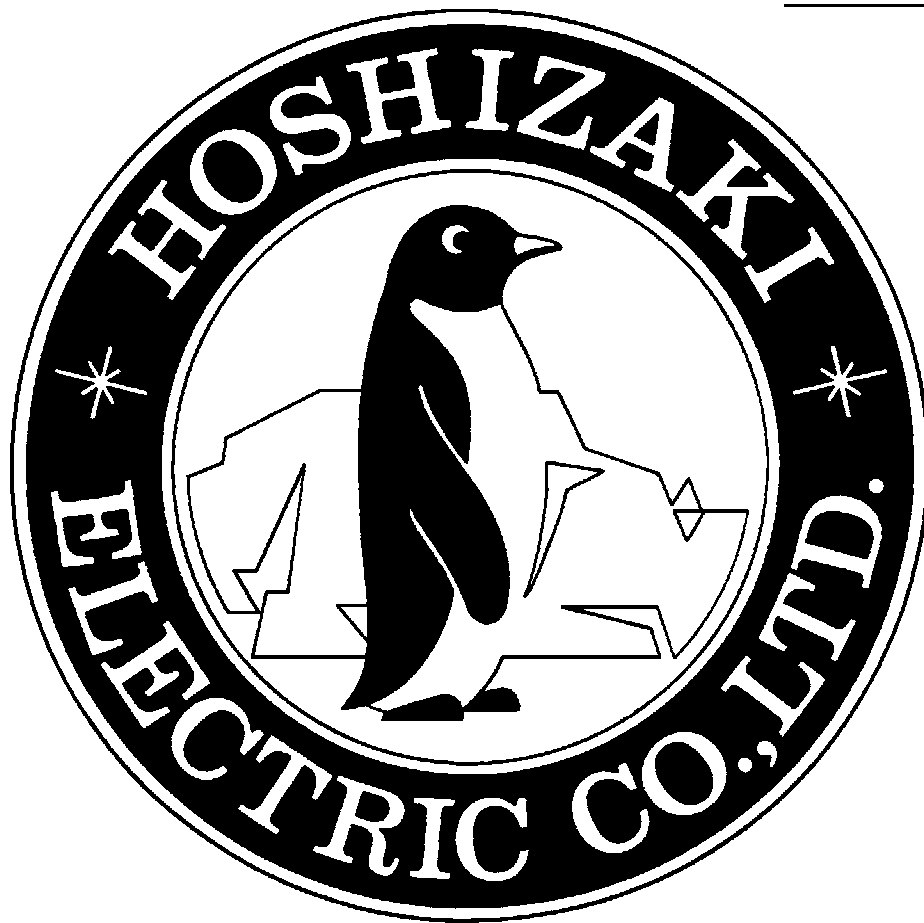


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ISSUED: JAN. 22, 2003

REVISED: JUN. 20, 2005

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**HOSHIZAKI  
SELF-CONTAINED CUBER**

**MODEL    AM-100BAE  
              AM-150BAF  
              AM-150BWF**

**INSTRUCTION MANUAL**

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## FOREWORD

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### IMPORTANT

Only qualified service technicians should attempt to install, service or maintain this icemaker. No such installation, service or maintenance should be undertaken until the technician has thoroughly read this Instruction Manual. Likewise, the owner/manager should not proceed to operate the icemaker until the installer has instructed them on its proper operation.

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

Should the reader have any questions or concerns which have not been satisfactorily addressed, please call or write to the HOSHIZAKI Technical Support Department for assistance.

HOSHIZAKI AMERICA, INC.  
618 Highway 74 South  
Peachtree City, GA 30269

Attn: HOSHIZAKI Technical Support Department

Phone: 1-800-233-1940 Technical Service  
(770) 487-2331  
Fax: (770) 487-3360

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

- Model Number
- Serial Number
- Complete and detailed explanation of the problem

## IMPORTANT

1. This booklet is an integral and essential part of the product and should be handed over to the user. Read the warnings contained in this booklet carefully as they give important indications regarding the safety of the installation, use and maintenance. Please preserve this booklet for any further consultation that may be necessary.
  
2. This icemaker 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 eventual damage caused by improper, incorrect and unreasonable use.

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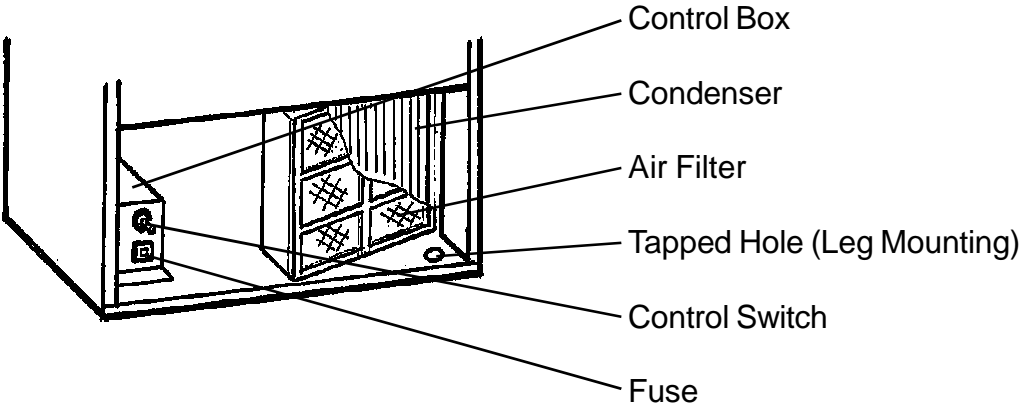
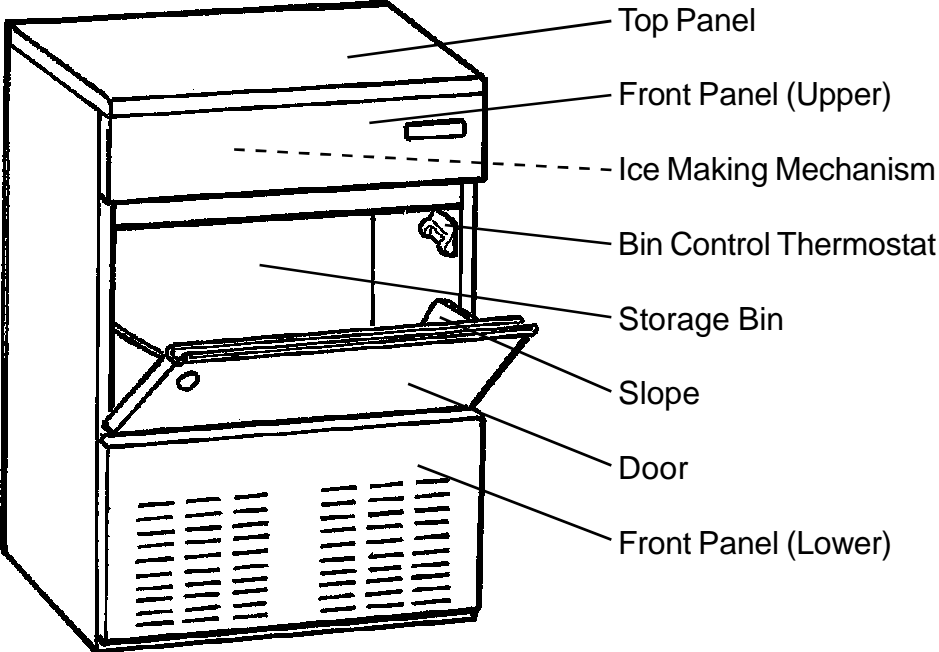
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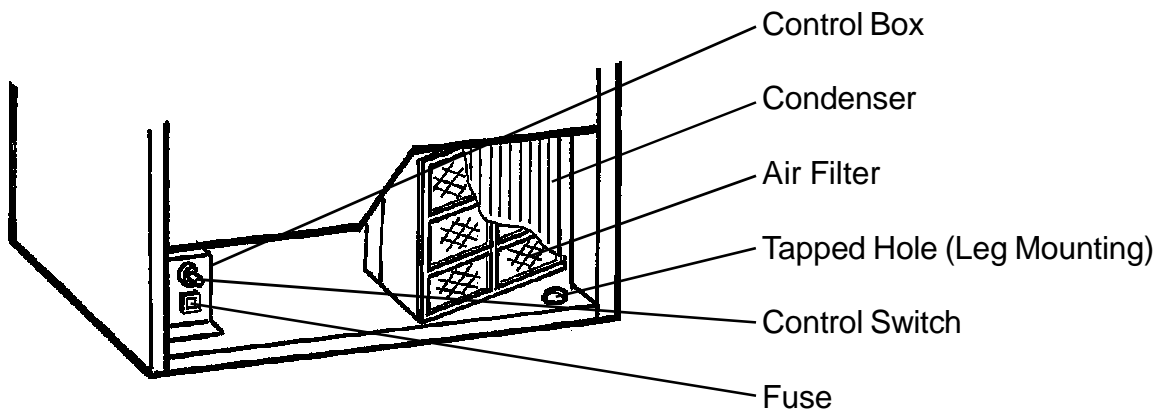
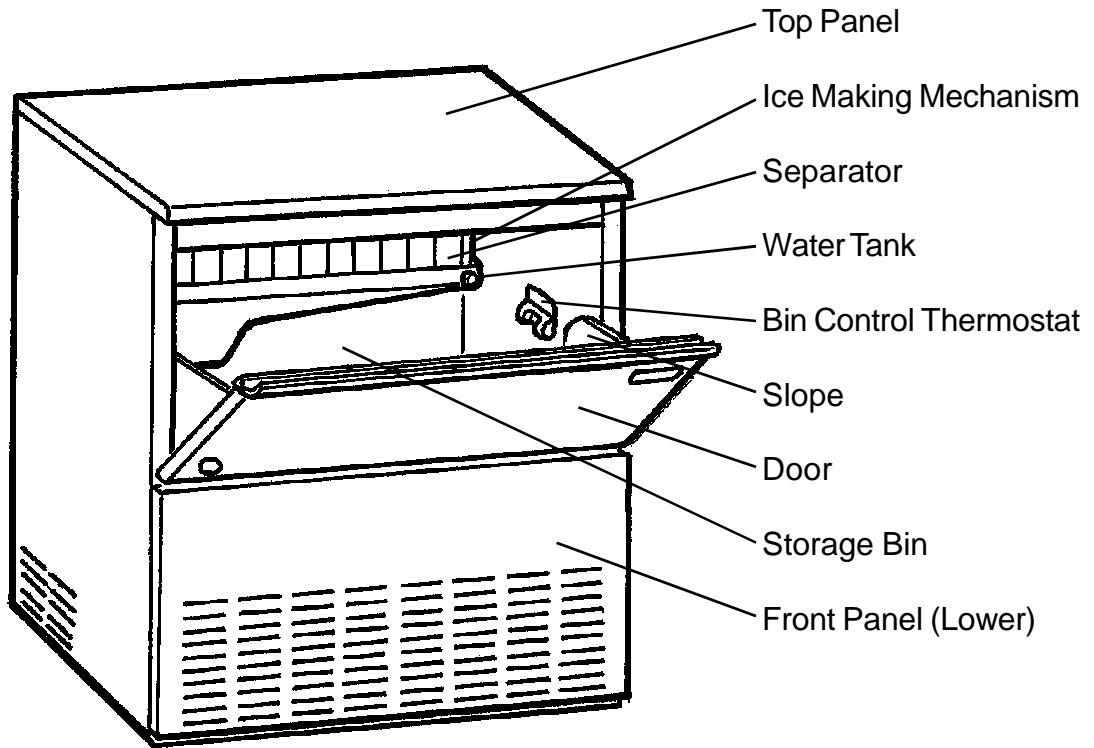
**I. GENERAL INFORMATION**

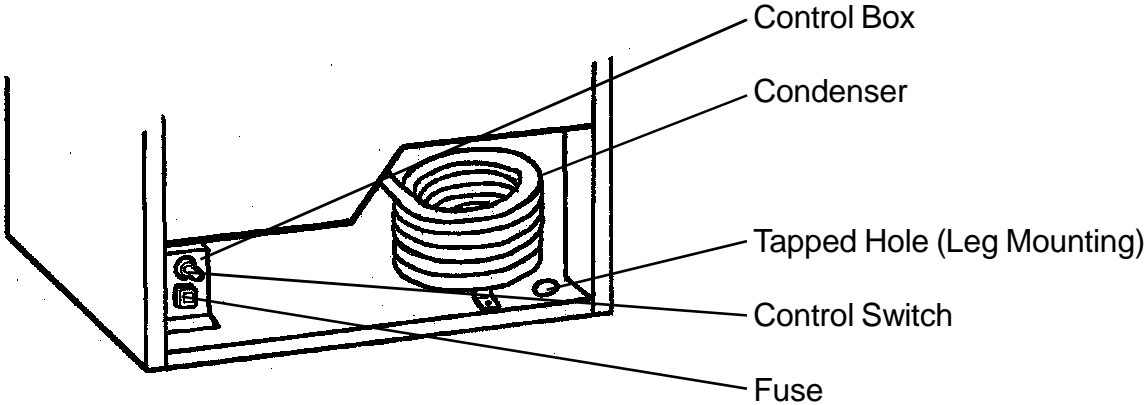
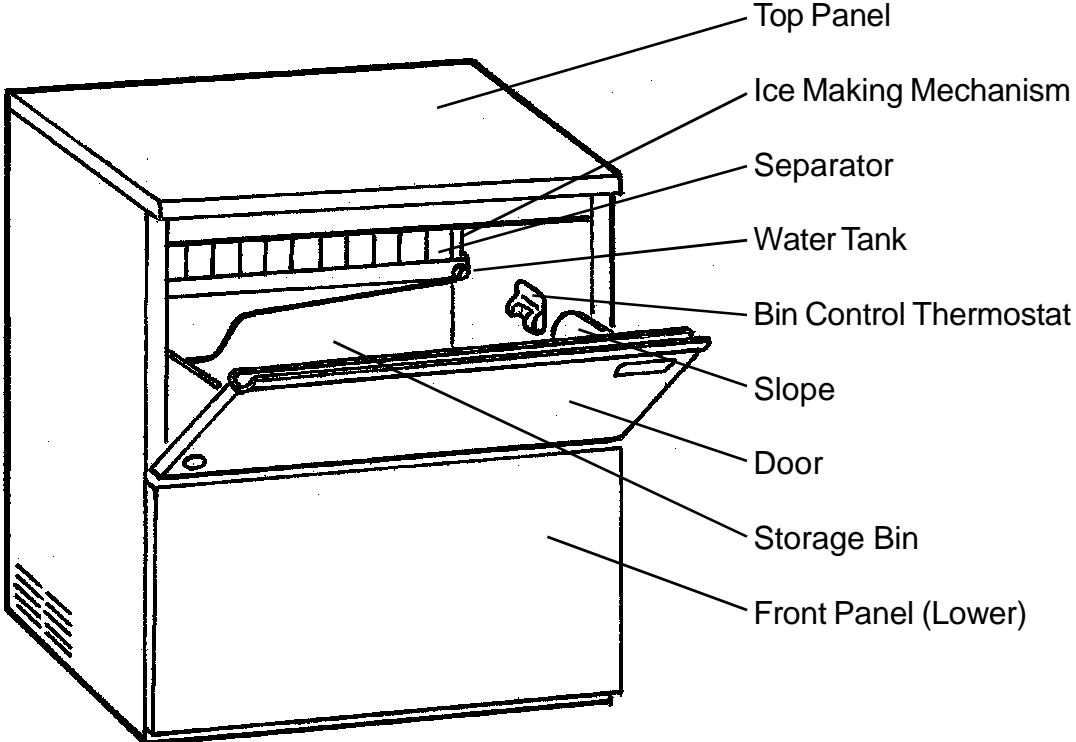
**1. CONSTRUCTION**

**[a] AM-100BAE**



[b] AM-150BAF





## II. INSTALLATION AND OPERATING INSTRUCTIONS

### 1. CHECKS BEFORE INSTALLATION

\* Visually inspect the exterior of the shipping container, and any severe damage noted should be reported to the carrier.

#### WARNING

1. Remove shipping tape(s) and packing as follows. If any left in the icemaker, it will not work properly.
2. Do not lift or carry the unpacked icemaker by using the brass fitting for water supply at the rear of the unit. The plastic threads may be damaged.

#### IMPORTANT

1. Remove the shipping tapes holding the Door and Separator.
2. Ensure all components, fasteners and thumbscrews are securely in place.

\* Remove the package containing accessories.

\* Check that refrigerant lines do not rub or touch lines or other surfaces.

\* Check that the Compressor is snug on all mounting pads.

\* See the Nameplate on the upper right part of the Left Side Panel, and check that your voltage supplied corresponds with the voltage specified on the Nameplate.

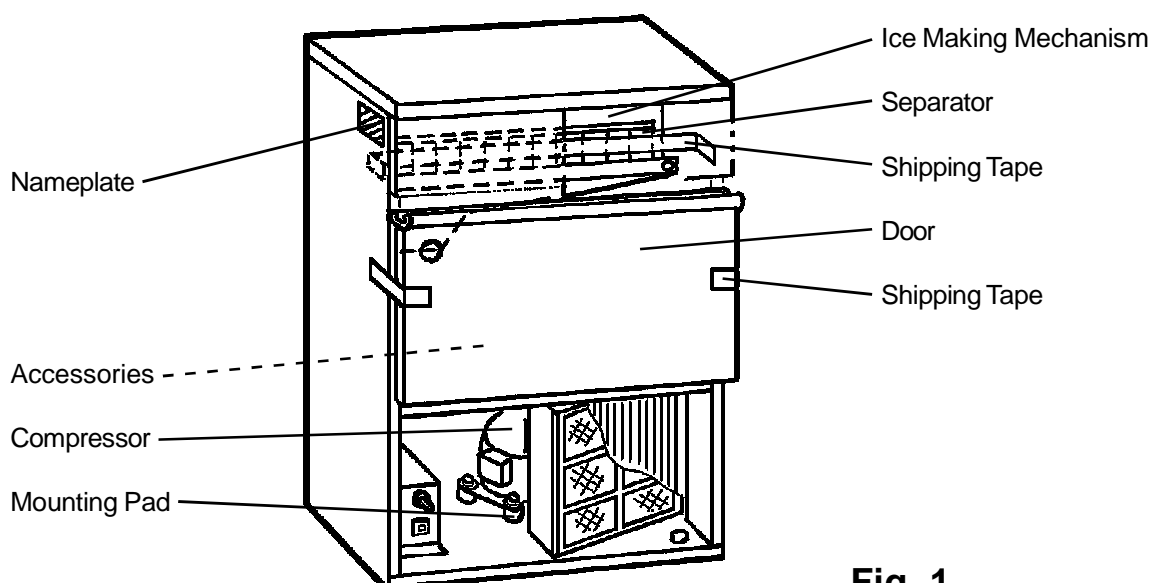


Fig. 1

## 2. LOCATION

### WARNING

This icemaker is not intended for outdoor use. Normal operating ambient temperature should be within 50°F (10°C) to 100°F (38°C); Normal operating water temperature should be within 41°F (5°C) to 90°F (32°C). Operation of the icemaker, for extended periods, outside of these normal temperature ranges may affect production capacity.

For best operating results:

- \* The icemaker should not be located next to ovens, grills or other high heat producing equipment.
- \* The location should provide a firm foundation for the equipment. Level the icemaker from side to side and front to rear.
- \* Avoid a site where dripping is not allowed.
- \* This icemaker will not work at subfreezing temperatures. To prevent damage to the water supply line, drain the icemaker when air temperature is below zero.
- \* The AM-100BAE icemaker requires no clearance at either side. But allow enough space at rear for water supply and drain connections, at least 12" (approx. 30 cm) clearance at front, and at least 0.6" (approx. 15 mm) clearance at top for maintenance.
- \* The AM-150BAF icemaker requires 2" (approx. 5 cm) clearance at either side. Allow enough space at rear for water supply and drain connections, at least 12" (approx. 30 cm) clearance at front, and at least 0.6" (approx. 15 mm) clearance at top for maintenance.



### 3. SET UP

#### IMPORTANT

Do not place heavy objects exceeding 33 lbs (15 kg) on the Top Panel.

- 1) Unpack the icemaker, and remove all shipping cartons, tapes and packing BEFORE operating the unit.
- 2) Position the icemaker in a selected site. Clean the interior with soap and water and rinse thoroughly.
- 3) Level the icemaker in both the left-to-right and the front-to-rear directions (when installed with or without legs). See Fig. 2.
- 4) When installing the unit without legs, the perimeter where the machine touches the counter should be sealed with silicone to prevent water from leaking under the icemaker.
- 5) When installing the unit with legs on the bottom, use the four accessory legs adjustable from 6" (15.2 cm) to 7" (17.8 cm). Screw the legs tightly into the tapped holes in the base (see Fig. 3). Handle the icemaker carefully not to damage the exterior.

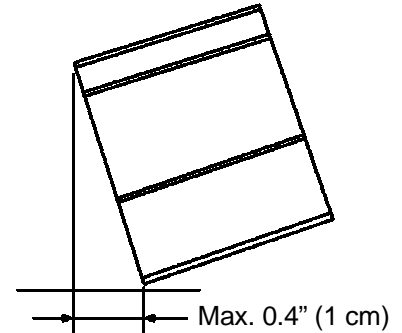


Fig. 2

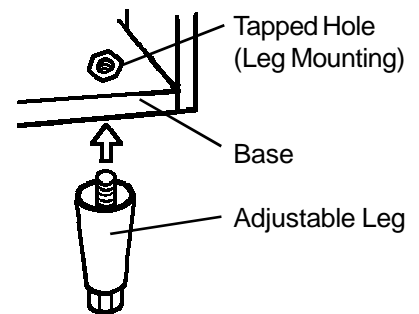


Fig. 3

### 4. ELECTRICAL CONNECTIONS

#### WARNING

##### **THIS APPLIANCE MUST BE GROUNDED.**

This icemaker requires a ground that meets the national and local electrical code requirements. To prevent possible severe electrical shock injury to individuals or extensive damage to equipment, install a proper ground wire to this icemaker. Remove the plug from the mains socket before any maintenance, repairs or cleaning is undertaken.

- \* This icemaker must be plugged into the separated power receptacle which has enough capacity. The maximum allowable voltage variation should not exceed  $\pm 10$  percent of the nameplate rating. See the Nameplate.
- \* Usually an electrical permit and services of a licensed electrician are required.

## 5. WATER SUPPLY AND DRAIN CONNECTIONS

### WARNING

To prevent damage to the freezer mechanism, do not operate this icemaker when the water supply is OFF, or if the pressure is below 10 PSIG (0.7 bar), the recommended water pressure. Stop the icemaker until proper water pressure is resumed.

### CAUTION

1. A brass fitting for the water supply line connection is attached to the 3/4" BSP plastic threads to avoid cross-threading of the Water Valve possibly resulting in leaks. The brass fitting allows connection of a 1/2" FPT that should be connected to the potable water supply line.
2. While making the water supply line connection, use a wrench to hold the brass fitting still to prevent overtightening and damage to the plastic threads.

\* Water supply inlet for the icemaker is 1/2" female pipe thread (FPT).

Note: On water-cooled model, two water supply inlets are provided. One is for the icemaker (1/2" FPT), and the other is for the water-cooled condenser (1/2" FPT).

\* The brass fitting is attached as shown in Fig. 4. The fitting size is a 1/2" FPT and must be connected only to a potable water supply.

\* A water supply line shut-off valve and drain valve must be installed.

\* Water supply pressure should be a minimum of 10 PSIG (0.7 bar) and a maximum of 113 PSIG (7.5 bar). If the pressure exceeds 113 PSIG (7.5 bar), use a pressure reducing valve.

\* Drain outlet for icemaker dump is 3/4" FPT.

Note: On water-cooled model, a 3/8" FPT is provided for the condenser drain outlet. The icemaker drain and the condenser drain piping connections must be made separately.

\* Drain must be 1/4" fall per foot (2 cm fall per meter) on horizontal runs to get good flow.

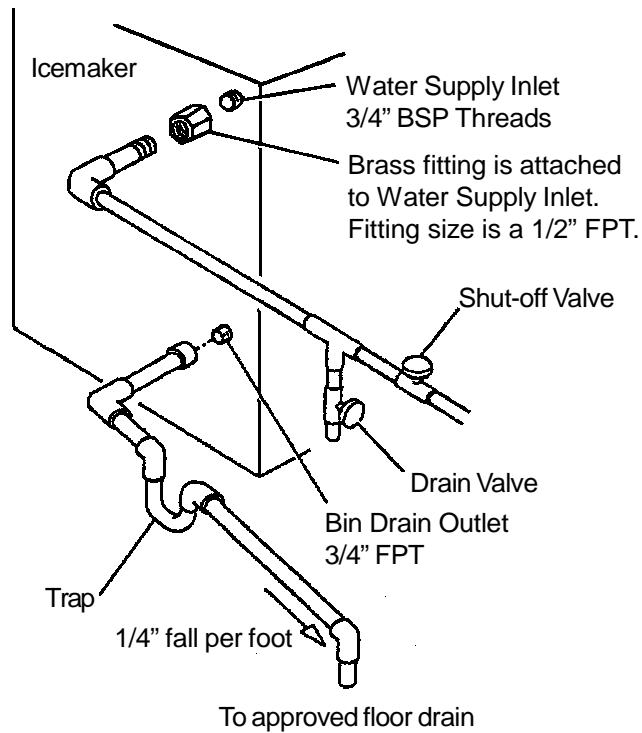
\* Keep a more than 2 vertical inch (5 vertical cm) air gap between the drain pipe end and the sink.

\* The drain pipe must be so laid as to prevent a backflow into the Storage Bin. Provide a trap in the bin drain line to prevent odor from flowing back into the Storage Bin.

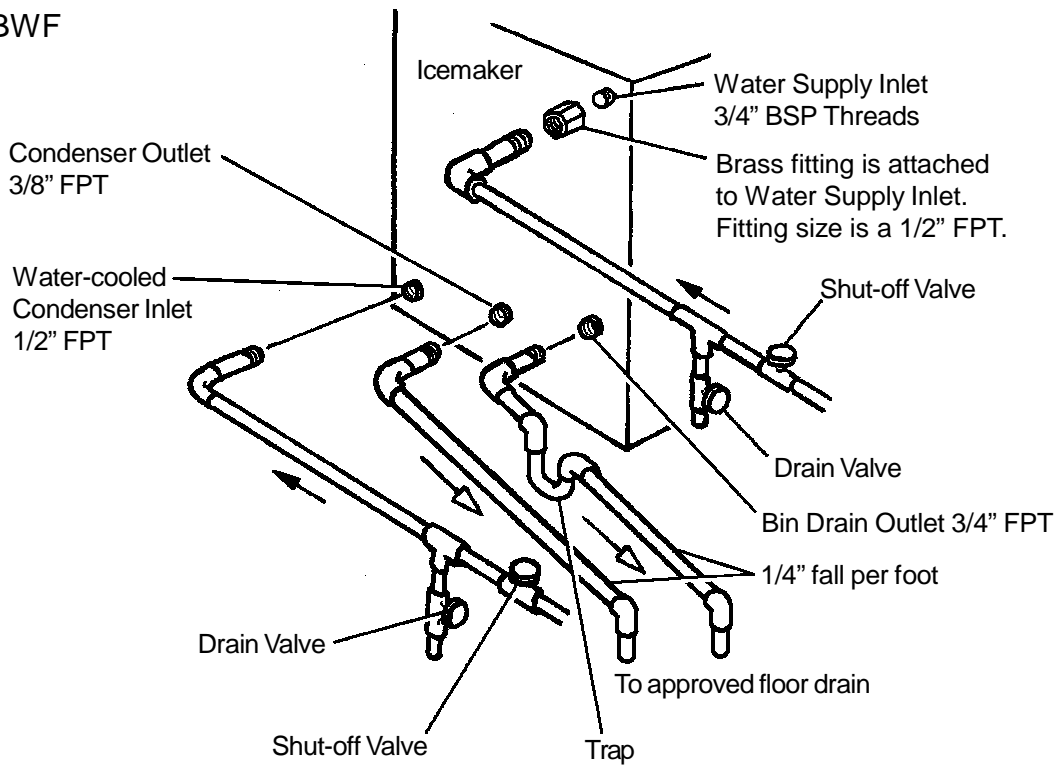
\* A plumbing permit and services of a licensed plumber may be required in some areas.

\* This icemaker should be installed in accordance with applicable national, state and local regulations.

AM-100BAE  
AM-150BAF



AM-150BWF



**Fig. 4**

## **6. FINAL CHECK LIST**

- 1) Is the icemaker level?
- 2) Is the icemaker in a site where the ambient temperature is within 50°F (10°C) to 100°F (38°C) and the water temperature within 41°F (5°C) to 90°F (32°C) all year around?
- 3) Have all shipping tape(s), string and packing been removed from the icemaker?
- 4) Are all components, fasteners and thumbscrews securely in place?
- 5) Have all electrical and piping connections been made?
- 6) Has the power supply voltage been tested or checked against the nameplate rating?  
Has a proper earth been installed to the icemaker?
- 7) Are the Water Supply Line Shut-off Valve and Drain Valve installed? Has the water supply pressure been checked to ensure a minimum of 10 PSIG (0.7 bar) and a maximum of 113 PSIG (7.5 bar)?
- 8) Have the Compressor hold-down bolts and all refrigerant lines been checked against vibration and possible failure?
- 9) Has the Bin Control Thermostat been checked for correct operation? When the icemaker is running, cool the Detector of the Bin Control Thermostat. The icemaker should stop within 10 seconds.
- 10) Has the user been given the Instruction Manual and instructed on how to operate the icemaker and the importance of periodic maintenance recommended?
- 11) Has the user been given the name and telephone number of the Authorized Service Agency?

## **7. START UP**

\* Check that shipping tape(s), string and packing are removed before starting the icemaker.

- 1) Clean inside the Storage Bin and Door.
- 2) Open the Water Supply Line Shut-off Valve and plug in the icemaker.
- 3) Remove the Front Panel (Lower), and move the Control Switch on the Control Box to the "ICE" position.

\* The freezing cycle will start automatically.

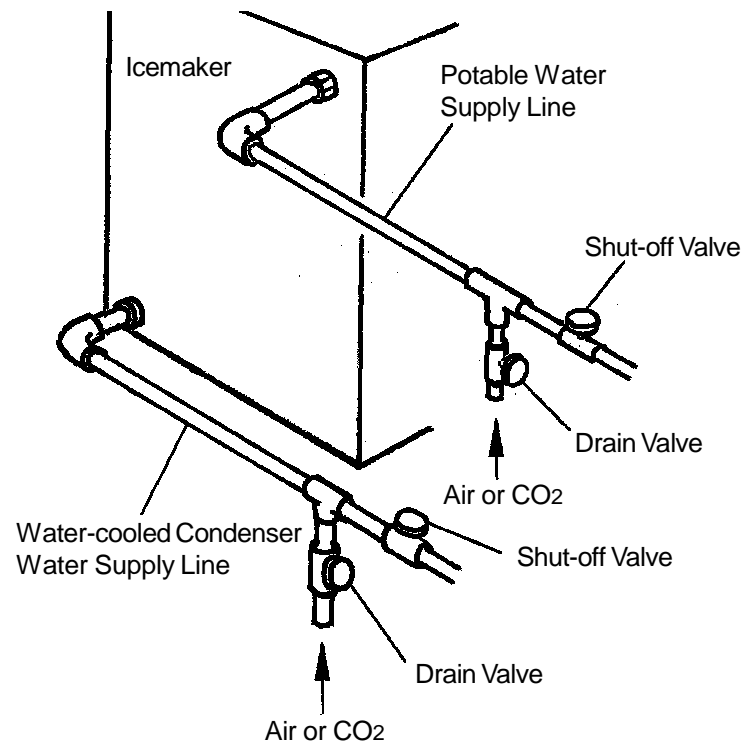
## 8. PREPARING THE ICEMAKER FOR LONG STORAGE (more than 1 day)

### WARNING

Drain the icemaker to prevent damage to the water supply line at subfreezing temperatures, using air or carbon dioxide. Shut off the icemaker until proper air temperature is resumed.

[1] On water-cooled model only, first remove the water from the water-cooled condenser:

- 1) Remove the Front Panel (Lower).
- 2) Move the Control Switch, on the Control Box, to the "OFF" position.
- 3) Wait 3 minutes.
- 4) Move the Control Switch to the "ICE" position.
- 5) Allow 5 minutes for the icemaker to fill with water and the Water Pump to start operating.
- 6) Close the Water-cooled Condenser Water Supply Line Shut-off Valve.
- 7) Open the Drain Valve for the water-cooled condenser water supply line.
- 8) Allow the line to drain by gravity.
- 9) Attach compressed air or carbon dioxide supply to the Condenser Water Line Drain Valve.
- 10) Blow the water-cooled condenser out using compressed air or carbon dioxide until water stops coming out.



**Fig. 5**

[2] Remove the water from the potable water supply line and the Water Tank:

- 1) Close the Water Supply Line Shut-off Valve, and open the Drain Valve.
- 2) Remove the Front Panel (Lower), and move the Control Switch, on the Control Box, to the "OFF" position.

3) Blow out the water supply line.

Note: This procedure is necessary to protect the icemaker from freezing up at subfreezing temperature.

4) Unplug the icemaker.

5) Remove all ice from the Storage Bin, and clean the Bin.

6) Drain and clean the Water Tank. See "III. 1. [b] STORAGE BIN, SLOPE, SCOOP, ETC."

7) Refit the Front Panel (Lower) in its correct position.

8) Close the Drain Valve.

### III. MAINTENANCE AND CLEANING INSTRUCTIONS

#### IMPORTANT

Ensure all components, fasteners and thumbscrews are securely in place after any maintenance or cleaning is done to the equipment.

#### 1. CLEANING INSTRUCTIONS

#### WARNING

1. HOSHIZAKI recommends cleaning this unit at least once a year. More frequent cleaning, however, may be required in some existing water conditions.
2. To prevent injury to individuals and damage to the icemaker, do not use ammonia type cleaners.
3. Always wear liquid-proof gloves for safe handling of the cleaning and sanitizing solutions. This will prevent irritation in case the solution comes into contact with skin.

#### [a] WATER SYSTEM

- 1) Dilute approximately 5 fl. oz. (148 ml) of recommended cleaner Hoshizaki "Scale Away" or "LIME-A-WAY" (Economics Laboratory, Inc.) with 1 gal. (3.8 lit.) of water.
- 2) Remove all ice from the Evaporator and the Storage Bin.

Note: To remove cubes on the Evaporator, remove the Front Panel (Lower), move the Control Switch on the Control Box to the "OFF" position and move it back to the "ICE" position after 3 minutes. The defrost cycle starts and the cubes will be removed from the Evaporator.

- 3) Move the Control Switch to the "OFF" position. Close the Water Supply Line Shut-off Valve.
- 4) Remove the Water Tank to drain the water. Refit the Water Tank in its correct position.
- 5) Slowly pour the cleaning solution into the Water Tank.
- 6) Move the Control Switch to the "WASH" position.
- 7) After circulating the cleaning solution for about 30 minutes, move the Control Switch to the "OFF" position.

- 8) Remove the Water Tank to drain the cleaning solution. Refit the Water Tank in its correct position.
- 9) Open the Shut-off Valve.
- 10) Move the Control Switch to the "WASH" position to circulate clean water for about 5 minutes.
- 11) Move the Control Switch to the "OFF" position and immediately back to the "WASH" position to rinse water.
- 12) Repeat the above rinse procedure three more times to rinse thoroughly.
- 13) Dilute approximately 0.5 fl. oz. (14.8 ml) of 5.25% Sodium Hypochlorite (Chlorine Bleach) with 1 gal. (3.8 lit.) of water.
- 14) Move the Control Switch to the "OFF" position. Close the Water Supply Line Shut-off Valve.
- 15) Remove the Water Tank to drain the water. Refit the Water Tank in its correct position.
- 16) Slowly pour the sanitizing solution into the Water Tank.
- 17) Move the Control Switch to the "WASH" position.
- 18) After circulating the sanitizing solution for about 15 minutes, move the Control Switch to the "OFF" position.
- 19) Remove the Water Tank to drain the sanitizing solution. Refit the Water Tank in its correct position.
- 20) Open the Shut-off Valve.
- 21) Move the Control Switch to the "WASH" position to circulate clean water for about 5 minutes.
- 22) Move the Control Switch to the "OFF" position and immediately back to the "WASH" position to rinse water.
- 23) Repeat the above rinse procedure two more times to rinse thoroughly.
- 24) Move the Control Switch to the "ICE" position, and start the automatic icemaking process. Refit the Front Panel (Lower) in its correct position.

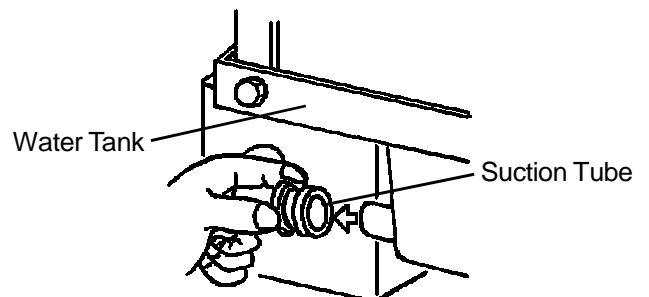
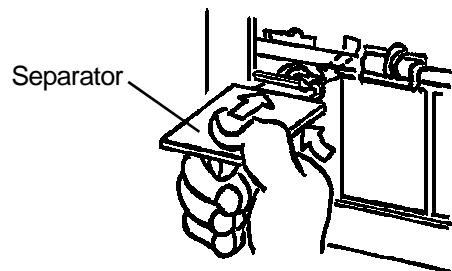


**[b] STORAGE BIN, SLOPE, SCOOP, ETC.**

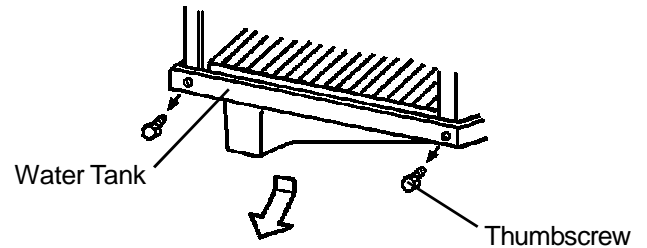
**IMPORTANT**

1. Wash your hands before removing ice. Use the Plastic Scoop provided to remove ice.
2. Keep the Scoop clean. Clean it by using a neutral cleaner at least once a day, and rinse thoroughly.
3. Close the Bin Door after removing ice to prevent entrance of dirt, dust or insects into the Bin.
4. Clean the Bin Liner at least once a month by using a neutral cleaner. Rinse thoroughly after cleaning.
5. The Storage Bin is for ice use only. Do not store anything else in the Bin.
6. Keep the area around the icemaker clean. Dirt, dust or insects in the icemaker could cause electrical damage to the equipment or harm to individuals.

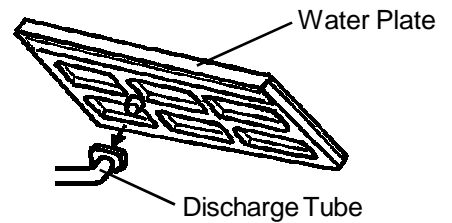
- 1) Remove the Front Panel (Lower), and move the Control Switch on the Control Box to the "OFF" position.
- 2) Unplug the icemaker.
- 3) Open the Bin Door, and remove ice from the Storage Bin.
- 4) Remove the Slope by bending its center carefully and releasing it from the two Slope Shafts. Take out the Slope from the Storage Bin.
- 5) Thoroughly clean and sanitize the Storage Bin, Slope, Scoop and any parts normally accessible from the Storage Bin.
- 6) Remove each Separator by lifting it to the horizontal position and pushing it hard inward. Remove all the Separators in the same way, and clean and sanitize them.
- 7) Disconnect the Suction Tube from the Water Tank to drain the Tank.



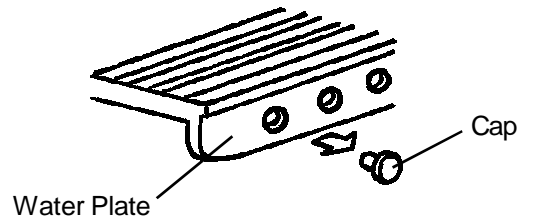
8) Remove the Thumbscrews on both sides of the Water Tank, and pull it out toward you. Clean and sanitize the Water Tank.



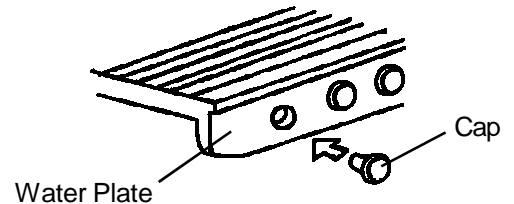
9) Pull the Discharge Tube from the Water Plate. Remove the Water Plate by pulling it toward you.



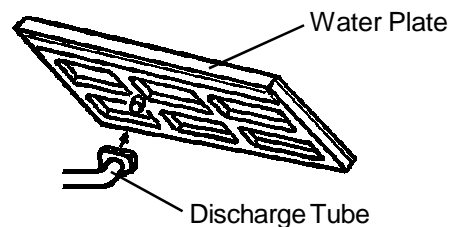
10) Remove the Caps to clean and sanitize the Water Plate. If the Nozzles are clogged, clean them with a wire or a suitable brush.



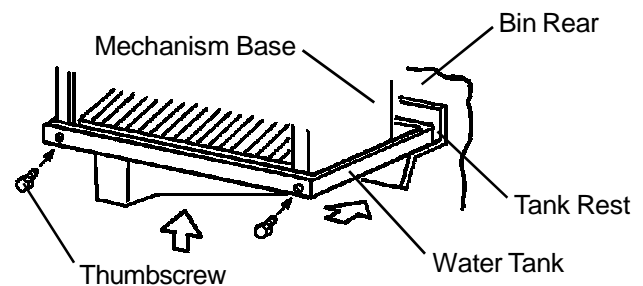
11) Refit the Caps on the Cleaning Outlets to seal them off.



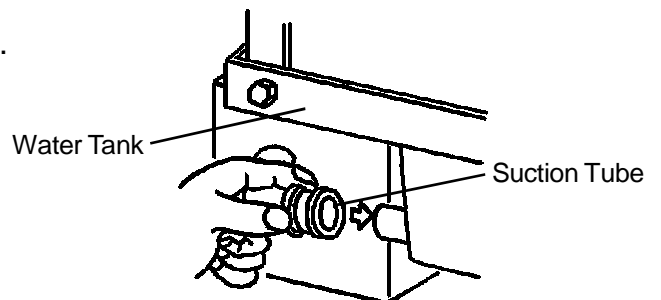
12) Slide in the Water Plate along the Mechanism Base. Refit the Discharge Tube securely on the Spray Outlet. A loose fitting may cause a water leak.



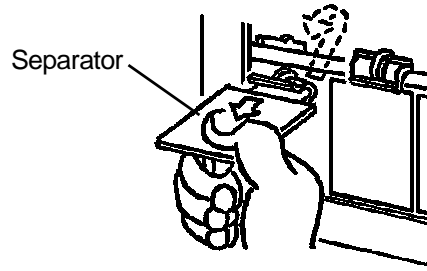
13) Place the rear of the Water Tank on the Water Tank Rest at the back of the Storage Bin. Use the Thumbscrews to secure the front of the Water Tank to the Mechanism Base.



14) Refit the Suction Tube on to the Water Tank Inlet. A loose fitting may cause a water leak.



15) Hook each Separator on to the Mechanism Base, and pull it hard toward you until it locks in place with a click. Refit all the Separators in the same way.



16) Refit the Slope in its correct position.

17) Plug in the icemaker, and move the Control Switch on the Control Box to the "ICE" position to start the automatic icemaking process.

18) Refit the Front Panel (Lower) in its correct position.

## 2. MAINTENANCE

### IMPORTANT

This icemaker must be maintained individually, referring to the instruction manual and labels provided with the icemaker.

#### 1) Exterior

To keep the exterior clean, wipe occasionally with a clean and soft cloth. Use a damp cloth containing a neutral cleaner to wipe off all oil or dirt build-up.

#### 2) Air Filter

A plastic mesh air filter removes dirt or dust from the air, and keeps the Condenser from getting clogged. As the filter gets clogged, the icemaker's performance will be reduced. Check the filter at least twice a month. When clogged, use warm water and a neutral cleaner to wash the filter.

#### 3) Condenser

Check the Condenser once a year, and clean if required by using a brush or vacuum cleaner. More frequent cleaning may be required depending on the location of the icemaker.

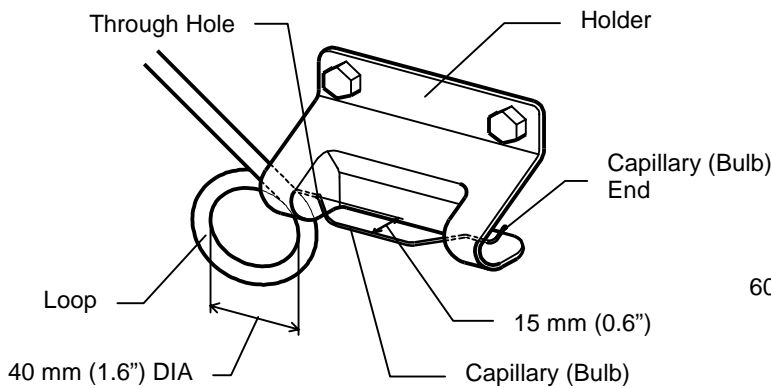
## SERVICE INSTRUCTIONS

### Bin Control Thermostat Replacement Procedure

To ensure proper operation, follow the instructions below:

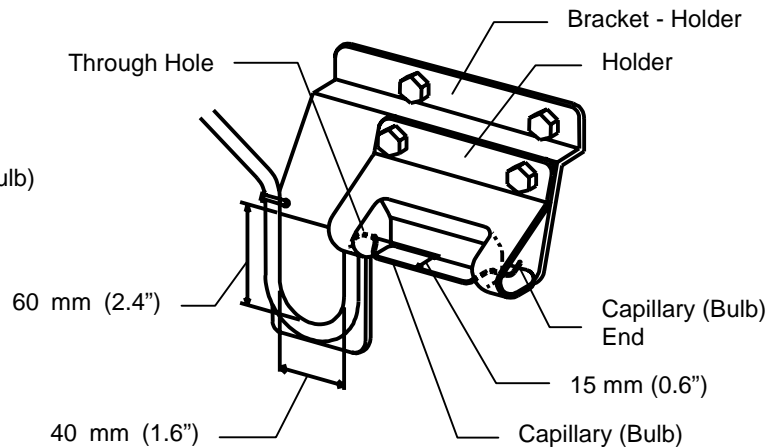
[AM-100BAE]

- 1) Make a 40 mm (1.6") diameter loop.
- 2) Locate the loop below the Thermostat Capillary (Bulb).
- 3) Manually bend the Capillary to keep it 15 mm (0.6") forward from the through hole position on the Holder.
- 4) Turn up the end of the Capillary.

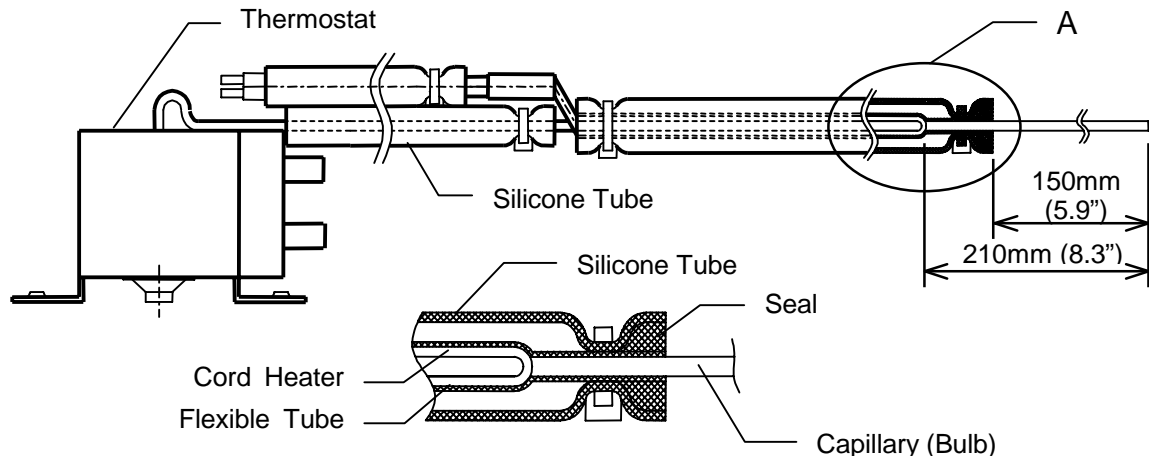


[AM-150BAF/BWF]

- 1) Make a 40 mm (1.6") ID U-bend.
- 2) Locate the U-bend 60 mm (2.4") below the Thermostat Capillary (Bulb).
- 3) Manually bend the Capillary to keep it 15 mm (0.6") forward from the through hole position on the Holder.
- 4) Turn up the end of the Capillary.



### Bin Control Thermostat Assembly Details



#### DETAIL A

[NOTE]

- 1) Run Cord Heater along with Capillary of Thermostat and bind them tightly with Aluminum Tape (Form end to end of Cord Heater).
- 2) Do not overheat Flexible Tube during shrinking process.

# **HOSHIZAKI**

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