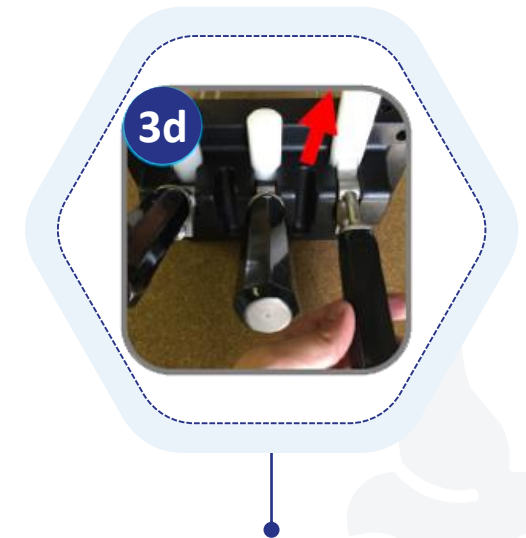
Remove beater guides (2) from door assembly; remove gaskets (2) from door assembly using O-ring removal tool



Remove prime plugs (2) from door assembly; remove O-rings (4) from prime plugs using O-ring removal tool



Unscrew and remove retention nut; remove retention pin



Remove draw handles (3), pushing down first to pop up draw valves, then pulling out

# DISASSEMBLE

## 3. Disassemble dispensing door



Remove draw valves (3), *twisting while removing to prevent damage*



Remove O-rings (4) and H-ring (1) from draw valves using O-ring removal tool



Rotate star caps (3) so that tabs are accessible; snap off star caps



# DISASSEMBLY

## 4. *Disassemble beater assembly and drive shaft*



Remove beater assemblies (2) from cylinders



Remove scraper blades (4) from beater assemblies; separate scraper blade clips (4) from scraper blades



*\*some new models will not have blade clips*



**NOTE:** If you experience assembly difficulty with drive shafts, Spaceman USA Soft Serve Gravity Training offers a specialized removal tool for purchase.

rev042219



“clip-less” blade





# DISASSEMBLY

## 4. Disassemble beater assembly and drive shaft



Pull off beater shoes (4)  
*\* some new models will  
not have beater shoes*



Remove drive shafts (2)  
from inside cylinders  
using a dry towel;  
separate gaskets (2) from  
drive shafts



**NOTE:** If you experience assembly difficulty with drive shafts,  
Spaceman USA Soft Serve Gravity Training  
offers a specialized removal tool for purchase.  
rev042219



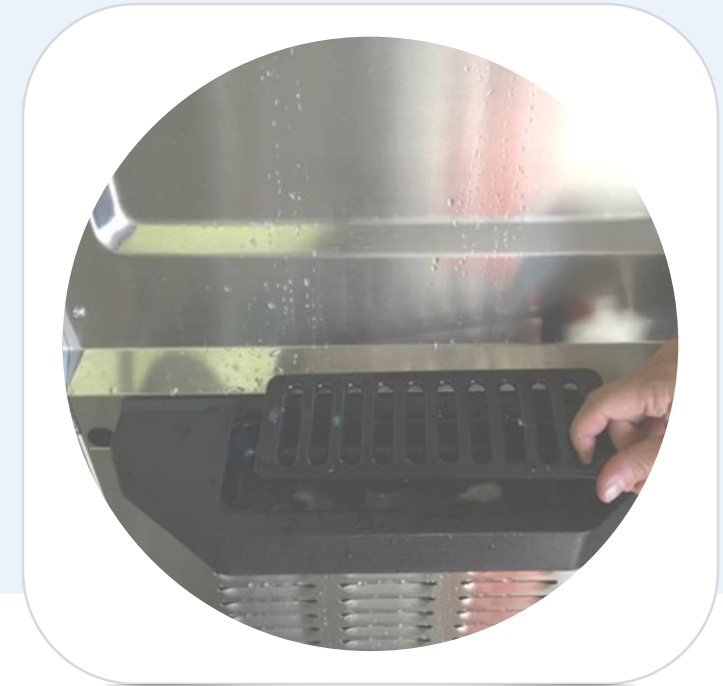
“shoe-less” beater



# DISASSEMBLE

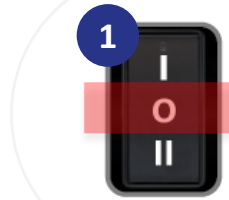
**5.**

*Remove internal drip tray and front drip tray + splash shield*



# WASH ALL PARTS

Verify power switches are in the **OFF** position



2



Use the large brush and cool water to thoroughly clean inside the cylinder; *be sure to scrub the back of the cylinder and verify the cylinder is free of ALL product*

Thoroughly clean and dry the rear of the cylinder with the supplied black brushes as well as a clean, dry towel



4



Gently clean and wipe down the outside of the machine



## CAUTION:

**Never** wash parts in a dishwasher. **Always** hand-wash components with nontoxic, food-safe cleaners.

# WASH ALL PARTS

5



Carefully and thoroughly wash all parts removed from the machine using supplied brushes as well as sponges, and clean towels

6



When cleaning the dispensing door assembly, clean the priming port with a small brush

7



Carefully and thoroughly clean all gaskets and O-rings removed from the machine; *be sure to wipe gaskets and O-rings to remove excess lubricant*

8



Verify all parts are clean and free of all food product prior to re-assembling machine

# ASSEMBLE



**CAUTION:**

**Never** wash parts in a dishwasher. **Always** hand-wash components with nontoxic, food-safe cleaners.

## 1. VERIFY POWER SWITCHES ARE IN THE OFF POSITION



Place drive shaft gaskets (2) on drive shafts (2)



Seal gasket open spaces with Spaceman lubricant, extending onto drive shafts and **avoiding the top square parts**



Insert drive shafts into rear shell bearings at the back of the cylinders, and turn them until the key engages firmly into the socket (when inserted correctly, the drive shaft will no longer turn 360°)

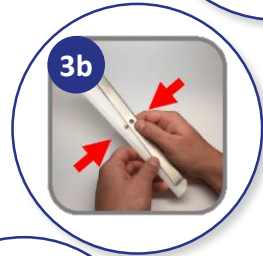
# ASSEMBLE

## 3.

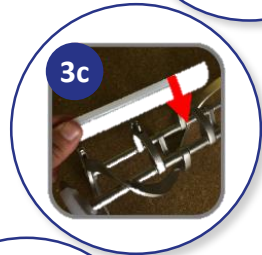
### *Install beater assemblies*



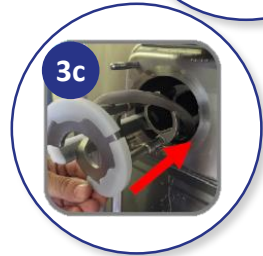
Attach beater shoes (4) onto beaters (2); when properly placed, neither shoe overhangs beater edge



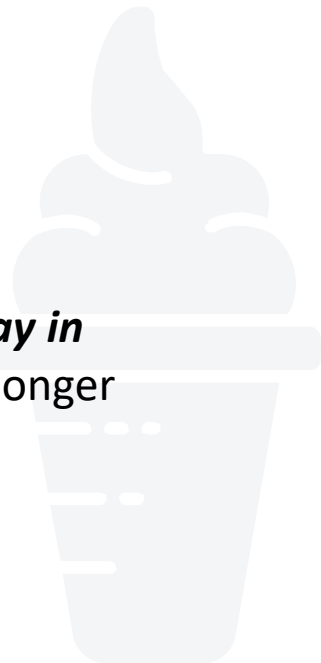
Install scraper blade clips (4) onto scraper blades (4)



Fit scraper blades onto beaters (2)



Insert beater assemblies into cylinders, ***making sure beater shoes stay in place***; turn assemblies until they engage the drive shaft keys and no longer turn 360°





# ASSEMBLE

## 4. Install dispensing door



Place O-rings (4) on side draw valves (2); place H-ring (1) on middle draw valve (1); place O-rings (4) on prime plugs (2); coat all ring areas with Spaceman lubricant



Push prime plugs into holes on top of dispensing door



Insert draw valves into dispensing door, O-rings-first; ***middle draw valve goes in the middle and slots face outward***

# ASSEMBLE

## 4. *Install dispensing door*



Set draw handles (3) into slots on dispensing door, with adjustment screws facing down



Slide retention pin through draw handle; secure with nut



Snap star caps (3) onto bottom of dispensing door

# ASSEMBLE

## 4. *Install dispensing door*



Fit gaskets (2) into grooves on back of door, flat side out; slide beater guides (2) over beater rods (2), with flanged edges against the door



Insert dispensing door assembly into cylinders, beater rods first, pushing handles all the way up as you insert



Secure door assembly in a cross-pattern using hand-screws (4), with the long hand-screws (2) on top

# ASSEMBLE

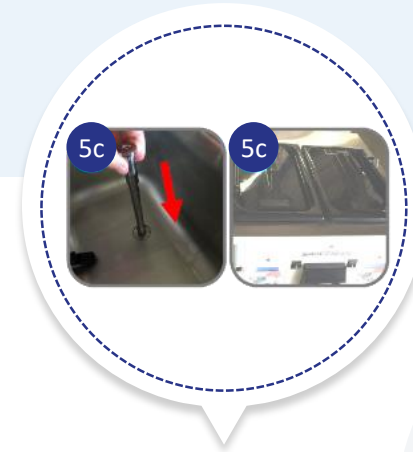
## 5. *Install hopper lids, agitators, and drip trays*



Coat inside of agitators (if present) with Spaceman lubricant and install with arrow pointing up



Install internal and front drip trays



If machine will be left unused, install air tubes and place hopper lids on top; otherwise, set air tubes aside until after machine has been primed

# SANITIZATION



## IMPORTANT

After sanitizing the machine, DO NOT rinse or touch areas that have been sanitized. Product must be added immediately. If new product will not be added immediately, rinse machine with clean water and loosen door hand-screws to allow cylinders to air-dry. Sanitize machine before using again.



## CAUTION

*Always use food-grade, no-rinse sanitizer (Stera-Sheen green label or equivalent) to sanitize. If warm water is required to dissolve sanitizer, allow the solution time to cool before adding to machine.*

# SANITIZATION

1



Verify assembly  
is complete

2



If installed,  
remove hopper  
lids and air tubes

3



Verify draw valves  
are in the CLOSED  
position (UP)

4



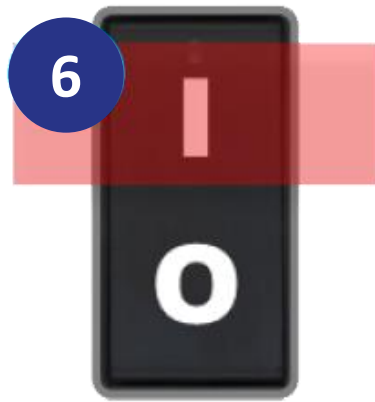
Mix a minimum of 2  
gallons of food-  
grade sanitizer in a  
bucket or container



# SANITIZATION



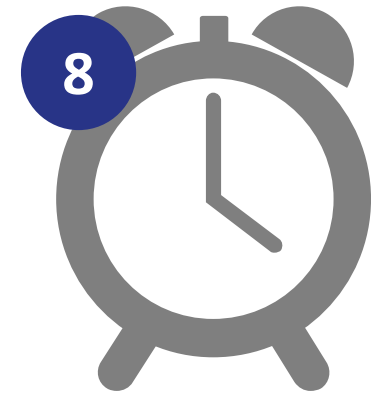
Pour the food-grade sanitizer solution into each hopper



Turn power switches ON



Press RESET buttons; press WASH buttons to begin cycle



Allow solution to agitate for 5 to 10 minutes; ***NEVER leave machine on WASH for more than 10 minutes***

# SANITIZATION



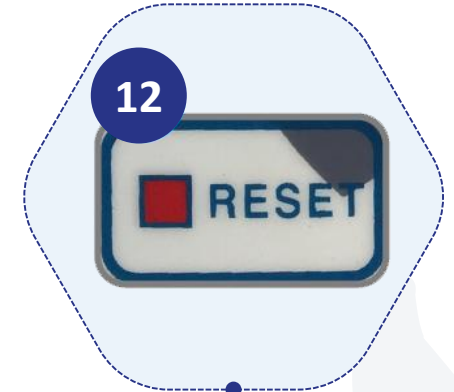
While agitating, gently use a clean brush to scrub and distribute sanitizer solution along hopper walls



Place a bucket or container below the draw valves



OPEN the draw valves (DOWN) and drain solution from the machine



Press RESET buttons to stop cycle

# FROZEN PRODUCT OPERATION



## NOTE



The mix-low lights illuminate **RED** when a hopper is low on product mix and automatically de-illuminate when machine is filled.



## NOTE

Instructions assume product is added one hopper at a time. Repeat steps as needed.

# FROZEN PRODUCT OPERATION

## ADD PRODUCT TO MACHINE



Verify machine has been recently sanitized (within 1 hour); if machine has **not** been recently sanitized, verify door hand-screws are tight, and perform sanitizing steps (Page 15)



Thoroughly mix and prepare at least 2 gallons of product according to manufacturer instructions; mix should be cool and smooth (free of large chunks)



Place bucket or large container below draw valve



Pour 0.25 gallons of product into hopper

# FROZEN PRODUCT OPERATION

## ADD PRODUCT TO MACHINE



OPEN draw handle (DOWN);  
sanitizer will start to flow  
out draw valve



Once sanitizer has been  
purged from the machine and  
a steady stream of product is  
flowing from the spout, CLOSE  
draw handle (UP)



Pour remaining  
product into hopper

# DISASSEMBLE

## ADD PRODUCT TO MACHINE



**Raise the prime plug on the top of  
the dispensing door until flow is  
100% product**



**Push prime plug  
back down**



# FROZEN PRODUCT OPERATION

**ADD  
PRODUCT TO  
MACHINE**

11



Wash air tube and cap; install air tube in hopper (inlet hole on side of air tube at bottom)

12



Replace hopper lid

13



Product is now ready to freeze

# FROZEN PRODUCT OPERATION

## FREEZE PRODUCT



Verify cylinder is full of mixed product and primed



Press FREEZE button



The motor will begin to agitate the product, and the cooling system will begin to freeze the product



Freezing product takes approximately 10 minutes



When product reaches the set viscosity, it is ready to dispense (viscosity can be changed in the Settings menu, Page 19)



### IMPORTANT

***Machine shuts down automatically if cylinders experience freeze-up*** (usually because the viscosity is set too high for the selected product) to prevent motor damage. Use the green reset button to return the machine to normal operation.



### PROPER MACHINE RESET

1. Switch power switch OFF
2. Press green reset button on side or back of machine
3. Wait 15 to 20 minutes; switch power ON
4. Press RESET, then WASH button on front
5. Observe machine performance and return to normal use if functioning properly



### CAUTION:

If machine makes any abnormal noise during reset, immediately switch power OFF and contact service



### NOTE:

If machine doesn't turn on, turn power OFF, wait 30 minutes, and repeat steps 1 to 5. If problem persists, contact service team.

# FROZEN PRODUCT OPERATION

## DISPENSE PRODUCT



Side draw handles dispense product from their respective hoppers. The middle draw handle twists product from the left and right hoppers.



### OPEN

OPEN draw handle (DOWN) until desired amount is dispensed



### CLOSE

CLOSE draw handle (UP) when finished dispensing



Adjustment screws below draw handles control dispensing speed.



- Tighter (clockwise) reduces speed
- Looser (counter-clockwise) increases speed

# FROZEN PRODUCT OPERATION

## STANDBY MODE



### IMPORTANT

- When the machine will **NOT** be utilized for several hours, place it in **STANDBY** mode to conserve electricity and reduce product loss.
- In STANDBY, product remains below 41°F in both the cylinders and hoppers, but will **NOT** be frozen.

### *To enter STANDBY mode:*



Press RESET buttons, then STANDBY buttons.

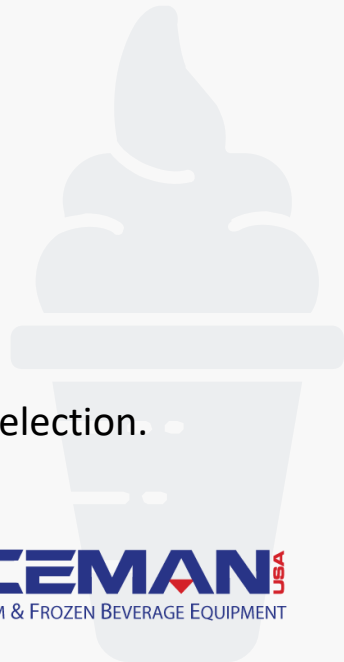


Displays read STANDBY when machine is in STANDBY mode.

### *To exit STANDBY mode:*



- Press RESET buttons.
- Machine is ready for a new mode selection.




# FROZEN PRODUCT OPERATION


## ADJUST PRODUCT CONSISTENCY





### IMPORTANT


Make only small adjustments to viscosity setting; allow at least 10 to 15 minutes between adjustments to evaluate product firmness. Viscosity settings **should not** need continuous adjustment and should be set between 1.75 and 3.25, with 2.50 a good starting place. \*NOTE for Model 6220 you will start at 3.85-4.25, depending on incoming power voltage.


1  Press RESET to stop machine functions. Press and hold RESET until display shows settings (viscosity is the first setting shown). **If you scroll past the viscosity setting, hit RESET** until it comes back around.

2  Press STANDBY to increase viscosity (more firm).

3  Press P to decrease viscosity (less firm).

4  Press and hold ARROW for 3 seconds to save changes.

5  Press RESET to return to normal machine operation.

6  Press FREEZE to return to freezing operation.

# FROZEN PRODUCT OPERATION

## NIGHTLY STANDBY PROCEDURE



*Machines without air pumps* experience the best-quality product after leaving machine in STANDBY overnight using the following procedure.



### Store closing:

- 1 With machine in FREEZE mode, remove air tubes
- 2 Clean air tubes and insert into machine upside-down (inlet hole on the side of the air tube at the top)
- 3 Confirm product is above low-mix line in hoppers
- 4 Press RESET, press STANDBY



### Store opening:

- 5 Open draw handles to draw 6 to 8 oz. of product; discard product
- 6 Press RESET, press FREEZE
- 7 Wait until machine finishes freeze cycle and motors stop turning
- 8 Remove and clean air tubes
- 9 Insert air tubes into machine with correct orientation (inlet hole on the side of the air tube at the bottom)
- 10 Machine is ready for normal operation



# FROZEN PRODUCT OPERATION

## MAINTAIN PRODUCT CONSISTENCY



***Machines without air pumps*** can experience product consistency changes if they go unused for an extended period of time. Product may become icy or dense if left in the freezing cylinder too long, often occurring during a business's longer slow-periods.



***What to do:*** Add air to the freezing cylinder by following the closing/opening procedures in the previous column, ***omitting Step 4.***


# FROZEN PRODUCT OPERATION


## CHANGE PRODUCT TEMPERATURE IN HOPPERS




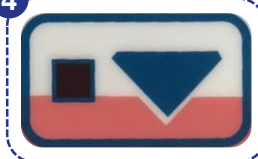
### IMPORTANT


If temperature setting is too cold, product will freeze around the sides of the hopper and potentially cause damage. Hopper temperature should be set above freezing between 37 and 40°F. Do not rely on the temperature display on your machine. USE a food grade thermometer to measure the actual product temperature inside the hopper.


1  Press RESET to stop machine functions. Press and hold RESET until display shows settings. Viscosity is the first setting shown; press RESET again (without holding), and temperature will be next. *If you scroll past the temperature setting, hit RESET until it comes back around.*

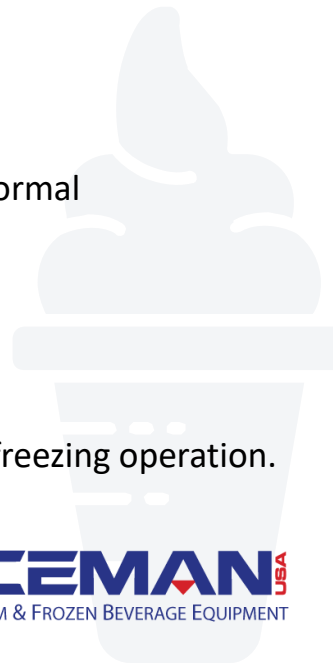
2  Press STANDBY to increase temperature (warmer).

3  Press P to decrease temperature (cooler)

4  Press and hold ARROW for 3 seconds to save changes.

5  Press RESET to return to normal machine operation.

6  Press FREEZE to return to freezing operation.



# FROZEN PRODUCT OPERATION

## CHANGE DATE AND TIME



Press RESET to stop all machine functions. Press and hold RESET until display shows settings. Viscosity is the first setting shown; press RESET again twice (without holding) to reach the date/time setting.  
*If you scroll past the date/time setting, hit RESET until it comes back around.*



Press FREEZE to toggle cursor between date/time fields. Once highlighted, a field can be changed.



Press STANDBY to increase highlighted number.



Press P to decrease highlighted number.



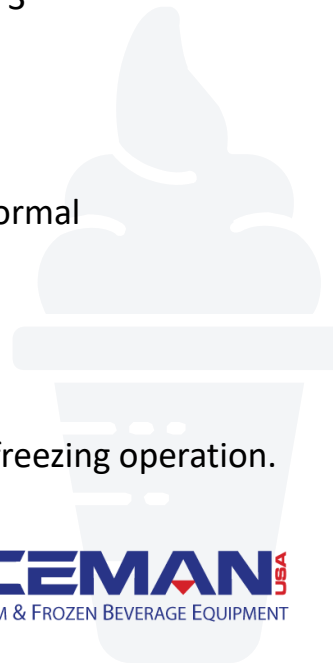
Press and hold ARROW for 3 seconds to save changes.



Press RESET to return to normal machine operation.



Press FREEZE to return to freezing operation.



# FROZEN PRODUCT OPERATION



## ADJUST ADVANCED SETTINGS

There are several advanced settings that can be configured from the machine displays. Call Spaceman Technical Support to adjust advanced settings.