Introduction

This manual includes:

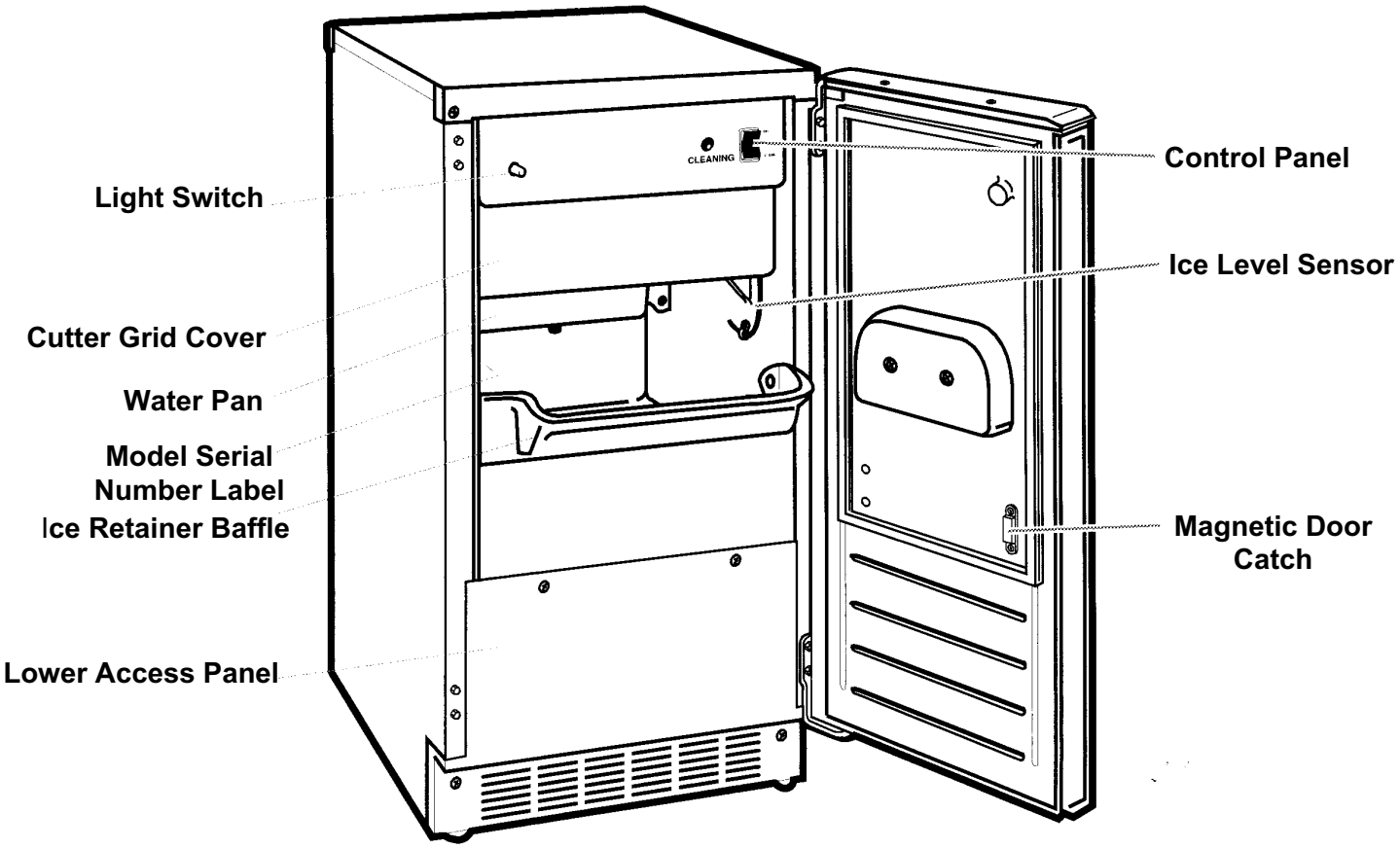
- Installation Information
- Use And Care
- Service Diagnosis
- and Repair Information

A Service Parts Section is also included in the center of the manual.

Table of Contents

CSW45

Specifications



Model	Cabinet Size, w" x d" x h"	Basic Electrical	Drain Type	Power	Refrigerant Charge
CSW45A-1B	14 — x 21 – x 33 —	115/60/1	Gravity	Cord Supplied, uses 15 amp circuit	6.5 oz R-134a
CSW45PA-1B	same	same	Drain Pump	same	same

All units are white enamel.

Optional Kits: **Trim Kit: KCSWTRIM**, **Filler Kit for 18" spaces: KCSWFILL**, **Drain Pump: A37649-001**

Scotsman Ice Systems are designed and manufactured with the highest regard for safety and performance. They meet or exceed the standards of UL, NSF, and CSA.

Scotsman assumes no liability or responsibility of any kind for products manufactured by Scotsman that have been altered in any way, including the use of any part and/or other components not specifically approved by Scotsman.

Scotsman reserves the right to make design changes and/or improvements at any time. Specifications and design are subject to change without notice.

Installing The Ice Maker

Unpacking

⚠WARNING

Excessive Weight Hazard

Use two or more people to move and install ice maker.

Failure to do so can result in back or other injury.

Removing packaging materials

IMPORTANT: Do not remove any permanent instruction labels inside your ice maker or the Tech Sheet that is fastened behind the lower access panel.

- Remove tape and any labels from your ice maker before using (except the model and serial number label).

To remove any remaining tape or glue, rub the area briskly with your thumb. Tape or glue residue can also be easily removed by rubbing a small amount of liquid dish soap over the adhesive with your fingers. Wipe with warm water and dry.

- Do not use sharp instruments, rubbing alcohol, flammable fluids, or abrasive cleaners to remove tape or glue. These products can damage the surface of your ice maker. For more information, see the “Important Safety Instructions” section.

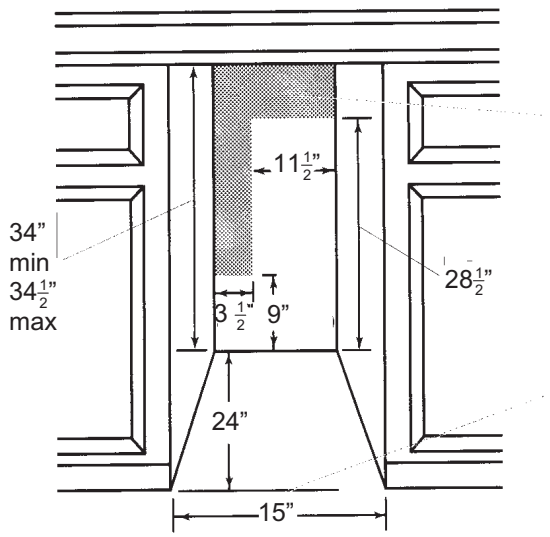
Cleaning before use

After you remove all of the packaging materials, clean the inside of your ice maker before using it. See the cleaning instructions in the “Caring for Your Ice Maker” section.

Space Requirements

- To ensure proper ventilation for your ice maker, the front side must be completely unobstructed. The unit may be closed-in on the top and three sides, but the installation should allow the ice maker to be pulled forward for servicing if necessary.
- Installation of the ice maker requires a cold water supply inlet of ¼“ (6mm) OD soft copper tubing with a shut-off valve and either a gravity-drain system or condensate pump to carry the water to an existing drain.
- Choose a well ventilated area with temperatures above 55°F (13°C) and below 100°F (38°C). Best results are obtained between 70°F (21°C) and 90°F (32°C). This unit MUST be installed in an area protected from the elements, such as wind, rain, water spray, or drip.
- When installing the ice maker under a counter, follow the recommended opening dimensions shown. Do not place electrical or plumbing fixtures in the clear zone as indicated by the gray shaded area.

NOTE: Do not kink or pinch the power supply cord between the ice maker and cabinet.



1. Clear Zone
2. Floor Level

You should choose a location where the floor is even. It is important for the ice maker to be level in order to work properly. If needed, you can adjust the height of the ice maker by changing the position of the rear wheels. See the “Leveling the Ice Maker” section.

⚠WARNING	**Electrical Shock Hazard**
	**Plug into a grounded 3 prong outlet.** **Failure to follow these instructions can result in death, fire, or electrical shock.** **Do not use an extension cord.** **Do not use an adapter.** **Do not remove ground prong.**

Before you move your ice maker into its final location, it is important to make sure you have the proper electrical connection:

A 115 Volt, 60 Hz., AC only 15 ampere electrical supply, properly grounded in accordance with the National Electrical Code and local codes and ordinances, is required.

It is recommended that a separate circuit, serving only your ice maker, be provided. Use a receptacle which cannot be turned off by a switch or pull chain.

Recommended Grounding Method

For your personal safety, this appliance must be grounded. This appliance is equipped with a power supply cord having a 3 prong grounding plug. To minimize possible shock hazard, the cord must be plugged into a mating, 3 prong, grounding-type wall receptacle, grounded in accordance with the National Electrical Code and local codes and ordinances. If a mating wall receptacle is not available, it is the personal responsibility of the customer to have a properly grounded, 3 prong wall receptacle installed by a qualified electrician.

Leveling the Ice Maker

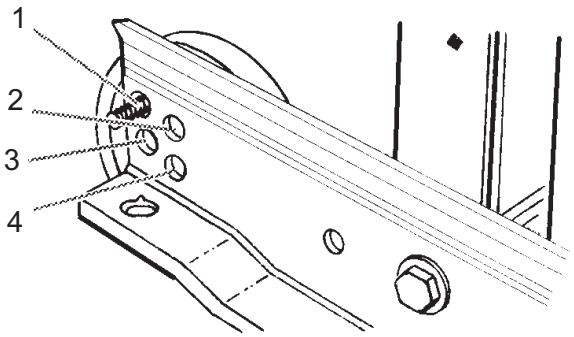
It is important for the ice maker to be level in order to work properly. Depending upon where you install the ice maker, you may need to make several adjustments to level it.

Tools required

- Carpenter's level
- Adjustable wrench
- ¼ " socket wrench

Undercounter Installation

If you are installing the ice maker under a countertop, then you may need to adjust the height of the ice maker. The adjustable rear wheels are preset to position 1 for a cabinet opening height of 34" (86.4 cm).



1. For cutout height of 34" (86.4 cm)
2. For cutout height of 34 ⅛" (86.7 cm)
3. For cutout height of 34 5/16" (87.2 cm)
4. For cutout height of 34 ½" (87.6 cm)

To Adjust The Rear Wheel Height

⚠WARNING

Electrical Shock Hazard

Failure to follow these instructions can result in death, fire, or electrical shock.

Disconnect power before servicing.

Replace all panels before operating.

1. Using a ¼" socket wrench, remove the seven screws from the rear access panel and carefully pull the panel away from the drain hose.

2. Using a ⅜" or adjustable wrench, remove the screw that holds the rear wheel.

NOTE: Pushing up against the top back of the ice maker takes some of the weight off of the wheels. This makes it easier to remove the screws.

3. Move the rear wheel and screw to a new position as needed for your cabinet opening height. Tighten the screw completely.

4. Repeat Steps 3 and 4 to change the position of the wheel on the other side.

5. Replace the rear panel and screws. Be sure that the drain tube is positioned in the opening provided.

6. Use the front leveling legs to make sure the product is level.

To adjust the front leveling legs

Your ice maker has two adjustable leveling legs to help you steady the product and make sure it is level.

SUGGESTION: It is easier to adjust the leveling legs if you have another person to assist you.

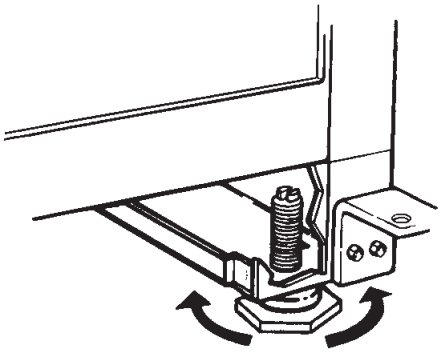
1. Place a carpenter's level on top of the product to see if the ice maker is level from front to back and side to side.

2. Push up on the top front of the ice maker, and then locate the leveling screws that are on the bottom front of the product.

3. Using an adjustable wrench, change the height of the legs as follows:

- Turn the leveling leg to the right to lower that side of the ice maker.
- Turn the leveling leg to the left to raise that side of the ice maker.

NOTE: The ice maker should not wobble. Use shims to add stability when needed.



4. Use a carpenter's level to re-check the ice maker to see that it is even from front to back and side to side. If the ice maker is not level, repeat Steps 2 & 3. If the ice maker is level, go to the "Connecting the Ice Maker to a Water Source" section.

Freestanding Installation

If you are not installing your ice maker under a countertop, you will probably not need to adjust the rear wheel height. Follow the steps outlined in "To adjust the front leveling legs" earlier in this section.

NOTE: The ice maker should not wobble. Use shims to add stability when needed.

Connecting the Ice Maker to a Water Source

Read all directions carefully before you begin.

IMPORTANT:

- All installations must be in accordance with local plumbing codes requirements.
- Use copper tubing and check for leaks.
- Install copper tubing only in areas where temperatures will remain above freezing.

Before purchasing, make sure a saddle-type valve complies with your local plumbing codes. **Do not use a piercing-type or 3/16" saddle valve which reduces water flow and clogs more easily.**

Connecting the water line:

1. Unplug ice maker or disconnect power.

2. Turn **off** main water supply. Turn **on** nearest faucet long enough to clear line of water.

3. Find a ½" to 1¼" vertical **cold** water pipe near the ice maker.

NOTE: Horizontal pipe will work, but the following procedure must be followed: Drill on the top side of the pipe, not the bottom. This will help keep water away from the drill. This also keeps normal sediment from collecting in the valve.

4. Using a grounded drill, drill a ¼" (6 mm) hole in the cold water pipe you have selected.

5. Fasten shut-off valve to cold water pipe with pipe clamp. Be sure outlet end is solidly in the ¼-inch drilled hole in the water pipe and that washer is under the pipe clamp. Do not use a piercing-type or 3/16" saddle-type valve which reduces water flow and clogs more easily.

6. Now you are ready to connect the copper tubing. Use ¼" (6mm) OD soft copper tubing for the cold water supply.

- Measure from the connection at the front of the ice maker to the cold water pipe. Add 3 feet to ensure that you have the proper length. This is the length of ¼" (6mm) OD soft copper tubing you need for the job. Be sure both ends of the copper tubing are cut square.
- Slip compression sleeve and compression nut on copper tubing as shown. Insert end of tubing into outlet end squarely as far as it will go. Screw compression nut onto outlet end with adjustable wrench. Do not over tighten.

7. Place the free end of the tubing into a container or sink, and turn **on** main water supply and flush out tubing until water is clear. Turn **off** shut-off valve on the water pipe.

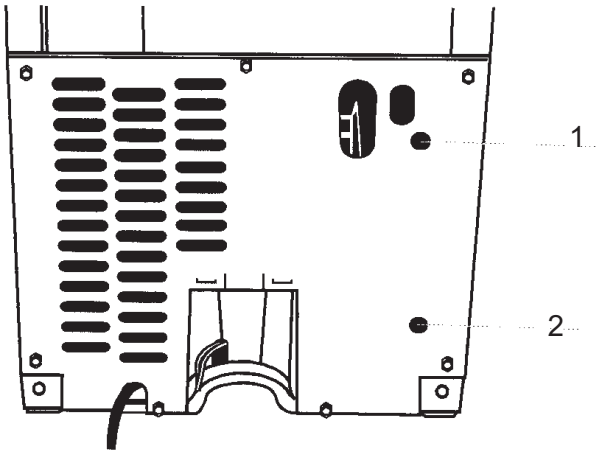
NOTE: Always drain the water line before making the final connection to the inlet of the water valve to prevent possible water valve malfunction.

8. Remove the two screws in the lower access panel and the two screws in the base grille area of the front panel support. Pull forward to remove the lower access panel.

9. Position the tubing so it can enter one of the two access holes located at the right-hand rear of the cabinet as shown. The tubing should extend beyond the cabinet front when the cabinet is pushed back into position. Move the ice machine into position.

REAR VIEW

1. Upper Water Line Access Hole
2. Lower Water Line Access Hole



10. Bend the copper tubing to meet the water valve inlet on the water valve which is located in the front of the ice maker cabinet as shown.

Water Connection - continued

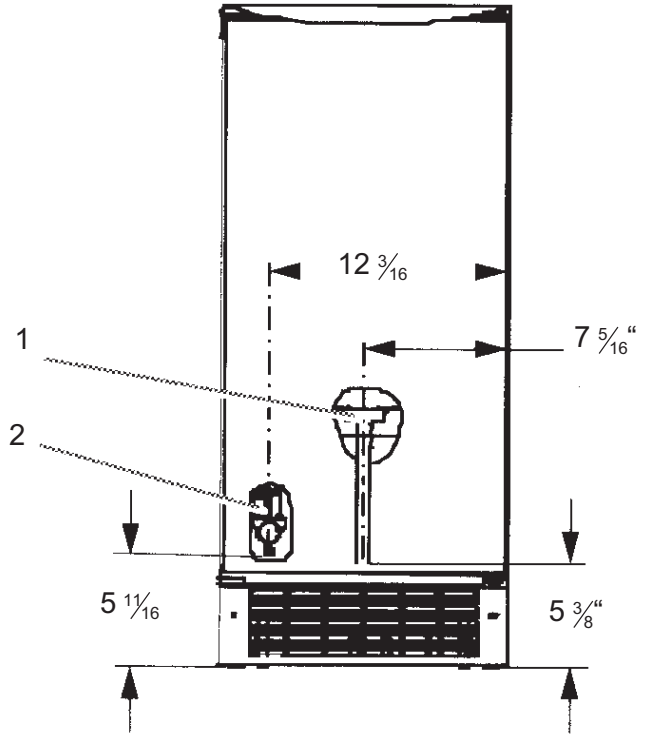
11. Unscrew the water valve inlet cover, and attach the copper tubing with the compression sleeve and nut.

NOTE: To prevent rattling, be sure the copper tubing does not touch the cabinet's side wall or other parts inside the cabinet.

12. Turn shut-off valve on. Check for leaks. Tighten any connections (including connections at the valve) or nuts that leak. The ice maker is equipped with a built-in water strainer. If local water conditions require periodic cleaning or a well is your source of water supply, a second water strainer should be installed. Obtain a water strainer from your nearest appliance dealer and install it at either tube connection.

13. Replace the lower access panel and screws.

FRONT VIEW



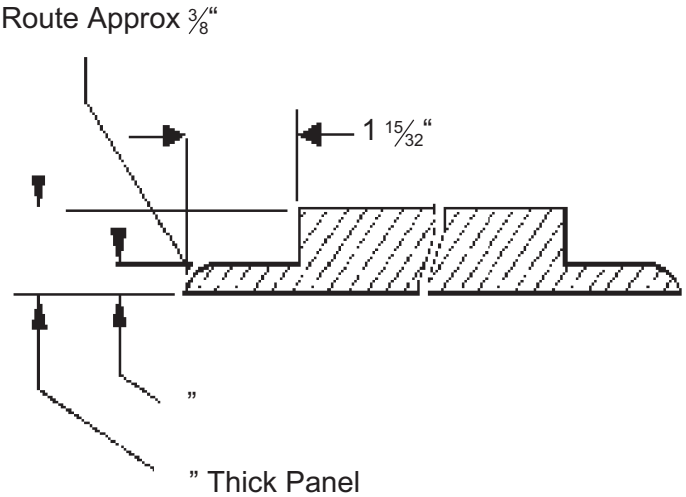
1. Water Pan Drain
2. Water Valve

Custom Panel (for kit KCSWTRIM):

Customer supplied wood panel must be

- " thick x
- 29 31/64" high x
- 14 33/64" wide

and be trimmed as shown in the diagram. →



Connecting The Drain

Gravity drain system

Connect the drain pump hose (provided with the product) to your drain in accordance with all state and local codes and ordinances. If the ice maker is provided with a gravity drain system, follow these guidelines when installing drain lines: (This will prevent water from flowing back into the ice maker storage bin and potentially flowing onto the floor causing water damage.)

- Drain lines must have a minimum of ⅝" (1.6 cm) inside diameter.
- Drain lines must have a 1" (2.5 cm) drop per 48" (122 cm) of run (¼ " per foot [6mm per 30.5cm]) and must not have low points where water can settle.
- The floor drains must be large enough to accommodate drainage from all drains.
- The ideal installation has a standpipe with a 1½" to 2" PVC drain reducer installed directly below the outlet of the drain tube as shown. You must maintain a 1" air gap between the drain pump hose and the standpipe.
- It may be desirable to insulate the drain line thoroughly up to the drain inlet.

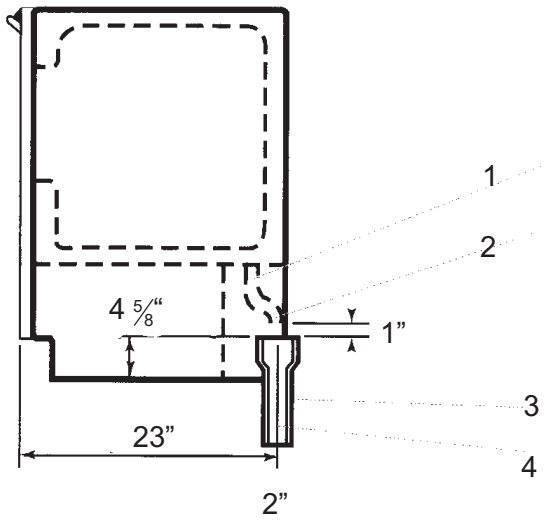
After ensuring that the drain system is adequate, follow these steps to properly place the ice maker:

1. Plug ice maker into a grounded 3 prong outlet.

2. Re-check the ice maker to be sure that it is level. See the “Leveling the Ice Maker” section.

3. Push the ice maker into position so that the ice maker drain tube is positioned over the PVC drain reducer.

SIDE VIEW



1. Drain Hose
2. 1" Air Gap
3. PVC Drain Reducer
4. Center of drain should be 23” (58.4 cm) from front of door (with or without the C\v” (1.9 cm) panel on the door).

4. If it is required by your local sanitation code, seal the cabinet to the floor with an approved caulking compound after all water and electrical connections have been made.

5. Plug in ice maker or reconnect power.

Drain pump system (on some models)

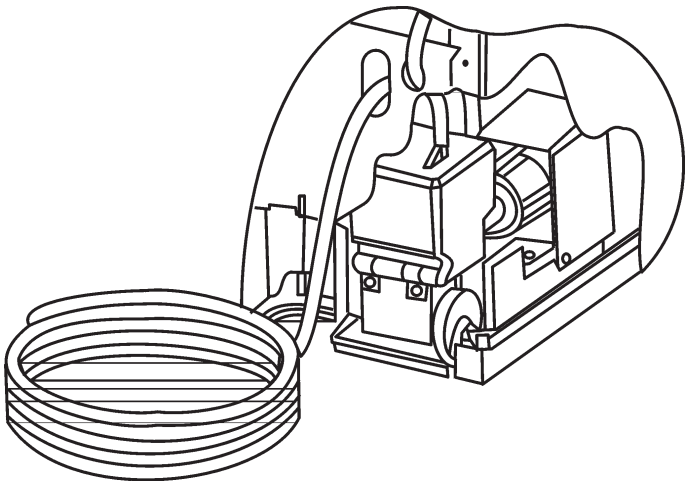
Connect the drain pump hose (provided with the product) to your drain in accordance with all state and local codes and ordinances.

Drain Pump Kit

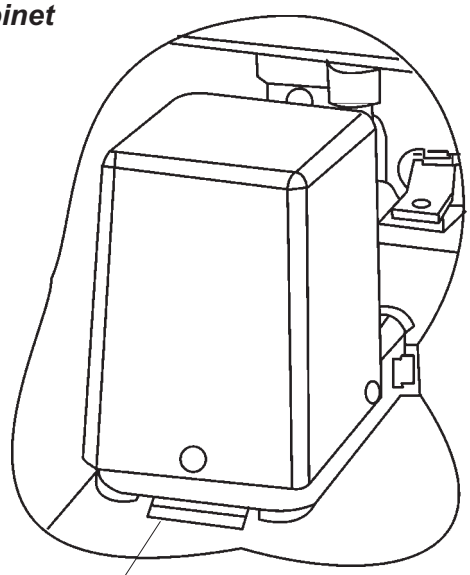
1. Remove rear cover.

2. Remove old drain tube.

3. Install new drain tube to bin (use old clamp).



Pump, View from Front of Cabinet



4. Install drain pump into machine. Carefully slide in aligning the tab on the pump to the rectangular slot in the unit base.

5. Attach bin drain tube from bin to pump.

6. Connect vent tube to vent connection on pump. Route vent up through the rear cover. Secure vent tube to back of ice machine using three clamps and screws from the kit.

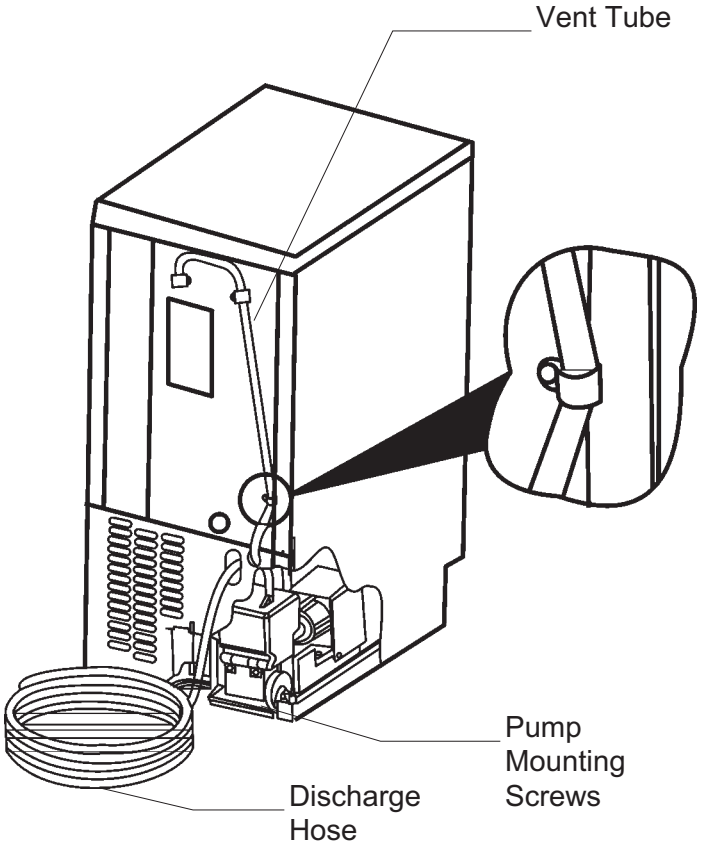
7. Route pump outlet tube to household drain.

8. Power cord from ice machine must be plugged into pump. Coil up and tape power cord together, insert between compressor and drain pump. Plug the power cord into the pump.

9. Line up the two screws at the rear of the pump and secure the pump using two screws from the kit.

10. Install rear cover.

11. Connect power cord (pump's) into the electrical power supply. This must be a grounded circuit that conforms to the National Electrical Code and all local codes and ordinances.

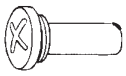


Reversing the Door Swing

TOOLS NEEDED: 5/16" wrench, 1/4" wrench, flat putty knife,

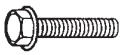
To remove door from hinges:

1. Unplug ice maker or disconnect power.



Hinge Pin

2. Remove the handle screws and handle (on some models). Keep the parts together and set them aside.



5/16-inch Hex Head Hinge Screw

3. Remove the hinge pin from the top hinge.

Handle Screw

4. Remove the door from the hinges and screw the top hinge pin back into the top hinge.

Endcap Screw

5. Reverse the door endcaps as follows:

- Remove both the screws and endcaps (top and bottom).
- Place the top endcap on the bottom of the opposite side of the door with the long flat side facing the door front.
- Place the bottom endcap on the top of the opposite side of the door with the long flat side facing the door front.

6. Set the door aside.

To reverse the hinges:

1. Unscrew and remove the top hinge. Replace the screws in the empty hinge holes.

2. Remove the screws from the bottom of the opposite side of the ice maker cabinet. Turn the top hinge upside down so that the hinge pin points up. Place the hinge on the bottom opposite side of the ice maker and tighten screws.

3. Remove the plastic hinge pin sleeve from the “old” bottom hinge and replace it on the new bottom hinge pin.

4. Remove the “old” bottom hinge screws and hinge. Replace the screws in the empty hinge holes. the ice maker cabinet. Turn the hinge upside down so that the hinge pin points down. Place the hinge on the top opposite side of the ice maker and tighten the screws.

6. Remove the top hinge pin.

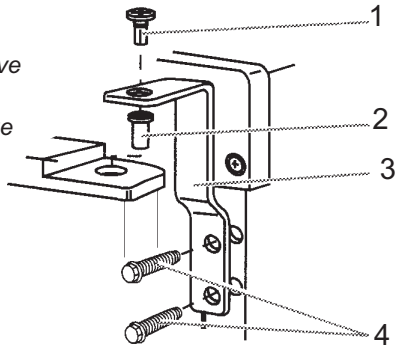
To replace door on hinges:

1. Place plastic hinge pin sleeve in the top hinge hole on the door. Align the door with the top hinge hole and replace the top hinge pin.

2. Replace the handle and handle screws.

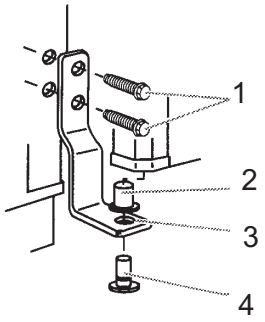
Top Hinge

1. Hinge Pin
2. Hinge Pin Sleeve
3. Hinge
4. Hex Head Hinge Screw



Bottom Hinge

1. Hex Head Hinge Screw
2. Hinge Pin Sleeve
3. Hinge
4. Hinge Pin



To reverse the door catch:

1. Remove the hole plugs from the opposite side of the door and set aside.

2. Remove the screws from the magnetic door catch and replace it on the opposite side of the door.

3. Push the hole plugs into place on the opposite side of the door.

Using The Ice Maker

Understanding How Your Ice Maker Works

When you first start your ice maker, the water pan will fill and the system will rinse itself before starting to make ice. The rinsing process takes about five minutes.

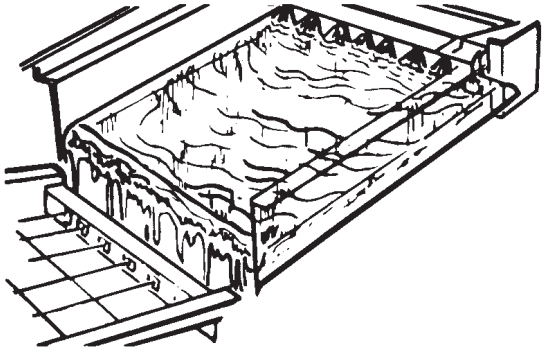
Under normal operating conditions, the ice maker will cycle at preset temperatures. The ice level sensor located in the ice storage bin will monitor the ice levels.

IMPORTANT

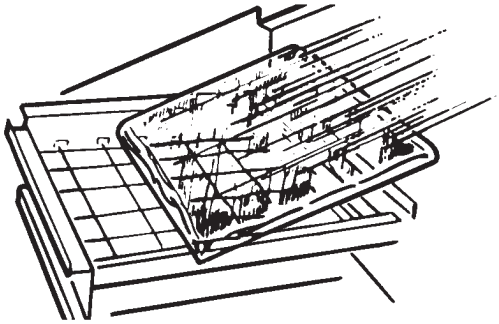
- If the water supply to the ice maker is turned off, be sure to set the ice maker control to OFF.
- The ice maker is designed to make clear ice from the majority of water sources on a daily basis. If your results are unsatisfactory, your water may need to be filtered or treated.

Making Ice

1. Water is constantly circulated over a freezing plate. As the water freezes into ice, the minerals in the water are rejected. This produces a clear sheet of ice with a low mineral content.



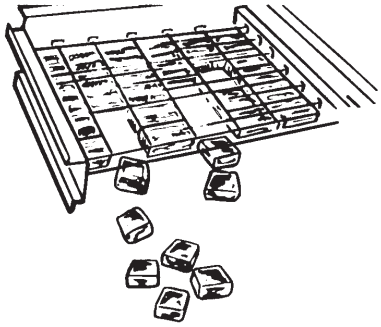
2. When the desired thickness is reached, the ice sheet is released and slides onto a cutter grid. The grid divides the sheet into individual cubes.



3. The water containing the rejected minerals is drained after each freezing cycle.

4. Fresh water enters the machine for the next ice making cycle.

5. Cubes fall into the storage bin. When the bin is full, the ice maker shuts off automatically and restarts when more ice is needed. The ice bin is not refrigerated and some melting will occur. The amount of melting varies with room temperature.

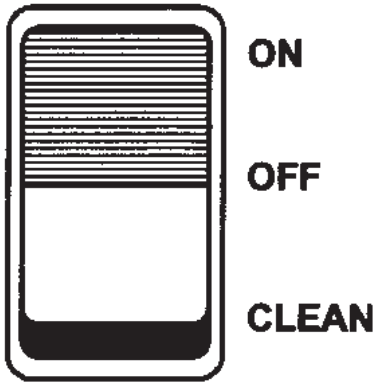


NOTE: As the room and water temperatures vary, so will the amount of ice produced and stored. This means that higher operating temperatures result in reduced ice production.

Setting the Controls

1. To start the normal ice making cycle, select ON.

2. To stop ice maker operation, select OFF.



NOTE: The CLEAN setting is used whenever solutions are circulated through the ice maker for cleaning. Only the water pump and compressor operate at this setting. See the “Cleaning the Ice Maker System” section.

Periodically inspect and clean the ice maker to keep it operating at peak efficiency and to prevent premature failure of system components.

Both the ice making system and the air cooled condenser need to be cleaned regularly.

The minerals rejected from the circulating water during the freezing cycle will eventually form a hard scaly deposit in the water system which prevents a rapid release of the ice from the freezing plate.

Clean the ice and water system periodically to remove mineral scale buildup. Frequency of cleaning depends on water hardness. With hard water (15 to 20 grains/gal. [4 to 5 grains/liter]), cleaning may be required as frequently as every 6 months.

Cleaning Exterior Surfaces

Wash the exterior enamel surfaces and gaskets with warm water and mild soap or detergent. Wipe and dry. Regular use of a good household appliance cleaner and wax will help protect the finish.

Do not use abrasive cleaners on enamel surfaces as they may scratch the finish.

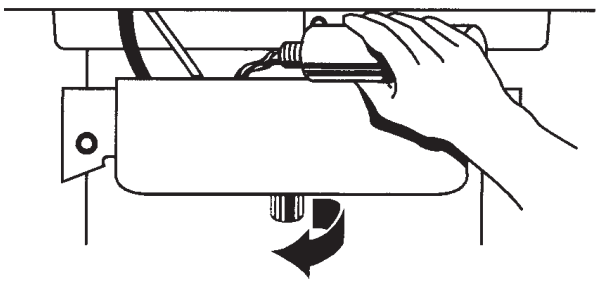
Cleaning the Ice Maker System

1. Push the selector switch to OFF.

2. Wait 5 to 10 minutes for the ice to fall into the storage bin. Remove all ice from the storage bin.

3. Unscrew the drain cap from the bottom of the water pan located inside the storage bin as shown. Allow the water to drain completely.

4. Replace the drain cap. Pour 16 ounces of Scotsman Clear 1 scale remover into the water pan. Fill the bottle twice with tap water and pour it into the water pan.



5. Push the selector switch to CLEAN. (See the “Setting the Controls” section.) The light will turn on, indicating that the cleaning cycle is in process. When the indicator light turns off (approximately 45 minutes), the cleaning cycle is complete. During the cleaning cycle, the system will both clean and rinse itself.

6. After the cleaning cycle is complete, remove the drain cap from the water pan to see if any cleaning solution is left in the water pan. If cleaning solution drains from the water pan, you should run the clean cycle again.

NOTE: Severe scale buildup may require repeated cleaning with a fresh quantity of cleaning solution.

7. Push the selector switch to ON to resume ice production.

Cleaning the Condenser

A dirty or clogged condenser:

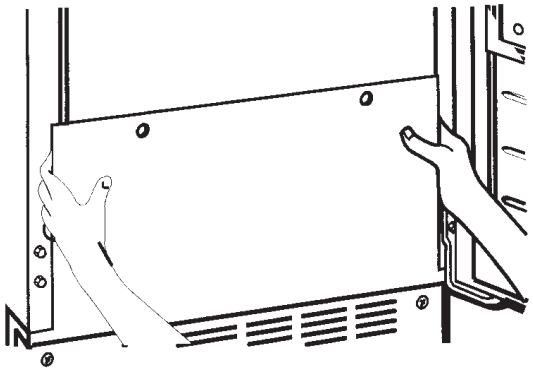
- Prevents proper airflow.
- Reduces ice making capacity.
- Causes higher than recommended operating temperatures which may lead to component failure.

⚠WARNING	**Electrical Shock Hazard** **Failure to follow these instructions can result in death, fire, or electrical shock.** **Disconnect power before servicing.** **Replace all panels before operating.**
	

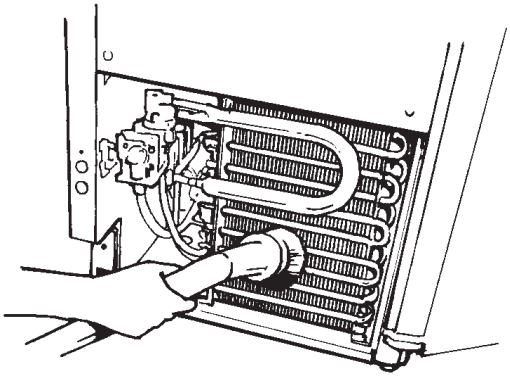
1. Unplug ice maker or disconnect power.

2. Remove the two screws in the lower access panel and the two screws from the base grille area of the front panel support. Pull forward to remove the lower access panel.

3. Pull the bottom forward and then pull down to remove the lower access panel.



4. Remove dirt and lint from the condenser fins and the unit compartment with a brush attachment on a vacuum cleaner.



5. Replace the lower access panel using the four screws.

6. Plug in ice maker or reconnect power.

Cleaning the Interior Components

1. Unplug ice maker or disconnect power.

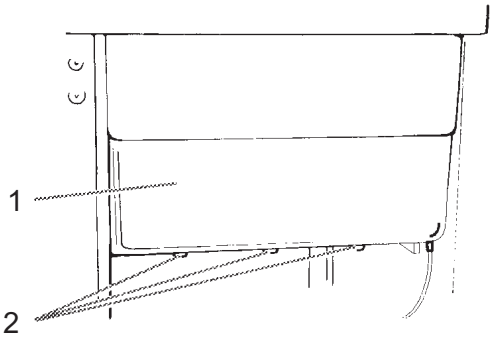
⚠WARNING	**Electrical Shock Hazard** **Failure to follow these instructions can result in death, fire, or electrical shock.** **Disconnect power before servicing.** **Replace all panels before operating.**
	

2. Open the storage bin door and remove any ice that is in the bin.

3. Remove the drain cap from the water pan and drain thoroughly. Replace the drain cap.

4. Remove the three screws that hold the cutter grid cover in place.

5. Unplug the wiring harness from the left side of the cutter grid.

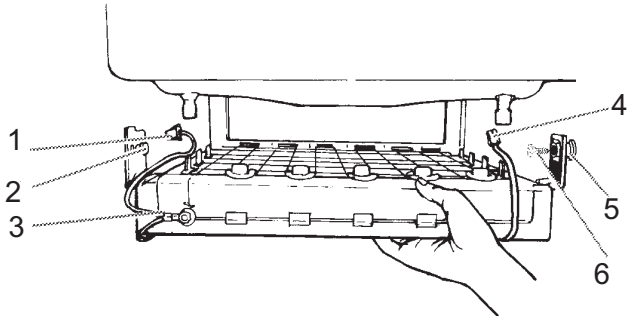


1. Cutter Grid Cover
2. Screws

6. Unplug the ice level sensor from the right side of the cutter grid. Pull the ice level sensor down and forward away from the cutter grid.

7. Remove the right-hand screw and loosen the left-hand screw. Lift the cutter grid up and out and over the left-hand screw.

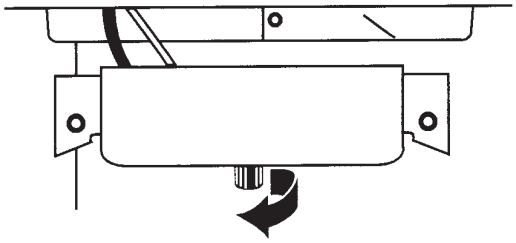
NOTE: Make sure the plastic spacer from the right-hand side of the cutter grid bracket stays with the cutter grid.



1. Cutter Grid Harness
2. Screw
3. Cutter Grid
4. Ice Level Sensor Harness
5. Plastic Spacer
6. Screw

Cleaning Interior - continued

8. Remove the two screws that hold the water pan in place. Push down with one hand on the front of the pan while pulling forward on the bottom back side.



9. Wash the interior components (cutter grid, exterior of hoses, and water pan) and the storage bin, door gasket, and ice scoop with mild soap or detergent and warm water. Rinse in clean water. Then clean the same parts with a solution of 1 tablespoon (15 mL) of household bleach in 1 gallon (3.8 L) warm water. Rinse again thoroughly in clean water.

NOTE: Do not remove hoses. Do not wash plastic parts in dishwasher. They cannot withstand temperatures above 145°F (63°C).

10. Replace water pan by pushing back on the bottom with one hand while pushing up and back on the top. Secure the water pan by replacing both screws.

11. Check the following:

- Drain cap from the water pan is in place.
- Hose from water pan is inserted into storage bin drain opening.

12. Slide the cutter grid back into place and secure it by replacing the right-hand screw and plastic spacer. Then tighten the left-hand screw. Reconnect the cutter grid and ice level sensor harnesses.

Changing the Light Bulb

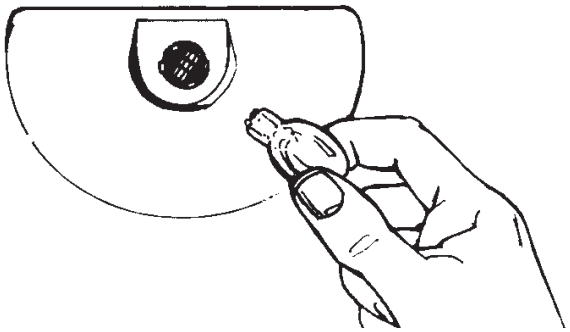
The ice maker has a light bulb in the top of the storage bin.

To replace it, open the bin door and follow these instructions:

1. Unplug ice maker or disconnect power.

2. Remove the three screws that hold the cutter grid cover in place. Reach behind the control panel and pull the light bulb down from the ceiling.

3. Replace with a 12-volt wedge base-type bulb (automotive #917). Locate the light bulb receptacle in the ceiling behind the control panel. Align the flat edge of the light bulb with the receptacle and snap the bulb into place.



4. Replace the cutter grid cover with three screws.

5. Plug in ice maker or reconnect power.

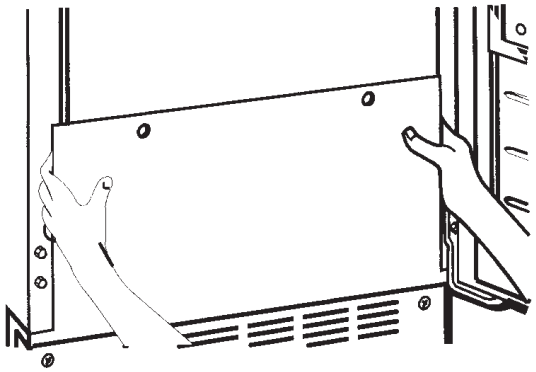
To shut down the ice maker:

1. Unplug ice maker or disconnect power.

2. Remove all ice from storage bin.

3. Shut off the water supply.

4. Remove the two screws in the lower access panel and the two screws from the base grille area of the front panel support. Pull forward to remove the lower access panel.



5. Disconnect the inlet and outlet lines to water valve. Allow these lines to drain and then reconnect to the valve.

6. Replace lower access panel and screws. Drain water from water pan by removing the drain cap. Also, remove water from drain line.

7. Before using again, clean the ice maker and storage bin.

8. Plug in ice maker or reconnect power.

NOTE: All components of the ice maker are permanently lubricated at the factory. They should not require any additional oiling throughout the normal life of the machine.

Before Calling for Service

Try the solutions suggested here first in order to avoid the cost of an unnecessary service call.

Unit does not run

- **Is the control set to ON?**

Be sure that the control is set to ON.

- **Is the power cord plugged in?**

Firmly plug the cord into a live outlet with proper voltage.

- **Has a household fuse or circuit breaker tripped?**

Replace the fuse or reset the circuit.

- **Is the room temperature cooler than normal?**

Room temperature must be above 55°F (13°C).

Otherwise, bin thermostat may sense cold room temperature and shut off even though bin is not full of ice. Also, unit may not restart once it does shut off.

Unit runs but produces no ice

- **Is the control set to ON?**

Be sure that the control is set to ON.

- **Is the water supply connected?**

Make sure the water supply is properly connected and turned on.

Unit runs but produces very little ice

- **Is the room temperature hotter than normal?**

Room temperatures of more than 90°F (32°C) will normally reduce ice production.

- **Is the condenser dirty?**

Dirt or lint may be blocking the airflow through the condenser. See the “Cleaning the Condenser” section.

- **Is there scale buildup in the ice maker?**

If there is white scale buildup in the ice maker’s water or freezing system, you should clean the ice maker. See the “Cleaning the Ice Maker System” and the “Cleaning the Interior Components” sections.

Grid is not cutting ice sheets

- **Is the cutter grid securely in place?**

Unplug the ice maker or disconnect power. Remove the cutter grid cover and check the cutter grid harness plug to make sure the connection is secure.

Taste in ice cubes

- **Is there unusually high mineral content in the water supply?**

The water may need to be filtered or treated.

- **Are there food items stored in the ice bin?**

Do not store any foods in the ice bin.

- **Were all the packaging materials removed?**

Make sure that all packaging materials were removed at the time of installation. Service Diagnosis

Symptom	Possible Cause	Probable Correction
Unit Off	No power to unit	Plug unit it
		Reset circuit breaker or replace fuse
	Unit switched off	Check control switch
	Ice level control keeping unit off	Room colder than 55°F., increase heat
		Ice on sensor tube - remove it
	Transformer Open	Check/replace transformer
	Control board failed	Switch unit to Clean, note if all valves and motors are switched on for 5 seconds each one after another. If not, replace the board.
Unit runs, makes no ice	No water to unit	Check/restore water supply
		Check water valve
	Pump does not run	Check connection from control box to pump
		Check/replace pump
	Unit overheating	Check for dirty condenser
		Check fan blade and motor
		Air flow blocked, check for air obstruction
	Compressor does not run	Check compressor relay
		Check compressor windings
	Low on refrigerant	Install service ports, weigh out charge, If low, locate and repair leak, replace drier evacuate to 300 microns and weigh in nameplate charge*
	Hot gas valve leaking thru	Check/replace hot gas valve

* If the system has been running in a vacuum AND the leak is found to be on the LOW side, repair the leak AND replace the compressor.

Symptom	Probable Cause	Possible Correction
Low ice making capacity	Dirty air cooled condenser	Clean condenser coil
	Dirty fan blade	Clean fan blade
	Water valve does not shut off tightly	Check/replace inlet water valve
	Scale on the evaporator surface	Clean the ice machine's water system
	Unit in a very warm room	Less ice will be made in temperatures over 90°F.
Unit will not shut off	Ice level control failure	Check to see if it is unplugged from the control box, if its plugged in, check resistance levels given on next page
Ice size incorrect	Evaporator thermistor failure	Check to see if it is unplugged from the control box, if its plugged in, check resistance levels given on next page
Ice formation uneven	Water distributor restricted	Clean the ice machine's water system
	Cutter grid failure	Replace grid
Makes excessive noise	Components contacting	Check & adjust position of tubes and panels
	Fan blade bent	Check & replace fan blade
	Fan or pump motor bearing failure	Locate noise, unplug motor to confirm. Replace worn component.
Water in bin	Drain plugged	Clean out drain
	Drain pump failed	Check/replace pump
Ice melted together	Low amount of ice used	Remove ice

Performance Data

Temperature	Suction Pressure at End of Freeze Cycle	Head Pressure at End of Freeze Cycle	Cycle Time in Minutes
Air 70°F. Water 60°F.	1 - 4	65 - 80	18 - 22
Air 90°F. Water 60°F.	2 - 5	85 - 100	22 - 27
Air 100°F. Water 60°F.	2 -6	85 - 105	28 - 35
Air 70°F. Water 80°F.	1 - 4	65 - 80	20 - 25
Air 90°F. Water 80°F.	2 - 5	85 - 100	23 - 30
Air 100°F. Water 80°F.	2 - 6	85- 105	30 - 38

Ice Bin Thermistor

	Temperature	Resistance	Temperature	Resistance
Bin Shut Off	40°F. ± 1°	25.9kΩ ± 3%	35°F. ± 1°	29.8kΩ ± 3%

Evaporator Thermistor

	Cut-IN		Cut-OUT		Water valve off (harvest)	
Ice Thickness	Temperature	Resistance	Temperature	Resistance	Temperature	Resistance
Normal	52.5°F. ± .3°	18.7kΩ ± 1%	6.5°F. ± .3°	69.5kΩ ± 1%	40°F. ± .3°	25.9kΩ ± 1%
Thick	52.5°F. ± .3°	18.7kΩ ± 1%	4.5°F. ± .3°	73.9kΩ ± 1%	40°F. ± .3°	25.9kΩ ± 1%
Thin	52.5°F. ± .3°	18.7kΩ ± 1%	8.5°F. ± .3°	65.3kΩ ± 1%	40°F. ± .3°	25.9kΩ ± 1%

Components

- Compressor: Embraco, 244 watts .2 HP
- Cutter Grid: 8.7 volts
- Light: 8.7 volts

Electrical Sequence

The CSW45's operation is controlled by an electronic board. This board takes in data from two thermistors: The Ice Bin Thermistor and the Evaporator Thermistor. The two resistances the thermistors supply, along with the position of the control switch, determine the cycles of the ice machine.

Start Up

The inlet water valve opens for about two minutes to fill the reservoir.

The water pump starts and stays on for about a minute, then shuts off.

Then the inlet water valve opens again for two minutes. After it closes, the compressor, pump and fan motor start.

Freeze

The compressor, fan motor and water pump are all operating and stay in a Freeze cycle until the evaporator thermistor reaches 6.5°F. That signals the control board to place the unit into a harvest cycle.

Harvest

The compressor and hot gas valve are both powered during the harvest cycle. The fan and pump are OFF. The machine stays in the harvest cycle until the evaporator thermistor senses 52°F. If the bin is not full, the unit goes into another freeze cycle.

Bin Full

The unit will shut down when the ice level sensor senses a temperature of less than 35°F. It will restart when the thermistor's temperature increases to 41°F.

Clean

The Clean Cycle lasts about 47 minutes. During the first minute all motors and valves will be switched on in sequence for 5 seconds each. This includes the inlet water valve, condenser fan, hot gas solenoid valve, water spray pump and the compressor. This early portion of the Clean Cycle doubles as a diagnostic cycle. The last 46 minutes of the clean the compressor, water spray pump and hot gas valve will be on.

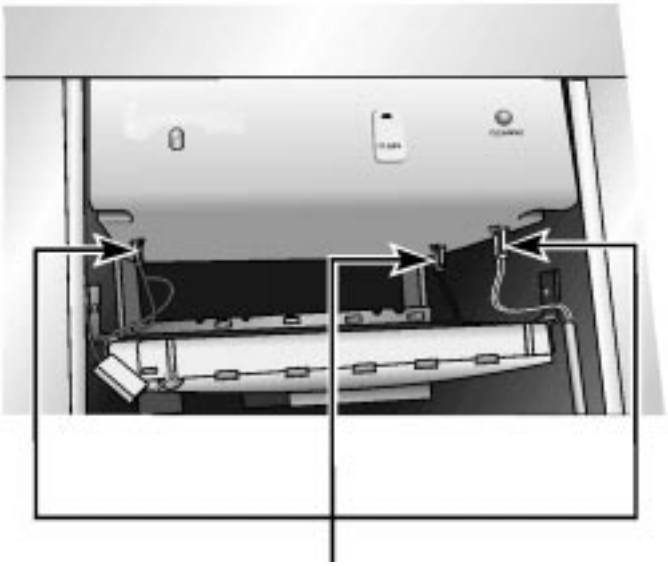
Cutting Grid

The cutting grid rests on two shelves molded into the bin liner. It is also secured to the liner with two screws.

1. Remove the three screws holding the cutter grid cover to the grid.

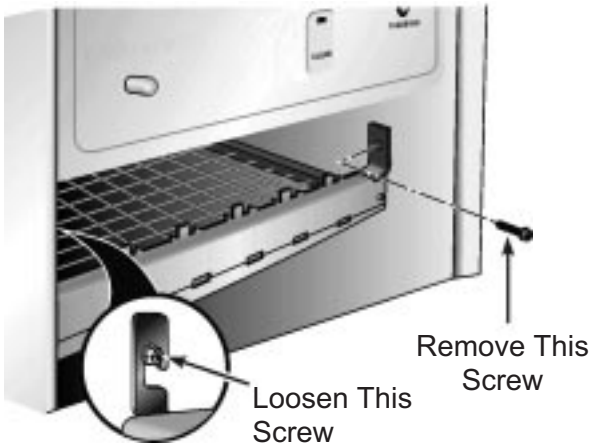
Remove 3 Screws

2. Disconnect the three wiring harness plugs from the control box.



Wire Harness Plugs

3. Remove the screw holding the grid to the right side of the liner.

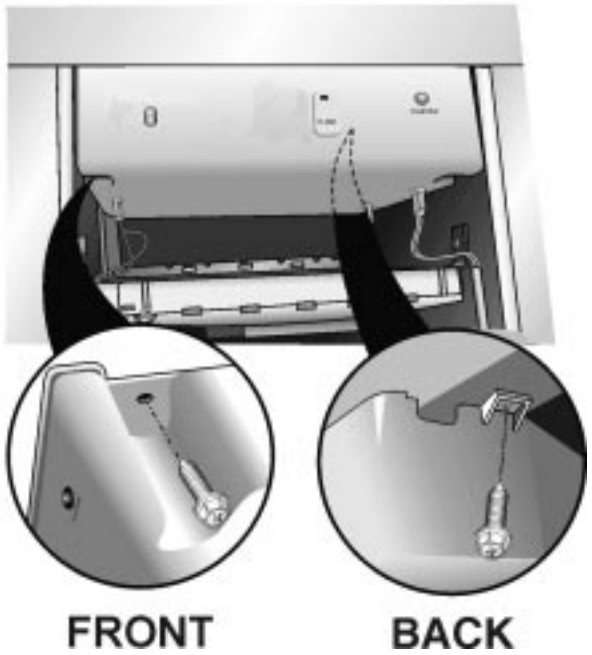


4. Loosen, but don't remove the screw holding the grid to the left side of the liner.

Lift the front of the grid until the slot in the grid clears the screw, the pull the grid forward and out of the cabinet.

Control Box

The control box is located above the cutting grid. It is suspended from the top panel by 4 screws. Its wiring harness routes out the back of the control box through a molded channel.



Repair Information

Water Slide

The water slide is mounted to the front of the evaporator and diverts water to the reservoir. It is connected to the evaporator by two screws. Remove the cutter grid first to get access to it.

Reservoir

The reservoir is located below the evaporator, and is mounted to the bin liner with two screws.

Water Pump

The water pump is located below the evaporator. It is mounted to the bin liner with three screws. It also has a quick-connect electrical plug.

Evaporator Thermistor

This thermistor is a set of two red wires that connect to the control box. There is a molded portion in one of the wires with a clip on it. That portion clips onto the part of the suction line under the middle of the evaporator that runs front to back.

Compressor

The terminals for the compressor are accessible only from the back of the unit. Compressor replacement requires lifting up of the cabinet at the front.

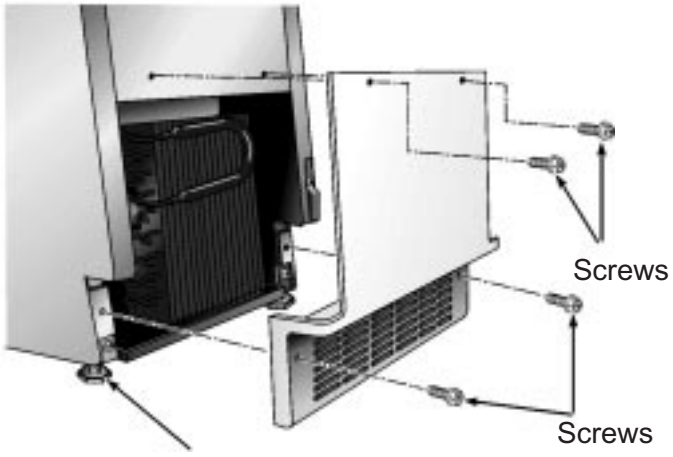
Fan Motor

The fan motor and/or blade is only accessible after the cabinet has been tilted up.

Component Compartment Access

Note: Chassis does NOT pull out.

Unplug the unit from the power supply. If built in, pull it out from the counter. Note: The water and drain lines may have to be disconnected.



1 Remove the front panel.

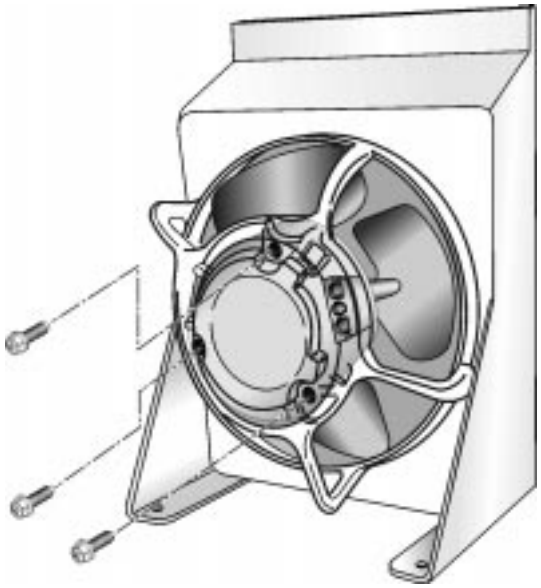
2. Remove the leveling legs from the cabinet.

3. Remove two screws at the front holding chassis base to cabinet.

4. Tilt the entire ice maker back far enough to gain access to the compartment.

When tilting the cabinet, be sure it is secure to avoid any possibility that it will tip too far back or fall forward.

Illustration of Cabinet in Service Position



Fan Motor, viewed from the back.