

# Instruction Manual

Modular Cuber

Models IM-200BAC



#### **A** WARNING

Only qualified service technicians should install and service the appliance. To obtain the name and phone number of your local Hoshizaki Certified Service Representative, visit www.hoshizaki.com. No installation or service should be undertaken until the technician has thoroughly read this Instruction Manual. Likewise, the owner/manager should not proceed to operate the appliance until the installer has instructed them on its proper operation. Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage. Proper installation is the responsibility of the installer. Product failure or property damage due to improper installation is not covered under warranty.

Hoshizaki provides this manual primarily to assist qualified service technicians in the installation, maintenance, and service of the appliance.

Should the reader have any questions or concerns which have not been satisfactorily addressed, please call, send an e-mail message, or write to the Hoshizaki Technical Support Department for assistance.

Phone: 1-800-233-1940; (770) 487-2331 Fax: 1-800-843-1056; (770) 487-3360

E-mail: techsupport@hoshizaki.com

#### HOSHIZAKI AMERICA, INC.

618 Highway 74 South Peachtree City, GA 30269

Attn: Hoshizaki Technical Support Department

**NOTE:** To expedite assistance, all correspondence/communication MUST include the following information:

Model Number	
Serial Number	

• Complete and detailed explanation of the problem.

# **IMPORTANT**

This manual should be read carefully before the appliance is installed and operated. Read the warnings and guidelines contained in this manual carefully as they provide essential information for the continued safe use and maintenance of the appliance. Retain this manual for any further reference that may be necessary.

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# **Important Safety Information**

Throughout this manual, notices appear to bring your attention to situations which could result in death, serious injury, damage to the appliance, or damage to property.

**A** WARNING Indicates a hazardous situation which could result in death or

serious injury.

**NOTICE** Indicates a situation which could result in damage to the

appliance or property.

IMPORTANT Indicates important information about the installation, use, and

care of the appliance.

#### **A** WARNING

The appliance should be destined only to the use for which it has been expressly conceived. Any other use should be considered improper and therefore dangerous. The manufacturer cannot be held responsible for injury or damage resulting from improper, incorrect, and unreasonable use. Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage.

To reduce the risk of death, electric shock, serious injury, or fire, follow basic precautions including the following:

- Only qualified service technicians should install and service the appliance.
- The appliance must be installed in accordance with applicable national, state, and local codes and regulations.
- Electrical connection must be hard-wired and must meet national, state, and local electrical code requirements. Failure to meet these code requirements could result in death, electric shock, serious injury, fire, or damage.
- The icemaker requires an independent power supply of proper capacity. See the nameplate for electrical specifications. Failure to use an independent power supply of proper capacity can result in a tripped breaker, blown fuse, damage to existing wiring, or component failure. This could lead to heat generation or fire.
- THE ICEMAKER MUST BE GROUNDED. Failure to properly ground the icemaker could result in death or serious injury.
- Move the control switch to the "OFF" position and turn off the power supply before servicing. Lockout/Tagout to prevent the power supply from being turned back on inadvertently.
- To reduce the risk of electric shock, do not touch the control switch with damp hands.
- Do not make any alterations to the appliance. Alterations could result in electric shock, serious injury, fire, or damage.
- The appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

#### **A** WARNING, continued

- Children should be properly supervised around the appliance.
- Do not climb, stand, or hang on the appliance or allow children or animals to do so. Serious injury could occur or the appliance could be damaged.
- Do not use combustible spray or place volatile or flammable substances near the appliance. They might catch fire.
- Keep the area around the appliance clean. Dirt, dust, or insects in the appliance could cause harm to individuals or damage to the appliance.

- Follow the water supply, drain connection, and maintenance instructions carefully to reduce the risk of costly water damage.
- In areas where water damage is a concern, install in a contained area with a floor drain.
- Install the icemaker in a location that stays above freezing. Normal operating ambient temperature must be within 45°F to 100°F (7°C to 38°C).
- Do not leave the icemaker on during extended periods of non-use, extended absences, or in sub-freezing temperatures. To properly prepare the icemaker for these occasions, follow the instructions in "IV. Preparing the Icemaker for Periods of Non-Use."
- Do not place objects on top of the appliance.
- The dispenser unit/ice storage bin is for ice use only. Do not store anything else in the dispenser unit/ice storage bin.

# I. Specifications

# A. Electrical and Refrigerant Data

The rating label and nameplate provide electrical and refrigerant data. The rating label can be seen by removing the front panel. The nameplate is located on the rear panel. For certification marks, see the nameplate.

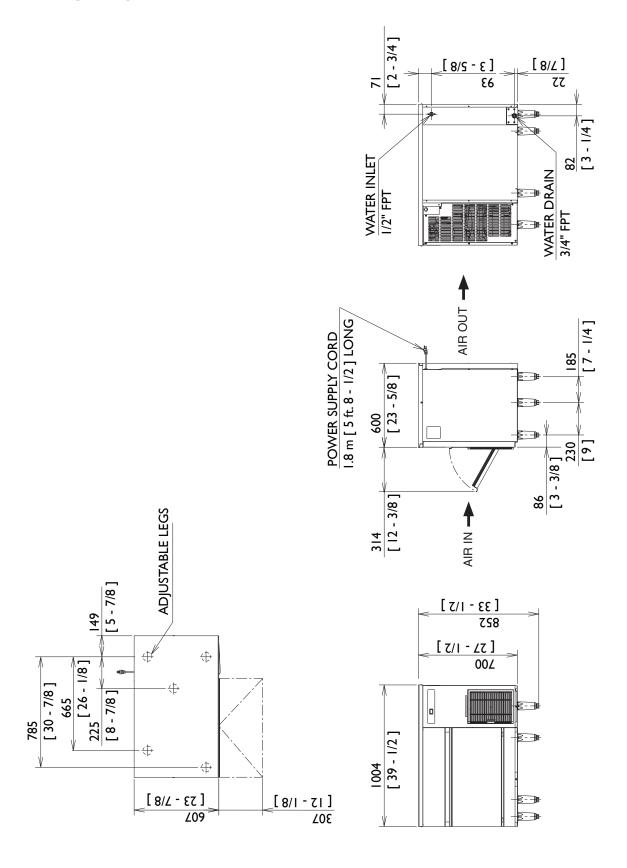
We reserve the right to make changes in specifications and design without prior notice.

#### 1. IM-200BAC

Single Phase		
Model Number	IM-200BAC	
AC Supply Voltage	115/60/1	
Amperes	8.0 AMPS	
Design Pressure	HI-387PSI LO-203PSI	
Refrigerant	404A 10.6 OZ.	

# **B. Dimensions/Connections**

Unit: mm [inches]



# **II. Installation and Operating Instructions**

#### **WARNING**

- The appliance must be installed in accordance with applicable national, state, and local codes and regulations.
- Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage.
- CHOKING HAZARD: Ensure all components, fasteners, and thumbscrews are securely in place after installation. Make sure that none have fallen into the dispenser unit/ice storage bin.

#### A. Location

#### NOTICE

- The icemaker is not intended for outdoor use. Normal operating ambient temperature must be within 45°F to 100°F (7°C to 38°C); Normal operating water temperature must be within 45°F to 90°F (7°C to 32°C). Operation of the icemaker, for extended periods, outside of these normal temperature ranges may affect icemaker performance.
- The icemaker will not work at sub-freezing temperatures. To prevent damage to the water supply line, drain the icemaker if the air temperature is going to go below 32°F (0°C). See "IV. Preparing the Icemaker for Periods of Non-Use."

#### For best operating results:

- The appliance should not be located next to ovens, grills, or other high heat producing equipment.
- In areas where water damage is a concern, install in a contained area with a floor drain.
- Minimum Clearance:

Left Side and Top	Right Side	Rear
2" (5-cm) on Left Side and 0" on Top	6" (15-cm)	2" (5-cm)
or		
5/8" (16-mm) on Left Side and 2" (5-cm) on Top		

• The location must provide a firm and level foundation for the appliance.

#### **B. Checks Before Installation**

- Remove all shipping cartons, tape, and packing material. If any are left in the appliance, it will not work properly.
- Remove the shipping tape holding the door and the bin control actuator.
- Visually inspect the exterior of the shipping container and immediately report any damage to the carrier. Upon opening the container, any concealed damage should also be immediately reported to the carrier.
- Remove the package containing the accessories.
- Remove the shipping carton, tape, and packing material. If any are left in the appliance, it will not work properly.
- Remove the protective plastic film from the panels. If the appliance is exposed to the sun or to heat, remove the film after the appliance cools.
- Check that refrigerant lines do not rub or touch lines or other surfaces, and that the fan blade turns freely.
- Check that the compressor is snug on all mounting pads.
- See the nameplate on the right side panel and check that your voltage supplied corresponds with the voltage specified on the nameplate.

# C. How to Remove Panels See Fig. 1

• Top Panel: Remove the screws and lift up.

Top Insulation: Lift up.Top Sheet: Lift up.

• Front Panel: Remove the screw and pull towards you.

• Right Side Panel: Remove the screws (front and rear) and slide right slightly.

• Front Frame: Loosen the screws. Lift up and pull towards you.

• Front Sheet: Lift up and pull towards you.

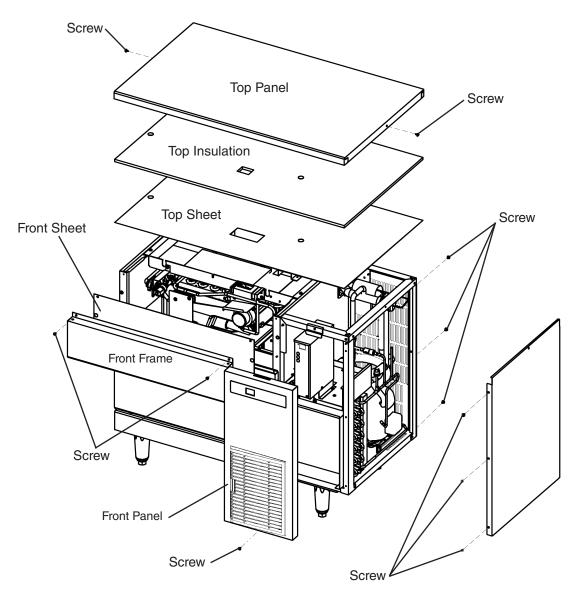


Fig. 1

# D. Setup

- Do not place more than 33 lb. (15 kg) on the top panel.
- Do not use the frame to lift the appliance. Lift the appliance from the base.
- Handle the appliance carefully to avoid damaging the exterior.
- 1) Attach the five adjustable legs provided to the bottom of the appliance.
- 2) Position the appliance in its permanent location.
- 3) Level the appliance from side-to-side and front-to-rear by adjusting the legs.

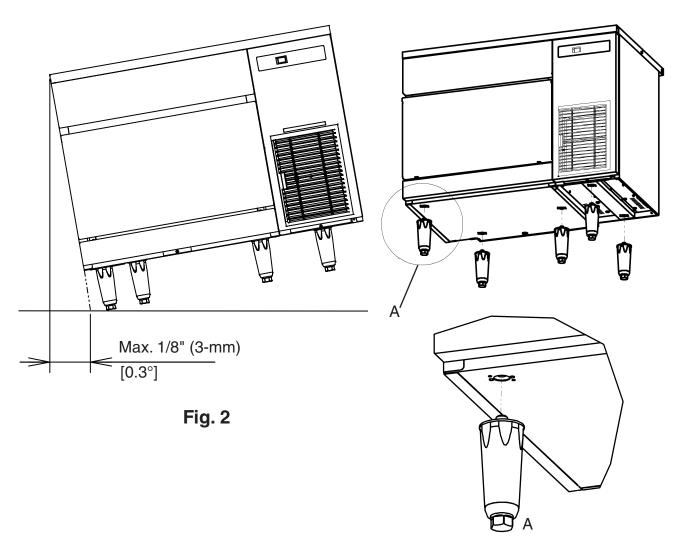


Fig. 3

#### **E. Electrical Connection**

#### **AWARNING**

- Electrical connection must meet national, state, and local electrical code requirements. Failure to meet these code requirements could result in death, electric shock, serious injury, fire, or damage.
- The appliance requires an independent power supply of proper capacity. See the nameplate for electrical specifications. Failure to use an independent power supply of proper capacity can result in a tripped breaker, blown fuse, damage to existing wiring, or component failure. This could lead to heat generation or fire.
- THE ICEMAKER MUST BE GROUNDED: The appliance is equipped with a NEMA 5-15 three-prong grounding plug to reduce the risk of potential shock hazards. It must be plugged into a properly grounded, independent 3-prong wall outlet. If the outlet is a 2-prong outlet, it is your personal responsibility to have a qualified electrician replace it with a properly grounded, independent 3-prong wall outlet. Do not remove the ground prong from the plug and do not use an adapter plug. Failure to properly ground the appliance could result in death or serious injury.
- Do not use an extension cord.
- To reduce the risk of electric shock, do not touch the control switch or plug with damp hands. Make sure the control switch is in the "OFF" position before plugging in or unplugging the appliance.
- Do not use an appliance with a damaged power cord. The power cord should not be altered, jerked, bundled, weighed down, pinched, or tangled. Such actions could result in electric shock or fire. To unplug the appliance, be sure to pull the plug, not the cord, and do not jerk the cord.
- The GREEN ground wire in the factory-installed power cord is connected to the appliance. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire to this screw upon reattachment.
- Usually an electrical permit and services of a licensed electrician are required.
- The maximum allowable voltage variation is ±10 percent of the nameplate rating.

# F. Water Supply and Drain Connections See Fig. 4

#### **WARNING**

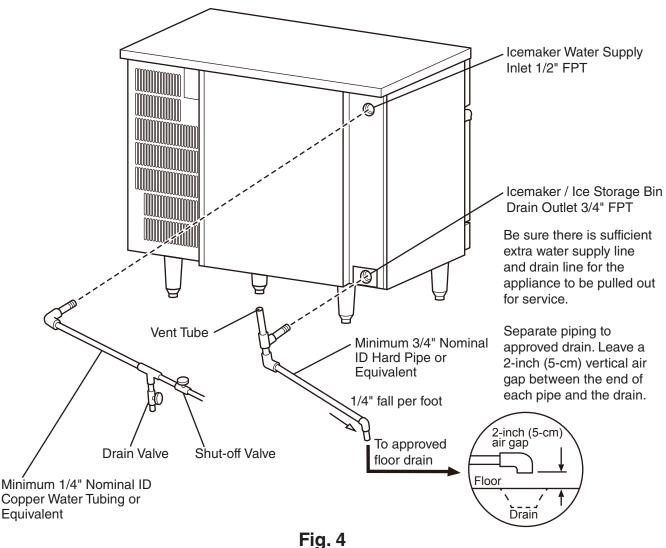
Water supply and drain connections must be installed in accordance with applicable national, state, and local regulations.

- Normal operating water temperature should be within 45°F to 90°F (7°C to 32°C). Operation of the appliance, for extended periods, outside of this normal temperature range may affect appliance performance.
- Water supply pressure must be a minimum of 10 PSIG and a maximum of 113 PSIG. If the pressure exceeds 113 PSIG, the use of a pressure reducing valve is required.
- To prevent damage to the appliance, do not operate the appliance when the water supply is off, or if the pressure is below 10 PSIG. Do not run the appliance until the proper water pressure is reached.
- External filters, strainers, or softeners may be required depending on water quality.
   Contact your local Hoshizaki Certified Service Representative or local Hoshizaki distributor for recommendations.
- A plumbing permit and services of a licensed plumber may be required in some areas.
- The icemaker drain line and water-cooled condenser drain line (if applicable) must be run separately.
- Drain lines must have 1/4" fall per foot (2-cm per 1-m) on horizontal runs to get a good flow. A vented tee connection is also required for proper flow.
- Drain lines should not be piped directly to the sewer system. An air gap of a minimum of 2 vertical inches (5-cm) should be between the end of the drain pipes from the icemaker/ice storage bin and water-cooled condenser (if applicable) and the floor drain.

#### 1. Icemaker

	Minimum Icemaker Water Supply Line Size	Storage Rin	Minimum Icemaker Drain Line Size
1/2" Female Pipe	1/4" Nominal ID Copper	3/4" Female Pipe	3/4" Nominal ID Hard
Thread (FPT)	Water Tubing or Equivalent	Thread (FPT)	Pipe or Equivalent

- An icemaker water supply line shut-off valve and drain valve must be installed.
- Be sure there is sufficient extra water supply line and drain line for the appliance to be pulled out for service.



#### G. Final Checklist

#### **WARNING**

**CHOKING HAZARD:** Ensure all components, fasteners, and thumbscrews are securely in place after installation. Make sure that none have fallen into the dispenser unit/ice storage bin.

- 1) Is the appliance level?
- 2) Is the appliance in a site where the ambient temperature is within 45°F to 100°F (7°C to 38°C) and the water temperature within 45°F to 90°F (7°C to 32°C) all year around?
- 3) Have the minimum clearance requirements specified below been met?

Left Side and Top	Right Side	Rear
2" (5-cm) on Left Side and 0" on Top	6" (15-cm)	2" (5-cm)
or		
5/8" (16-mm) on Left Side and 2" (5-cm) on Top		

- 4) Have all shipping cartons, tape, and packing material been removed from the appliance?
- 5) Have all electrical and water connections been made? Do electrical and water connections meet applicable national, state, and local code and regulation requirements?
- 6) Has the power supply voltage been checked or tested against the nameplate rating? Is the power supply a properly grounded, independent 3-prong wall outlet?
- 7) Are the water supply and drain lines sized as specified? Are the water supply line shut-off valve(s) and drain valve(s) installed? Has the water supply pressure been checked to ensure a minimum of 10 PSIG and a maximum of 113 PSIG?
- 8) Is the compressor snug on all mounting pads? Have the refrigerant lines been checked to make sure they do not rub or touch other lines or surfaces? Has the fan blade (if applicable) been checked to make sure it turns freely?
- 9) Are all components, fasteners, and thumbscrews securely in place?
- 10) Has the end user been given the instruction manual, and instructed on how to operate the appliance and the importance of the recommended periodic maintenance?
- 11) Has the end user been given the contact information of an authorized service agent?
- 12) Has the warranty card been filled out and forwarded to the factory for warranty registration?

#### H. Startup

## **WARNING**

All parts are factory-adjusted. Improper adjustments may adversely affect safety, performance, component life, and warranty coverage.

- If the appliance is turned off, wait for at least 3 minutes before restarting the appliance to prevent damage to the compressor.
- To prevent damage to the water pump, do not leave the control switch in the "WASH" position for extended periods of time when the water tank is empty.
- At startup, confirm that all internal and external connections are free of leaks.
- 1) Open the door.
- 2) Clean the ice storage bin using a neutral cleaner. Rinse thoroughly after cleaning.
- 3) Close the door.
- 4) Open the water supply line shut-off valve.
- 5) Remove the front panel.
- 6) Make sure the control switch is in the "OFF" position. Plug the appliance into the electrical outlet. WARNING! To reduce the risk of electric shock, do not touch the control switch or plug with damp hands.
- 7) Move the control switch to the "ICE" position.
- 8) Replace the front panel in its correct position.

# I. Display

# 1. Normal Operation

Display for normal operation is "on". See the figure on the right.



#### 2. Error Code

The control board will show an error code and safely stop if the appliance is operating outside of acceptable parameters. See the figure below. If an error code appears, please contact your local Hoshizaki Certified Service Representative for assistance.

E1: Abnormal freeze cycle E2: Abnormal harvest cycle

EE: Other



#### **III. Maintenance**

The appliance must be maintained in accordance with the instruction manual and labels provided. Consult with your local Hoshizaki Certified Service Representative about maintenance service.

## **A** WARNING

- Only qualified service technicians should service the appliance.
- To reduce the risk of electric shock, do not touch the control switch or plug with damp hands. Make sure the control switch is in the "OFF" position before plugging in or unplugging the appliance.
- Move the control switch to the "OFF" position and unplug the appliance from the electrical outlet before servicing.
- **CHOKING HAZARD:** Ensure all components, fasteners, and thumbscrews are securely in place after any maintenance is done to the appliance. Make sure that none have fallen into the ice storage bin.

#### A. Maintenance Schedule

The maintenance schedule below is a guideline. More frequent maintenance may be required depending on water quality, the appliance's environment, and local sanitation regulations.

Maintenance Schedule		
Frequency	Area	Task
Daily	Scoop	Clean the ice scoop using a neutral cleaner. Rinse thoroughly after cleaning.
Bi-Weekly	Air Filters	Inspect. Wash with warm water and neutral cleaner if dirty.
Monthly	External Water Filters	Check for proper pressure and change if necessary.
	Icemaker Exterior	Wipe down with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off oil or dirt build up. Clean any chlorine staining (rust colored spots) using a non-abrasive cleanser.
Yearly	Icemaker and Ice Storage Bin Liner	Clean and sanitize per the cleaning and sanitizing instructions provided in this manual or on the maintenance label on the icemaker.
	Water Supply Inlet	Close the icemaker water supply line shut-off valve and drain the water system. Clean the water supply inlet screen.
	Condenser	Inspect. Clean if necessary by using a brush or vacuum cleaner. More frequent cleaning may be required depending on location.
	Water Hoses	Inspect the water hoses and clean/replace if necessary.

# **B. Cleaning and Sanitizing Instructions**

The appliance must be cleaned and sanitized at least once a year. More frequent cleaning and sanitizing may be required in some water conditions.

#### WARNING

- To prevent injury to individuals and damage to the appliance, do not use ammonia type cleaners.
- Carefully follow any instructions provided with the bottles of cleaning and sanitizing solution.
- Always wear liquid-proof gloves and goggles to prevent the cleaning and sanitizing solutions from coming into contact with skin or eyes.

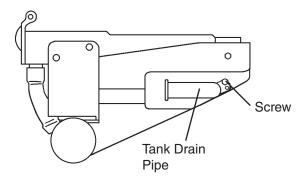
#### **NOTICE**

To prevent damage to the water pump, do not leave the control switch in the "WASH" position for extended periods of time when the water tank is empty.

#### 1. Cleaning Procedure

- 1) Dilute approximately 4.5 fl. oz. (133 ml) of recommended cleaner Hoshizaki "Scale Away" with 0.5 gallon (1.9 l) of water.
- 2) Remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 3) Remove all ice from the ice storage bin.
- 4) Remove the top panel, top insulation, top sheet, front frame, and front sheet.
- 5) Remove the screw and then move the water tank drain pipe to the drain position. See Fig. 5. Use the screw to secure the water tank drain pipe in the drain position.
- 6) Replace the front sheet, front frame, top sheet, top insulation, and top panel.
- 7) Close the icemaker water supply line shut-off valve. See Fig. 4.
- 8) Plug in the appliance. Move the control switch to the "ICE" position and then replace the front panel.
- Allow the appliance to operate for 3 minutes; the water tank drains and cubes are removed from the evaporator.
- Remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 11) Remove the top panel, top insulation, and top sheet.

#### [Normal Position]



#### [Drain Position]

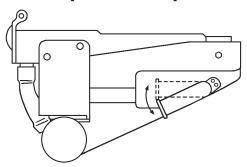


Fig. 5

- 12) Slowly pour the cleaning solution over the top of the evaporator and into the water tank. Do not splash or spill the solution onto other parts.
- 13) Replace the top sheet, top insulation, and top panel.
- 14) Plug in the appliance. Move the control switch to the "WASH" position to start the cleaning process and then replace the front panel.
- 15) After 30 minutes, remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 16) Open the icemaker water supply line shut-off valve.
- 17) Plug in the appliance. Move the control switch to the "ICE" position and then replace the front panel.
- 18) Allow the appliance to operate for 3 minutes to drain the water tank, and then remove the front panel.
- 19) Move the control switch to the "OFF" position. After 5 seconds, move the control switch to the "ICE" position and then replace the front panel.
- 20) Repeat steps 18 and 19 three more times to rise thoroughly.

  Note: If not sanitizing the icemaker, go to step 18 in "III.B.2. Sanitizing Procedure."

#### 2. Sanitizing Procedure - Following Cleaning Procedure

- 1) Dilute a 8.25% sodium hypochlorite solution (chlorine bleach) with water (add approximately 0.16 fl. oz. (4.6 ml) to 0.5 gal. (1.9 l) of water).
- 2) Remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 3) Close the icemaker water supply line shut-off valve.
- 4) Plug in the appliance and then move the control switch to the "ICE" position. Replace the front panel.
- 5) Allow the appliance to operate for 3 minutes to drain the water tank.
- 6) Remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 7) Remove the top panel, top insulation, and top sheet.
- 8) Slowly pour the sanitizing solution over the top of the evaporator and into the water tank. Do not splash or spill the solution onto the other parts.
- 9) Replace the top sheet, top insulation, and top panel.
- 10) Plug in the appliance. Move the control switch to the "WASH" position to start the sanitizing process and then replace the front panel.
- 11) After 15 minutes, remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 12) Open the icemaker water supply line shut-off valve.
- 13) Plug in the appliance. Move the control switch to the "ICE" position and then replace the front panel.

- 14) Allow the appliance to operate for 3 minutes to drain the water tank and then remove the front panel.
- 15) Move the control switch to the "OFF" position. After 5 seconds, move the control switch to the "ICE" position and then replace the front panel.
- 16) Repeat steps 14 and 15 three more times to rise thoroughly.
- 17) Repeat steps 1 through 16 one more time.
- 18) Remove the front panel and then move the control switch to the "OFF" position. Unplug the appliance.
- 19) Remove the top panel, top insulation, top sheet, front frame, and front sheet.
- 20) Remove the screw and then move the water tank drain pipe to the normal position. See Fig. 5. Use the screw to secure the water tank drain pipe in the normal position.
- 21) Replace the front sheet, front frame, top sheet, top insulation, and top panel.
- 22) Clean the ice storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.
- 23) Plug in the appliance. Move the control switch to the "ICE" position and then replace the front panel to start the automatic icemaking process.

# IV. Preparing the Appliance for Periods of Non-Use

#### **NOTICE**

- When storing the appliance for an extended time or in sub-freezing temperatures, follow the instructions below to prevent damage.
- To prevent damage to the water pump seal, do not leave the control switch in the "WASH" position for extended periods when the water tank is empty.

During extended periods of non-use, extended absences, or in sub-freezing temperatures, follow the instructions below. When the appliance is not used for two or three days under normal conditions, it is sufficient to move the control switch to the "OFF" position.

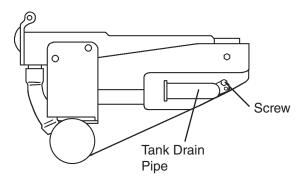
#### 1. Remove the water from the icemaker water supply line:

- 1) Remove the front panel.
- 2) Move the control switch to the "OFF" position.
- 3) Close the icemaker water supply line shut-off valve and then open the icemaker water supply line drain valve. See Fig. 4.
- 4) Allow the icemaker water supply line to drain by gravity.
- 5) Attach compressed air or carbon dioxide supply to the icemaker water supply line drain valve.
- 6) Move the control switch to the "ICE" position.
- 7) Blow the icemaker water supply line out using compressed air or carbon dioxide.

#### 2. Drain the water tank:

- 1) Move the control switch to the "OFF" position and then unplug the appliance.
- 2) Remove the top panel, top insulation, and top sheet.
- 3) Remove the screw and then move the tank drain pipe to the drain position. See Fig. 6.
- 4) Replace the top sheet, top insulation, and top panel.
- 5) Close the icemaker water supply line drain valve.
- 6) Plug in the appliance and then move the control switch to the "ICE" position.
- 7) Press the "RESET" button. See Fig. 7. The water tank will start to open.
- Note: This procedure is necessary to protect the appliance from freezing up at subfreezing temperatures.
- 8) Move the control switch to the "OFF" position and then unplug the appliance when the water tank is fully opened.
- 9) Remove the top panel, top insulation, and top sheet.
- Move the tank drain pipe to the normal position and then secure it with the screw. See Fig. 6.
- 11) Replace the top sheet, top insulation, top panel, and front panel.

#### [Normal Position]



[Drain Position]

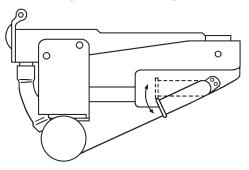


Fig. 6

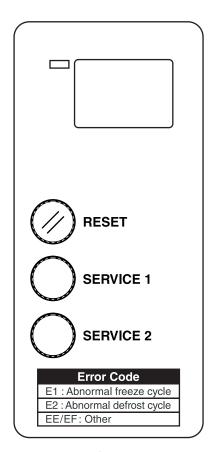


Fig. 7

# V. Disposal

The appliance contains refrigerant and must be disposed of in accordance with applicable national, state, and local codes and regulations. Refrigerant must be recovered by properly certified service personnel.

