

# INSTRUCTIONS

## *HQC45 QUICKCHILL, HQCF45 QUICKCHILL / FREEZER & HQC90 QUICKCHILL*

### *MODEL*

<i>HQC45</i>	<i>ML-124061</i>
<i>HQCF45</i>	<i>ML-124062</i>
<i>HQC90</i>	<i>ML-124063</i>



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FORM 34523 (July 2000)



**Model HQC45  
QuickChill  
With Legs**



**Model HQCF45  
QuickChill / Freezer  
With Casters**



**Model HQC90 QuickChill**

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# **Installation, Operation, Use and Care of HQC45 QuickChill, HQCF45 QuickChill / Freezer, & HQC90 QuickChill**

## **SAVE THESE INSTRUCTIONS**

### **GENERAL**

The HQC45 QuickChill is designed for rapid chilling of 45 pounds of food (9 pounds of food per pan in five 12" x 20" x 2½" pans or five 18" x 26" sheet pans) from 150°F to 37°F in approximately 90 minutes. The rapid chilling process preserves food quality, texture and nutritional value for up to 5 days. As many as 5 chillings can be handled per 8 hour shift. The Automatic Chill/Hold mode can be used for overnight chilling.

The HQCF45 QuickChill / Freezer is designed to chill exactly like the HQC45 and it can also freeze product down to – 20°F. Freezing time varies according to the initial and final product temperatures as well as product type and quantity. Coated wire shelves can accommodate five full-size 12" x 20" x 2½" pans or five 18" x 26" sheet pans.

The HQC90 QuickChill is designed for rapid chilling of 90 pounds of food (9 pounds of food per pan in ten 12" x 20" x 2½" pans) from 150°F to 37°F in approximately 90 minutes. Optional coated wire shelves can accommodate ten full-size 12" x 20" x 2½" pans or five 18" x 26" x 2½" pans.

Chill and Freeze times are dependent upon product type, thickness, density, thermal conductivity, and type of covering. For best results, approximately 9 pounds of product per 12" x 20" x 2½" pan or 18" x 26" sheet pan is recommended. If more product per pan is being chilled, the time required to chill will be increased.

Cabinets are provided with a junction box in the lower section which allows for permanent, hard-wire connection. Stainless steel legs or casters are available accessories.

The durable stainless steel interior has coved corners for ease of cleaning. The exterior sides, front, and back are stainless steel. Left or right door swing is available on order and cannot be changed in the field. Compressors supplied by Hobart are rated 1¼ HP on HQC45 and HQCF45. Compressors are rated 1¾ HP on HQC90. Refrigerant is R404A. Remote refrigeration system or water cooled refrigeration system are optional.

The microprocessor controller provides the ability to:

- Select the mode of operation from a standard menu: Automatic (probe) or timed chill or freeze.
- Display the current air and product temperatures and time.
- Monitor product temperature with three probes during chill mode to reduce chances of freezing.
- Allows the operator the choice of enabling surface protection that will limit the air temperature to 28°F in the latter part of the chill cycle.
- Provide service diagnostics to quickly check machine functions and control circuitry; provides quick connect/disconnect of the controller.

The printer is part of the controller and provides the ability to:

- Print data from the last chill cycle or from all chill cycles since 12:00 midnight.
- Print the time and date information for each cycle.
- Report chill temperatures vs. time at ten minute intervals.

# INSTALLATION

Before installing, check the electrical service to make sure it agrees with the electrical specifications on the rating plate located inside the cabinet.

## UNCRATING

Immediately after unpacking, check for possible shipping damage. If the chiller is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

DO NOT LAY THE CHILLER ON ITS FRONT, BACK OR SIDES. EXERCISE EXTREME CARE WHEN REMOVING THE CRATE BOTTOM ESPECIALLY WHEN THE LAST SHIPPING BOLT IS REMOVED. CABINET MUST BE PROPERLY BLOCKED AND STABLE.

Cabinet is bolted onto a wood shipping base from underneath using the Threaded Hole (Fig.1). Remove shipping bolts.

## LEGS OR CASTERS

The HQC45, HQCF45 and HQC90 must be installed with legs or casters.

**WARNING:** THE CABINET MUST BE BLOCKED AND STABLE BEFORE INSTALLING THE LEGS OR CASTERS.

### Legs (Optional)

To install the legs, raise up and block the cabinet a minimum of 7" from the floor and thread the legs into the threaded holes on the bottom of the cabinet.

The chiller must be level to operate properly. Turn the adjustable feet in or out as required to level the chiller front-to-back and side-to-side (Fig. 1).

### Casters (Optional)

Casters may be supplied for use on self-contained units. The swivel casters with brake should be installed in front; casters without brake, in rear (Fig. 2). Caster equipped chillers should be located on a level floor.

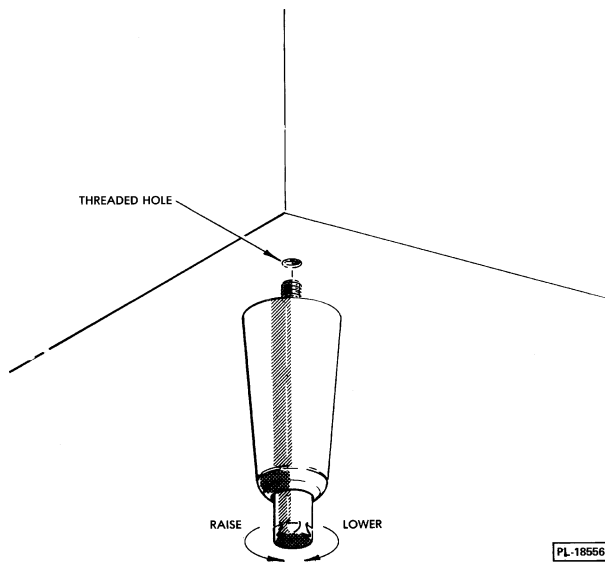


Fig. 1

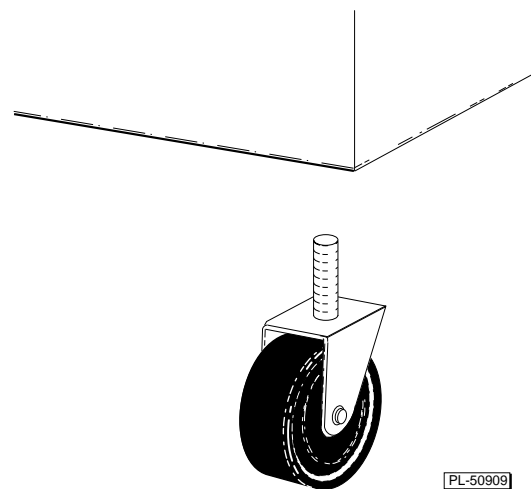


Fig. 2

## LOCATION

Good air circulation at the condenser coil in the lower section is necessary to provide proper operation. The cabinet may be located in any one of the following three ways to assure satisfactory performance.

- The unit can be situated so the lower back section is open to room air, allowing free air discharge. No side clearance and no top clearance is required. This is the preferred situation and provides the most effective cooling.
- The unit can be provided with no side clearance, two inches of clearance at the rear, and six inches of clearance above.
- If the unit is situated with no back clearance and no top clearance, it is necessary to provide either five inches of clearance on each side or ten inches of clearance on one side of the cabinet.

**NOTE:** Performance is enhanced when the air going into the condenser coil through the lower front section is cool. For example, locating the chiller adjacent to an oven would not be recommended.

## FEATURES

### Shelves (Set of Five)

A set of five shelves is optional on HQC90. A set of five shelves is standard with HQC45 and HQCF45. Shelf clips are packed with the shelves. For each shelf, insert two front shelf clips and two rear shelf clips into the pilaster slots at the same height. After installing shelf clips on pilasters, place shelves on clips.

Optional single shelves are available; up to eight shelves can be installed in the cabinet at one time.

### Recommended Pans

Full size 12" x 20" x 2½" pans or 18" x 26" sheet pans are recommended. Pans are not included.

### Probes

During a chill cycle, insert probes in pans of food to monitor temperatures. Probes should not touch bottom of pan. Place probe in the middle of the food for best temperature indication.

The Top Probe in the cabinet corresponds to the left temperature in the display (Fig. 4); the Center Probe is second; and the Bottom Probe is the third temperature in the display.

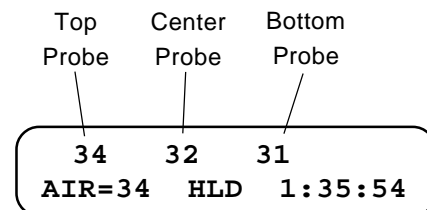


Fig. 3

### Door Switch

The cabinet is equipped with a door switch which shuts off the fans and refrigerant valve when the door is opened. A buzzer sounds and a notice displays: CABINET DOOR OPEN. After the door is closed, timer and chiller operations resume.

### Fan Door Switch

A fan door switch also shuts the fans and refrigerant valve off if the metal fan grill is not properly fastened in place. A notice displays: FAN DOOR OPEN.

### Control Box Keys

Two keys for the control box lock are shipped with the chiller. These keys should be retained by the operator when access is needed for installation of printer paper, etc.

## ELECTRICAL CONNECTIONS

Line voltage supplied to the cabinet junction box must not be affected by the operation of other electrical equipment. Junction box is located at the rear of the lower section. The rear compressor cover is maintained in place with Velcro. Pull to remove it.

**WARNING:** ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

**WARNING:** DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH INDICATING THAT YOU ARE WORKING ON THE CIRCUIT.

The circuit should be protected with a Dual Element Time-Delay Fuse or Inverse Time Circuit Breaker.

### ELECTRICAL DATA

Model	Volts / Hertz / Phase	Minimum Circuit Ampacity Maximum Protective Device AMPS
HQC45 HQCF45	208 / 60 / 1	15
	240 / 60 / 1	15
HQC90	208 / 60 / 1	20
	240 / 60 / 1	20
	208 / 60 / 3	15
	240 / 60 / 3	15

Compiled in accordance with the National Electrical Code, NFPA 70, latest edition.

### INSTALLATION OF REMOTE ALARM (Optional)

The chiller provides a connection for a remote alarm that operates when the buzzer sounds on completion of a chill cycle. Connect to terminals on terminal block (# 5 and # 6 in the upper section of the chiller) per the wiring diagram and these restrictions:

1. Maximum remote alarm rating: 120V - 240V at 2 amps resistive or 100 watt incandescent lamp.
2. Connection must be made of 600 volt insulated wire suitable for supply voltage. Do not use bell wire, lamp cord or similar type wire.

### INSTALLATION CHECKOUT

The self-contained refrigeration system (when equipped) is shipped fully charged with refrigerant and requires only proper electrical connections. Remote refrigeration systems must be installed, connected, and charged by others.

After proper electrical connections are made, place the switch next to the control in the On position.

# OPERATION

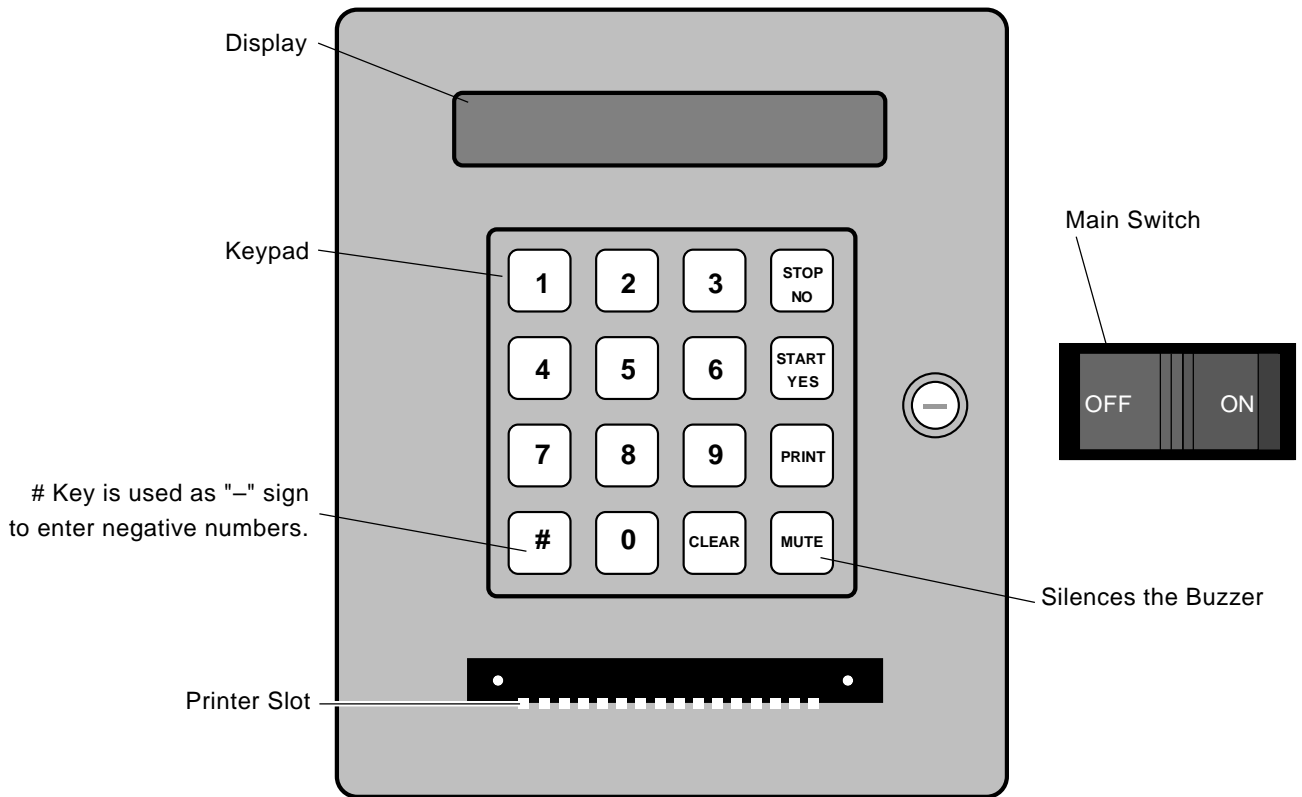


Fig. 4

## 0. MAIN MENU

Displays on initial power up. Cabinet is idle.

10:35 1.CHLL 2.FRZE  
3.DEFR 4.HOLD 5.SET

The Main Menu displays the time of day in the upper left corner. On the Chiller/Freezer cabinet, five menu options allow you to select Chill, Freeze, Defrost, Hold or Set-Up.

10:35 1.CHLL  
3.DEFR 4.HOLD 5.SET

Chiller only Main Menu — does not allow Freeze mode.

**NOTE:** If power was interrupted for 10 minutes or less, control resumes at its previous display and function.

## 1. CHILL MODE — From the main menu, press [1].

CHILL METHOD: 1.AUTO  
2.MANUAL 3.EXIT

Select between Automatic or Manual Chill. With Automatic Chill mode, the cycle continues until all food probes have reached the target temperature. With Manual Chill mode, cycle duration is selected by the operator. Automatic Chill mode is not available if no probes are used. Exit will return to the main menu.

**1.1 AUTOMATIC CHILL** — (Controlled by probes, a non-timed chill.) From the main menu, press [1][1].

AUTOMATIC CHILL  
OK TO START [YES/NO]

Top Probe	Bottom Probe	
34	45	37
AIR=25 AUTO 01:25:45		

CHILL CYCLE STOPPED  
REMOVE FOOD [YES]

CHILL CYCLE DONE  
REMOVE FOOD [YES]

To begin Automatic Chill, press [YES].

The top row displays the food probe temperatures. The left value corresponds to the top probe; the right value corresponds to the bottom probe, etc. The temperature of the air, the AUTO mode indicator, and the chill cycle time are displayed on the bottom row. The compressor operates to cool the air down to the selected blasting air temperature in Chill mode. As each probe reaches the target temperature in Chill mode, an asterisk (\*) displays next to its temperature display and the buzzer sounds for two minutes or until the [MUTE] key is pressed. The cycle continues until all probes have reached the target temperature.

If you press the [STOP] key during a chill cycle, the display at left allows you to press [YES] and return to the main menu.

When the Automatic Chill ends, buzzer sounds for two minutes. Pressing [YES] returns to the main menu. If you do not press [YES] within two minutes, the cabinet goes to Cooler Hold mode.

**1.2 MANUAL CHILL** — (Timed chill cycle.) From the main menu, press [1] [2].

READY TO CHILL FOR  
01 HOURS 10 MINUTES?

ENTER NEW CHILL TIME  
00 HOURS 00 MINUTES?

READY TO CHILL FOR  
00 HOURS 45 MINUTES?

54	58	65
AIR=35 MAN 01:09:59		

CHILL CYCLE STOPPED  
REMOVE FOOD [YES]

CHILL CYCLE DONE  
REMOVE FOOD [YES]

If the chill time setting is OK, press [YES] to begin. If you want to reset the chill time, press [CLEAR].

Enter the chill time as a pair of two-digit numbers (HH:MM) where HH=hours and MM=minutes. Use a leading zero for single digit numbers. Press [YES].

If the chill time setting is OK, press [YES] to begin.

The top row displays the food probe temperatures. The temperature of the air, the MANUAL mode indicator, and the countdown time are displayed on the bottom row. The compressor operates to cool the air down to the selected blasting air temperature in Chill mode. As each probe reaches the target temperature in Chill mode, an asterisk (\*) displays next to its temperature display and the buzzer pulses two seconds on, two seconds off for two minutes. The Chill cycle continues until the set time has elapsed.

If you press the [STOP] key during a chill cycle, the display at left allows you to press [YES] and return to the main menu.

When the Manual Chill ends, the buzzer sounds for two minutes. Pressing [YES] returns to the main menu. If you do not press [YES] within two minutes, the cabinet goes to Hold mode.

**NOTE:** For better performance, precool the cabinet by operating in Hold mode prior to loading product.

A message displays, ERR, when the probe needs to be replaced or when its temperature is out of range.



**2. FREEZE MODE** — *From the main menu, press [2], when available.*

FREEZE METHOD: 1. AUTO  
2. MANUAL            3. EXIT

Freeze mode operates exactly like chill mode. Use the menus on page 7 except *CHILL* is replaced by *FREEZE*. Different target temperature and air set point may be entered in Set-Up Mode. Different temperature ranges are available for chill and freeze modes.

After a Freeze cycle is complete, the cabinet goes into Freezer Hold mode.

**3. DEFROST MODE** — *From the main menu, press [3].*

READY TO DEFROST  
REMOVE FOOD [YES]

UNIT            DEFROSTING  
COIL=6            00:18:42

DEFROST CYCLE DONE  
ACKNOWLEDGE        [YES]

To begin a manual defrost cycle, press [YES]. Pressing [NO] will return to the main menu.

The top line of the display indicates defrost mode is in progress. The coil temperature and the time remaining in the Defrost cycle are displayed on the bottom line. Once it has begun, the Defrost cycle cannot be stopped. The Defrost cycle ends when either the coil temperature reaches the Defrost Termination Temperature or when the Defrost Termination Time has elapsed (factory setting is 20 minutes). The Buzzer sounds for two minutes or until [MUTE] is pressed.

Press [YES] and return to the main menu.

**NOTE:** Different factors influence the ideal frequency of defrost cycles. When you see some frosting on the coil in the cabinet behind the louvers, a Defrost cycle should be performed. If the Defrost cycle is skipped, air circulation in the cabinet will be reduced and chilling or freezing times will increase.

**4. HOLD MODE** — *From the main menu, press [4].*

1. HOLDING COOLER  
2. HOLDING FREEZER

34      35      33  
AIR=34 HLD    01:35:45

If the cabinet is a chiller / freezer, this menu selects which holding air temperature setting is used during a selected Hold mode. After a chill or freeze cycle, the system automatically selects the corresponding holding temperature. This menu is omitted if the cabinet is a chiller only model.

The top row displays the food probe temperatures. The bottom row displays the air temperature, the Hold mode indicator, and the time accumulated since the Hold mode began. The compressor operates to maintain the air temperature at the selected target temperature in Hold mode. When the temperature is reached, fans stop, and periodically restart to maintain a uniform internal temperature.

**NOTE:** During Hold mode, an automatic Defrost occurs every six hours. To exit Hold mode, press [STOP] and return to the main menu.

In Hold mode, quick chillers and quick freezers operate like a standard refrigerator or freezer. Probes are ignored and air temperature is maintained at the selected value.

If the message COOLING TOO SLOW displays during Hold mode, the cabinet needs service.

**5. SET UP MODE** — *From the main menu, press [5].*

Set Up mode allows you to easily set four parameters for HQC45, HQC90; seven parameters for HQCF45. These parameters could be set according to the type of food, its surface, etc. The user may try different set ups to maximize performance and food quality. On a chiller only model, the grayed freezer temperatures setup menus are omitted. Blasting air differential and holding air differential temperatures are set at the factory.

TARGET TEMPERATURE  
IN CHILL MODE: 37

The setting for target food temperature in Chill mode is shown.

	Temperature Range	Preset Target Temperature
Chill Mode	34° F to 80° F	37° F

Enter a value within the range. Press [YES] to continue.

TARGET TEMPERATURE  
IN FREEZE MODE: 0

The setting for target food temperature in Freeze mode is shown.

	Temperature Range	Preset Target Temperature
Freeze Mode	- 22° F to 80° F	0° F

Enter a value within the range. Press [YES] to continue.

BLASTING AIR TEMP.  
IN CHILL MODE: 10

The setting for blasting air temperature in Chill mode is shown. Air temperature will be maintained between the blasting air temperature and blasting air temperature plus differential.

For Example: Blasting Air Temperature = 10°F. Differential = 4 F°.

Temperature will fluctuate between 10°F and 14°F.

	Temperature Range	Preset Blasting Air Temp.
Chill Mode	10° F to 45° F	10° F

Enter a value within the range. Press [YES] to continue.

BLASTING AIR TEMP.  
IN FREEZE MODE: -25

The setting for blasting air temperature in Freeze mode is shown. Air temperature will be maintained between blasting air temperature and blasting air temperature plus the differential.

For Example: Blasting Air Temperature = -25°F. Differential = 4 F°.

Temperature will fluctuate between -25°F and -21°F.

	Temperature Range	Preset Blasting Air Temp.
Freeze Mode	- 32° F to 20° F	- 25° F

Enter a value within the range. Press [YES] to continue.

HOLDING COOLER  
TEMPERATURE: 35

The setting for air temperature in Holding Cooler mode is shown. Air temperature will be maintained between the holding cooler temperature and holding cooler temperature plus differential.

For Example: Holding Cooler Temperature = 35°F. Differential = 6 F°.

Temperature will fluctuate between 35°F and 41°F.

	Temperature Range	Preset Holding Cooler Temp.
Holding Cooler Mode	10° F to 45° F	35° F

Enter a value within the range. Press [YES] to continue.

HOLDING FREEZER  
TEMPERATURE: -6

The setting for the air temperature in freezer hold mode is shown. Air temperature will be maintained between the holding temperature and holding temperature plus differential.

For Example: Holding Freezer Temperature = -6°F. Differential = 6 F°. Temperature will fluctuate between -6°F and 0°F.

	Temperature Range	Preset Holding Freezer Temp.
Freezer Hold Mode	- 32° F to 20° F	- 6° F

Enter a value within the range. Press [YES] to continue.

SURF PROTECTION: OFF  
1=ON 2=OFF

This applies only when operating in a Chill mode. When ON, the blasting air temperature is raised to 28°F during the last third of a timed (manual) chill cycle or when all three probes are within 5 F° of the target temperature during an automatic chill cycle.

Range of Acceptable Values	Preset Value
1 or 2	2 = Off

Select [1] or [2]. Press [YES] or [NO] to return to the main menu.

**PRINT MODE** — Press the [PRINT] key. This mode can be accessed at any time without interrupting the ongoing chill cycle.

SELECT PRINT MODE  
1=24 HR 2=LAST CHILL

Select between printing a report including all chill data since 12:00 midnight or only the previous chill cycle.

SELECT PROBE NUMBER  
1->3 OR 0 FOR ALL

Press [0] to report all probes. Or, press [1], [2], or [3] to report only the selected probe. The display returns to whatever menu was displayed before the [PRINT] key was pressed.

**NOTE:** Do not pull paper through printer slot.

## PRINTER PAPER

Printer paper is available from Hobart — order part number 282051.

## LOADING PRINTER PAPER

**CAUTION: Do not touch exposed electrical parts, bare wires or circuit boards. This could cause electrostatic discharge and could damage the controller.**

Do not pull paper through printer. Use the Line Feed Switch to advance any remaining paper through the printer. Compress the coil spring on the left end of the roll to release the core from the holders on each side. Follow instructions inside control box for loading printer paper. Once loaded, it may take a minute or more for paper to advance through the printer slot.

**SETTING THE TIME AND DATE** — Open the control box door. Press both the Service Switch (see Fig. 5) and the [9] key (on front keypad) at the same time.

1=INPUTS 2=OUTPUTS  
3=CLOCK 4=PRINTER

The service menu will appear. Press [3] to select Clock.

ENTER NEW TIME  
XM HH:MM:SS

Enter the new hours, minutes, seconds: HH-MM-SS (6 digits). Press [0] for AM or [1] for PM. Press [YES].

ENTER NEW TIME  
0=AM, 1=PM XX:XX:XX

Enter the new month, day and year: MM-DD-YYYY (8 digits). Press [YES]. Press [NO] two times to exit to the main menu.

ENTER NEW DATE  
MM/DD 05/20/2000

# MAINTENANCE

## CLEANING

Wash, rinse, and sanitize the product probes before and after use as you would any food-contact utensil that measures temperature.

Chiller surfaces of stainless steel should be wiped clean with a damp cloth or mild cleaning solution. **DO NOT** flush with running water. Avoid the use of solvents around plastic or painted areas; clean these with a damp cloth moistened with a solution of mild detergent and warm water. Clean hinge hardware with a chrome cleaner. Use a solution of warm water and baking soda to clean the gasket; then wipe with a soft cloth. Hinges may require occasional lubrication of the plastic cam. Do not use the top of the chiller for storage.

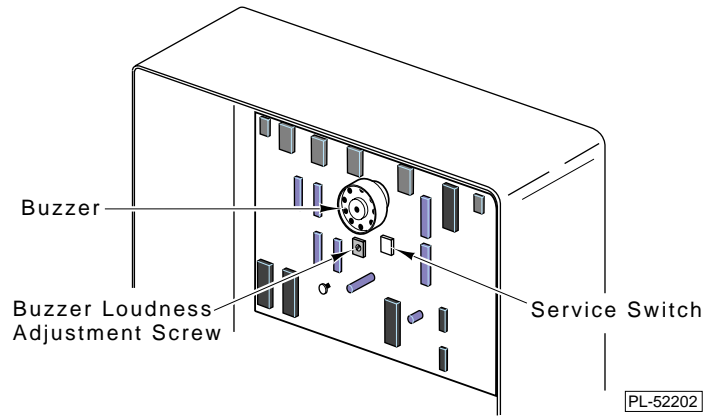


Fig. 5

## CONDENSER COIL

**WARNING:** DISCONNECT ELECTRICAL POWER SUPPLY BEFORE CLEANING ANY PARTS OF THE UNIT.

The lower front compressor cover is attached with Velcro. Pull to remove.

Check the condenser coil weekly. Air must be able to freely circulate through the condenser. This surface must be kept free of dirt and grease for proper system operation. Carefully clean dirt and lint from the condenser coil using a vacuum cleaner, whisk broom, or soft brush; do not use a wire brush.

**CAUTION:** Do not damage the condenser coil fins. Replace lower front compressor cover. Reconnect electrical power supply.

## EVAPORATOR COIL, CONDENSATE LOOP, AND CONDENSATE REMOVAL PAN

**WARNING:** DISCONNECT ELECTRICAL POWER SUPPLY BEFORE CLEANING ANY PARTS OF THE UNIT.

When needed, these components can be flushed with fresh water by a qualified service technician. This should be part of any routine maintenance program and can prolong the life of the equipment.

Condensate removal is provided at the lower right portion of the equipment cabinet and does not need a drain. Periodic cleaning of the condensate removal pan (Fig. 6) may be needed. To access the condensate removal pan, remove the lower front compressor cover which is attached with Velcro. Pull to remove. Clean the condensate removal pan by wiping with a clean damp cloth or sponge, using care with the condensate loop inside. Replace compressor cover. Reconnect electrical power supply.

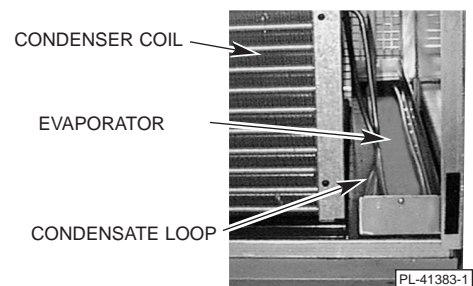


Fig. 6

## MAINTENANCE PROGRAM

For additional information or to discuss a maintenance program, contact your local Hobart authorized refrigeration service company.