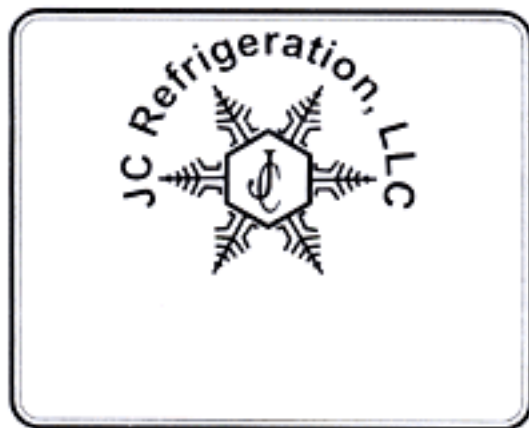


# Crystal Cold

Gas Refrigerator



The installation of the appliance must conform with local codes or, in the absence of local the national Fuel Gas Code, ANSI Z233.1 and in Canada B149.2.M95.

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## **For Your Safety**

If you smell gas:

1. Open Windows
2. Don't touch electrical switches
3. Extinguish any open flame
4. Immediate call your gas supplier

## **For Your Safety**

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this unit or any other appliance.

## **Warning**

Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

## **Warning**

This product can produce Carbon Monoxide. Carbon Monoxide has no order and can kill you. The burner and flue system must be kept clean. See Owners manual for instructions.

## **Installation Instructions**

The installation of the appliance must conform with local codes or, in the absence of local the national Fuel Gas Code, ANSI Z233.1 and in Canada B149.2.M95

## A. INSTALLATION

### Free Standing Model for Floor Installation Only

For best performance at high ambient temperatures, there must be free air circulation over the cooling unit at the rear of the refrigerator.

Ensure that there is a free air space above the refrigerator and that the flue (chimney) on top of the cabinet is not covered in any way. Do not place the refrigerator in a space where air circulation is restricted. Follow "clearance" instructions.

This free-standing refrigerator requires accessibility to the back for servicing the gas equipment, which can be obtained by using a certified Flexible Metal Connector to allow the refrigerator to be withdrawn without disruption the gas supply. "Where a flexible metal connector is used, it must comply with local authorities and in Canada with the provisions of the current Standard CAN 1-6.10, Metal Connectors For Gas Appliances". However, if the Local Authorities require a rigid gas supply connector, the refrigerator should be located with sufficient space at the back for servicing or, if located against a wall a removable panel of a minimum size of 16" x 20" should be provided in the wall to allow access to the rear of the refrigerator.

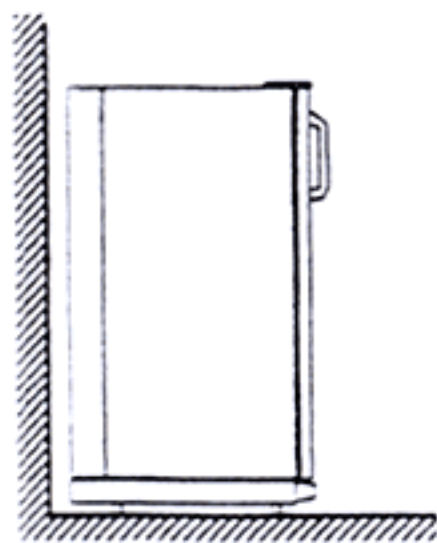
### CLEARANCES

Minimum clearances in inches to combustible materials are:

- Top - 8"
- Sides - 2"
- Rear - 2"

or as shown in Figures. 1, 2 & 3.

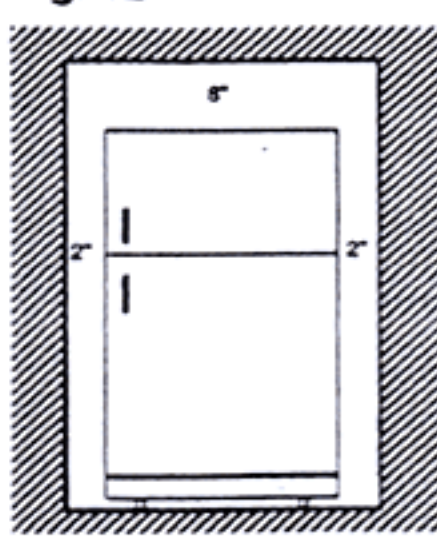
Fig. #1



#### From The Side:

This setting for your refrigerator is ideal both top & sides are open

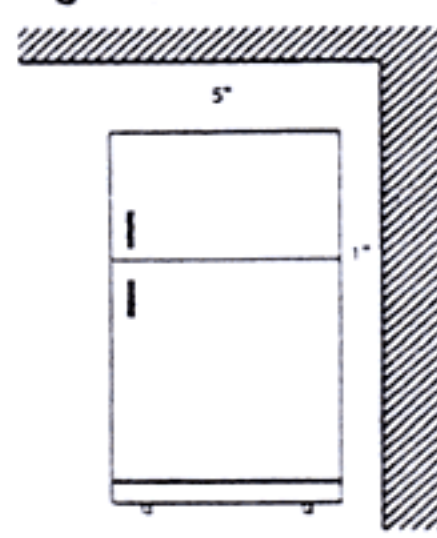
Fig. #2



#### From The Front

If this is your opening, a 6' x 12" floor vent is required behind the refrigerator. If your opening on top is less than 8", an additional vent leading to fresh air is required at the top.

Fig. #3



#### From The Front

If this is your opening, you only need to stay the diagramed distance from the wall and ceiling. There is no need for additional venting

*Note: DO NOT install the appliance directly on carpeting. Carpeting must be removed or protected by a metal or wood panel beneath the appliance, which extends at least the full width and depth of the appliance.*

### GAS CONNECTION

Hook-up to the gas supply line: 3/8" SAE (UNF 5/8" - 18) male flare connection. A backup wrench must be used when tightening gas supply fitting. All completed connections should be checked for leaks with a non corrosive leak detector.



### WARNING

DO NOT use a flame to check for gas leaks.

The gas supply system incorporates a pressure regulator to maintain a supply pressure of not more than 12" water column and no less than 11" water column.

Make sure the refrigerator and any other high BTU appliances on your line are turned on when checking the gas pressure. The appliance and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 1/2" psig".

In case detailed instructions on the installation and connection of the gas supply are required, contact your dealer or distributor.

## B. GENERAL OPERATING INSTRUCTIONS

### Importance of Leveling a Refrigerator

The refrigerator must be adjusted to a vertical position in both directions.

In an absorption refrigeration system, ammonia is liquefied in the finned condenser coil at the top rear of the refrigerator. The liquid ammonia then flows into the evaporator (inside the freezer section) and is exposed to circulating flow of hydrogen gas, which causes the ammonia to evaporate, creating a cold condition in the freezer.

When starting this refrigerator for the very first time, the cooling cycle may require up to four hours of running time before the cooling unit is fully operational.

The tubing in the evaporator section is specifically sloped to provide a continuous movement of liquid ammonia, flowing downward by gravity through this section. If the refrigerator is operated when not level, liquid ammonia will accumulate in sections of the evaporator tubing. This will slow the circulation of hydrogen and ammonia gas, or in severe cases, completely block it, resulting in a loss of cooling.

This refrigerator operates only on LP Gas (Propane)

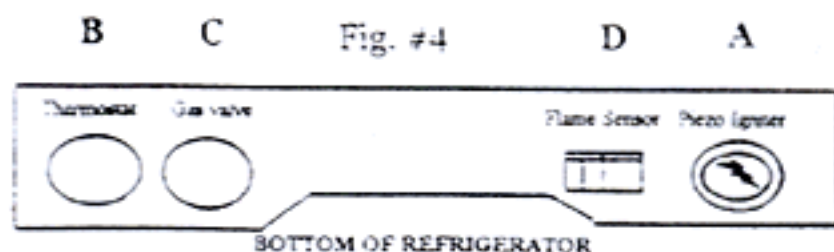
*Note: After changing an LP tank, or after a long shut off period, the gas line is likely to be filled with air. You may have to repeat the lighting procedure several times to purge the air out of the gas lines.*

### GAS OPERATION

1. To start the refrigerator turn the thermostat knob **B** to maximum setting.
2. Turn button **C** to Gas "on" position, then push same button to the bottom and hold. Immediately push button **A** repeatedly for the piezo igniter to light the burner, continue to hold the **C** button until you see the needle on the flame sensor **D** has moved from the white into the green area. The burner should now be "on", if not repeat the lighting instructions above.

**CONTROLS** – See Fig 4. for description of controls

Flame sensor D may not be included in some models.



Behind control panel are the pressure tap and by-pass orifice locations.

### THERMOSTAT

The refrigerator cooling temperature is controlled by a combination thermostat that can be adjusted by turning knob **B** to different settings to maintain the desired refrigerator temperature. It also incorporates a safety device which automatically shuts off the supply of gas if the flame goes out.

The piezo electric igniter discharges sparks onto the burner when the button is pushed.

See Figure #4

1. **Counterclockwise defrost setting on the Gas Thermostat:** In gas operation, the thermostat closes its main valve and the burner runs continuously at the bypass rate or pilot flame.
2. **Clockwise Setting of the Thermostat:** In gas operation, the thermostat allows the burner to remain on high flame continuously.
3. The thermostat can be adjusted between "max" and "defrost" to obtain the desired fridge temperature.

When the thermostat reaches the set temperature, it will cut the burner back to bypass operation.

The setting of the thermostat is critical and recommend it be adjusted to maintain a dry frost on the cooling fins. Adjust the thermostat knob closer to "Max" when the outside temperature rises.

### C. HOW TO USE THE REFRIGERATOR

The food storage compartment is completely closed and unventilated, which is necessary to maintain the required low temperature for food storage. The coldest areas in the refrigerator are under the cooling fins and at the bottom of the refrigerator. The warmer areas are on the upper door shelves. This should be considered when placing different types of food in the refrigerator.

### FROZEN FOOD STORAGE COMPARTMENT

Quick frozen soft fruits and ice cream should be placed in the coldest part of the compartment which is at the bottom of the aluminum liner. Frozen vegetables, may be stored in any part of the compartment.

This compartment is not designed for deep or quick freezing of food. Meat or fish, whether raw or prepared, can be stored in the frozen food storage compartment provided they are pre-cooled in the refrigerator. To prevent food from drying out, keep it in covered dishes, containers, plastic bags or wrapped in aluminum foil.

## DEFROSTING

Frost will gradually accumulate inside the refrigerator and freezer surfaces. It must be not allowed to grow too thick as it acts as an insulator and adversely affects the refrigerator performance.

Check the formation of frost every week and when it exceeds 1/16" thick, defrost the refrigerator.

Shut off and empty the refrigerator, leaving the fridge and the freezer doors open. Defrosting time can be reduced by filling the ice tray with hot water and placing it in the freezer compartment.



## WARNING

*DO NOT use a hot air blower, permanent damage could result, DO NOT use a knife, an ice pick, or any other sharp tools to remove frost from the freezer compartment.*

The defrost water runs from a collector channel to a drip tray/cup at the rear of the refrigerator where it normally evaporates. If heavy frost has built up on the freezer plate and cooling fins creating a lot of defrost water, move the plastic drain tube into a watertight container, when completed replace the drain tube to its original position.

When all frost is melted in the freezer compartment & interior of the refrigerator it should be wiped up with a clean cloth.

Replace all food and set the thermostat to its normal position.

## CLEANING

Cleaning the refrigerator is usually done after it is defrosted or put into storage. To clean the interior liner of the refrigerator, use lukewarm weak soda solution. Use only warm water to clean the finned evaporator, gasket, ice trays and shelves.

*Never use strong chemicals or abrasives to clean these parts as the protective surfaces will be damaged. It is important to always keep the refrigerator clean.*

## SHUT DOWN PROCEDURE

A. Turn gas valve knob to the "off" position

B. If the refrigerator will not be in operation for a period of weeks, it should be emptied, defrosted, cleaned and the doors left open. The ice tray should also be dried and kept outside the cabinet, also turn off gas at the main supply source.

## D. MAINTENANCE & SERVICE

The user should be aware of service that must be done on a regular schedule to keep the refrigerator operating properly. Installation must be by a licensed gas fitter in accordance with local codes or must comply with Propane Installation Code CAN/CGA-B149.2 (latest edition)

### L. REFRIGERATOR REMOVAL

Before working on the refrigerator, shut off the gas supply. Disconnect the gas supply line at the rear of the refrigerator. Always use a back up wrench when loosening and tightening this connection. Cap the gas supply line and remove the refrigerator. Replacement is the reverse of removal. Check all connections for gas leaks.

Refer to section A. INSTALLATION, page 2

### 2. PERIODIC MAINTENANCE

To keep your refrigerator operating effectively and safely, periodic inspection and cleaning of several components is recommended once or twice a year.

A. It's important to keep the area at the back of the refrigerator clean. Clean the coils on the back of the refrigerator. Use a soft bristled brush to dust off the coils.

*Note:* The following maintenance is required once or twice a year.

B. Check all connectors in the complete refrigerator LP gas system for gas leaks. The LP gas supply must be turned on. Apply a non corrosive bubble solution to all LP connections. The appearance of bubbles indicates a leak and should be repaired **immediately** by a qualified serviceman.



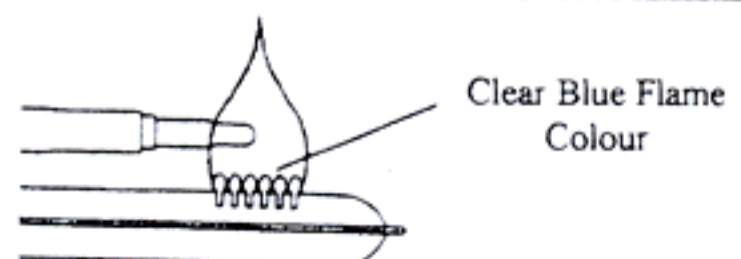
## WARNING

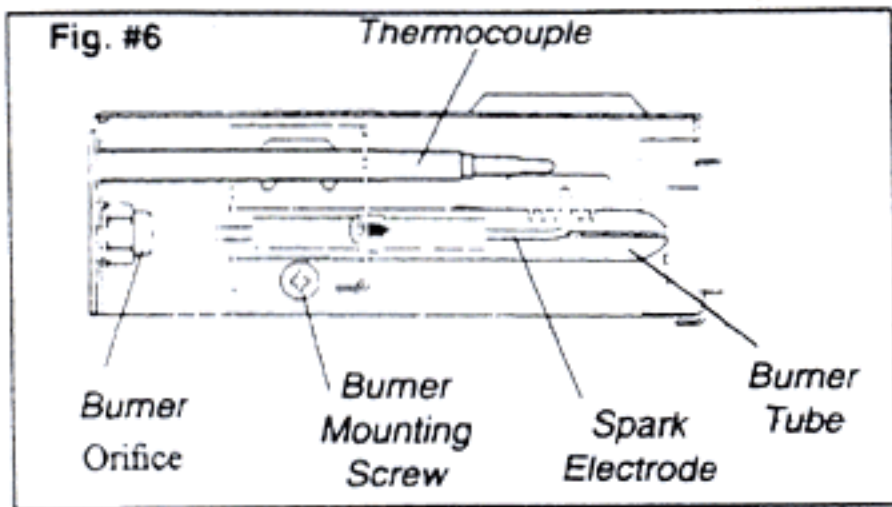
*Do not use a flame to check for gas leaks*

C. Check burner flame for proper appearance. The flame should be light blue with no yellow at the tip.

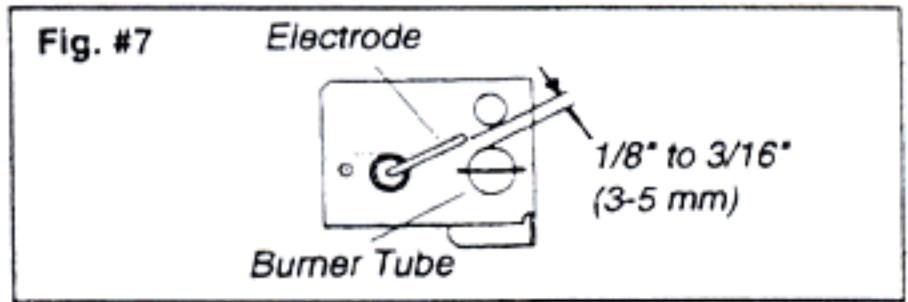
See figure #5

Fig. #5





7. Be sure to reconnect the wire to the electrode. Check the electrode for proper location and gap. See figure #7




D. The LP gas pressure should be checked and the main regulator readjusted if pressure is incorrect. The correct operating pressure is 11" water column.

E. Inspect the flue baffle, it should be clean and free of soot. Any soot formation indicates improper functioning of the burner. The flue and burner both require cleaning in the following manner:


1. Remove cover from the burner housing.
2. Disconnect the wire from the spark electrode
3. Do not remove the burner
4. Remove the wire and flue baffle from the top of flue tube. Clean the flue from the top using a flue brush, be sure to cover the burner to eliminate dirt falling into burner. Blowing compressed air into the flue should clean out soot and scale. Replace the flue baffle.
5. Clean burner tube with air, check for fluff or spiders web.
6. Before removing burner orifice, clean burner area of any soot, scale or dirt . Remove the burner and soak it in wood alcohol (isopropyl alcohol) and blow it out with compressed air. Reinstall and tighten burner orifice.

8. The gas fittings on the refrigerator need to be checked for leaks. Apply a non corrosive bubble solution to the fittings and observe for leaks. The safety valve will not allow gas pressure to any connections between it and the burner orifice. These fittings must be checked before lighting the burner.

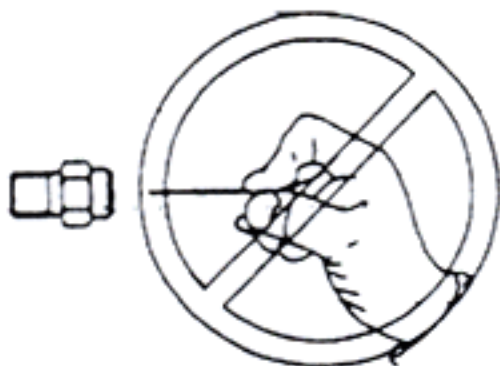
 **WARNING**

*The safety shut-off must be manually depressed to allow gas pressure to flow to the burner orifice. Be sure to apply the leak check solution before depressing the safety shut-off . DO NOT allow any open flame, sparks, smoking, etc. in the area of the test. DO NOT depress safety shut-off for over 30 seconds.*

9. If leak occurs, then allow ten minutes to leave the burner area. Light the burner according to the instructions under Gas Operation.

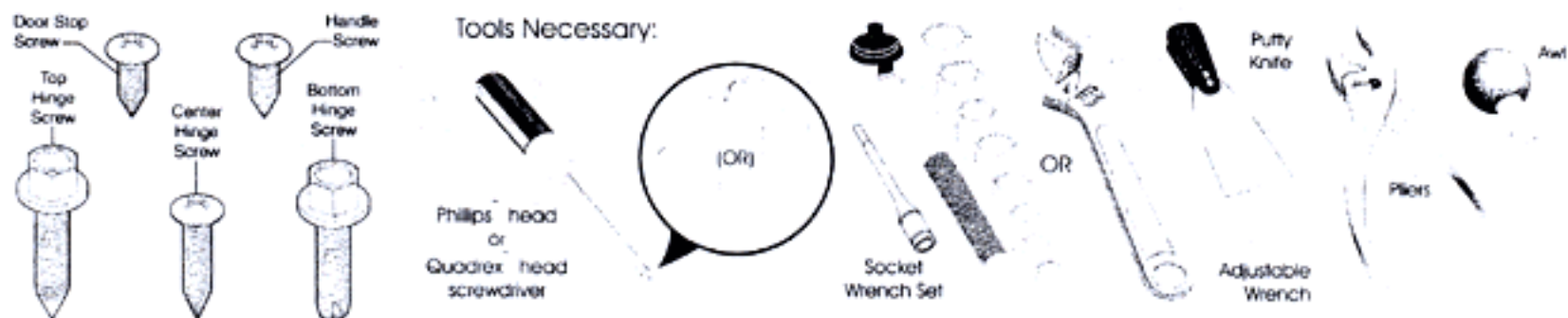
 **WARNING**

*DO NOT use a pin or wire when cleaning the burner orifice as damage can occur to the precision opening. This can cause damage to the refrigerator or create a fire hazard.*



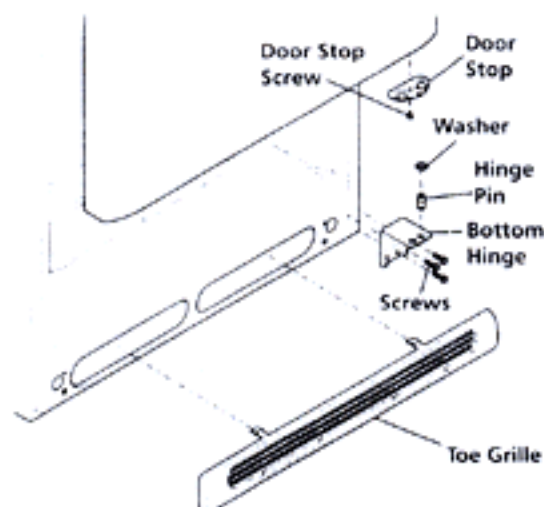
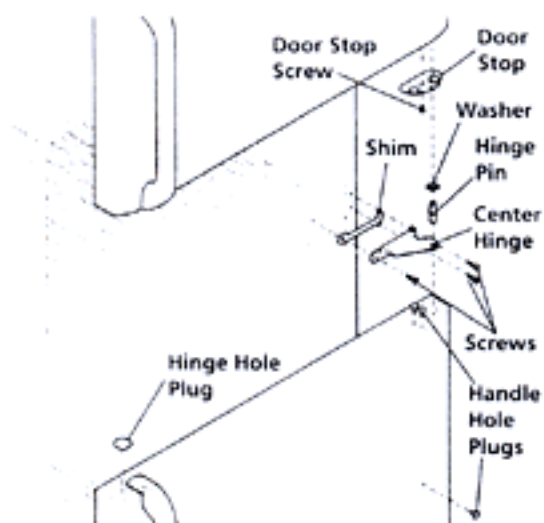
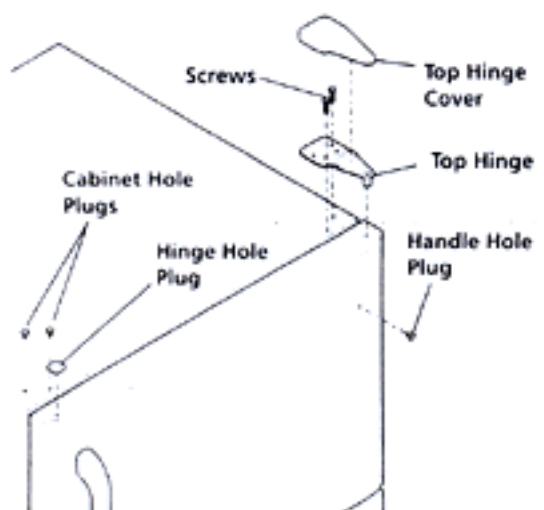


# Door Removal and Reversal Instructions

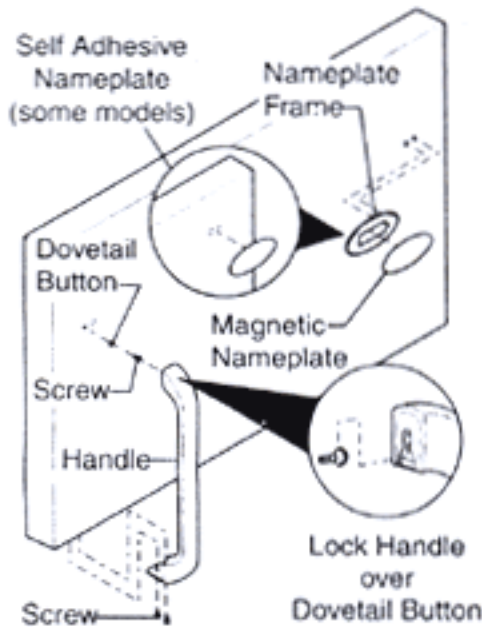


## DOOR REMOVAL AND REVERSAL INSTRUCTIONS:

1. Remove toe grille and top hinge cover.
2. Remove top hinge with 3/8" hex driver and lift freezer door off of center hinge pin. Set door aside.
3. Unscrew center hinge pin using adjustable wrench and save for reassembly. Ensure plastic washer stays on hinge pin.
4. Lift refrigerator door off of bottom hinge and set aside.
5. Remove center hinge and shim by removing inside screw and loosening two outside screws enough to allow hinge and shim to slide out. Tighten screws.
6. Loosen two outside screws on opposite side of refrigerator, remove inside screw and install center hinge.
7. Remove bottom hinge with 3/8" hex driver. Reinsert two outside screws in holes and tighten. Inside screw will go to opposite side in step 8.
8. Remove two outside screws on opposite side of refrigerator and install bottom hinge. Insert and tighten screw saved from step 7.
9. Unscrew bottom hinge pin using adjustable wrench. Move hinge pin to other hole in hinge and tighten with adjustable wrench.
10. Reverse door handles (see instructions on next page).
11. Move freezer and refrigerator door stops to opposite side. Before starting screws, use an awl to puncture the foam.
12. Position refrigerator door onto bottom hinge pin and screw center hinge pin through center hinge into top of door. Close refrigerator door to help align hinge hole.
13. Tighten center hinge pin with adjustable wrench.
14. Remove cabinet and hinge hole plugs and move to opposite side.
15. Lower freezer door onto center hinge pin.
16. Close freezer door. Have an assistant lift up on opposite side of door while tightening screws to install top hinge.
17. Replace toe grille and top hinge cover.



# Door Removal and Reversal Instructions



## TO REMOVE FREEZER HANDLE:

(Handles may be easier to reverse while doors are off.)

1. Remove two screws attaching handle to bottom of freezer.
2. Swing bottom of handle away from the door and slide handle straight up and off of dovetail button.
3. Remove screw and dovetail button and install on other side, using the same holes as nameplate.

**Self-Adhesive name plate models:** Use putty knife to gently peel off name plate from door and reapply over old handle holes.

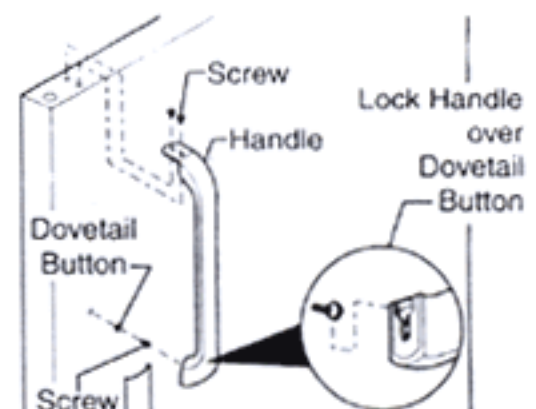
## TO ATTACH FREEZER HANDLE:

1. Start with handle offset away from door. Place top of handle over dovetail button, swing handle into position and pull downward, locking it into place.
2. Secure bottom of handle with two screws removed earlier.

## TO REMOVE REFRIGERATOR HANDLE:

(Handles may be easier to reverse while doors are off.)

1. Remove two screws attaching handle to top of refrigerator door.
2. Swing top of handle away from door and slide handle down and off of dovetail button.
3. Remove screw and dovetail button and install on other side, moving hole plugs from corresponding holes to opposite side.



## TO ATTACH REFRIGERATOR HANDLE:

1. Start with handle offset away from door. Place bottom of handle over dovetail button, swing handle into upright position and pull upward, locking it into place.
2. Secure top of handle with screws.