

# Hoshizaki America, Inc.

## Commercial Series Refrigerated Kitchen Equipment

### Models Refrigerated Prep Table with Raised Rail



“A Superior Degree  
of Reliability”

[www.hoshizaki.com](http://www.hoshizaki.com)

## INSTRUCTION MANUAL



Issued: 2-2-2015  
Revised: 4-8-2015

**⚠ 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](http://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 may adversely affect safety, performance, component life, and warranty coverage. 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.

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Attn: Hoshizaki Technical Support Department

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**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 booklet carefully as they provide essential information for the continued safe use and maintenance of the appliance. Retain this booklet 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.

**⚠ 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 use and care of the appliance.

### **⚠ 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.

**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.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage. Do not lift using the refrigeration area, the top section, or the doors/drawers.
- To reduce the risk of electric shock, do not touch the plug with damp hands.
- Unplug the appliance before servicing.
- 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 APPLIANCE 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 power cord and do not use an adapter plug. Failure to follow these instructions may result in death, electric shock, or fire.
- Do not use an extension cord.

## **⚠ WARNING, continued**

- 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.
- Do not splash, pour, or spray water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.
- Do not make any alterations to the appliance. Alterations could result in electric shock, injury, fire, or damage to the appliance.
- 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.
- Children should be properly supervised around the appliance.
- Do not climb, stand, or hang on the appliance or doors/drawers or allow children or animals to do so. Do not climb into the appliance or allow children or animals to do so. Death or serious injury could occur or the appliance could be damaged.
- Be careful not to pinch fingers when opening and closing the doors/drawers or rail cover. Be careful when opening and closing the doors/drawers or rail cover when children are in the area.
- Open and close the doors/drawers and rail cover with care. Opening the doors/drawers or rail cover too quickly or forcefully may cause injury or damage to the appliance or surrounding equipment.
- Do not use combustible spray or place volatile or flammable substances in or 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 equipment.
- Do not throw anything onto the shelves or load any single shelf with more than 120 lb. (54.5 kg) of product. They might fall off and cause injury.
- Do not load any single drawer with more than 150 lb. (68 kg) of product. Depending on the weight of product in the drawers, secure the unit as necessary to prevent it from overturning. Do not open more than one drawer at a time.
- The appliance is designed only for temporary storage of food. Employ sanitary methods. Use for any other purposes (for example, storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
- Do not block air inlets or outlets, otherwise cooling performance may be reduced.
- Do not tightly pack the cabinet. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.

### **⚠ WARNING, continued**

- Do not put warm or hot foods in the cabinet. Let them cool first, or they will raise the cabinet temperature and could deteriorate other foods in the cabinet or overload the appliance.
- All foods in the cabinet should be wrapped in plastic film or stored in sealed containers. Otherwise foods may dry up, pass their smells onto other foods, cause frost to develop, result in poor appliance performance, or increase the likelihood of cross-contamination. Certain dressings and food ingredients, if not stored in sealed containers, may accelerate corrosion of the evaporator, resulting in failure.
- Do not store items near air outlets in the cabinet. Otherwise, items may freeze up and crack or break causing a risk of injury or contamination of other food.
- The entire rail must always be covered by rail dividers and pans. Otherwise, the appliance will not cool properly. Use only pans up to 6" (15 cm) deep. Do not use damaged rail dividers or pans.
- Ingredients must be pre-chilled to 37°F (3°C) or less before placing in rail.
- Keep the rail cover closed when not actively preparing food.
- The rail is for keeping ingredients cool while preparing food. If not actively preparing food for a long period such as overnight, seal pans with plastic wrap in addition to closing the rail cover. Depending on conditions, the cabinet temperature setting may need to be adjusted to prevent items from freezing. Alternatively, seal ingredients and store them in a refrigerator or freezer.
- For CPT46(-D) models, the anti-tip bracket must be properly installed and adjusted. Otherwise, the unit may tip, resulting in injury or damage.

### **NOTICE**

- Protect the floor when moving the appliance to prevent damage to the floor.
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction. The factory-installed rear bumpers must be in place to ensure proper rear clearance. Blockage of airflow could negatively affect performance and damage the appliance.
- Do not allow the appliance to bear any outside weight.
- To prevent deformation or cracks, do not spray insecticide onto the plastic parts or let them come into contact with oil.
- To avoid damage to the gasket, use only the door/drawer handle when opening and closing.
- Do not leave the doors/drawers open.
- To avoid damage to the top seal, do not lift the appliance by the top section or remove the top section.
- Do not place anything on top of the rail cover and do not lift the appliance by the rail cover. The rail cover is not designed to bear any outside weight.
- Do not place anything on the air duct panels beneath the pans in the rail. The air duct panels are not load-bearing.

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## I. Installation Instructions

### WARNING

- The appliance must be installed in accordance with all applicable national, state, and local regulations.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage. Do not lift using the refrigeration area, the top section, or the doors/drawers.
- Do not tilt the appliance more than 45°.

## A. Location

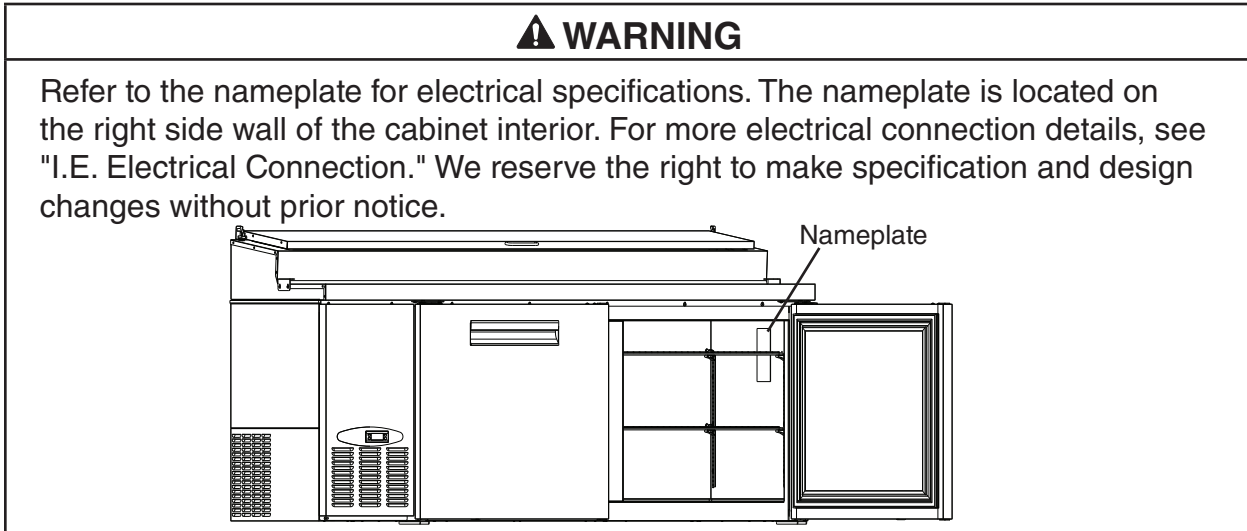
### WARNING

- The appliance is not intended for outdoor use.
- Normal operating ambient temperature must be within 45°F to 86°F (7°C to 30°C). Operation of the appliance, for extended periods, outside of this normal temperature range may affect appliance performance.

For best operating results:

- The appliance should not be located next to ovens, grills, or other high heat producing equipment.
- The location should provide a firm and level foundation for the appliance.
- The appliance should not be located in a corrosive environment.
- Allow 1" (3 cm) clearance at sides for proper air circulation. The factory-installed rear bumpers must be in place to ensure proper rear clearance. A minimum of 10" (25 cm) clearance above the rail should be provided to allow the rail cover to open.

## B. Checks Before Installation

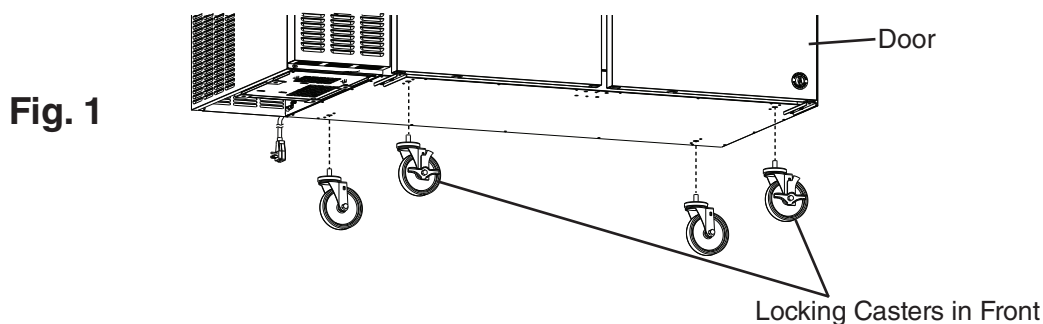


- Visually inspect the exterior of the shipping package and immediately report any damage to the carrier. Upon opening the package, any concealed damage should also be immediately reported to the carrier.
- Remove the shipping carton, tape, and packing material. Also remove the protective plastic film from both the exterior panels and the interior door/drawer panel. If the appliance is exposed to the sun or to heat, remove the film after the appliance cools.
- Remove all accessory containers before discarding the packing materials. Dispose of all packing materials in a proper and environmentally responsible manner.
- Check for missing or damaged accessories.

## C. Setup

### 1. Remove the Appliance from the Pallet

- 1) Move as close to the final location as possible.
- 2) Remove the 2 bolts securing the appliance to the pallet, then remove the appliance from the pallet. Block the appliance securely at a height of 8" (20 cm) off the floor.  
**NOTICE! Do not place blocks under the refrigeration area or doors/drawers of the appliance. Do not lay the appliance down.**
- 3) Attach the casters to the bottom of the appliance. Locking casters should be attached to the front of the appliance. See Fig. 1. **NOTICE! Ensure casters are completely threaded into appliance and tight.**





## 2. Check the Refrigeration Circuit

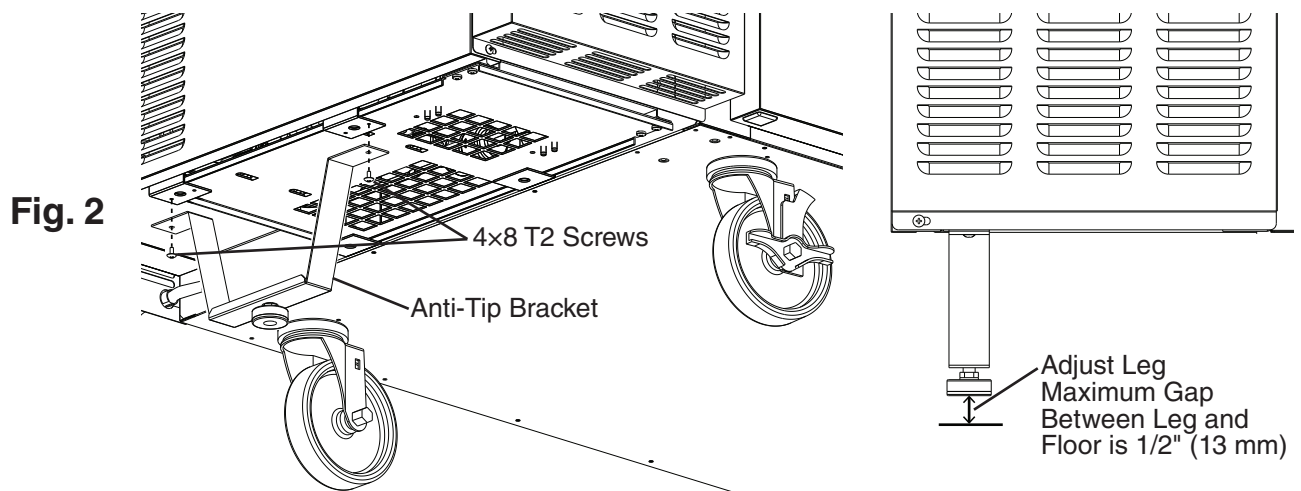
Visually check that the refrigerant lines do not rub or touch other lines or surfaces and that the condenser fan blade turns freely.

## 3. Position the Appliance and Lock the Front Casters

The front casters on the appliance are lockable. After positioning the appliance in its final location, lock the front casters.

## 4. For CPT46(-D) Models, Install the Anti-Tip Bracket

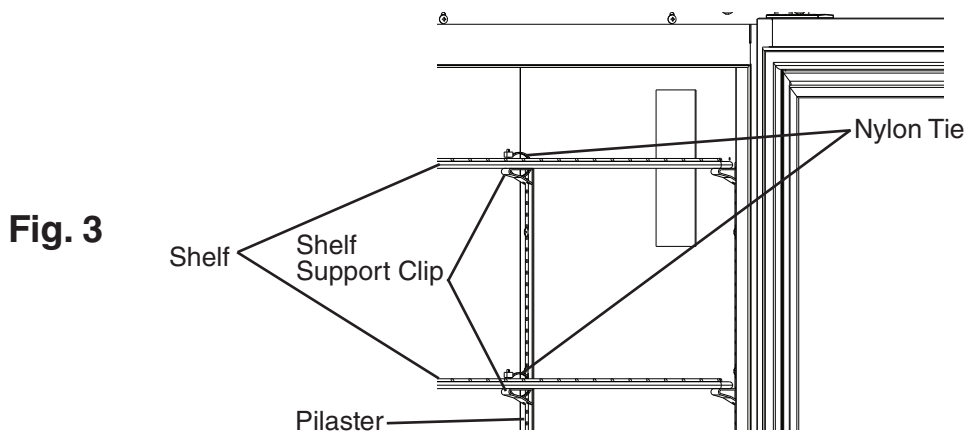
- 1) Attach the anti-tip bracket to the bottom of the appliance with the two 4x8 T2 screws provided. See Fig. 2.
- 2) Adjust the leg on the anti-tip bracket. The maximum gap between the leg and the floor is 1/2" (13 mm) **WARNING! The anti-tip bracket must be properly installed and adjusted. Otherwise, the unit may tip, resulting in injury or damage.**



## 5. Remove the Nylon Ties and Adjust the Shelves

Shelves are pre-installed. There are 2 shelves per section.

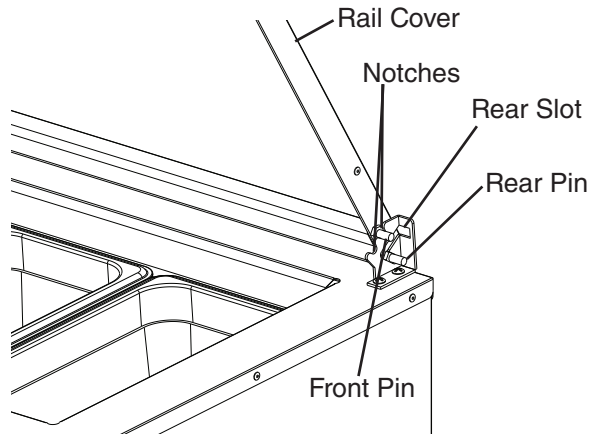
- 1) Remove and discard the nylon ties used to secure the shelves during shipping. See Fig. 3. Use caution to prevent damage to the shelf and appliance interior.
- 2) To adjust a shelf, first remove the shelf from the appliance. Position the shelf support clips on the pilasters at the desired shelf height, then place the shelf in position.



## 6. Confirm Rail Cover Operation

The rail cover's rear pins are inserted into the rear slots on both brackets. Use the rail cover's front pins and the notches on the brackets to place the rail cover in the open position. You can use either set of notches. The hollow side of the rail cover faces down. See Fig. 4. **WARNING! When the rail cover is open, make sure the rear pins on both sides of the rail cover are securely in the rear slots and the front pins are resting securely in the notches. Otherwise, the rail cover could close suddenly and cause injury.**

Fig. 4



## 7. Confirm Rail Dividers and Pans are in Place

Confirm rail dividers and 1/3 size pans included with the appliance are in place. See Fig. 5.

- The entire rail must always be covered by rail dividers and pans. Otherwise, the appliance will not cool properly.
- Use only pans up to 6" (15 cm) deep. Do not use damaged rail dividers or pans.
- Wash the pans before use.
- At startup, leave the pans empty until the appliance cools down.
- On some models, an extra rail divider is included. Use the extra rail divider if a gap remains after all pans and all other rail dividers are in place. Some pans on the market are slightly larger and do not require the extra rail divider.

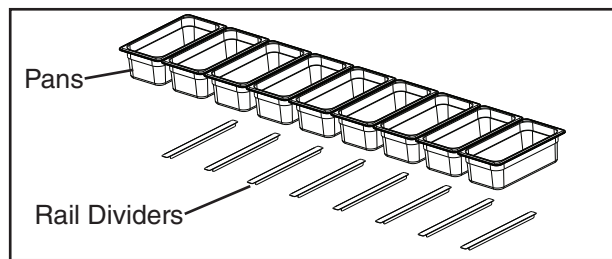
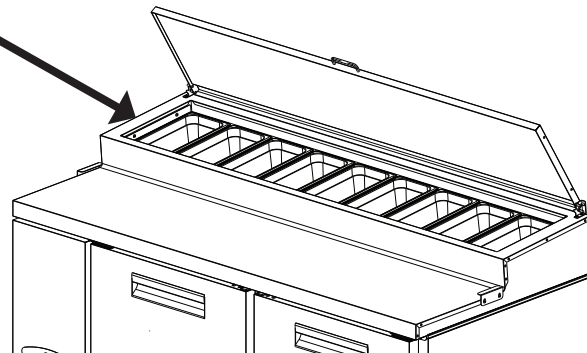


Fig. 5

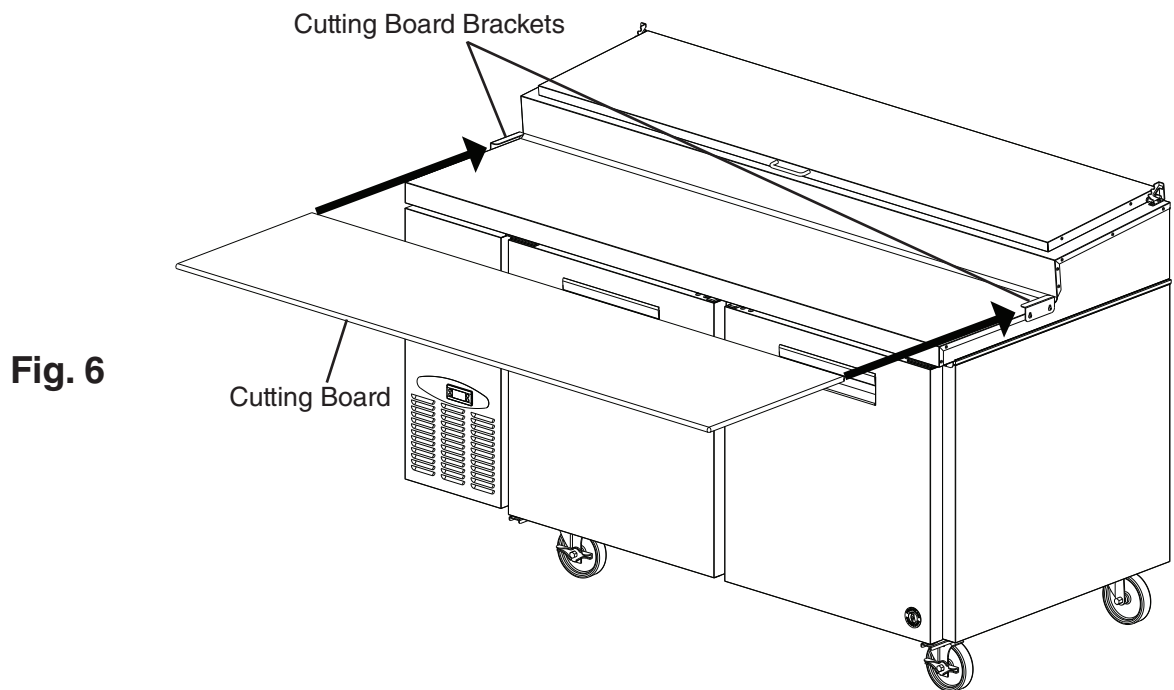


## 8. Attach the Cutting Board

- 1) Loosen, but do not remove, the screws securing the cutting board brackets. See Fig. 6.
- 2) Slide the cutting board under the cutting board brackets, then tighten the screws.

**WARNING! Make sure the cutting board brackets and cutting board are secure. Otherwise, the cutting board could come off and cause injury.**

Note: Wash the cutting board before use.



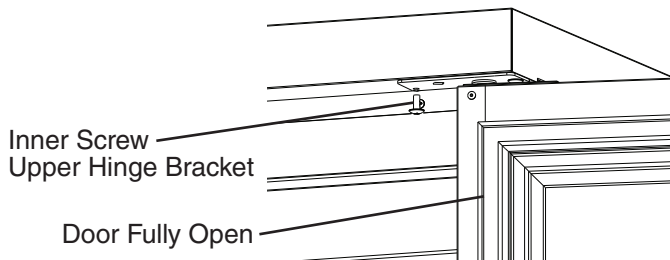
## D. Door Reversal

The appliance is provided with a cabinet design which, after being delivered to the installation location, permits changing of the door swing from left to right or right to left. To change the door swing, follow the steps below. Example shows change from right hinged to left hinged.

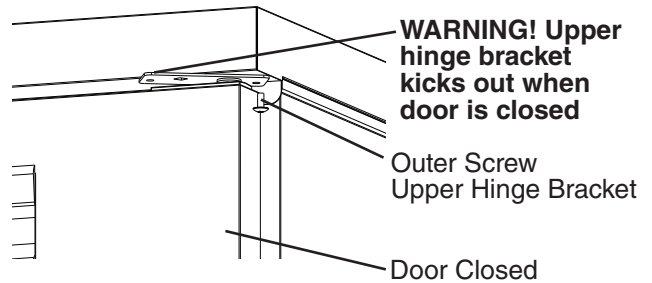
### ⚠ WARNING

- Wear eye protection when reversing the doors.
- Keep fingers away from edge of upper hinge bracket. Spring cartridge can cause the upper hinge bracket to move suddenly with extreme force.

- 1) Make sure the appliance is unplugged from the electrical outlet and the casters are locked.
- 2) Open the door to the fully open position, then remove the inner screw from the upper hinge bracket. See Fig. 7.
- 3) Close the door. **WARNING! Keep away from upper hinge bracket. Upper hinge bracket kicks out when door is closed.** See Fig. 8. Remove the outer screw from the upper hinge bracket.

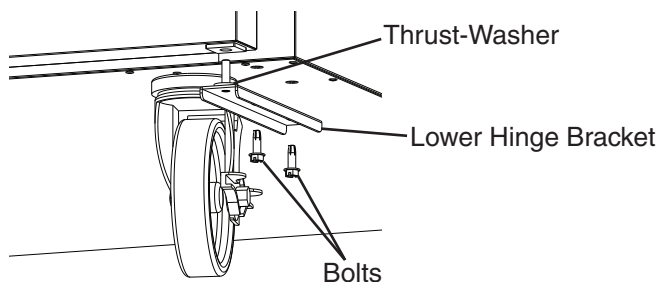


**Fig. 7**

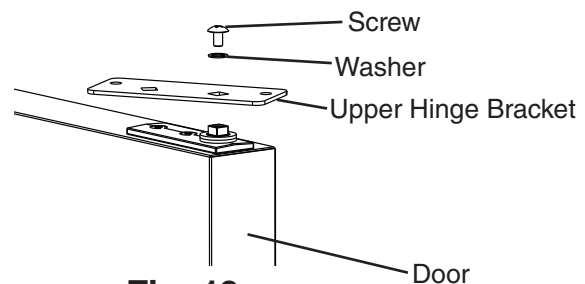


**Fig. 8**

- 4) While maintaining a hold on the door, remove the lower hinge bracket. See Fig. 9. Leave the thrust-washer in place.
- 5) Pull out the bottom of the door slightly and gently remove the door from the appliance.
- 6) Remove the upper hinge bracket from the spring cartridge. See Fig. 10.



**Fig. 9**

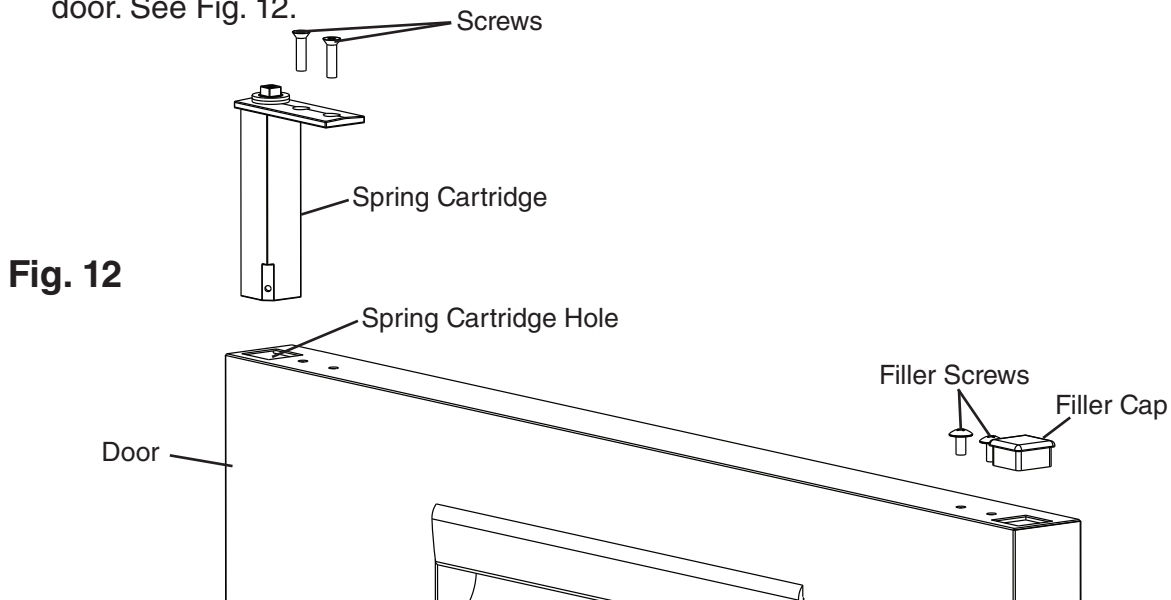


**Fig. 10**

- 7) Remove the filler cap, filler screws, and spring cartridge. See Fig. 11. Leave the thrust-washers in place on the spring cartridge. **NOTICE! Spring cartridge may be difficult to remove. Be careful not to damage the finish.**

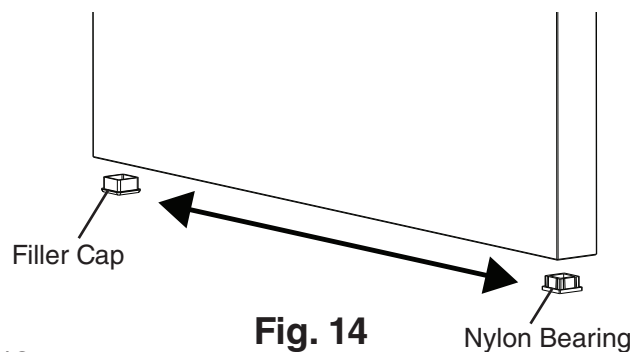
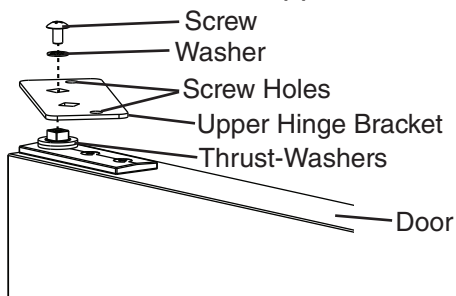


- 8) Clear material from the spring cartridge hole to allow for spring cartridge installation. Reinstall the filler cap, filler screws, and spring cartridge on the opposite side of the door. See Fig. 12.

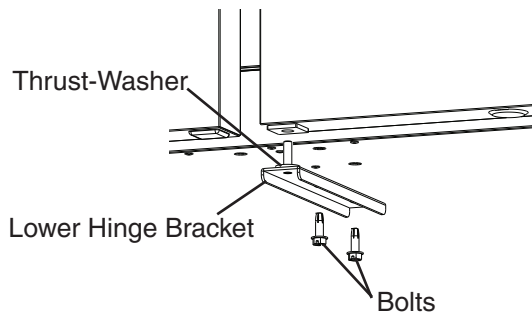


- 9) Make sure the thrust-washers are in place on the spring cartridge, then install the upper hinge bracket onto the spring cartridge. See Fig. 13. The upper hinge bracket should be canted out towards the center as shown with the screw holes towards the back of the appliance.

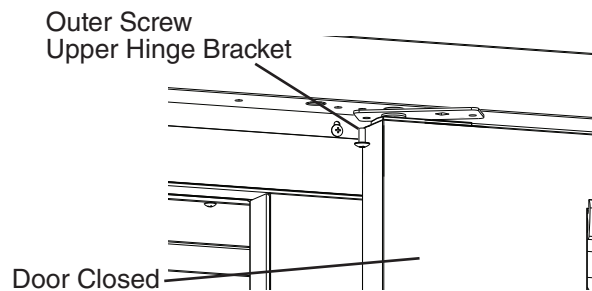
- 10) Remove the filler cap and nylon bearing from the bottom of the door. See Fig. 14. Reinstall on the opposite side.



- 11) Move the door into position and maintain a hold on the door. Make sure the thrust-washer is in place, then install the lower hinge bracket. Do not tighten the bolts yet. Start each bolt for a few threads only and leave loose. See Fig. 15.
- 12) Install the outer screw into the upper hinge bracket. Do not tighten the screw yet. Start the screw for a few threads only and leave loose. See Fig. 16. Note: The door being reversed must be in the closed position. However, the adjoining door may be opened for ease of access.

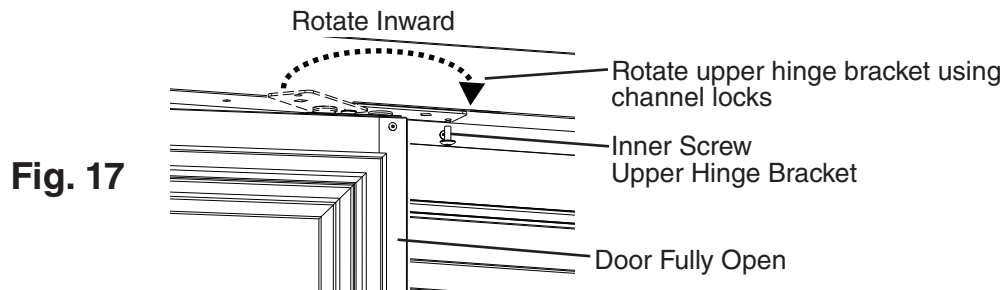


**Fig. 15**



**Fig. 16**


- 13) Open the door to the fully open position.
- 14) Rotate the upper hinge bracket inward into position using channel locks. See Fig. 17. **NOTICE! Be careful not to damage the finish.** Install the inner screw into the upper hinge bracket.
- 15) Tighten all fasteners.



**Fig. 17**

## E. Electrical Connection

### WARNING

- 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 severe damage to equipment.
  - 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 APPLIANCE 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 power cord and do not use an adapter plug. Failure to follow these instructions may result in death, electric shock, or fire.
  - To reduce the risk of electric shock, do not touch the plug with damp hands.
  - Do not use an extension cord.
  - 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.
- 
- Usually an electrical permit and services of a licensed electrician are required.
  - The maximum allowable voltage variation is  $\pm 10$  percent of the nameplate rating.

## **F. Final Checklist**

- 1) Is the appliance level?
- 2) Have the casters been properly installed and have the front casters been locked? For CPT46(-D) models, has the anti-tip bracket been properly installed and adjusted?
- 3) Is the appliance in a site where the ambient temperature is constantly within 45°F to 86°F (7°C to 30°C)?
- 4) Have the shipping carton, tape, and packing material been removed from the appliance? Has the protective plastic film been removed from both the exterior panels and the interior door/drawer panel?
- 5) Have the appliance and accessories been checked for shipping damage?
- 6) Is there at least 1" (3 cm) clearance at sides for proper air circulation? Are the factory-installed rear bumpers in place to ensure proper rear clearance? Is there at least 10" (25 cm) clearance above the rail to allow the rail cover to open?
- 7) Have the rail dividers, pans, rail cover, cutting board brackets, and cutting board been properly installed?
- 8) Has the power supply voltage been checked or tested against the nameplate rating? Is the power supply a properly grounded, independent wall outlet? Does the electrical connection meet all national, state, and local code and regulation requirements.
- 9) Have the refrigerant lines been checked to make sure they do not rub or touch other lines or surfaces? Has the condenser fan blade been checked to make sure it turns freely? Is the compressor securely attached?
- 10) Have the nylon ties used to secure the shelves during shipping been removed and discarded? Have the shelves been adjusted to the desired height?
- 11) 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?
- 12) Has the end user been given the name and telephone number of an authorized service agent?
- 13) Has the warranty card been filled out and forwarded to the factory for warranty registration?



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## II. Operating Instructions

### A. Important Notes About Usage

#### WARNING

- Only qualified service technicians should install and service the appliance.
- Failure to install, operate, and maintain the appliance in accordance with this manual may adversely affect safety, performance, component life, and warranty coverage.
- To reduce the risk of electric shock, do not touch the plug with damp hands.
- Do not splash, pour, or spray water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.
- 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.
- Children should be properly supervised around the appliance.
- Do not climb, stand, or hang on the appliance or doors/drawers or allow children or animals to do so. Do not climb into the appliance or allow children or animals to do so. Death or serious injury could occur or the appliance could be damaged.
- Be careful not to pinch fingers when opening and closing the doors/drawers or rail cover. Be careful when opening and closing the doors/drawers or rail cover when children are in the area.
- Open and close the doors/drawers and rail cover with care. Opening the doors/drawers or rail cover too quickly or forcefully may cause injury or damage to the appliance or surrounding equipment.
- Do not use combustible spray or place volatile or flammable substances in or 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 equipment.
- Do not throw anything onto the shelves or load any single shelf with more than 120 lb. (54.5 kg) of product. They might fall off and cause injury.
- Do not load any single drawer with more than 150 lb. (68 kg) of product. Depending on the weight of product in the drawers, secure the unit as necessary to prevent it from overturning. Do not open more than one drawer at a time.
- The appliance is designed only for temporary storage of food. Employ sanitary methods. Use for any other purposes (for example, storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
- Do not block air inlets or outlets, otherwise cooling performance may be reduced.
- Do not tightly pack the cabinet. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.

### **⚠ WARNING, continued**

- Do not put warm or hot foods in the cabinet. Let them cool first, or they will raise the cabinet temperature and could deteriorate other foods in the cabinet or overload the appliance.
- All foods in the cabinet should be wrapped in plastic film or stored in sealed containers. Otherwise foods may dry up, pass their smells onto other foods, cause frost to develop, result in poor appliance performance, or increase the likelihood of cross-contamination. Certain dressings and food ingredients, if not stored in sealed containers, may accelerate corrosion of the evaporator, resulting in failure.
- Do not store items near air outlets in the cabinet. Otherwise, items may freeze up and crack or break causing a risk of injury or contamination of other food.
- The entire rail must always be covered by rail dividers and pans. Otherwise, the appliance will not cool properly. Use only pans up to 6" (15 cm) deep. Do not use damaged rail dividers or pans.
- Ingredients must be pre-chilled to 37°F (3°C) or less before placing in rail.
- Keep the rail cover closed when not actively preparing food.
- The rail is for keeping ingredients cool while preparing food. If not actively preparing food for a long period such as overnight, seal pans with plastic wrap in addition to closing the rail cover. Depending on conditions, the cabinet temperature setting may need to be adjusted to prevent items from freezing. Alternatively, seal ingredients and store them in a refrigerator or freezer.

### **NOTICE**

- Protect the floor when moving the appliance to prevent damage to the floor.
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction. The factory-installed rear bumpers must be in place to ensure proper rear clearance. Blockage of airflow could negatively affect performance and damage the appliance.
- Do not allow the appliance to bear any outside weight.
- To prevent deformation or cracks, do not spray insecticide onto the plastic parts or let them come into contact with oil.
- To avoid damage to the gasket, use only the door/drawer handle when opening and closing.
- Do not leave the doors/drawers open.
- To avoid damage to the top seal, do not lift the appliance by the top section or remove the top section.
- Do not place anything on top of the rail cover and do not lift the appliance by the rail cover. The rail cover is not designed to bear any outside weight.
- Do not place anything on the air duct panels beneath the pans in the rail. The air duct panels are not load-bearing.

## B. Startup

### ⚠ WARNING

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

Allow the appliance to cool down prior to loading it with food products.

- 1) Wash the pans and cutting board before use.
- 2) Cover the entire rail with rail dividers and pans (up to 6" (15 cm) deep). See "I.C.6. Confirm Rail Dividers and Pans are in Place" for details. Leave the pans empty until the appliance cools down. **WARNING! When the rail cover is open, make sure the rear pins on both sides of the rail cover are securely in the rear slots and the front pins are resting securely in the notches. Otherwise, the rail cover could close suddenly and cause injury.**
- 3) Attach the cutting board. See "I.C.7. Attach the Cutting Board" for details. **WARNING! Make sure the cutting board brackets and cutting board are secure. Otherwise, the cutting board could come off and cause injury.**
- 4) Plug the appliance into the electrical outlet. **WARNING! To reduce the risk of electric shock, do not touch the plug with damp hands.** At startup, there is a slight delay before the compressor starts.
- 5) Allow the appliance to cool down prior to loading it with food products. The entire rail must be covered by rail dividers and pans (up to 6" (15 cm) deep) and the rail cover must be closed. Otherwise, the appliance will not cool properly.

## C. Controls and Adjustments

### 1. Temperature Display

The cabinet temperature is displayed on the control module. See Fig. 18. The display default is °F, but it can be changed to read °C. To change, see "I.C.3. Changing the Temperature Display Scale (°F or °C)."

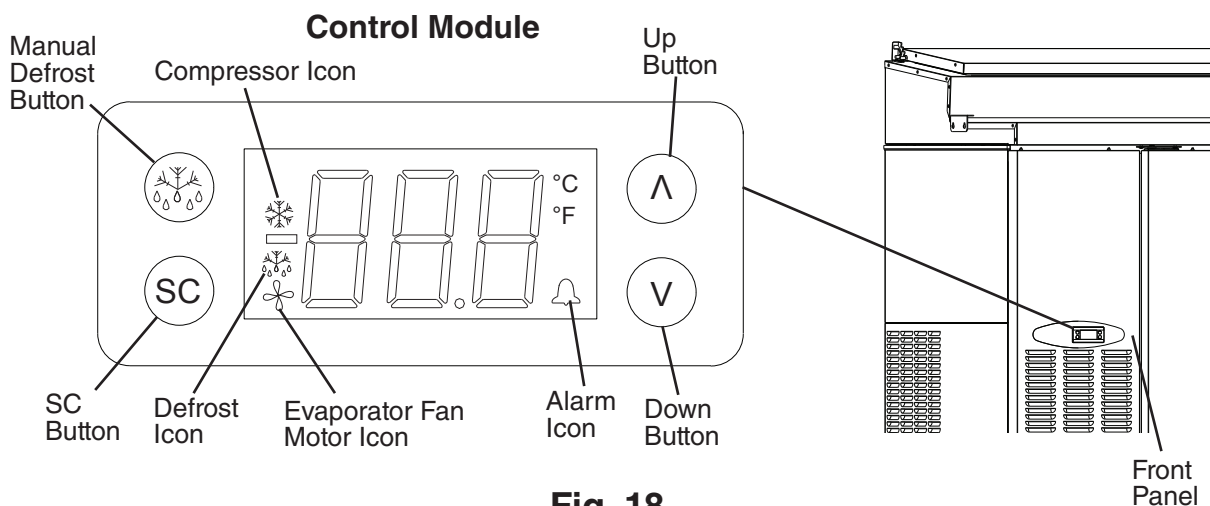


Fig. 18

## 2. Adjusting the Temperature Setpoint

The temperature setpoint is the value for the average cabinet temperature. The temperature differential for the compressor to turn on and off is  $\pm 3^{\circ}\text{F}$  ( $\pm 1.7^{\circ}\text{C}$ ) of the temperature setpoint. For example, for a temperature setpoint of  $33^{\circ}\text{F}$  ( $1^{\circ}\text{C}$ ), the compressor comes on at  $36^{\circ}\text{F}$  ( $2.7^{\circ}\text{C}$ ), and the compressor goes off at  $30^{\circ}\text{F}$  ( $-0.7^{\circ}\text{C}$ ). If necessary, adjust the temperature setpoint temperature as follows:

- 1) To change the temperature setpoint, press and hold the up button briefly and then release. The current temperature setpoint appears. Press the up or down button until the desired value is displayed. After a few seconds, the display returns to the current cabinet temperature and the temperature setpoint is saved. **NOTICE! Do not adjust the temperature setpoint more than  $2^{\circ}\text{F}$  ( $1^{\circ}\text{C}$ ) at a time. Allow the temperature to stabilize for a minimum of 8 hours before making further temperature setpoint adjustments.**
  - The temperature setpoint is adjustable between  $28^{\circ}\text{F}$  and  $45^{\circ}\text{F}$  ( $-2^{\circ}\text{C}$  and  $7^{\circ}\text{C}$ ). The factory default is  $32^{\circ}\text{F}$  ( $0^{\circ}\text{C}$ ).





## 3. Changing the Temperature Display Scale ( $^{\circ}\text{F}$ or $^{\circ}\text{C}$ )

To change the temperature display scale, follow the steps below. The factory default is  $^{\circ}\text{F}$ .

- 1) Press and hold both the up and down buttons for 5 seconds. "PAS" appears briefly in the display, then "000" appears.
- 2) Press the up button to change the display to "001".
- 3) Press the SC button. "EHE" appears in the display. Press the up or down button until "diS" is displayed.
- 4) Press the SC button. "CFu" appears in the display. Press the SC button again. The current temperature display scale setting appears. Press the up or down button to change the temperature display scale.
- 5) Press the SC button to save the setting. Wait 1 minute or press the manual defrost button twice to return to the temperature display.

## D. Control Module Icons

Control module icons inform you of energized components and if the appliance is in alarm.

Control Module Icons	
Icon	Meaning
	Compressor Compressor running.
	Defrost Appliance is in defrost cycle. See "II.E. Defrost" for details.
	Evaporator Fan Motor Evaporator fan motor is running.
	Alarm Appliance is in alarm. See "II.F. Alarm Safeties" for details.

## **E. Defrost**

### **1. Automatic Defrost**

Defrost is heated and is time-initiated and temperature terminated.

### **2. Manual Defrost**

To initiate a manual defrost, press the manual defrost button.

## F. Alarm Safeties

Alarm signals are designed to protect the appliance and food product. These alarms give information or warnings in the event the appliance is operating out of acceptable parameters. Should one of the alarms occur, follow the instructions in the table below to address the alarm. The alarm code and alarm icon flash with audible alarm.

Alarm Signals		
Alarm Code	Problem	Corrective Action/Reset Details
E01	Cabinet Thermistor Malfunction Alarm Cabinet thermistor has failed.	Call a qualified service technician. Beeps for 10 seconds, then silent for 50 seconds. To silence the alarm, press and release the up button. Appliance cycles 5 min. on, 5 min. off.
E02	Defrost Thermistor Malfunction Alarm Defrost thermistor has failed.	Call a qualified service technician. Beeps for 10 seconds, then silent for 50 seconds. To silence the alarm, press and release the up button. Appliance cycles on and off with cabinet thermistor.
Hi	High Temperature Alarm Cabinet temperature has remained above 57°F (13.9°C) for more than 2 hours.	If obvious corrections such as closing doors/drawers and cleaning the air filter and/or condenser do not bring temperature back in range, call a qualified service technician. Beeps for 10 seconds, then silent for 50 seconds. To silence the alarm and clear "Hi" from the display, press and release the up button. The alarm icon stays on. Automatically resets when temperature returns to normal.
Lo	Low Temperature Alarm Cabinet temperature has remained below 26°F (-3.3°C) for more than 2 hours.	If obvious corrections do not bring the temperature back in range, call a qualified service technician. Beeps for 10 seconds, then silent for 50 seconds. To silence the alarm and clear "Lo" from the display, press and release the up button. The alarm icon stays on. Automatically resets when temperature returns to normal.
UHi	High Voltage Alarm (135VAC±5% or more)	Call a qualified service technician.
ULo	Low Voltage Alarm (96VAC±5% or less)	The compressor de-energizes if voltage protection operates. The voltage safeties automatically reset when voltage is corrected.

## G. Food Storage

### **WARNING**

- The appliance is designed only for temporary storage of food. Employ sanitary methods. Use for any other purposes (for example, storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
- Do not block air inlets or outlets, otherwise cooling performance may be reduced.
- Do not tightly pack the cabinet. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.
- Do not put warm or hot foods in the cabinet. Let them cool first, or they will raise the cabinet temperature and could deteriorate other foods in the cabinet or overload the appliance.
- All foods in the cabinet should be wrapped in plastic film or stored in sealed containers. Otherwise foods may dry up, pass their smells onto other foods, cause frost to develop, result in poor appliance performance, or increase the likelihood of cross-contamination. Certain dressings and food ingredients, if not stored in sealed containers, may accelerate corrosion of the evaporator, resulting in failure.
- Do not store items near air outlets in the cabinet. Otherwise, items may freeze up and crack or break causing a risk of injury or contamination of other food.
- The entire rail must always be covered by rail dividers and pans. Otherwise, the appliance will not cool properly. Use only pans up to 6" (15 cm) deep. Do not use damaged rail dividers or pans.
- Ingredients must be pre-chilled to 37°F (3°C) or less before placing in rail.
- Keep the rail cover closed when not actively preparing food.
- The rail is for keeping ingredients cool while preparing food. If not actively preparing food for a long period such as overnight, seal pans with plastic wrap in addition to closing the rail cover. Depending on conditions, the cabinet temperature setting may need to be adjusted to prevent items from freezing. Alternatively, seal ingredients and store them in a refrigerator or freezer.

## H. Safety Devices

### 1. Compressor External or Internal Protector

If combined temperature/amperage value is above the limit specified by the compressor manufacturer, the compressor protector operates independently to turn off the compressor. The compressor protector de-energizes the compressor until the temperature/amperage value returns to an acceptable level.

### 2. Short-Cycle Protection

There is a 2-minute minimum off-time and on-time for the compressor.

Note: Time may vary with compressor overload or high-pressure switch activation.

### 3. High-Pressure Switch

If high-side refrigeration pressure exceeds Hoshizaki specifications, the high-pressure switch activates and de-energizes the compressor circuit until the refrigeration pressure returns to an acceptable level.

## **I. Cooling Performance**

Be sure the appliance is properly installed and located for optimum cooling performance. If cooling performance is not at its optimum level, check the following items:

- Doors/drawers opened too often.
- Doors/drawers left open. Close.
- Cabinet too tightly packed or air inlets/outlets blocked. Allow some space between items to ensure good air flow.
- Warm or hot foods inside. Take them out until they cool down more.
- Ambient temperature too high. Avoid installation near high heat producing equipment or exposure to direct sunlight.
- Temperature setpoint not cold enough. Adjust to a colder setting. See "II.C.2. Adjusting the Temperature Setpoint" for details.
- Appliance in defrost cycle. The cabinet temperature may rise temporarily during the defrost cycle, but this will not affect the food inside.
- Pans and rail dividers not in place. The entire rail must always be covered by rail dividers and pans (up to 6" (15 cm) deep) or the appliance will not cool properly.
- Warm or hot ingredients inside rail. Only load ingredients that have been pre-chilled to 37°F (3°C) or less.
- Rail cover open when not actively preparing food. When not actively preparing food, close the rail cover.

## **J. Cabinet Condensation**

In the event condensation develops on the cabinet exterior, check the following items:

- Doors/drawers left open. Close.
- Ambient humidity too high. In high humidity areas it may be necessary to wipe off the cabinet frame occasionally.



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## III. Cleaning and Maintenance Instructions

### A. Cleaning

#### **⚠ WARNING**

- Unplug the appliance before cleaning to prevent electric shock by unexpected entrance of water into the appliance or injury by moving parts. To reduce the risk of electric shock, do not touch the plug with damp hands.
- Before cleaning the appliance, move all foods into another clean refrigerator or freezer.
- Do not splash, pour, or spray water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.
- Carefully follow instructions provided with cleaning and sanitizing products.

#### **NOTICE**

- To prevent damage to the plastic surfaces, do not use the following: hot water, thinner, benzine, alcohol, petroleum, soap powder, polishing powder, alkaline cleaner, acid, scouring pad and especially those strong cleaners for use on a ventilating fan or a cooking range.
- To prevent corrosion and damage to stainless steel surfaces, use only products formulated for use on stainless steel appliances. Do not use steel wool, abrasive products, or products containing sodium hypochlorite (chlorine bleach).
- Use a clean cloth for cleaning.

#### **1. Exterior**

Wipe the exterior occasionally with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off oil or dirt buildup. Clean any rust colored spots using a non-abrasive cleanser.

#### **2. Cabinet Interior**

Spills should be wiped up promptly to avoid unpleasant odors. The cabinet interior should be cleaned periodically with a mild soap or detergent and warm water.

#### **3. Door/Drawer Gaskets**

Door/drawer gaskets should be cleaned regularly with mild soap and warm water to remove dirt and grease.

#### **4. Shelves**

Remove and clean regularly.

## 5. Drawers

Drawers and drawer slides are removable.

- **To remove a drawer:** Remove all items from the drawer. Pull the drawer out to its fully extended position. Open the safety clips (one on each side) by sliding them forward. See Fig. 19. Lift up on the handle slightly, then pull to disengage the drawer. Be sure to support the rear and front of the drawer while removing it. **WARNING! Be sure to close the safety clips when reinstalling the drawer.**
- **To remove a drawer slide (center slide containing rollers):** Open the stop levers (one on each side) by sliding them to the rear. See Fig. 20. Lift up on the drawer slide slightly, then pull to disengage the drawer slide. **WARNING! Be sure to close the stop levers when reinstalling the drawer.** Drawer slides do not require lubrication, but drawer slides should be kept clean and free of food.

Note: Drawer slides are dishwasher safe.

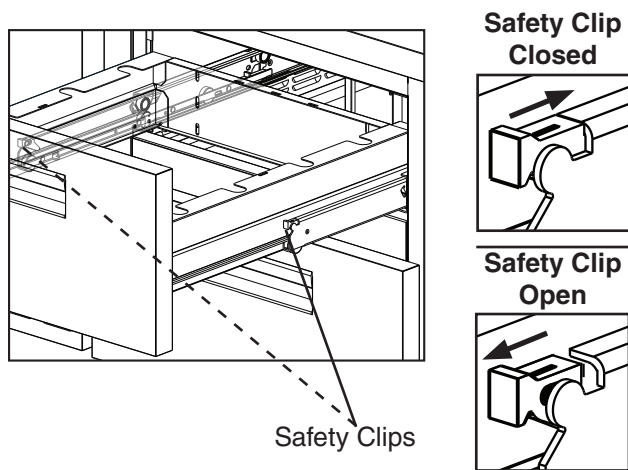


Fig. 19

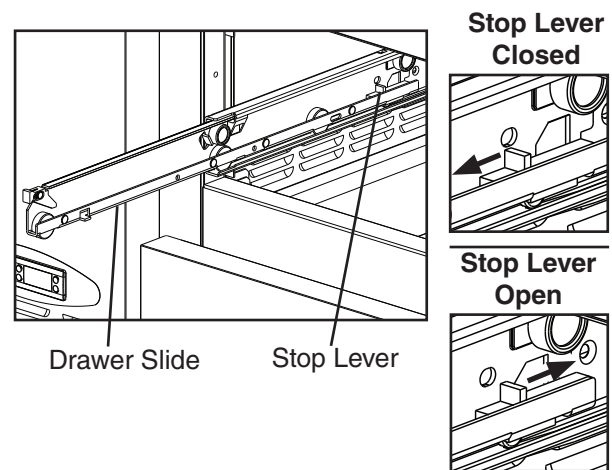


Fig. 20

## 6. Cutting Board

Remove and clean the cutting board as often as necessary to maintain a clean, sanitary work surface. Also clean the space underneath the cutting board as often as necessary to maintain a clean, sanitary surface. After cleaning, slide the cutting board back under the cutting board brackets. **WARNING! Make sure the cutting board brackets and cutting board are secure. Otherwise, the cutting board could come off and cause injury.**

## 7. Pans

Wash pans as often as necessary to maintain clean, sanitary conditions.

## 8. Rail, Rail Dividers, and Rail Cover

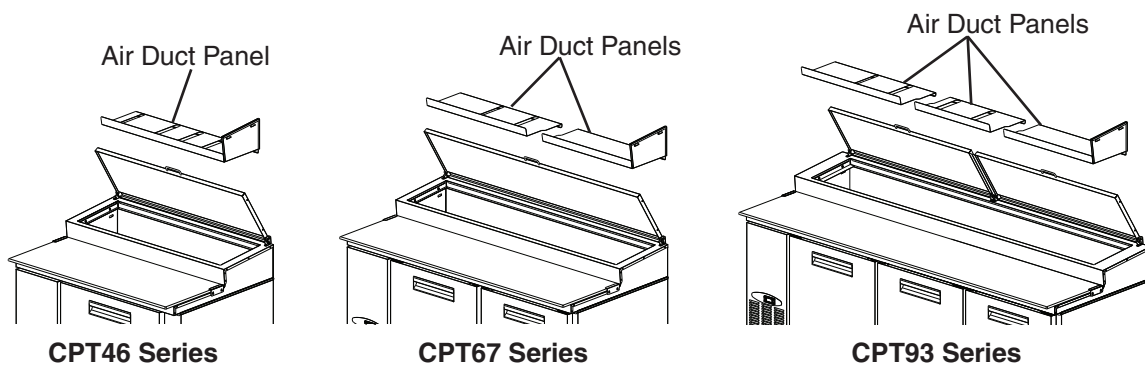
Spills and splashes should be wiped up promptly to avoid unpleasant odors. Wipe the rail area, rail dividers, and rail cover occasionally with a clean, damp sponge or cloth containing a neutral cleaner. Clean any rust colored spots using a non-abrasive cleanser. Do not pour or spray water into the rail area.

### **WARNING!**

- **Support the rail cover when cleaning. Otherwise, the rail cover could close suddenly and cause injury.**
- **Metal edges can cause cuts. Use care and wear protective gloves when cleaning.**

## 9. Rail Air Duct

- 1) Move all foods into another clean refrigerator or freezer.
- 2) Unplug the appliance. **WARNING! To reduce the risk of electric shock, do not touch the plug with damp hands.**
- 3) Remove the pans and dividers from the rail. **WARNING! Support the rail cover when cleaning. Otherwise, the rail cover could close suddenly and cause injury.**
- 4) Remove the air duct panels. The quantity of air duct panels varies by model. See Fig. 21. **WARNING! Metal edges can cause cuts. Use care and wear protective gloves when cleaning.**
- 5) Clean the air duct panels with a mild soap or detergent and warm water. Clean any rust colored spots using a non-abrasive cleanser.
- 6) Replace the air duct panels in their correct positions.
- 7) Place the rail dividers and pans (up to 6" (15 cm) deep) into their correct positions. Leave the pans empty until the appliance cools down.
- 8) Close the rail cover.
- 9) Plug the appliance into the electrical outlet.
- 10) Allow the appliance to cool down prior to loading it with food products. The entire rail must be covered by rail dividers and pans and the rail cover must be closed. Otherwise, the appliance will not cool properly. Leave the pans empty until the appliance cools down.



**Fig. 21**

## B. Maintenance

### ⚠ WARNING

- Unplug the appliance before performing maintenance to prevent electric shock or injury by moving parts. To reduce the risk of electric shock, do not touch the plug with damp hands.
- Before performing maintenance, move all foods into another clean refrigerator or freezer.

#### 1. Condenser

Check the condenser once a year, and clean if required by following the steps below. More frequent cleaning may be required depending on location.

- 1) Unplug the appliance from the electrical outlet. **WARNING! To reduce the risk of electric shock, do not touch the plug with damp hands.**
- 2) Remove the screw securing the front panel, then pull the front panel out slightly to remove it. See Fig. 22. **NOTICE! Be careful not to pull out the front panel too far because there are power wires and thermistor wires attached to the control module in the front panel.**
- 3) Without pulling on the wires, set the panel to the side.
- 4) Use a brush attachment on a vacuum cleaner to gently clean the condenser fins. Do not use too much force, otherwise the fins could be damaged. **WARNING! Condenser fins are sharp. Use care when cleaning.**
- 5) Replace the front panel in its correct position. Ensure that the screw is securely in place.
- 6) Plug the appliance back in.

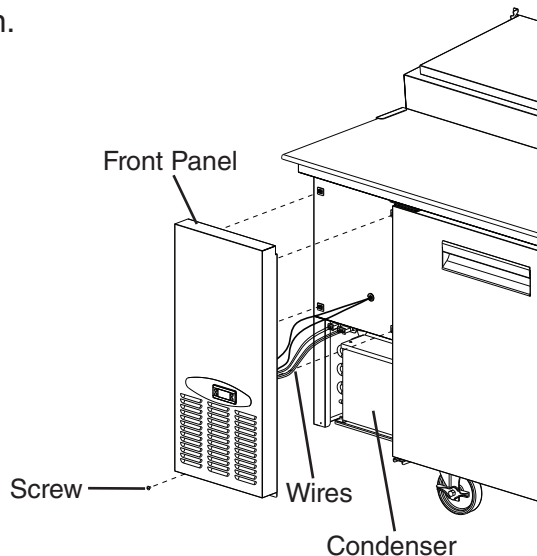
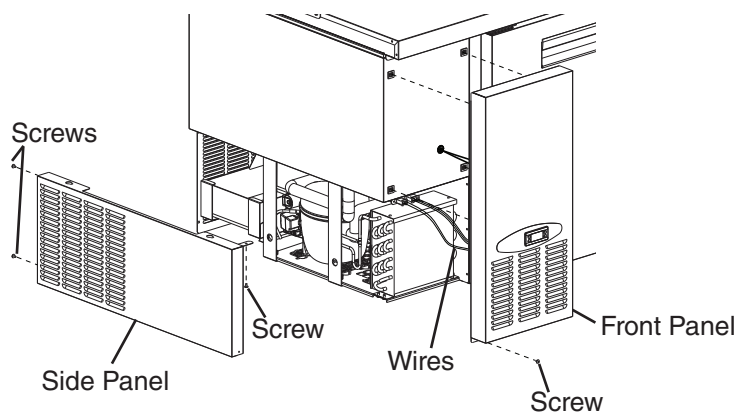


Fig. 22

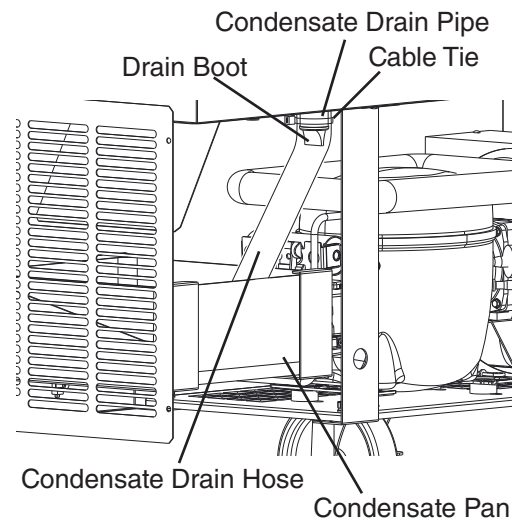
## 2. Condensate Drain

Clean the condensate drain as often as necessary to maintain proper flow. Follow the steps below.

- 1) Unplug the appliance from the electrical outlet. **WARNING! To reduce the risk of electric shock, do not touch the plug with damp hands.**
- 2) Remove the screw securing the front panel, then pull the front panel out slightly to remove it. See Fig. 23. **NOTICE! Be careful not to pull out the front panel too far because there are power wires and thermistor wires attached to the control module in the front panel.**
- 3) Without pulling on the wires, set the panel to the side.
- 4) Remove the screws securing the side panel, then slide the panel forward and down slightly and remove.
- 5) Remove the cable tie and condensate drain hose. See Fig. 24. **NOTICE! Before removing the condensate drain hose, place a pan underneath the condensate drain pipe to catch any water.**
- 6) Remove the drain boot from the condensate drain pipe.
- 7) Clean the condensate drain hose, drain boot, and condensate drain pipe.
- 8) Replace the removed parts in their correct positions. **NOTICE! Be sure the condensate drain hose is secured with a cable tie and is positioned correctly into the condensate pan.**
- 9) Replace the side panel and front panel in their correct positions. Ensure the screws are securely in place.
- 10) Plug the appliance back in.



**Fig. 23**



**Fig. 24**

## 3. Power Supply Connection

If the plug or power cord is damaged, contact your local Hoshizaki service representative or local Hoshizaki distributor immediately and ask for repairs.

All other maintenance or service on the appliance should be performed in accordance with the Hoshizaki Service Manual by a qualified service technician.

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

When shutting down the appliance for more than one week, follow the instructions below.

<b>⚠ WARNING</b>
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When preparing the appliance for long storage, prevent the doors/drawers from closing to reduce the risk of children getting trapped.
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<b>NOTICE</b>
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When preparing the appliance for long storage, clean the appliance. See "III.A. Cleaning" for details.
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- 1) Before shutting down the appliance, move all foods into another clean refrigerator or freezer.
- 2) Unplug the appliance. **WARNING! To reduce the risk of electric shock, do not touch the plug with damp hands.**

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## V. Disposal

<b>⚠ WARNING</b>
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When preparing the appliance for disposal, remove the doors/drawers to reduce the risk of children getting trapped. Leave the shelves in place so that children may not easily climb inside.
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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.

**HOSHIZAKI AMERICA, INC.**

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