



SECTION 4

MAINTENANCE, CLEANING AND ADJUSTMENT INFORMATION

ICE MAKER CLEANING & MAINTENANCE

Cleaning and maintenance should be performed a minimum of every six months (see the Recommended Cleaning / Maintenance Schedule below). Basic cleaning and maintenance of the ice machine will increase its reliability, enhance its performance, and help save on water and power consumption.

NOTES:

- Some water conditions will dictate more frequent cleaning of the ice making section, just as some carpets and pets will dictate more frequent cleaning of the condenser.
- To ensure efficient operation, Sub-Zero recommends an annual cleaning be performed by a qualified service technician in which the ice machine is partially disassembled for a more thorough cleaning and sanitizing.

RECOMMENDED CLEANING / MAINTENANCE SCHEDULE

Maintenance Event	Weekly	Semi-Annually (every 6 months)	After Prolonged Shutdown	At Start-up
Clean cabinet exterior	YES	YES	YES	YES
Clean and sanitize interior		YES	YES	YES
Replace water filter*		YES	YES	
Clean condenser coil		YES	YES	
Check ice quality	YES	YES	YES	YES

* Poor water quality may require more frequent cleaning, sanitizing and water filter replacements.

Cleaning the Exterior

Begin cleaning the exterior with mild soap and warm water on a sponge to remove any dust and dirt (this includes the door and door gasket). Wipe dry with a clean, soft cloth. When cleaning stainless steel, use cleaners designed for use with stainless steel products. Never use plain steel wool or abrasive pads, as they will scratch the panels.

2. With a brush attachment, vacuum face of condenser while moving the brush up and down. (See Figure 4-1)

CAUTION

Do not bend the metal fins of the condenser, doing so will restrict airflow through the condenser, possibly causing mechanical failure of the ice maker.

Cleaning the Condenser

The condenser is located at the right side of the compressor area, behind the kickplate and it looks similar to the radiator on a car. To clean the condenser, follow the directions below:

WARNING

DISCONNECT ELECTRICAL POWER TO ICE MACHINE AT THE ELECTRICAL SERVICE SWITCHES BEFORE CLEANING THE CONDENSER.

1. Extract four bolts holding kickplate and pull it forward (clean kickplate openings before replacing).

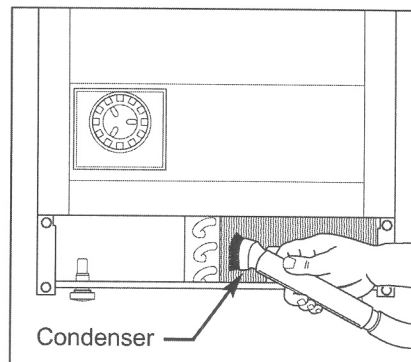
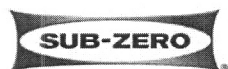


Figure 4-1. Condenser Cleaning

3. After condenser is clean, reattach kickplate with the mounting bolts.



Cleaning and Sanitizing the Interior

An in place cleaning/sanitizing procedure should be performed every six (6) months.

⚠ CAUTION

Damage to the ice machine caused by incorrect chemical usage is not covered by the warranty. Use only Sub-Zero approved ice machine cleaner (part #7013400) and sanitizer (part #7013401).

In Place Cleaning / Sanitizing - This procedure allows semi-annual in place cleaning and sanitizing of the interior. The quality of the homes potable water supply may call for more frequent cleaning intervals.

Use ice machine cleaner (#7013400) to remove lime scale or other mineral deposits. Ice machine sanitizer (#7013400) disinfects and removes algae and slime.

⚠ WARNING

WEAR RUBBER GLOVES AND SAFETY GOGGLES (AND/OR FACE SHIELD) WHEN HANDLING ICE MACHINE CLEANER OR SANITIZER.

NOTE: Before beginning, removed all ice from the bin.

1. Prepare 4 oz (118 ml) of undiluted ice machine cleaner (7013400 only) in a container that will fit easily under lifted paddles (See Figure 4-4).
2. Press CLEAN button (See Figure 4-2). The ice machine will initiate a 2 minute harvest to remove any remaining ice from the evaporator. When that ice falls in the bin, remove it from the bin.

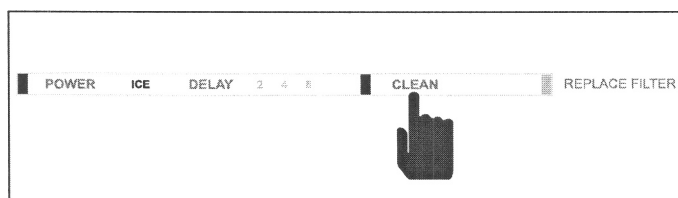


Figure 4-2. Start Clean Cycle, Press "CLEAN"

3. Wait 3 minutes until CLEAN light flashes (See Figure 4-3), then add prepared cleaner by lifting the water paddles and pouring directly into spray area (See Figure 4-4). The ice machine automatically times out a 10 minute cleaning cycle, followed by 8 rinse cycles, then stops. The CLEAN light switches off to indicate the clean cycle is complete. This entire cycle lasts about 30 minutes.

CLEAN light flashes 1 minute, then steady ON for 30 minutes



Figure 4-3. Clean Light Flashes = Add Cleaner

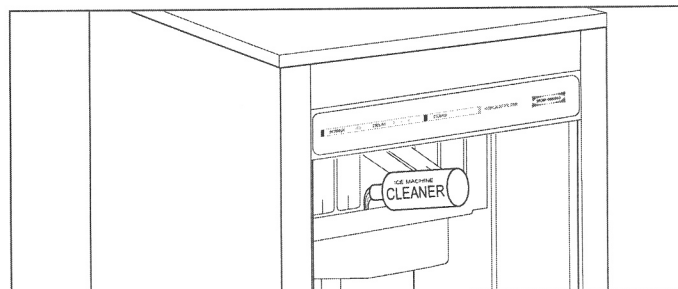


Figure 4-4. Pour Cleaner Into Spray Area

4. Prepare 1 tablespoon (15 ml) of undiluted ice machine sanitizer (7013401 only) in a container that will fit easily under lifted paddles (See Figure 4-7).
5. Press the CLEAN button again, this time to start the sanitize cycle (See Figure 4-5).

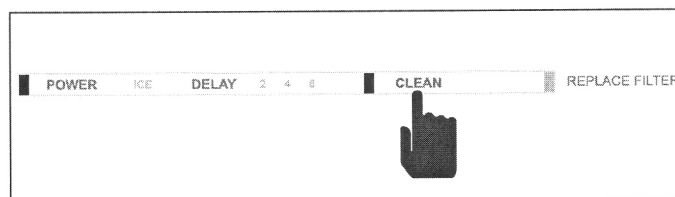


Figure 4-5. Start Sanitize Cycle, Press "CLEAN"

3. Wait 3 minutes until CLEAN light flashes (See Figure 4-6), then add prepared sanitizer by lifting water paddles and pouring directly into spray area (See Figure 4-7). The ice machine automatically times out a 10 minute sanitize cycle, followed by 8 rinse cycles, then stops. The CLEAN light switches off to indicate the sanitize cycle is complete. This entire cycle lasts about 30 minutes.

CLEAN light flashes 1 minute, then steady ON for 30 minutes



Figure 4-6. Clean Light Flashes = Add Sanitizer

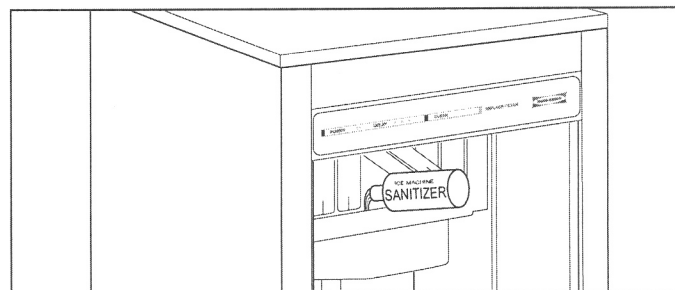


Figure 4-7. Pour Cleaner Into Spray Area

NOTE: The ice machine will automatically continue from previous operational state before clean was initiated. If the unit was in an ice making cycle, it will start making ice again; if it was OFF, it will switch back OFF.

Disassembly Cleaning / Sanitizing - This procedure should be performed by a qualified service technician only, as it entails disassembly of the ice machine for a more thorough cleaning and sanitizing.

1. Perform an in place cleaning as described on page 4-3. The clean cycle takes about 30 minutes. When the clean cycle is complete, disconnect power to the unit and switch off water supply.

⚠ WARNING

DISCONNECT ELECTRIC POWER TO THE ICE MACHINE BEFORE PROCEEDING.

2. Mix 16oz (473 ml) of undiluted ice machine cleaner (7013400 only) with 2 gallons (7.6 liters) of warm water.

NOTE: Since this mixture will be divided into two equal batches, halving the ingredients mentioned above and mixing them in two separate vessels may be helpful.

⚠ WARNING

WEAR RUBBER GLOVES AND SAFETY GOGGLES (AND/OR FACE SHIELD) WHEN HANDLING ICE MACHINE CLEANER OR SANITIZER.

⚠ CAUTION

Do not mix Cleaner and Sanitizer solutions together. It is a violation of Federal law to use these solutions in a manner inconsistent with their labeling.

3. After removing all parts as described in Removal of Parts for Cleaning and Sanitizing, take components to a sink for cleaning. Use 1/2 of the cleaner/water mixture to clean all components. The cleaner solution will foam when it contacts lime scale and mineral deposits; once the foaming stops, use a soft-bristle nylon brush, sponge or cloth (**NOT** a wire brush) to carefully clean the parts. Disassemble the spray bar, remove nozzles and inserts and soak for 5 minutes. For heavily scaled parts, soak in solution for 15 – 20 minutes. Rinse all components with clean water.

⚠ CAUTION

Do not immerse the water pump motor in the cleaning or sanitizing solution.

4. While components are soaking, use the other 1/2 of the cleaner/water solution and a nylon brush or cloth to clean inside of ice bin. Clean inside of door, door gasket, bin, top of evaporator and evaporator bucket. Rinse all areas thoroughly with clean water.

5. Mix 1 oz (30 ml) sanitizer with 2 gallons (7.6 liters) of warm water.

NOTE: Since this mixture will be divided into two equal batches, halving the ingredients mentioned above and mixing them in two separate vessels may be helpful.

⚠ WARNING

WEAR RUBBER GLOVES AND SAFETY GOGGLES (AND/OR FACE SHIELD) WHEN HANDLING ICE MACHINE CLEANER OR SANITIZER.

⚠ CAUTION

Do not mix Cleaner and Sanitizer solutions together. It is a violation of Federal law to use these solutions in a manner inconsistent with their labeling.

6. Use 1/2 of the sanitizer/water mixture to sanitize all removed components. Use a cloth or sponge to liberally apply the solution to all surfaces of the removed parts or soak the removed parts in the sanitizer/solution. Rinsing is not required.
7. Use the other 1/2 of the sanitizer/water solution and a sponge or cloth to sanitize the inside of ice bin. Sanitize inside of door, door gasket, bin, top of evaporator and evaporator bucket. Rinsing is not required.
8. Replace all removed components.
9. Reapply power and water supply to the ice machine, then perform an in place sanitizing as described on page 4-3.

REMOVAL OF PARTS FOR CLEANING AND SANITIZING

Removal of parts for the recommended annual cleaning and sanitizing should be performed by a qualified service technician only.

Before beginning to remove components, perform an in place cleaning as described on page 4-3. The clean cycle takes about 30 minutes. When the clean cycle is complete, disconnect power to the unit and switch off the water supply. Also read the entire Disassembly Cleaning / Sanitizing procedure on page 4-4.

⚠ WARNING

DISCONNECT ELECTRIC POWER TO THE ICE MACHINE BEFORE PROCEEDING.

Top Cover Removal

To remove the top cover (See Figure 4-8):

1. Extracting two screws along the back of cover.
2. Lift back edge of the top cover up slightly.
3. Pull top cover towards rear of unit until the retaining clips at front disengage from top cover, then lift it off of the unit.

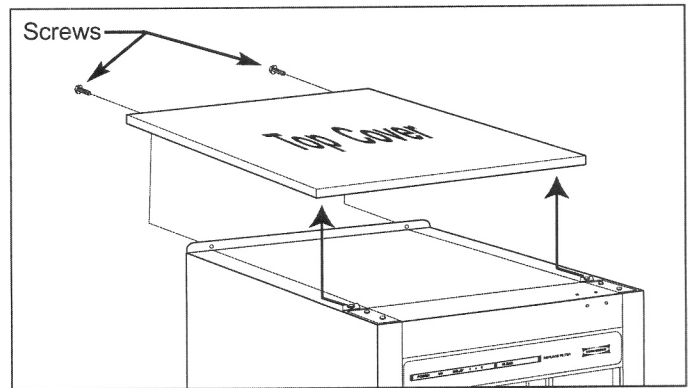


Figure 4-8. Top Cover Removal

Splash Shield Removal

The splash shield is held in place with the same screw that secures the control box cover. To remove the splash shield, the top cover will first need to be removed, then extract the screw and lift the splash shield straight up (See Figure 4-9).

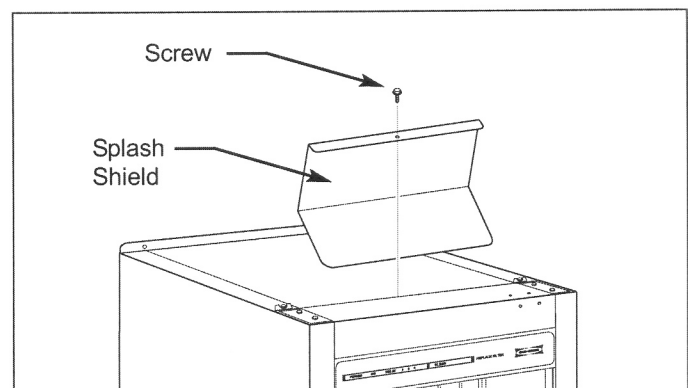


Figure 4-9. Splash Shield Removal

Water Shutter Assembly Removal

The water shutter assembly (consisting of evaporator cover, water paddles and paddle rod) is designed to keep the spraying water from escaping the evaporator/spray bar enclosure. A steel rod which supports the water shutters sits in grooves molded into the evaporator cover.

To remove the water shutter assembly, the top cover will need to be removed first, then (See Figure 4-10):

1. Reach inside bin area and pull evaporator/spray bar enclosure forward approximately 1/2" (13 mm).
2. Grasp both ends of evaporator cover and lift assembly straight up.
3. The rod and paddles can now be pulled from the grooves in the evaporator cover.

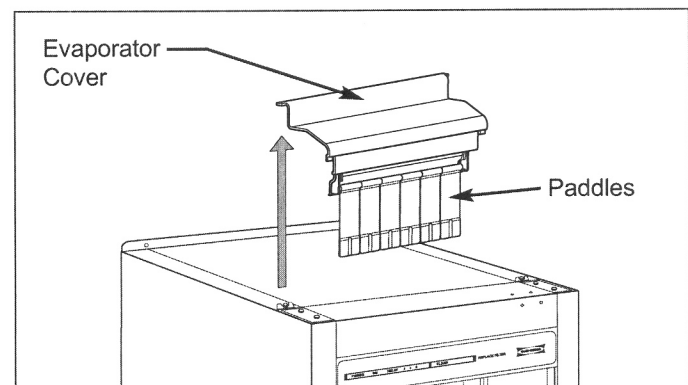


Figure 4-10. Water Shutter Assy Removal

Ice Chute Removal

The ice chute is positioned over the spray nozzles and allows the ice to easily fall into the bin.

To remove the ice chute, grab protruding spray hole on one end, lift up and pull forward out of evaporator/spray bar enclosure (See Figure 4-11)

NOTE: When reinstalling ice chute, it must be firmly positioned over the spray bar, with the front edge inside the water trough. Spray nozzles must be align with the spray holes or spray water will fall into the bin.

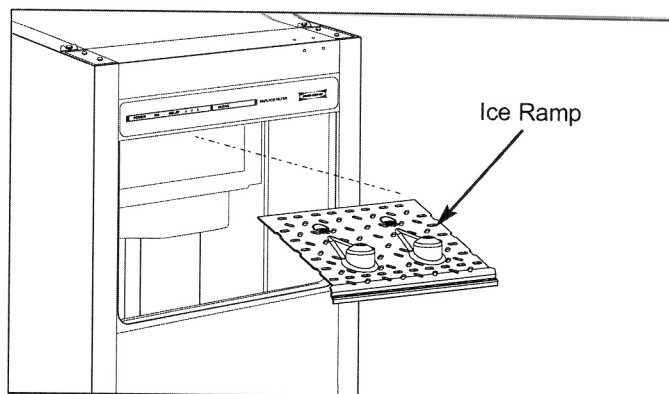


Figure 4-11. Ice Ramp Removal

Water Trough Drain Tube and Standpipe/Overflow Tube Removal

To remove the drain tube and overflow tube (See Figure 4-12):

1. At top of drain tube, disengage tube clamp teeth and remove clamp from tube and water trough nipple.
2. Pull drain tube up out of bin drain.
3. Pull drain tube and standpipe/overflow tube down out of water trough (water in the trough will drain into the bin).
4. Remove standpipe/overflow tube from drain tube by pulling.

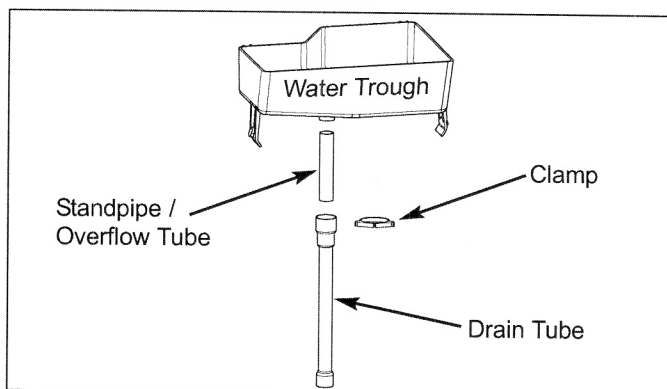


Figure 4-12. Drain Tube & Overflow Tube Removal

Water Trough Removal

To remove the water trough (See Figure 4-13):

1. Depress tabs on right and left side of the water trough.
2. Allow front of trough to drop as you pull forward to disengage the rear pins, then pull from bin.

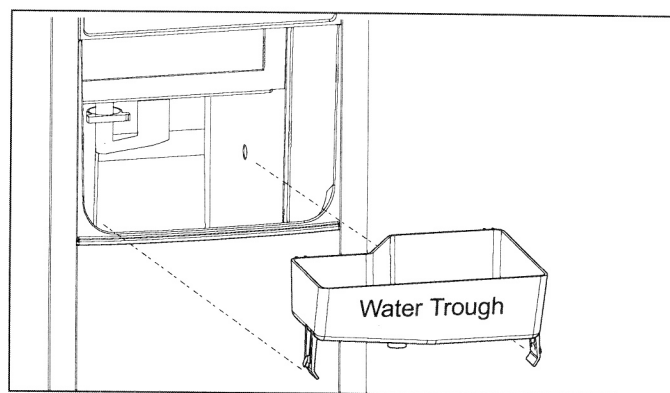


Figure 4-13. Water Trough Removal

Spray Bar Assembly Removal and Disassembly

To remove the spray bar assembly, the ice chute and water trough will need to be removed first, then (See Figure 4-14):

1. At water pump outlet, disengage tube clamp teeth and remove clamp from tube and pump outlet, then pull tube up off of pump outlet.
2. Lift spray bar assembly up and pull forward out of evaporator/spray bar enclosure.
3. With spray bar assembly removed, disengage clamp from tube at spray bar inlet, then pull tube from spray bar.
4. Unscrew water nozzles from spray bar.
5. Pull nozzle inserts out from spray bar outlets.

NOTES:

- The spray bar also disassembles for easy cleaning.
- When reassembling, apply food grade lubricant to spray bar components when necessary.

Water Pump Removal

To remove the water pump, first remove the ice chute, water trough and spray bar assembly, then (See Figure 4-15):

1. From inside ice bin, extract the mounting screw and eccentric washer securing water pump to upper bin liner.
2. Grasp pump and pull straight down until water pump disengages and electrical connector is visible, then disconnect electrical leads.
3. Extract grounding screw and wire from top of pump and pull pump from bin.

⚠ CAUTION

Do not immerse the water pump motor in the cleaning or sanitizing solution.

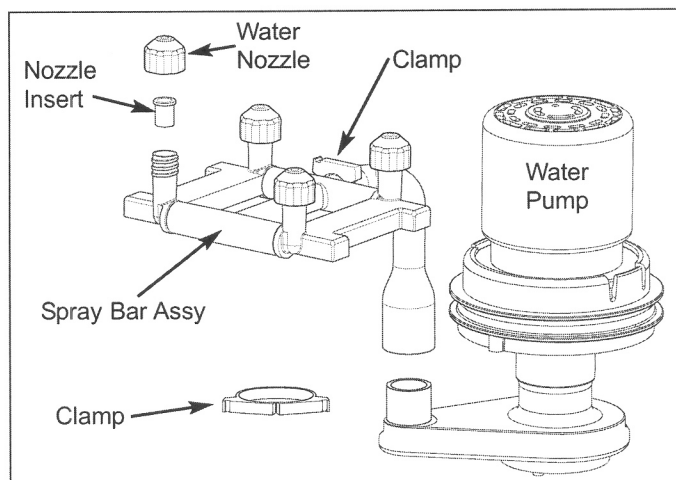


Figure 4-14. Spray Bar Removal & Disassembly

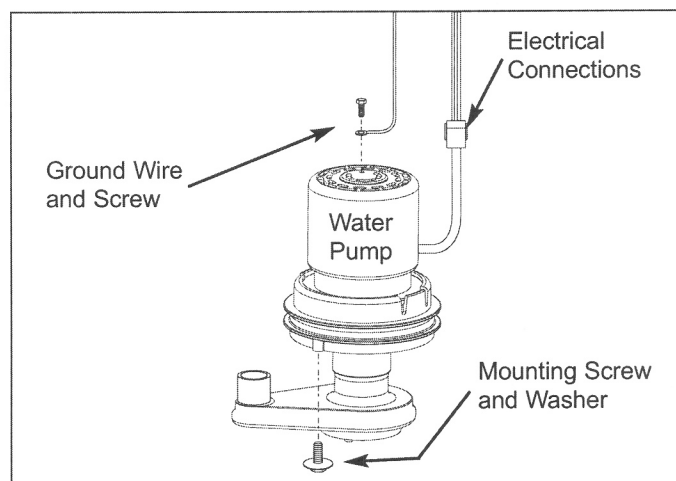


Figure 4-15. Water Pump Removal

REMOVAL FROM SERVICE/ LONG TERM STORAEG / WINTERIZATION

Special precautions must be taken if the ice machine is to be switched off for an extended period of time and/or exposed to ambient temperatures of 32°F (0°C) or below.

Follow the procedure below:

- 1. To prevent mildew growth, perform an in place cleaning and sanitizing as described on page 4-3.
- 2. Disconnect the electric power at the circuit breaker or the electric service switch.
- 3. Turn off the water supply.
- 4. Remove the water from the water trough.
- 5. Disconnect and drain the incoming ice-making water line at the rear of the ice machine.
- 6. Disconnect vinyl hose from water pump and allow to drain.
- 7. Make sure water is not trapped in any of the water or drain lines. Compressed air can be used to blow out the lines.
- 8. Mix 0.5 oz (15 ml) of undiluted ice machine sanitizer (7013401 only) with 1 gallons (3.8 liters) of warm water.
- 9. Put the sanitizer solution into a spray bottle and spray all interior surfaces, but do NOT rinse, allow to air dry.
- 10. Block the door partially open to provide air exchange and prevent mildew growth.

⚠ CAUTION

If water is allowed to remain in the ice machine in freezing temperatures, severe damage to some components could result. Damage of this nature is not covered by the warranty.

WATER FILTER REPLACEMENT

To replace the water filter, incoming water does not need to be turned off. Follow the procedure below (See Figure 4-16):

- 1. To remove, turn the filter 1/4 turn counterclockwise and it will pop out.
- 2. To install, push filter in while turning clockwise.

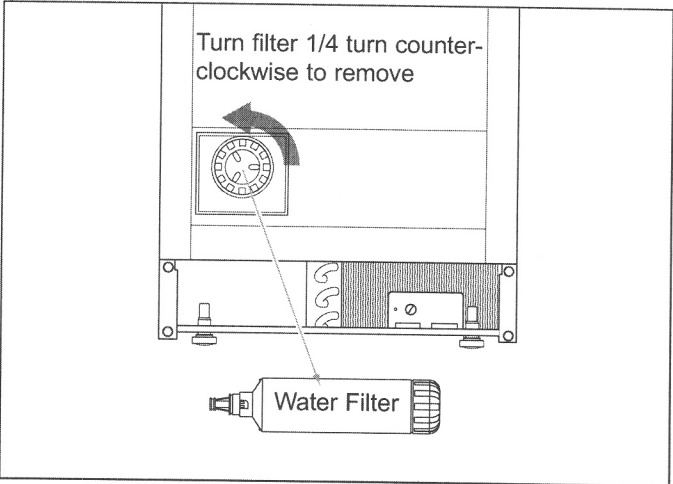


Figure 4-16. Water Filter Removal

ADJUSTMENTS

There are two settings that may be adjusted:

- Cube Weight
- Bin Ice Level

Cube Weight Check and Adjustment

The cube weight can be increased (See Figure 4-17) from the factory setting by adjusting the freeze cycle finish time.

To check for additional finish time (See Figure 4-18):

1. Press and hold the POWER button for five (5) seconds.
2. Count the flashes on the ICE light. The light will flash once for each additional minute of freeze cycle time.

To adjusting finishing time (See Figure 4-19):

1. Press and hold the POWER button.
2. Press and release the CLEAN button once for each additional minute of freeze cycle time desired.
3. Adjust in one (1) minute increments and allow the ice machine to run several freeze/harvest cycles, then inspect the ice cubes. If a heavier cube weight is desired add another minute of freeze time by repeating the process.

NOTE: Five minutes is the maximum additional finish time that can be added. Pressing the CLEAN button 6 times will reset the finishing time to zero (0) additional minutes.

Testing and Adjusting Bin Thermostat

The bin thermostat stops ice production when the bin is full, with ice touching the bin thermostat tube. (See Figure 4-20)

The thermostat is functioning correctly if, when three ice cubes are placed on the thermostat tube for 5 minutes, the ice machine stops. The ice machine should restart 5 minutes after the cubes are removed.

If ice production stops before the bin is full or continues after bin is full, the bin thermostat can be adjusted as follows (See Figure 4-21):

1. Extract four bolts holding kickplate and pull it forward.
2. Turn thermostat adjustment screw counterclockwise to decrease the level of ice; turn clockwise to increase the level of ice.
3. Reassemble the kickplate.

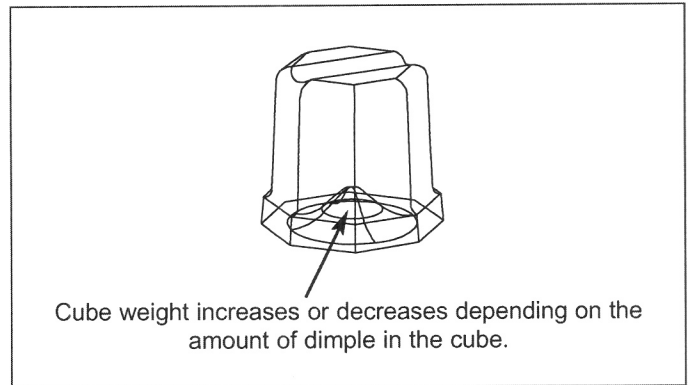


Figure 4-17. Ice Cube Weight

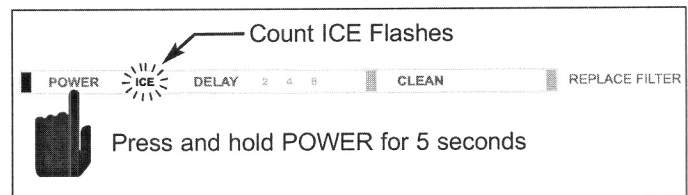


Figure 4-18. Check for Additional Finish Time

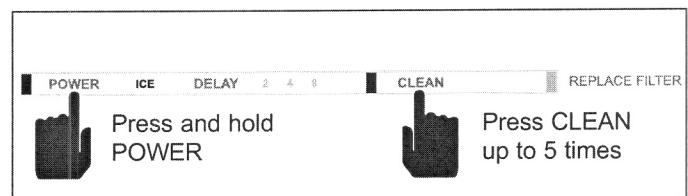


Figure 4-19. Adjust Finish Time / Freeze Cycle

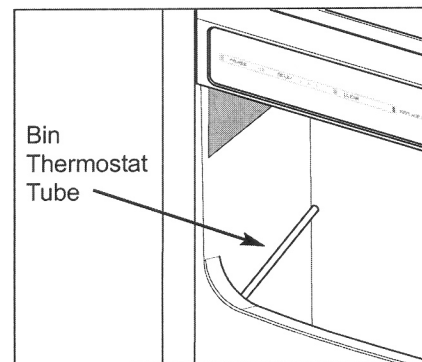


Figure 4-20. Bin Thermostat Tube Location

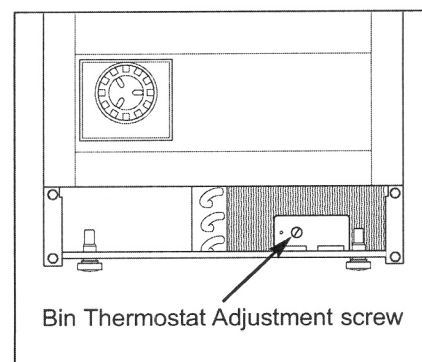


Figure 4-21. Bin Thermostat Adjustment