

All about

# Servicing

All Refrigerator and  
All Freezer Professional  
17 Cu. Ft. Units  
With Mechanical Controls

## FRIGIDAIRE™

**W** White-Westinghouse

**Gibson**

***Kelvinator*** 

***TAPPAN***

Electrolux Major Appliances; North America  
250 Bobby Jones Expwy  
Augusta, GA 30907



This Manual has been prepared to provide Electrolux Service Personnel with Operation and Service Information for the following models.

**FPRH17D7KF All Refrigerator Professional Series**

**FPUH17D7KF All Freezer Professional Series**

### Safe Servicing Practices

**Avoid personal injury and/or property damage by observing important Safe Servicing Practices.**

**Following are some limited examples of safe practices:**

1. **DO NOT** attempt a product repair if you have any doubts as to your ability to complete the repair in a safe and satisfactory manner.
2. Always Use The Correct Replacement Parts as indicated in the parts documentation. Substitutions may defeat compliance with Safety Standards Set For Home Appliances.
3. Before servicing or moving an appliance:
  - Remove power cord from the electrical outlet, trip circuit breaker to OFF position, or remove fuse.
  - Turn off water supply if unit has an icemaker.
4. Never interfere with the proper operation of any safety device.
5. **Use ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. Substitutions may defeat compliance with Safety Standards Set For Home Appliances.**
6. **GROUNDING:** The standard color coding for safety ground wires is **GREEN**, or **GREEN** with **YELLOW STRIPES**. Ground leads are not to be used as current carrying conductors. It is **EXTREMELY** important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a hazard.
7. Prior to returning the product to service, ensure that:
  - All electrical connections are correct and secure.
  - All electrical leads are properly dressed and secured away from sharp edges, high temperature components, and moving parts.
  - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
  - All safety grounds (both internal and external) are correctly and securely connected.
  - All panels are properly and securely reassembled
  - Water supplies are turned ON if shut off prior to service.

### **ATTENTION!!!**

**This service manual is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. Electrolux Home Products, Inc. cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this manual.**

## Section 1 Basic Information

### **Section 1 - Basic Information** ..... 1-1

Safe Servicing Practices .....	1-1
Table of Contents.....	1-2
Child Safety .....	1-3
Model and Serial Number Breakdown .....	1-4
Serial Plate .....	1-4
Model FPUH17D7K Unit Features.....	1-5
Model FPRH17D7KF Unit Features.....	1-6

### **Section 2 - Installation Information** ..... 2-1

Important Safety Instructions .....	2-1
Location .....	2-3
Electrical Information .....	2-4
Leveling.....	2-4
Electrical Information .....	2-4
Cut-Out Dimensions .....	2-5
Water Supply.....	2-6
Connecting the Water Valve to the Ice Maker .....	2-7
Trim And Riser Kit Installation Instructions .....	2-8
Setting Up The Trim And Grill Assembly .....	2-9
Installing Trim & Grill Assembly Into Cabinetry .....	2-10
Installing The Riser Kit .....	2-11
Leveling The Refrigerator And Freezer.....	2-14
How To Adjust Levelers.....	2-14
Final Positioning.....	2-14
Care & Cleaning Of Your Trim Kit.....	2-15
Door Removal.....	2-15
Door Handle Mounting Instructions .....	2-15

### **Section 3 - Mechanical Control**..... 3-1

Temperature Control .....	3-1
Defrost Timing .....	3-1

### **Section 4 - Refrigeration System** ..... 4-1

Definitions .....	4-1
Safety Warnings.....	4-1
Compressor Testing .....	4-1
Charging Sealed Systems.....	4-1
Soldering .....	4-2
Basic Components.....	4-2
Refrigerant Cycle.....	4-2
Low/High Side Leak or Undercharge.....	4-3
Testing for Refrigerant Leaks .....	4-3
Compressor Oil Contamination .....	4-3
To Flush the System.....	4-4
To Use Dry Nitrogen to Flush the System .....	4-4
To Use Refrigerant to Flush the System.....	4-4
Installing a New Compressor .....	4-5
Condenser Replacement .....	4-6
Filter-Drier Installation.....	4-7
Evaporator and Suction Line Replacement .....	4-7
Equipment Needed for Evacuation & Recharging..	4-8
Installing Evacuation and Recharging Equipment..	4-8
Evacuating System .....	4-9
Charging the System .....	4-9
Preparing the Charging Cylinder .....	4-9
Final Leak Test .....	4-10
Verify Refrigerant Type in the System .....	4-11
Dedicated Equipment .....	4-11
R-134a Refrigeration Systems .....	4-11
Miscibility of R-134a and Ester Oil .....	4-11
Water in the Refrigeration System.....	4-12
Vacuum Pump Maintenance.....	4-13
Refrigerant Leaks .....	4-13
Leak Detection.....	4-14
R-134a Properties .....	4-14
HFC-134a, CFC-12 Pressure Temp. Chart.....	4-15
Inhalation Toxicity.....	4-16
Cardiac Sensitization .....	4-16
Spills or Leaks.....	4-16
Skin and Eye Contact .....	4-16
Combustibility of HFC-134a.....	4-17
Leak Testing .....	4-17
Bulk Delivery and Storage.....	4-17
Filling and Charging Operations.....	4-17
Refrigerant Recovery Systems.....	4-17
Thermal Decomposition .....	4-17

## **Section 5- Component Teardown ..... 5-1**

Warnings and Cautions.....	5-1
Exterior Components.....	5-2
Door Handle.....	5-2
Kickplate.....	5-2
Door Hinge and Door Assembly.....	5-2
Door Stop Assembly.....	5-3
Door Gasket and Inner Panel.....	5-3
Door Storage Components.....	5-4
Adjustable Door Bins.....	5-4
Dairy Door.....	5-4
Gallon Door Bin.....	5-4
Door Switch.....	5-4
Interior Components.....	5-5
Adjustable Interior Shelves.....	5-5
Crisper Drawer.....	5-5
Crisper Cover Assembly.....	5-5
Light Shield.....	5-6
Light Fixture.....	5-6
Baffle Plate.....	5-6
Evaporator Cover.....	5-6
Thermostat Control.....	5-7
Evaporator Fan Assembly.....	5-7
Defrost Thermostat.....	5-8
Defrost Heater.....	5-8
Evaporator.....	5-9
Compressor Area Components	
All Refrigerator and All Freezer-Pro Models	
Power Cord.....	5-10
Water Valve.....	5-10
Defrost Timer.....	5-11
Filter-Drier.....	5-11
Compressor.....	5-12
Drain Pan.....	5-13
Condenser Fan Motor.....	5-13
Condenser.....	5-14

## **Section 6 - Parts List ..... 6-1**

All Refrig. Door Exploded View & Parts List.....	6-1
All Refrig. Cabinet Exploded View & Parts List.....	6-2
All Refrig. System Exploded View & Parts List.....	6-4
All Freezer Door Exploded View & Parts List.....	6-6
All Freezer Cabinet Exploded View & Parts List.....	6-8
All Freezer System Exploded View & Parts List.....	6-10

## **Section 7 - Troubleshooting ..... 7-1**

Troubleshooting Chart.....	7-1
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## **Section 8 - Wire Diagrams ..... 8-1**

All Refrigerator Wiring Diagram.....	8-1
All Freezer Wiring Diagram.....	8-2

### **FOR YOUR SAFETY**

Do not store or use gasoline, or other flammable vapors and liquids in the vicinity of this or any other appliance. Read product labels for flammability and other warnings.

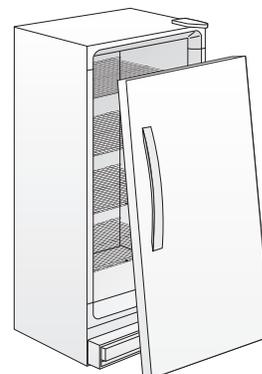
### **CHILD SAFETY**

- Destroy carton, plastic bags, and any exterior wrapping material immediately after the freezer is unpacked. Children should never use these items to play. Cartons covered with rugs, bedspreads, plastic sheets or stretch wrap may become airtight chambers, and can quickly cause suffocation.
- Remove all staples from the carton. Staples can cause severe cuts, and destroy finishes if they come in contact with other appliances or furniture.
- An empty, discarded ice box, refrigerator, or freezer is a very dangerous attraction to children.
- Remove and discard any spacers used to secure the shelves during shipping. Small objects are a choke hazard to children.
- Remove the door(s) of any appliance that is not in use, even if it is being discarded.

### **RISK OF CHILD ENTRAPMENT**

Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators or freezers are still dangerous – even if they will sit for “just a few days”. If you are getting rid of your old refrigerator or freezer, please follow the instructions below to help prevent accidents:

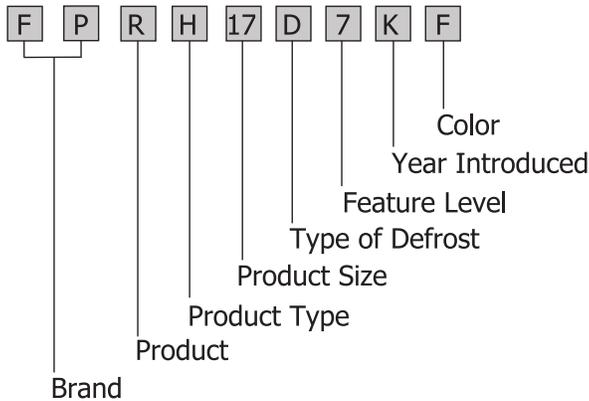
- Remove the door/lid.
- Leave shelves in place so children may not easily climb inside.
- Have the refrigerant removed by a qualified technician.



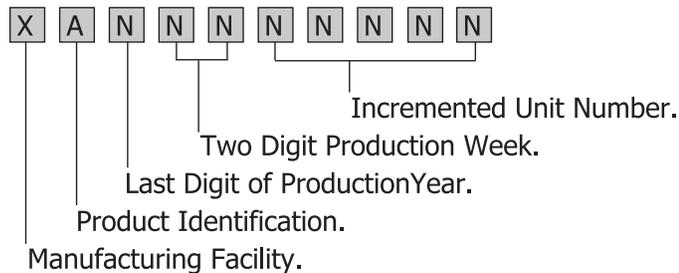
## Section 1 Basic Information

### Frigidaire All Freezer / All Refrigerator Professional Series

#### Model Number Nomenclature



#### Serial Number Nomenclature



A=Alpha

N=Numeric

X=Either Alpha or Numeric Character

#### Brand

AF - Frigidaire Ultrafreeze

LF - Lowe's Frigidaire

F - Frigidaire

GL - Frigidaire Gallery

G - Gibson

PL - Frigidaire Professional

W - White Westinghouse

FK - Kenmore Frigidaire

K - Kelvinator

ELECTROLUX HOME PRODUCTS, INC./AUGUSTA, GA. 30907  
ELECTROLUX CANADA CORP./ NISSISSAUGA, ONT. L5V 3EA

MOD. **FPUH17D7K**  
SER. **WB00000000**

MANUFACTURED/FABRIQUE 11-09

AMPS: 5.0A VOLTS: 115 VAC HERTZ: 60 HZ  
REFRIGERANT R134A 4.9 Oz. (140 Grams)

Design Pressure/ LS/PB 140 PSIG (965 KPa)  
Pression de dessin: HS/PH 320 PSIG (2206 KPa)

Assembled in the USA

TYPE U17F

  
 C US  
 LR67369

Energy  
Performance  
Rendement  
Énergétique

EEV99491

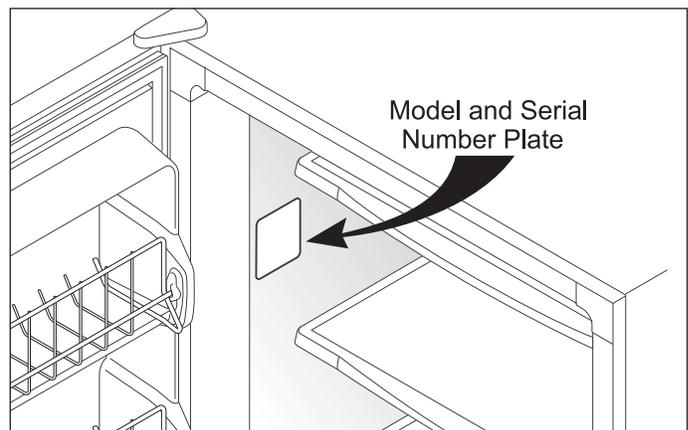
VERIFIED

  
 VÉRIFIÉ

For questions, comments, or service please call us  
TOLL FREE: 1-800-944-9044

#### Serial Plate

The serial plate is located inside the cabinet on the left sidewall. The technician should always refer to the serial plate to assure refrigerant type and quantity, as well as electrical ratings and operating pressures.



## All Freezer Professional Series with Mechanical Control

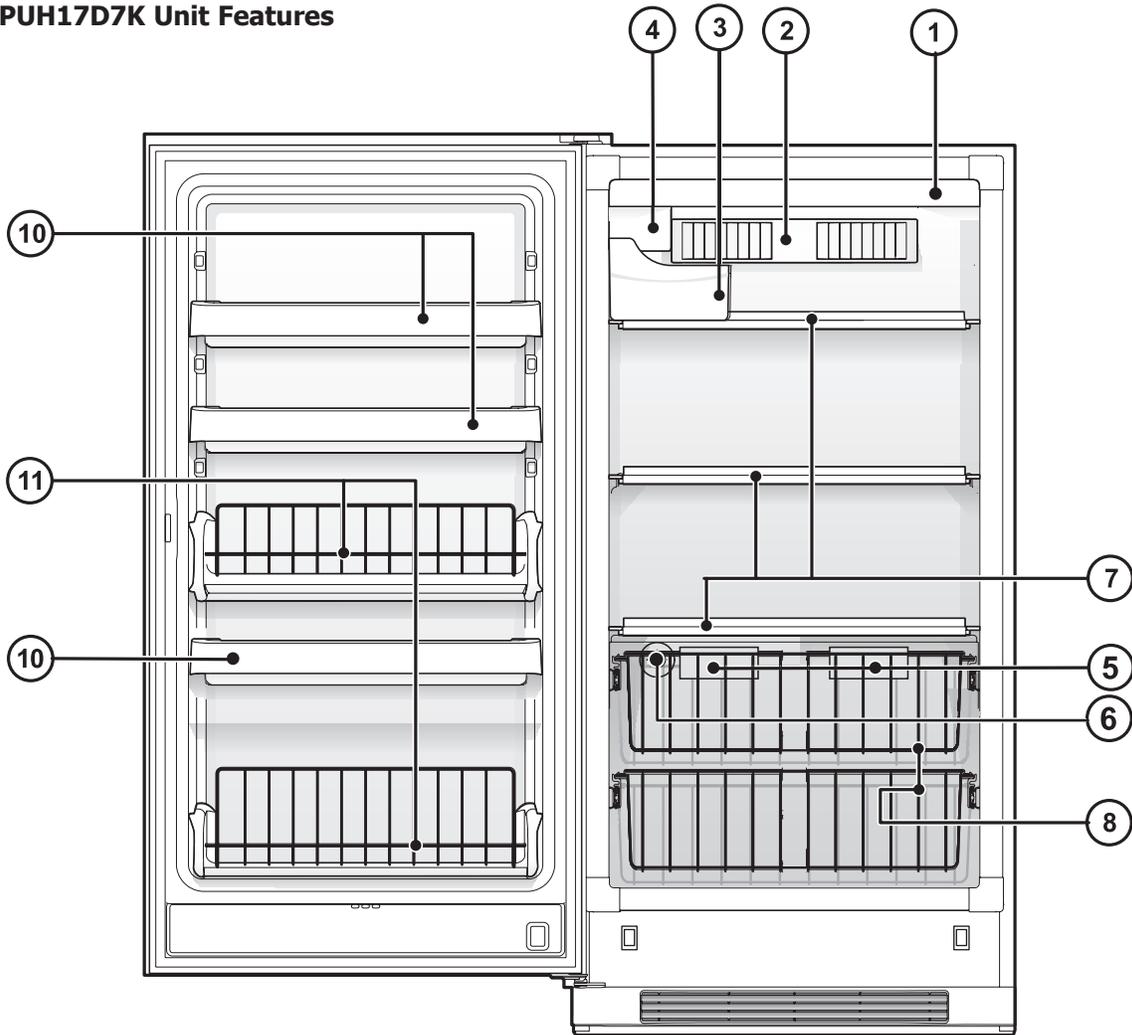
### Performance

Temperature Control

7°F cut-in, -5°F cut-out @ number 1 setting.

Room Ambient.....	70°F	90°F
Freezer Compartment Temperature.....	5 to 12°F	5 to 12°F
Percent Running Time.....	30 - 40%	45 - 55%
*Wattage Range (Last 1/3 of cycle).....	110 - 125	115 - 130
Suction Pressure (Cut-in, cut-out), PSIG.....	14 - 0	14 - 0
High Side Pressure (Last 1/3 of cycle), PSIG.....	100 - 125	150 - 165

### Model FPUH17D7K Unit Features

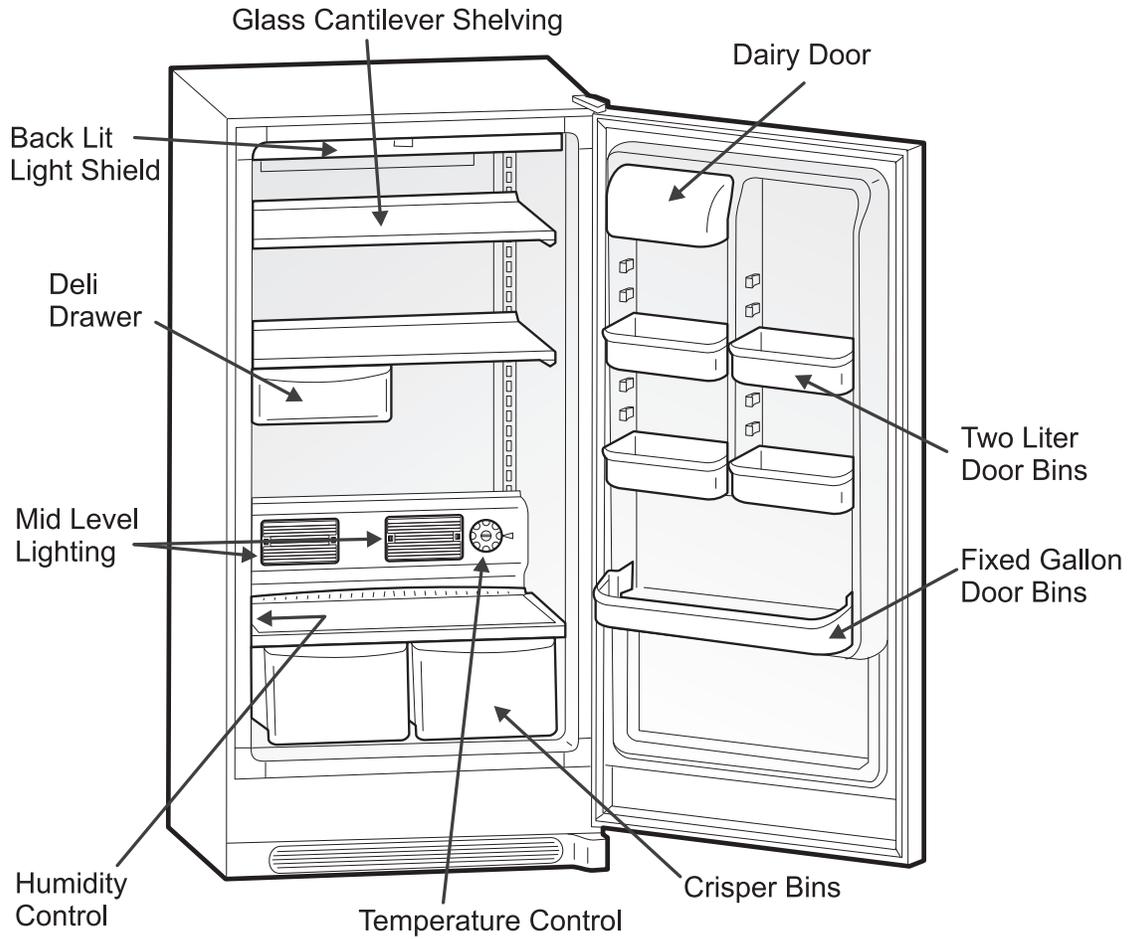


1	LIGHT SHIELD	7	GLASS SHELVES
2	AIR DIFFUSER	8	FULL ACCESS BASKETS
3	ICE BUCKET	9	BASKET DIVIDERS
4	ICE MAKER	10	ADJUSTABLE DOOR BINS
5	MID LEVEL LIGHTING	11	WIRE TILT OUTS
6	THERMOSTAT CONTROL		

## Section 1 Basic Information

### All Refrigerator Professional Series with Mechanical Control

#### Model FPRH17D7KF Unit Features



## Section 2 Installation Information

### Recognize safety symbols, words and labels:

Safety items throughout this manual are labeled with a WARNING or CAUTION based on the risk type as described below:



#### **WARNING**

This symbol alerts you to situations that may cause serious body harm, death or property damage.



#### **CAUTION**

This symbol alerts you to situations that may cause bodily injury or property damage.



#### **WARNING**

**To reduce the risk of fire, electrical shock, or injury when using a freezer and/or refrigerator, follow basic safety precautions including the following:**

- **Read all instructions before operating the freezer and/or refrigerator.**
- **Before performing any type of service or installation, make sure that electric power to the freezer and/or refrigerator is disconnected.**
- **To avoid the possibility of explosion or fire, do not store or use combustible, flammable, or explosive liquids or vapors (such as gasoline) inside or in the vicinity of this or any other appliance.**
- **This appliance is equipped with a three-prong grounding plug for protection against possible electric shock hazards. Plug it only into a dedicated, grounded electrical outlet. When only a standard two-prong electrical outlet is available, the customer must have it replaced with a dedicated, properly grounded three-prong electrical outlet before using this Appliance.**

**Do not under any circumstances, cut or remove the third (ground) prong from the power cord.**

**Do not use an adapter plug.**

**Do not use an extension cord.**

**Do not use a power cord that is frayed or damaged.**

**The use of a ground fault interrupter (GFI) is not recommended.**

- **Do not install or use a damaged appliance. If you receive a damaged appliance, immediately contact your dealer or builder.**
- **The installer must show the customer the location of the power plug so that they know where and how to disconnect power to the freezer and/or refrigerator.**
- **Do not install, repair, or replace any part of the freezer and/or refrigerator unless specifically recommended in the literature accompanying it. A qualified service technician should perform all other service.**



#### **WARNING**

Electrolux Home Products Inc. cannot be held responsible for damage to property or injury to persons caused by failure to comply with the installation, maintenance and safety instructions contained in this Service Manual.

## Section 2 Installation Information

### WARNING

Destroy carton, plastic bags, and any exterior wrapping material immediately after the refrigerator/freezer is unpacked. Children should never use these items for play. Cartons covered with rugs, bedspreads, plastic sheets or stretch wrap may become air tight chambers and can quickly cause suffocation.

A child might suffocate if he crawls into the freezer to hide or play. Remove the door/lid of the refrigerator/freezer when not in use, even if you plan to discard the freezer. Many communities have laws requiring you to take this safety precaution.

Remove or discard any spacers used to secure the shelves during shipping. Small objects are a choke hazard to children.

Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators or freezers are still dangerous— even if they will sit for “just a few days”. If you are getting rid of your old refrigerator or freezer, please follow the instructions below to help prevent accidents:

- Remove the door/lid.
- Leave shelves in place so children may not easily climb inside.
- Have the refrigerant removed by a qualified technician.



### Installation Checklist

#### Doors

- Handles are secure and tight.
- Door seals completely to cabinet on all sides.
- Freezer and/or refrigerator door is level across top.

#### Leveling

- Freezer and/or refrigerator is level, side-to-side and tilted 1/4" (6mm) front-to-back.
- Toe grille is properly attached to freezer and/or refrigerator.
- Cabinet is setting solid on all corners.

#### Electrical Power

- House power turned on.
- Freezer and/or refrigerator plugged in.

#### Final Checks

- Shipping material removed.
- Freezer and/or refrigerator temperatures set.
- Registration card sent in.

## Section 2 Installation Information

### Location

1. Choose a place that is near a grounded electrical outlet. Do Not use an extension cord or an adapter plug.
2. If possible, place the freezer and/or refrigerator out of direct sunlight and away from the range, dishwasher or other heat sources.
3. The freezer and/or refrigerator must be installed on a floor that is level and strong enough to support a fully loaded freezer.
4. Consider water supply availability for models equipped with an automatic ice maker.
5. The freezer and/or refrigerator should be located where surrounding temperature will not exceed 110°F (43°C) or drop below 40°F (5°C).
6. For ease of installation, proper air circulation and electrical connections, see Figure 2-1 for recommended clearances.
7. For dynamic condenser models, DO NOT block the toe grille on the lower front of your freezer. Sufficient air circulation is essential for the proper operation of your freezer and/or refrigerator.

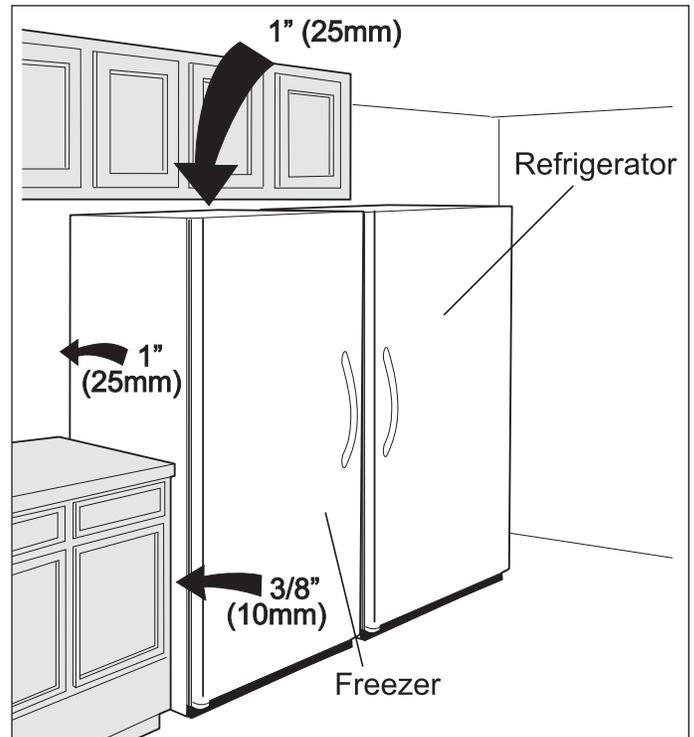


Figure 2-1. Installation Clearances

### NOTE

The exterior walls of the refrigerator/freezer may become quite warm as the compressor works to transfer heat from the inside. Temperatures as much as 30°F warmer than room temperatures can be expected.

### NOTE

If your refrigerator and/or freezer is placed with the door hinge side against a wall, you may have to allow additional space so the door can be opened wider.

## Section 2 Installation Information

### Electrical Information

These guidelines must be followed to ensure that safety mechanisms in the design of this freezer will operate properly.

Refer to the serial plate for correct electrical rating. The power cord of the unit is equipped with a three-prong grounding plug for protection against shock hazards. It must be plugged directly in to its own properly grounded three-prong receptacle, protected with a 15 amp time delay fuse or circuit breaker. The receptacle must be installed in accordance with the current edition of the National Electrical Code (NFPA 70) the local codes and ordinances. Consult a qualified electrician. Receptacles with Ground Fault Circuit Interrupters (GFCI) are NOT RECOMMENDED. DO NOT USE AN EXTENSION CORD OR AN ADAPTER PLUG.

If the voltage varies by 10% or more, freezer and/or refrigerator performance may be affected. Operating the freezer with insufficient power can damage the motor. Such damage is not covered under the warranty. If you suspect your voltage is high or low, consult your power company for testing.

To prevent the freezer from being turned off accidentally, do not plug the unit in to an outlet controlled by a wall switch or pull cord.

Do not pinch, knot, or bend the power cord in any manner.

### Leveling

The freezer and/or refrigerator must have all bottom corners resting firmly on a solid floor. The floor must be strong enough to support a fully loaded freezer and/or refrigerator.

It is VERY IMPORTANT for your freezer and/or refrigerator to be level in order to function properly. If the unit is not leveled during installation, the door/lid may be misaligned and not close or seal properly, causing cooling, frost or moisture problems.

After discarding crating screws and wood base, use a carpenter's level to level the unit from front to back. Adjust the plastic leveling feet in front, 1/2 bubble higher, so that the door closes easily when left half way open.

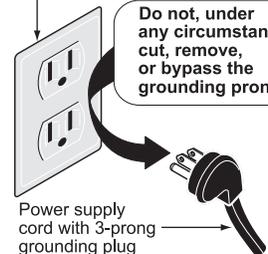
### ! WARNING

**Avoid fire hazard or electric shock. Do not use an extension cord or an adapter plug. Do not remove any prong from the power cord.**

### ! WARNING

**Avoid fire hazard or electric shock. Do not use an extension cord or an adapter plug. Do not remove any prong from the power cord.**

Grounding type wall receptacle



Power supply cord with 3-prong grounding plug

Figure 2-2. Electrical Receptacle

### ! WARNING

**Never unplug the freezer by pulling on the power cord. Always grip the plug firmly and pull straight out from the receptacle.**

**Turning the control to "OFF" turns off the compressor but does not disconnect power to other electrical components.**

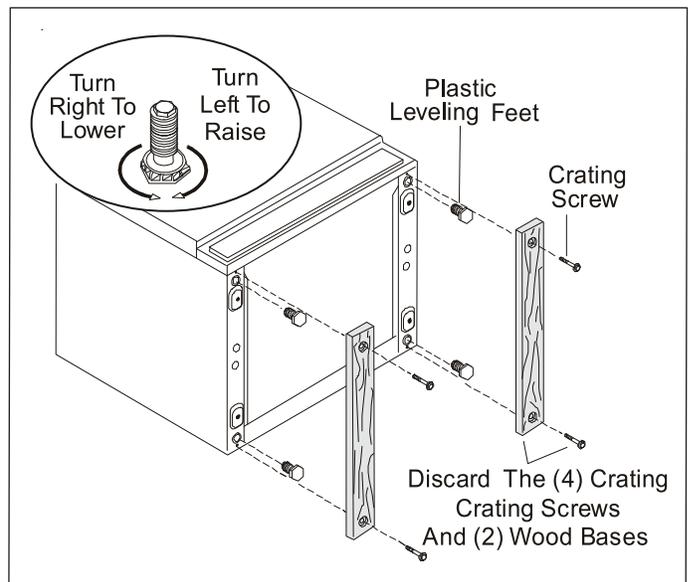


Figure 2-3. Leveling Unit

## Section 2 Installation Information

### Cut-Out Dimensions

1. Minimum opening of 66" High x 33" Wide x 25-1/4" Deep opening required for single-unit "Built-In Look" installation. 66" Wide required for double-unit installation. (66" High to be measured from finished floor to underside of soffit or overhead cabinet.)
2. Minimum 25-1/4" depth requires recessed electrical outlet and copper water line.
3. Remove all wall / floor molding prior to built-in installation.
4. When installing a unit adjacent to wall, cabinet or other appliance that extends beyond front edge of unit, 20" minimum clearance is recommended to allow for optimum 140° door swing, providing complete crisper access and removal. (Absolute 4" minimum clearance will ONLY allow for 90° door swing which will provide limited crisper access with restricted removal.)
5. Water line for ice maker can enter opening through floor or rear wall. Copper tubing recommended between cold water line and water connection location. Water line tubing recommended is 48" minimum length by 1/4" diameter. Installation of easily accessible shutoff valve in water line required.
6. To allow for ease of moving out side-by-side units after installation, 84" minimum length of coiled copper tubing recommended.
7. If optional Single or Double Trim Kit is to be used, different cutout dimensions are required.

### Optional Accessories

- Single Trim Kit – (PN# ALLFRZKIT).
- Double Trim Kit – (PN# DUOTRIMKIT).
- Ice Maker Kit – (PN# IM501).

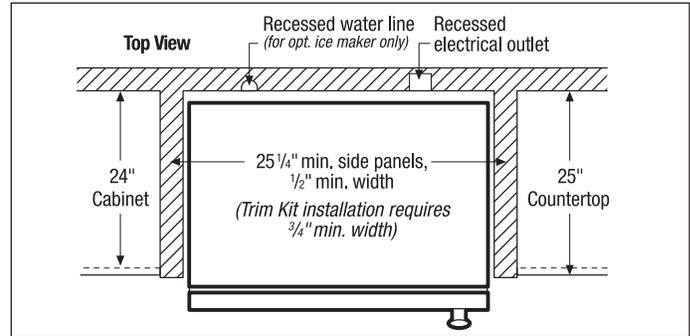


Figure 2-4. Freezer Unit Cut-out

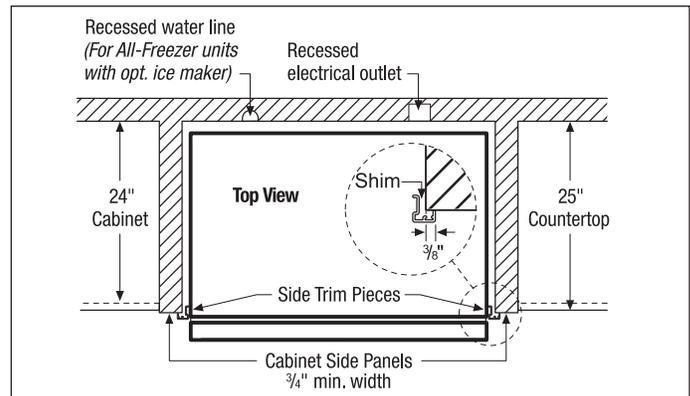
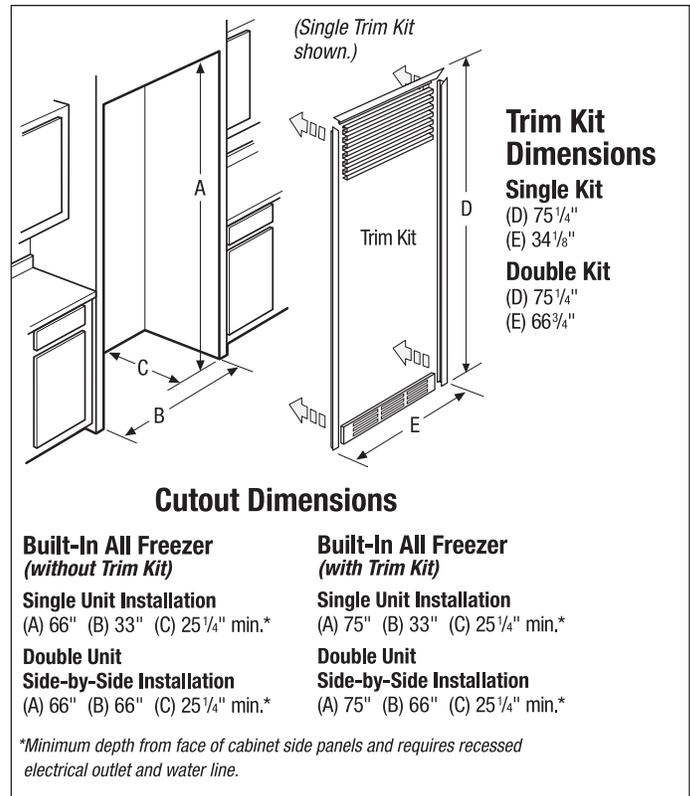


Figure 2-5. Refrigerator Unit Cut-out



### Cutout Dimensions

#### Built-In All Freezer (without Trim Kit)

**Single Unit Installation**  
(A) 66" (B) 33" (C) 25 1/4" min.\*

**Double Unit  
Side-by-Side Installation**  
(A) 66" (B) 66" (C) 25 1/4" min.\*

#### Built-In All Freezer (with Trim Kit)

**Single Unit Installation**  
(A) 75" (B) 33" (C) 25 1/4" min.\*

**Double Unit  
Side-by-Side Installation**  
(A) 75" (B) 66" (C) 25 1/4" min.\*

\*Minimum depth from face of cabinet side panels and requires recessed electrical outlet and water line.

Figure 2-6. Trim Kits

## Section 2 Installation Information

### Water Supply

The ice maker (if equipped) requires a permanent water supply to function correctly. During installation, establish this water supply by connecting a copper tube from the household water system to a valve at the rear of the unit.

#### **! WARNING**

##### To avoid property damage:

- **Use copper tubing for the water supply line (plastic tubing is more likely to leak). Manufacturer is not responsible for any damage if plastic tubing is used for supply line.**
- **Ensure water supply and installation comply with state and local laws and regulations.**
- **DO NOT install water supply tubing where temperatures fall below freezing.**
- **Chemicals from a malfunctioning softener can damage the ice maker. If the ice maker is connected to soft water, ensure that the softener is maintained and working properly.**

##### Requirements:

- Access to a cold water line with pressure of 20-120 psi. (System supplied with cold water only.)
- Copper tubing with 1/4 inch (6.4mm) Outside Diameter (OD). Length is the distance from the rear of the unit to your household water supply line, plus seven (7) feet (2.1 meters).
- A shut-off valve for the connection between your household water line and the refrigerator supply line. DO NOT use a self-piercing shut-off valve.
- A compression nut and ferrule (sleeve) for the water supply connection at the water valve inlet.

#### **NOTE**

Water line kit number 5303917950, available from the appliance dealer at additional cost, contains 25 feet (7.6 meters) of 1/4" OD copper tubing, a saddle type shut-off valve (non piercing), (2) 1/4" brass compression nuts, (2) ferrules/sleeves, and instructions for installing a water supply line.

##### To connect the water supply to the rear of the unit (See Figure 2-7a):

1. Ensure that the unit is unplugged.
2. Flush the supply line until water is clear by placing the end of the copper tube in a sink or bucket and opening the shut-off valve. Close shut-off valve when flushing is complete.
3. Remove and discard the plastic cap from the water valve inlet at the rear of the unit.
4. Slide the brass compression nut, then the ferrule (sleeve) onto the copper tube.
5. Push the copper tube into the water valve inlet as far as it will go (1/4 inch or 6.4mm).
6. Slide the ferrule (sleeve) into the water valve and finger-tighten the compression nut onto the valve. Tighten another half turn with a wrench but DO NOT over-tighten.
7. Secure the copper tube to your units' rear panel with a steel clamp and screw.
8. Coil the excess copper tubing (about 2 1/2 turns) behind your refrigerator as shown. Arrange coiled tubing to avoid vibration or wear against other surfaces.
9. Open water supply shut-off valve and tighten any connections that leak.
10. Connect unit to home power supply.
11. To turn ice maker On, lower wire signal arm. (See ice maker front cover for On/Off position of arm.)

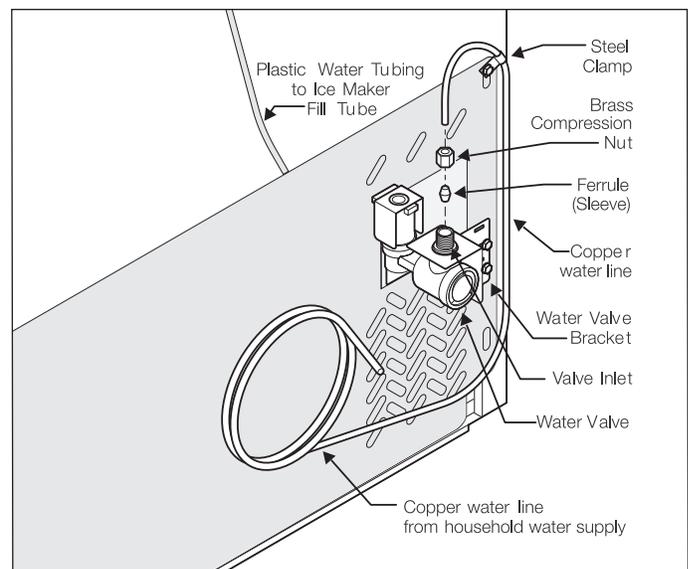


Figure 2-7a. Water Connection

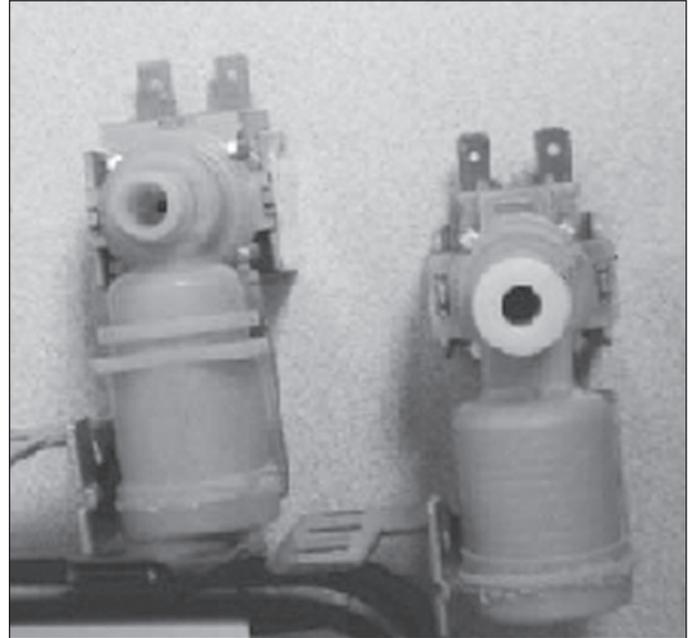
## Section 2 Installation Information

### Connecting the Water Valve to the Ice Maker

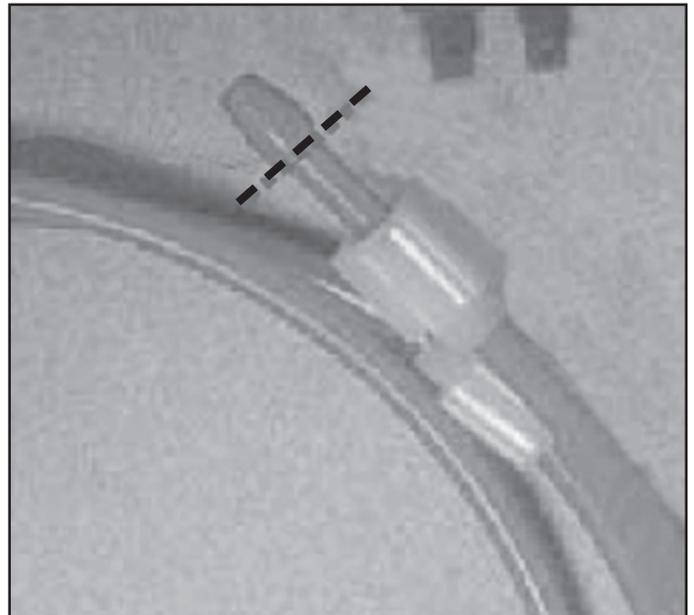
For models Serial Number WB92254219 and greater built after June 1, 2009, the units will have a different water valve than earlier production models. The new water valves have a quick connect outlet fitting which takes a standard .255 diameter plastic tube. The old style of water valves required a flanged tube and a threaded nut to make the water connection. (See Figure 2-7b)

Water Line Kit PN 297114101 will still be used to make the water line connections between the new style water valve and ice maker, however the flanged tube will have to be modified as described in the steps below:

1. Using a box cutters or knife, cut the pointed end from the water line just below the raised point. Be sure to cut straight across the water line. Do not leave open/cut end at an angle. (See Figure 2-7c)
2. Remove the cut end and plastic nut from the water line and discard.
3. Measure 11/16" from the end of the water line and place a mark on the line with a permanent marker.
4. Insert the modified water line into the push-type fitting on the new valve, making sure that the water line is pushed in up to the mark.
5. Inspect for leaks once water supply is turned on.



**Figure 2-7b. Water Valves**  
The water valve on the left is the old style threaded outlet connection. The water valve on the right has the push-type outlet fitting.



**Figure 2-7c. Cut along dotted line to modify tubing.**

## Section 2 Installation Information

### Trim And Riser Kit Installation Instructions

The Dual Trim and Riser Kit consists of the following:

- Riser Kit - 2 packages
- Hardware Kit - 1 bag
- Trim Kit - 1 package
- Installation Instructions

The Single Trim and Riser Kit consists of the following:

- Riser Kit - 2 packages
- Hardware Kit - 1 bag
- Trim Kit - 1 package
- Installation Instructions

Before starting installation, have the following tools on hand:

- Phillips™ Screwdriver
- Shims - Wooden or Plastic
- Tape Measure (min. 7" length)
- Safety Glasses
- Tape (Duct or Masking)
- Carpenter's Level
- Drill & 1/8" Bit
- 1/2" Socket Wrench

#### Before You Begin

- Be careful when unpacking components. Do not use sharp objects when removing packaging material. This may scratch the surface of trim components.
- Make sure that your rough opening is:
  - Double-wide kit:** 66" wide by 79" tall (from top of flooring) by at least 25-1/4" deep from the cabinet's front face. Outside dimensions of the installed kit are 66-3/4" wide by 79-1/4" high.
  - Single-wide kit:** 33" wide by 79" tall (from top of flooring) by at least 25-1/4" deep from the cabinet's front face. Outside dimensions of the installed kit are 33-3/4" wide by 79-1/4" high.
- Make sure there is a large, clear area of floor (approx. 10' by 8') to assemble the trim kit. Place a drop cloth over the floor to prevent scratching of the trim kit and/or floor.
- Use extreme care when handling the metal trim pieces. Corners are very sharp and easily damaged if dropped.

The following items should be with the collar kit option:

ITEM	Part #	QTY
A Top Collar Trim--Dual Kit	297032602	1
A Top Collar Trim--Single Kits	297032601	1
B Left Hand Side Trim--All	297032703	1
C Right Hand Side Trim--All	297032702	1
D Bottom Grill--Refrigerator Single Kit	297032904	1
D Bottom Grill--Freezer Single Kit	297032905	1
E Top Grill--Dual Kit	297032803	1
E Top Grill--Single Kits	297032803	1
F Toe Grill--Dual Kit	297094700	1
F Toe Grill--Refrigerator Single Kit	297125800	1
F Toe Grill--Freezer Freezer Kit	297125900	1
G Center Strip Black--Dual Kit only	297034800	1
H Center Strip White--Dual Kit only	297034801	1
PLASTIC BAG CONTAINING THE FOLLOWING:		
I Hinge Cover	216809002	2
J Allen Head Wrench	1006	1
K Corner "L" Shaped Brackets	297034600	2
L Set Screws (for corner brackets)	297034700	4
M Phillips® Head Screw (#8 x 3/4")	50149	6(S) 7(D)

(S) for single unit kit; (D) for dual unit kit

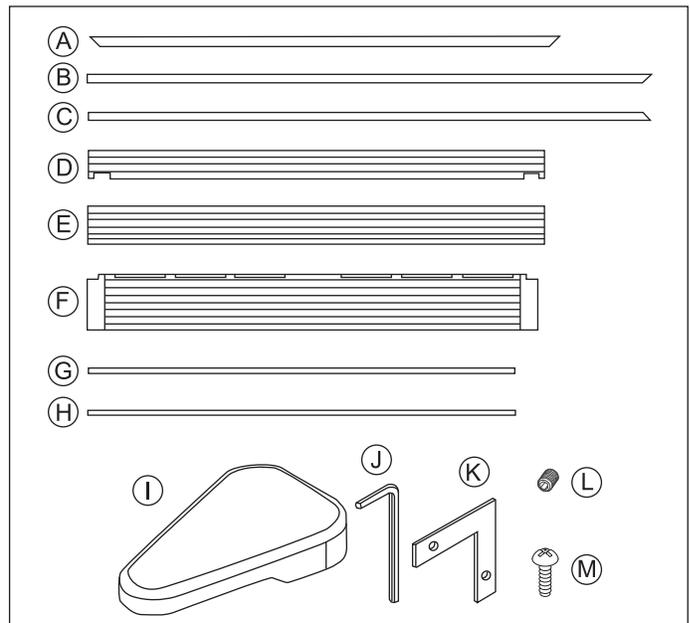
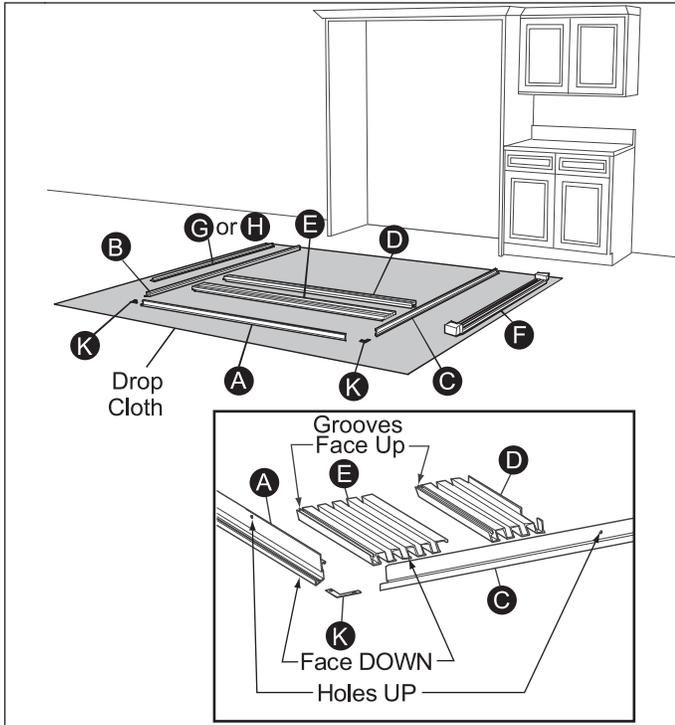


Figure 2-8. Trim Kit Components

## Section 2 Installation Information

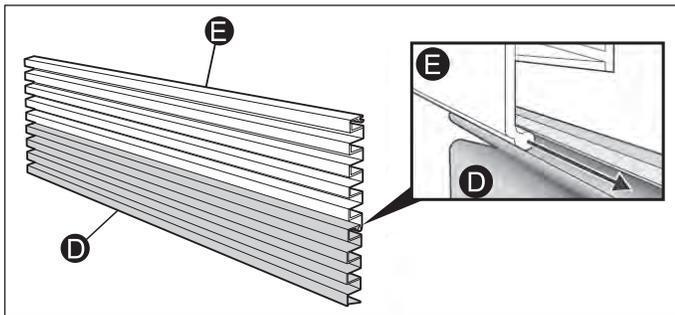
### Setting Up The Trim And Grill Assembly

1. Lay the parts out on a cleared area face down. Be sure to place a drop cloth over the floor to prevent scratching the trim kit and/or floor. (See Figure 2-9).



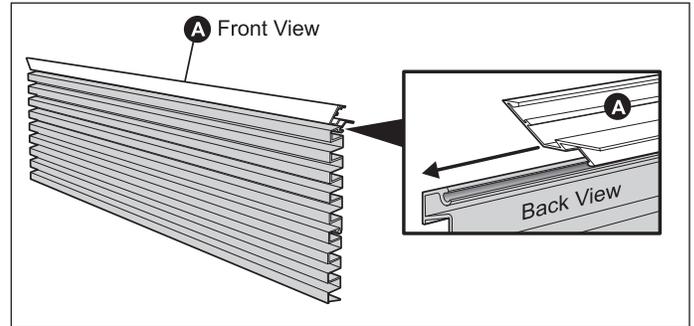
**Figure 2-9.**

2. Slide top grill (E) and bottom grill (D) together. Make sure the ends are flush then tape together to prevent parts from sliding. (See Figure 2-10).



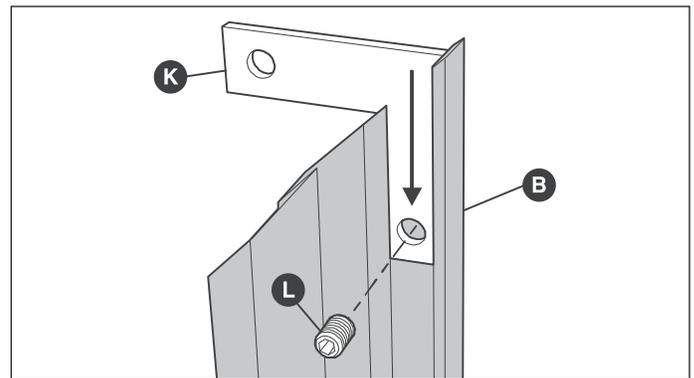
**Figure 2-10.**

3. Slide grill assembly into top collar trim (A). Tape together to prevent from sliding. (See Figure 2-11).



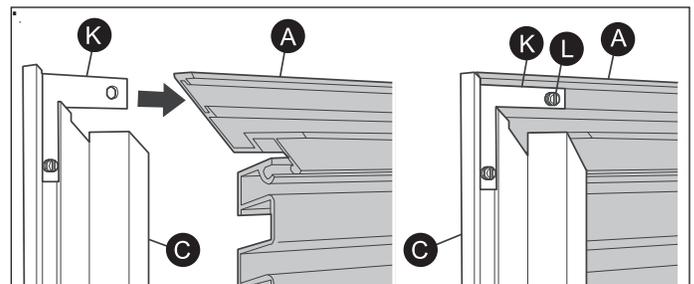
**Figure 2-11.**

4. Attach brackets (K) to the angled end of each side trim (B and C). Gently secure brackets to side trim by tightening set screws (L) only until snug to avoid dimpling the extrusion face. DO NOT overtighten. (See Figure 2-12).



**Figure 2-12.**

5. Join each side trim (B and C) to the top trim (A). Make sure the ends of the Grill Assembly are captured in the channel of each side trim, then tape in place. Gently secure brackets (K) to top trim (A) by tightening set screws (L), only until snug to avoid dimpling the trim face. DO NOT overtighten. (See Figure 2-13).

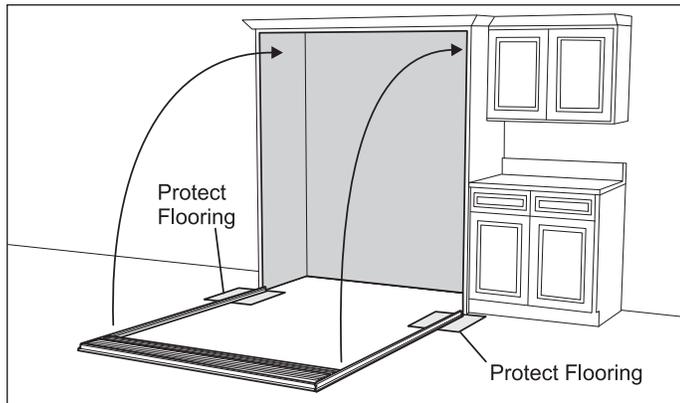


**Figure 2-13.**

## Section 2 Installation Information

### Installing Trim & Grill Assembly Into Cabinetry

1. First, place protective covering where side trim will contact the floor near rough opening. Then, stand up the grill and frame assembly and center in rough opening. You may need to use several pieces of tape at the top corners and top center to temporarily hold the assembly in place. (See Figure 2-14).



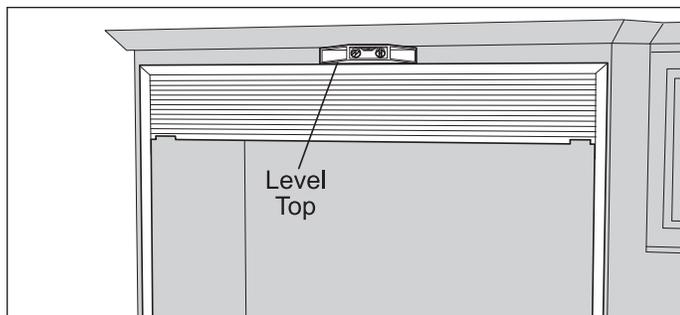
**Figure 2-14.**

2. Making sure the frame is flush up against the front surface of cabinetry, carefully run one mounting screw (M) through the center hole of the top trim (A) and into the cabinetry. DO NOT tighten at this time.

#### NOTE

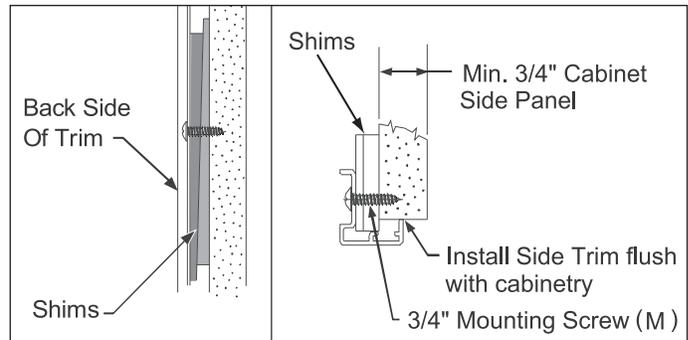
Some cabinet substrates may require pre-drilling holes using a 1/8" diameter drill bit.

3. Level the top of the trim frame using a carpenter's level. (See Figure 2-15).

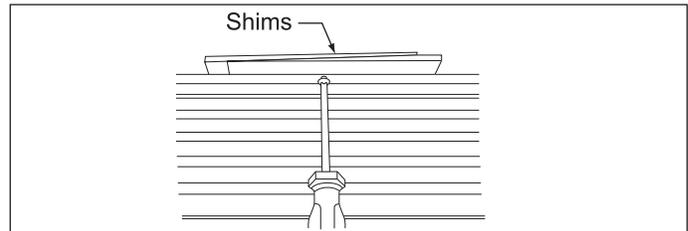


**Figure 2-15.**

4. Shim as necessary (shims are not included). (See Figures 2-16 and 2-17). Next, secure both ends of top trim (A) to cabinetry using two 3/4" mounting screw (M) through the holes at each end. Make sure all screws are snug across the top.

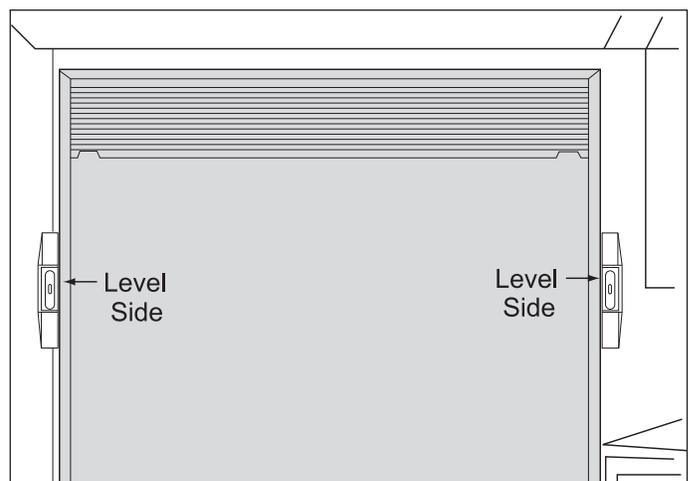


**Figure 2-16.**



**Figure 2-17.**

5. Using a carpenter's level, check that each side is vertical. Shim as necessary (shims are not included). Next, secure top and bottom of each side trim to cabinetry using two 3/4" mounting screws (M). (See Figure 2-18).



**Figure 2-18.**

## Section 2 Installation Information

### Installing The Riser Kit On Early Models (See Figure 2-19 to identify)

1. First, place a protective covering on the floor to prevent damaging either the refrigerator unit, freezer unit or the floor.
2. Lay the unit on its side, making sure the side with the handle is laying closest to the floor to prevent door from falling open.
3. Remove the two plastic leg levelers on the bottom front side of the units.
4. Remove riser from its box. Locate plastic bag containing the mounting hardware needed to install the riser kit to the unit. The bag should contain four mounting bolts and four washers for each riser.
5. Position the riser on the bottom of the unit, making sure the slanted end is toward the back of the unit.
6. Place a washer on the bolt and feed the bolt through the hole in the top of the riser kit and into the threaded hole in the foot of the unit. **DO NOT TIGHTEN AT THIS TIME.**
7. Repeat the above procedure for the three remaining attachment points. (See Figure 2-19).
8. Once all four bolts are secured to the four feet of the unit, tighten the bolts using a 1/2" socket or open end wrench.
9. After installation, carefully upright the unit with the help of an assistant.

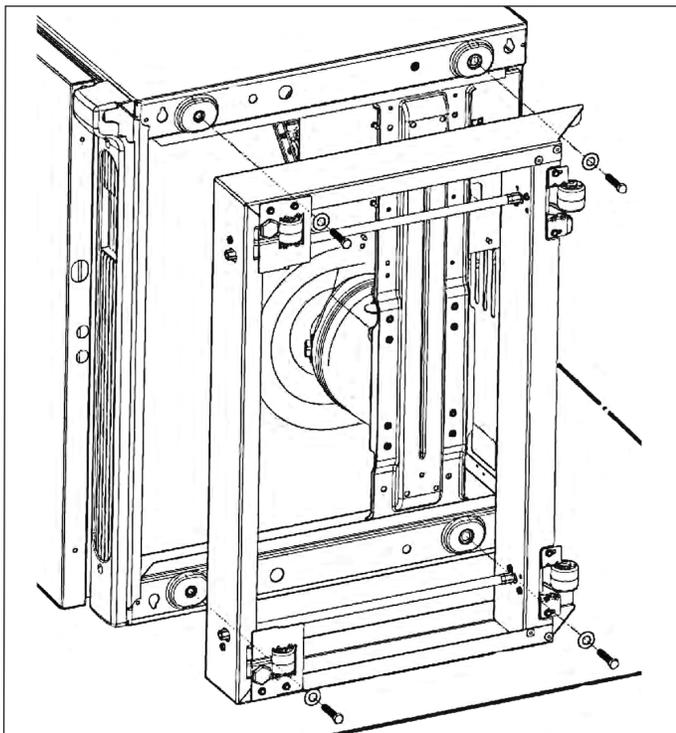


Figure 2-19.

### Installing The Riser Kit On Late Models (See Figure 2-20 to identify)

1. First, place a protective covering on the floor to prevent damaging either the refrigerator unit, freezer unit or the floor.
2. Lay the unit on its side, making sure the side with the handle is laying closest to the floor to prevent door from falling open.
3. Remove the two front leg leveler brackets, (2) compressor support screws and rear leg levelers, if applicable, as shown in Figure 2-20.
4. Remove plastic spacers and Hex Bolt 5/16-18UNC x 1.5" from the box and assemble the two together as shown in Figure 2-21.
5. Using three HWD #12-24 X .70 screws, fasten the right front Riser Kit Spacer & Hex Bolt Assembly as shown in Figure 2-22.
6. Using three HWD #12-24 X .70 screws, fasten the left front Riser Kit Spacer & Hex Bolt Assembly as shown in Figure 2-22.
7. Using two HWD 1/4 -20 x .87 screws, fasten the right rear Riser Kit Spacer & Hex Bolt Assembly as shown in Figure 2-22.
8. Using two HWD 1/4 -20 x .87 screws, fasten the left rear Riser Kit Spacer & Hex Bolt Assembly as shown in Figure 2-22.
9. Now that all the spacers are assembled on the unit, you may position the riser on the bottom of the unit, making sure the slanted end is toward the back of the unit. See Figure 2-23.
10. Once in position, feed the riser through the four bolts. Properly mounted riser should hang in place.
11. Place a washer on the bolt and thread into the provided Nut (6/16" UNC). **DO NOT TIGHTEN AT THIS TIME.**
12. Once all four nuts are secured to the four bolts, tighten using a socket or an open wrench.
13. After installation, carefully upright the unit with the help of an assistant.

## Section 2 Installation Information

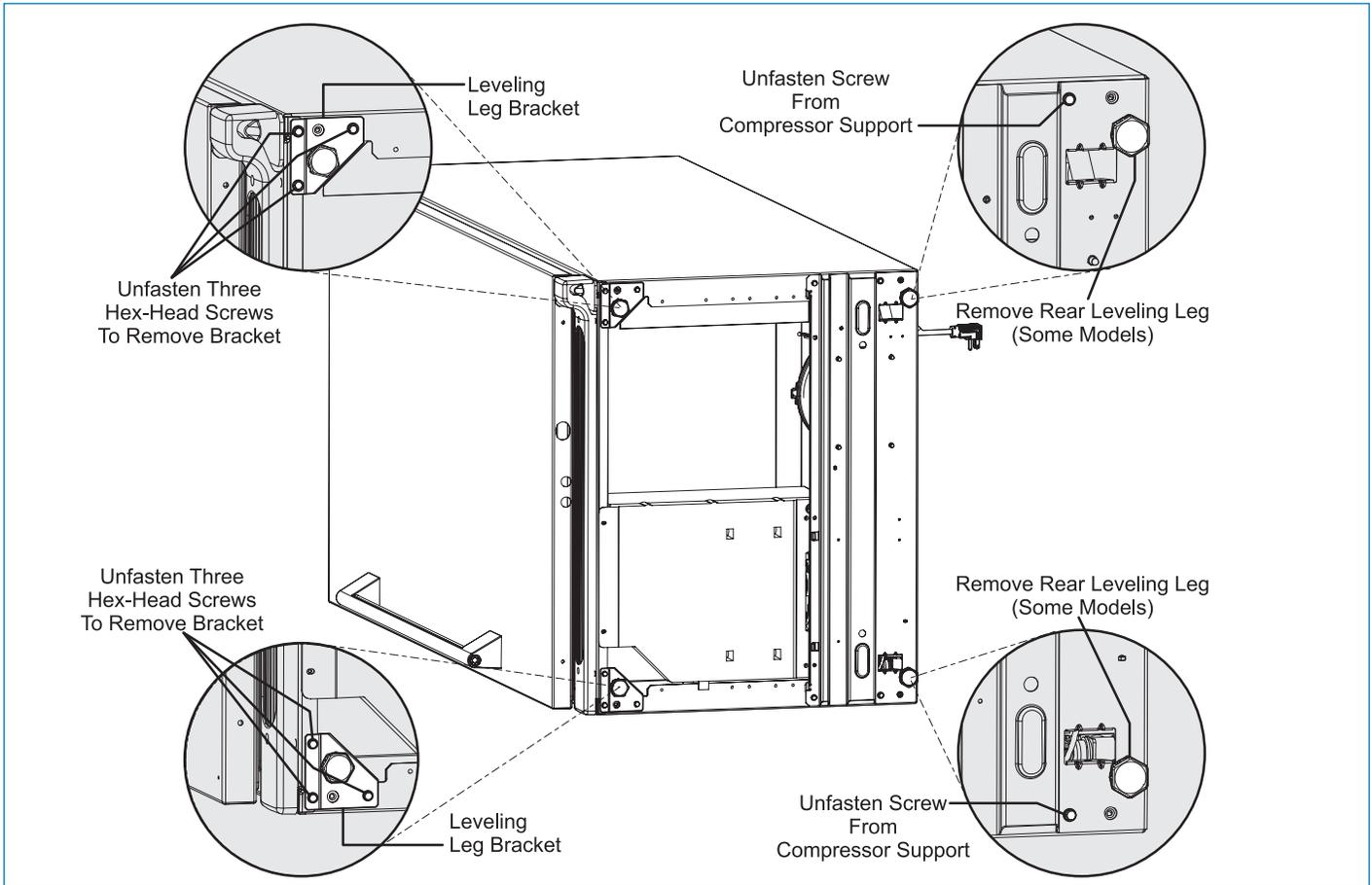


Figure 2-20.

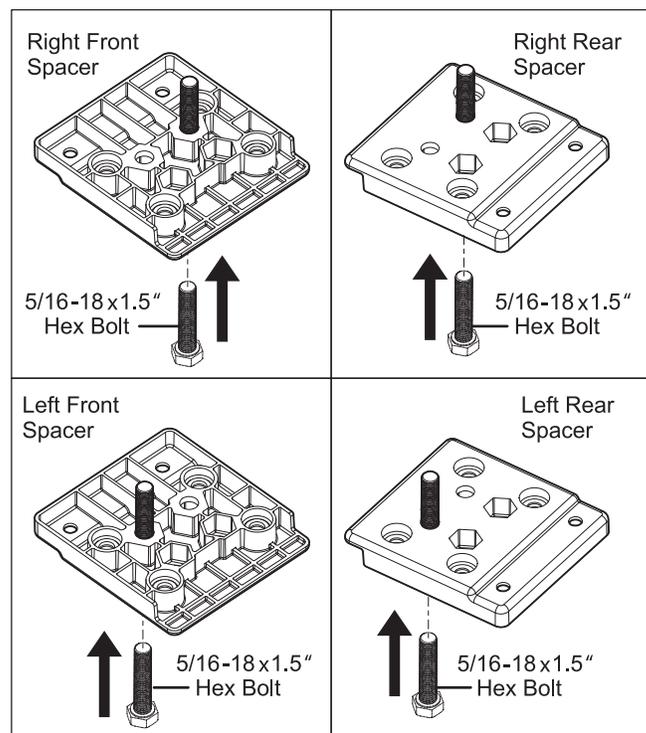
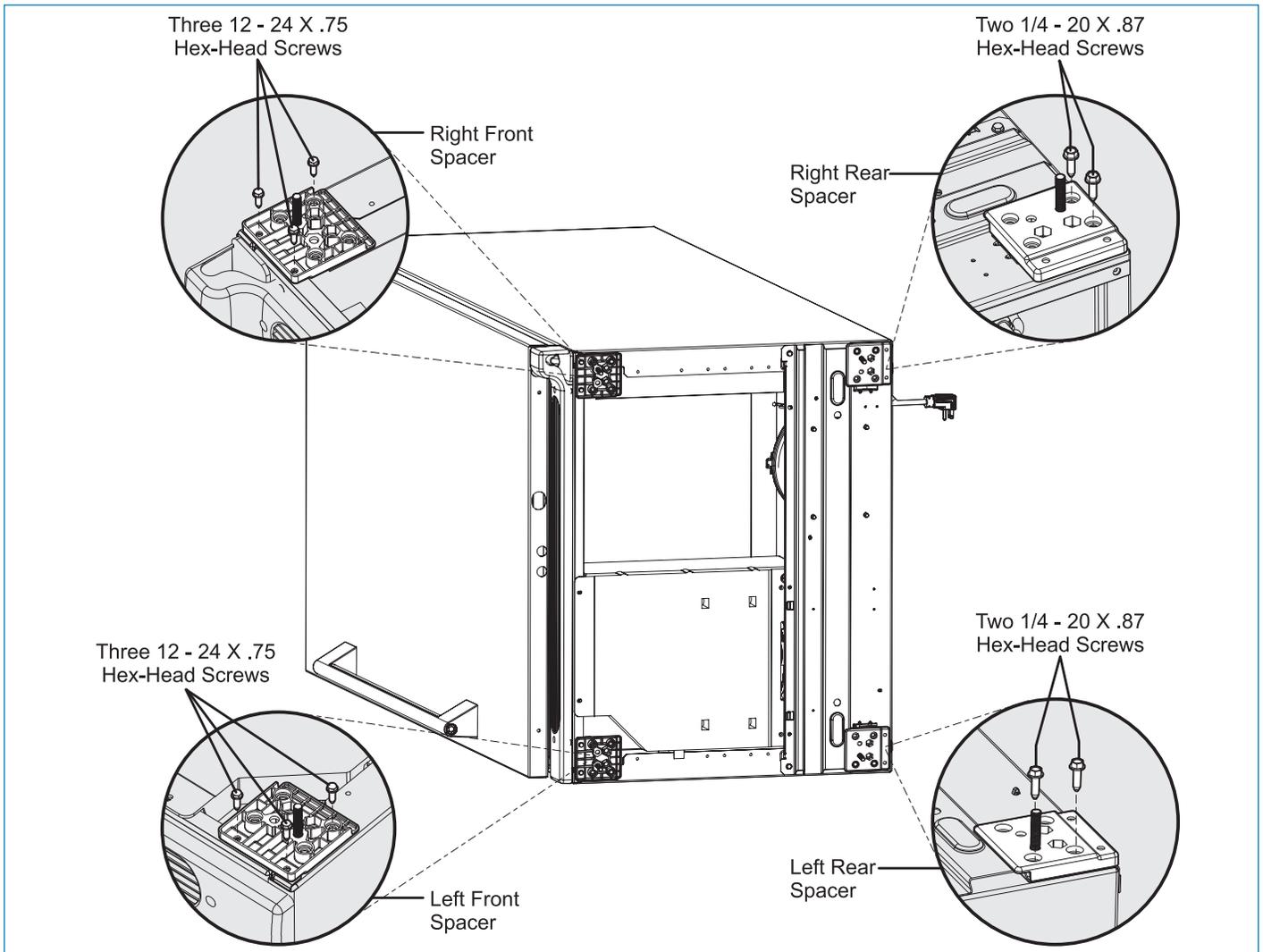
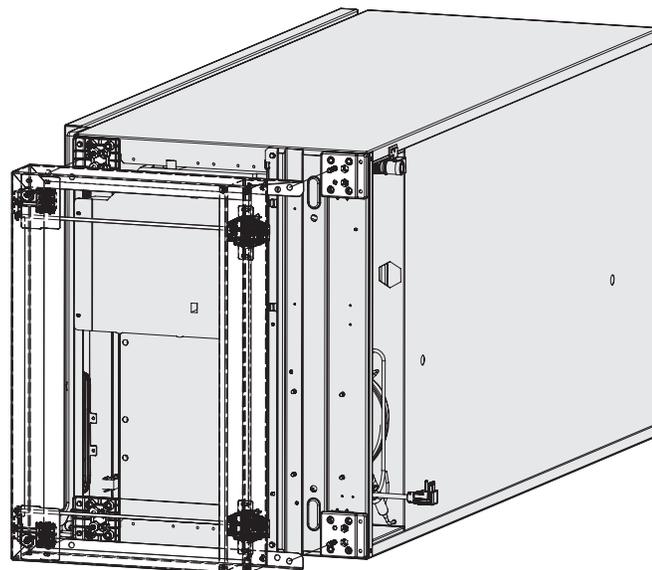


Figure 2-21.

## Section 2 Installation Information



**Figure 2-22.**



**Figure 2-23.**

## Section 2 Installation Information

### Leveling The Refrigerator And Freezer

1. Remove the plastic top hinge covers and replace with the supplied silver hinge covers (I).
2. Remove the plastic toe grill panels at the bottom of each unit. Save the four screws as they will be used later in the installation.
3. Place a carpenter's level across the top of the door. Using a tape measure, adjust all four levelers so that each door is level and to a height of 69-3/8" across top front edge of door. (See Figures 2-24 and 2-25).

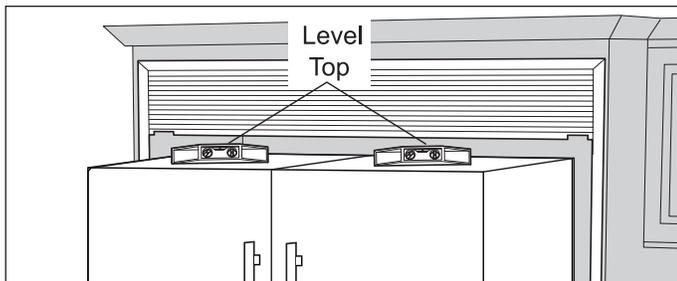


Figure 2-24.

4. Place a carpenter's level vertically on the front of the door and level so that the front surface of door is vertical. Recheck to make sure top front edge of door is still at a height of 69-3/8". Adjust as necessary. (See Figures 2-24 and 2-25).

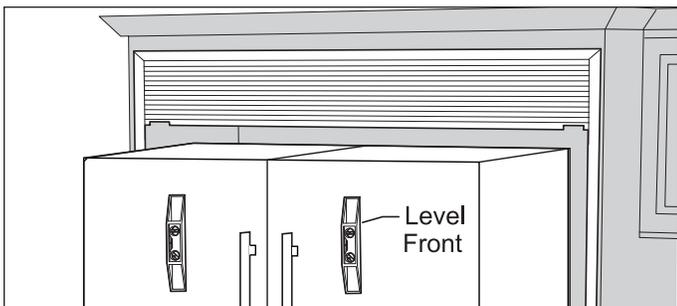


Figure 2-25.

### How To Adjust Levelers

1. To adjust the height of the cabinet back, use an adjustable wrench and turn the leveling bolt clockwise to raise or counterclockwise to lower. (See Figure 2-26).
2. To adjust the height of the cabinet front, turn the front leg leveler clockwise to raise or counterclockwise to lower. (See Figure 2-26).

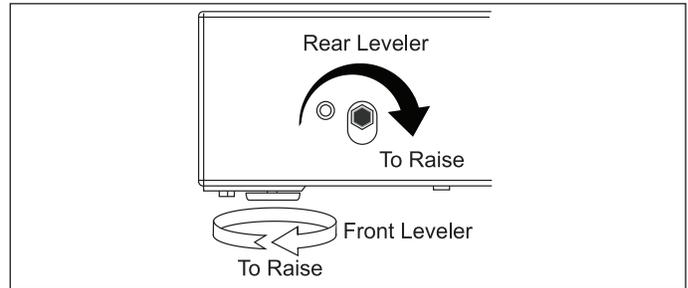


Figure 2-26.

### Final Positioning

1. Connect the ice maker water lines (if so equipped). Refer to the "Connecting Ice Maker To Water Supply" in the literature bag for proper hook-up of water filter and ice maker to your household water supply before sliding the units in place. Plug power cords into their receptacles prior to pushing unit fully into place. If your receptacle is not centered in the space, make sure to slide the unit on the side opposite the receptacle into place first. Slide units into place one at a time. Slide units carefully to avoid pinching or damaging the ice maker and water filter hoses on the back of the unit.
2. Re-check the level of each unit. Depending on the flatness of your floor, you may need to readjust several times before achieving an acceptable state of levelness and alignment. Allow 3/8" gap between units for center trim (G or H). (See Figure 2-27).
3. In the case of a side-by-side installation of two units, install the magnetic center trim piece (G or H) in the gap between both units. The trim piece should be flush with tops of units and fit just above toe grill.

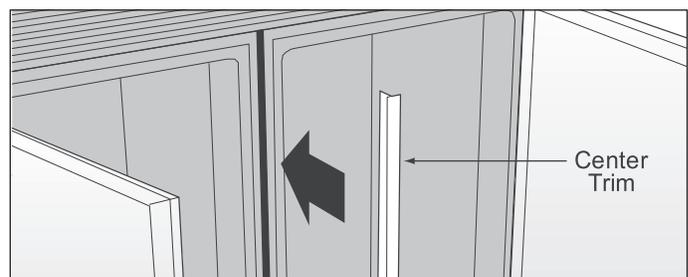


Figure 2-27.

4. Attach metal toe grill (F) using the screws saved during removal of the plastic grill panel(s). It may help to open door of each unit to aid alignment of screws. Run screws through the left-most and right-most grill holes and tighten until slightly snug. Adjust so the top of toe grill is parallel with the bottom of both door(s). For a dual unit installation, install two inner screws. Tighten all screws.

## Section 2 Installation Information

### Care & Cleaning Of Your Trim Kit

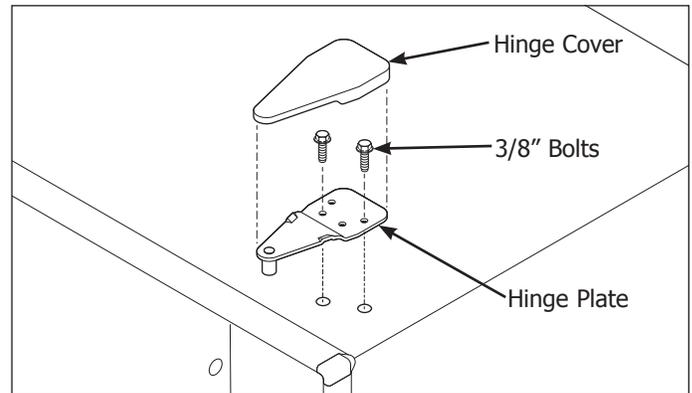
The trim and grill kit surfaces are best cleaned with a cotton cloth dampened with a mixture of water and mild detergent. Avoid using abrasive cleaners as they will mar the surface of the metal components.

### Door Removal

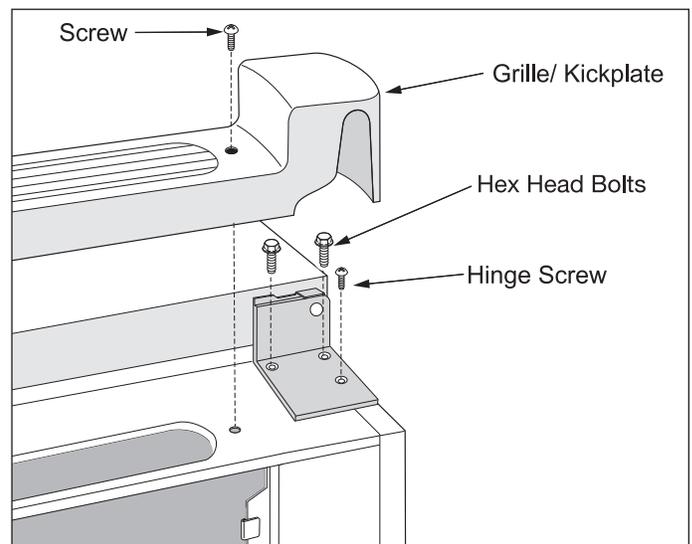
For some installations it may be necessary to remove the door to fit through the entrance of the installation site.

To remove the door, follow the steps below.

1. Make sure electrical plug is disconnected from the wall outlet.
2. Gently lay freezer on its back on a soft clean surface.
3. Lift plastic cover off upper hinge assembly. (See Figure 2-28)
3. Using a 3/8" socket or wrench, extract the two bolts securing the upper hinge to the unit frame.
4. Remove kickplate.
5. Using a 3/8" socket or wrench, extract the two bolts securing the lower hinge to the unit frame. Use a phillips head screwdriver to extract the remaining screw from the lower hinge assembly. (See Figure 2-29).
7. Lift the door assembly off of the unit frame.



**Figure 2-28. Top Hinge Removal**



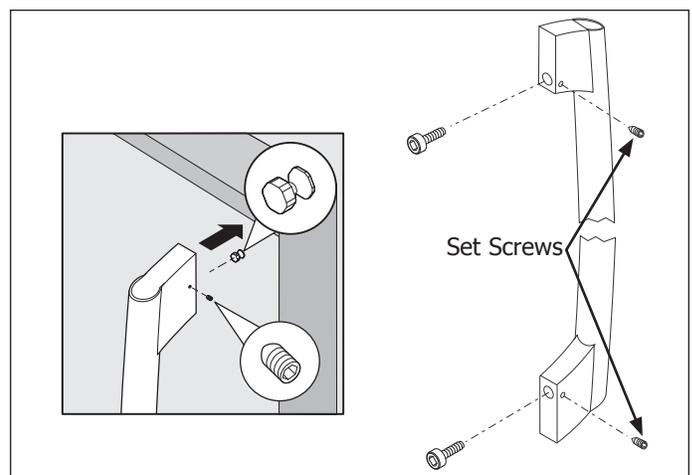
**Figure 2-29. Bottom Hinge Removal**

### Door Handle Mounting Instructions

For some installations the door handle may need to be removed. (See Figure 2-30)

To remove the door handle:

1. Remove screw cover plates by pushing in and sliding the screw cover plate off of the door handle.
2. Using a phillips head screwdriver, extract the screws securing the door handle to the door assembly.
3. Push upwards until the screw button assembly is free of the dovetail inside the handle assembly.

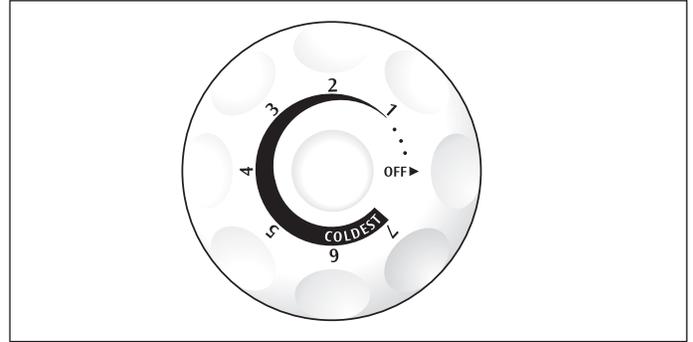


**Figure 2-30. Handle Removal**



### Temperature Control

The temperature control is located inside the refrigerator compartment. The temperature is factory preset to provide satisfactory food storage temperatures. However, the temperature control is adjustable to provide a range of temperatures for your personal satisfaction. If a colder temperature is desired, turn the temperature control knob toward COLDEST and allow several hours for temperatures to stabilize between adjustments.



**Figure 3-1. Control Knob**

### Defrost Timing

An automatic 30 minute defrosting period is initiated after every 12 hours of compressor running time. During the defrosting period, a thermostat will switch the defrost heater off after the frost on the evaporator has melted. The defrost thermostat closes at 10°F and opens at 50°F.



### NOTE

Instructions given here are furnished as a guide. Persons attempting to use these instructions to make repairs to the sealed refrigeration system should have a working knowledge of refrigeration and previous training on sealed system repair, and an EPA certification for servicing refrigeration systems.

### IMPORTANT

Effective July 1, 1992, the United States clean air act governs the disposal of refrigerants such as R-134a. Therefore, when discharging or purging the sealed system use an EPA approved refrigerant recovery system as outlined in the final rule on the protection of stratospheric ozone and refrigerant recycling, which was published in the Federal Register May 14, 1993.

### NOTE

Electrolux Home Products Inc. does not permit the use of recovered refrigerant in the servicing of our products for in-warranty and out-of-warranty repairs or for products covered by service contracts. Therefore, only new refrigerant or refrigerant that has been reclaimed back to new specifications by a refrigerant manufacturer is to be used.

## Definitions

### Recovery:

To remove refrigerant in any condition from a system and store it in an external container without necessarily testing or processing it in any way.

### Recycling:

To clean refrigerant for reuse by oil separation and single or multiple passes through devices, such as replaceable core filter-driers, which reduce moisture, acidity and particulate matter. This term usually applies to procedures implemented at the field job site or at a local service shop.

### Reclaim:

To reprocess refrigerant to new product specifications by means which may include distillation, will require chemical analysis of the refrigerant to determine that appropriate product specifications are met. This term usually implies the use of processes or procedures available only at a reprocessing or manufacturing facility.

## Safety Warnings

### Compressor Testing

Whenever testing a compressor, extreme caution should be used to prevent damaging the terminals. A compressor with a damaged terminal or a grounded winding can expel a terminal from its insulated housing when the compressor is energized. If this happens, a mixture of refrigerant and oil will be released that could be ignited by an external heat source (open flame, heater, etc.). Also, if there is air in the system when this happens, a spark at the compressor shell could ignite the refrigerant and oil mixture.

### Charging Sealed Systems

Overcharging a refrigeration system with refrigerant can be dangerous. If the overcharge is sufficient to immerse the major parts of the motor and compressor in liquid refrigerant, a situation has been created which, when followed by a sequence of circumstances can lead to the compressor shell seam separating.

A hydraulic block occurs, preventing the compressor from starting. This condition is known as locked rotor. Electric current continues to flow through the compressor motor windings which become, in effect, electric resistance heaters. The heat produced begins to vaporize the excess refrigerant liquid causing a rapid increase in system pressure. If the compressor protective devices fail, the pressure within the system may rise to extremes far in excess of design limits. Under these conditions, the weld seam around the compressor shell can separate with explosive force, spewing oil and refrigerant vapor which could ignite.

To eliminate this exceedingly rare but potential hazard, never add refrigerant to a sealed system. If refrigerant is required, evacuate the existing charge and recharge with the correct measured amount of the refrigerant specified for the system.

## Section 4 Refrigeration

### Soldering

#### **WARNING**

**Wear approved safety glasses when working with or on any pressurized system or equipment. Have an approved dry type fire extinguisher handy when using any type of gas operated torch.**

1. All joints to be soldered must have proper fit. Clearance between tubes to be soldered should be from .001" to .006". It is not practical to actually measure this; however, you do not want a dry fit or loose fit. Tubing joints should overlap about the distance of their diameter except for restrictor tubes, which should be inserted 1.25".
2. Clean all joint areas with fine steel wool or preferably an abrasive cloth, such as grit cloth No. 23 or Scotch-Brite.
3. Apply a thin film of liquid flux recommended for silver soldering to surfaces to be joined and to surfaces immediately adjacent to joint.

#### **CAUTION**

**During application of heat, use wet cloths to prevent heat from conducting to areas other than the soldered joint. Use a sheet of metal or torch guard pad as a heat deflector to keep flame away from inflammable materials and painted surfaces.**

4. Align tubing so no stress is on joint. Do not move tubing while solder is solidifying or leaks will result.
5. Use a torch of adequate capacity so joint can be quickly heated with a minimum of heat travel to other points. Use a good grade of silver solder.
6. Solder connections. If tubing is properly cleaned and fluxed, solder will flow readily. Use only enough solder to make a good bond.
7. Allow joint to cool, then wash exterior with water to remove flux.

### Basic Components

The basic components of a refrigerator/freezer are a compressor, condenser, evaporator, heat exchanger (capillary tube and suction line) and drier.

### Refrigerant Cycle

The refrigerant cycle is a continuous cycle that occurs whenever the compressor is in operation. Liquid refrigerant is evaporated in the evaporator by the heat that enters the cabinet through the insulated walls and by the heat from product load and door openings. The refrigerant vapor is then drawn from the evaporator, through the suction line to the compressor. Compression raises the pressure and temperature of the vapor in the compressor and the vapor is then forced through the discharge valve into the discharge line and into the condenser. Air passing over the condenser surface removes heat from the high pressure vapor which then condenses to a liquid. The liquid refrigerant then flows from the condenser to the evaporator through the small diameter liquid line (capillary tube). Before it enters the evaporator, the liquid refrigerant is sub-cooled in the heat exchanger by the low temperature suction vapor in the suction line. When refrigerant is added, the frost pattern will improve, the suction and discharge pressures will rise, the condenser will become hot and the wattage will increase.

### Low/High Side Leak or Undercharge

A loss of refrigerant can result in any of the following:

1. Excessive or continuous compressor operation.
2. Above normal freezer compartment temperature.
3. A partially frosted evaporator (depending on amount of refrigerant loss).
4. Below normal freezer compartment temperature.
5. Low suction pressure (vacuum).
6. Low wattage.

The condenser will be “warm to cool”, depending on the amount of refrigerant lost.

In the case of a low side refrigerant leak resulting in complete loss of refrigerant, the compressor will run but will not refrigerate. Suction pressure will drop below atmospheric pressure and air and moisture will be drawn into the system saturating the filter drier.

If there is reason to believe the system has operated for a considerable length of time with no refrigerant and the leak occurred in the low side of the system, excessive amounts of moisture may have entered the system. In such cases the two stage service Dryer Filter part number 5303918288 and vacuum procedure listed under Refrigerant Leaks need to be followed to prevent repetitive service.

If a slight undercharge of refrigerant is indicated and no leak can be found after a thorough leak test, the charge can be corrected without changing the compressor.

If a high side leak is located and some refrigerant remains in the system it is not necessary to change the compressor.

### Testing for Refrigerant Leaks

#### NOTE

The line piercing valve (clamp-on type) should be used for test purposes only. It must be removed from system after it has served its purpose.

If the system is diagnosed as short of refrigerant and the system has not been recently opened, there is probably a leak in the system. Adding refrigerant without first locating and repairing the leak or replacing the component will not permanently correct the difficulty. The leak must be found. Sufficient refrigerant may have escaped to make it impossible to leak test effectively. In such cases, add a ¼” line piercing valve to the compressor process tube. Add sufficient refrigerant vapor to increase the pressure to 40 to 50 lb. per sq. in. Check the low side for leaks. Run the compressor 2 or 3 minutes and check the high side for leaks. Recover refrigerant using an EPA approved recovery system.

### Compressor Oil Contamination

To check for contamination, obtain oil sample from old compressor.

1. If the oil has burned odor, but no color change or residue — follow instructions on page 4-5 “Installing A New Compressor”.
2. If oil has a burned odor and a sugar or gritty feel as well as showing signs of contamination (dark color), follow instructions in next section, To Flush The System. Remove as much of contamination as possible from system before installing new compressor and filter-drier.

#### CAUTION

**NEVER install a new compressor without first checking for possible system contamination.**

#### NOTE

It is recommended that system be flushed with dry Nitrogen. However, if refrigerant is used to flush the system you must look at the serial plate to see what type of refrigerant is used in the system. This is the only refrigerant that can be used to flush the system and it must be recovered.

## Section 4 Refrigeration

### To Flush The System

#### CAUTION

Use extreme care when using Dry Nitrogen to flush systems. Pressure in nitrogen cylinder could be as high as 2000 psi. Nitrogen cylinder must be equipped with approved pressure regulator and pressure relief valve. Ensure that your hoses have adequate ratings for pressure involved and that all of your equipment is in good condition. The end of the flushing hose on this tank regulator must be equipped with a hand shut-off valve (Robinair No. 40380). Close hand shut-off valve and adjust nitrogen regulator to correct pressure before proceeding with flushing procedure.

#### To Use Dry Nitrogen To Flush The System:

1. Remove compressor and filter-drier. Connect process coupling to outlet tube of condenser.
2. Fasten cloth over other end of coil to prevent old oil from spraying over room.
3. Connect hand shut-off valve on flushing hose to process coupling.
4. Slowly open hand shut-off valve and allow nitrogen to flow through condenser until discharge is clear.

#### CAUTION

**DO NOT exceed 300 Psi.**

5. Disconnect cap tube from evaporator. Flush evaporator in same manner as condenser.

#### CAUTION

**DO NOT exceed 150 Psi.**

6. Flush cap tube. This is only possible if you have proper service valve adapter.

#### CAUTION

**DO NOT exceed 300 Psi.**

7. Reassemble system.

### To Use Refrigerant To Flush The System:

#### CAUTION

Refrigerant used for flushing must be recovered into a recovery system. Meter amount of refrigerant used for flushing with your charging cylinder. **DO NOT OVERFILL THE BAG.**

1. Disconnect the suction and discharge lines from the compressor and remove the filter-drier. Connect process coupling to outlet and inlet tube of condenser.
2. Connect hose to outlet process coupling and charging cylinder. Connect another hose to inlet coupling and recovery system.
3. Open charging cylinder and allow refrigerant to flow through condenser until discharge into bag is clear.

#### NOTE

The line piercing valve (clamp-on type) should be used for test purposes only. It must be removed from system after it has served its purpose.

4. Disconnect capillary tube from evaporator. Flush evaporator in same manner as condenser.
5. Flush cap tube. This is only possible if you have proper service valve adapter.
6. Reassemble system.

### Installing a New Compressor

#### NOTE

Entirely new compressors have been developed or use with R-134a and Ester oil refrigeration systems. Both compressor and electric motor have been modified. Old compressors intended for R-12 refrigerant must not be used for new systems charged with R-134a.

Replacement of compressor and installation of filter-drier must be done in a continuous sequence so system is exposed to atmosphere no longer than necessary.

All replacement compressors are shipped with rubber plugs in the suction, discharge and process tubes and contain the correct oil charge and a holding charge of inert gas. Compressors have a low-side process tube attached to the compressor shell. A high-side process tube is attached to the filter-drier.

#### WARNING

**Do not operate reciprocating compressor when charging liquid refrigerant into system through its process tube.**

Replacement compressors for refrigerators/freezers may have an oil cooler even if the original compressor did not. If the product is not equipped for an oil cooler, leave the plastic caps in place and install the compressor connecting only to the suction and discharge lines of the new compressor.

Before installing the replacement compressor remove the discharge plug and check for the pop sound of the inert gas leaving the compressor.

#### CAUTION

**DO NOT use compressor if you do not hear this sound.**

If the compressor checks OK, reinstall the plug. Do not remove any of the plugs again until the compressor is in position and you are ready to braze the lines.

#### CAUTION

**On R-134a systems, compressor must NOT be left open to atmosphere for more than 10 minutes to prevent moisture contamination of oil.**

#### NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

A new compressor which is cold (e.g. after having been kept in a cold service van) should be left to warm to the surrounding temperature before the plugs on the compressor connections are removed. This will help prevent condensation from forming in the oil and the compressor. Also, avoid opening the system when any of the components or lines are cold.

#### NOTE

Release holding charge (release slowly to avoid oil discharge) on new compressor to ensure there is no leak in seam or tubing. Reinstall rubber plug.

1. Disconnect electrical supply to refrigerator/freezer.
2. Remove compressor access panel.
3. Remove all components needed to pull the compressor assembly from the unit.
4. Pull compressor assembly straight out.
5. Recover refrigerant by using EPA approved recovery system.

#### NOTE

If low-side process tube is too short, silver solder four inch piece of tubing onto process tube at this time.

6. Remove leads from compressor motor terminals.
7. Remove mounting clips and washers.
8. After refrigerant is completely recovered, cut suction and discharge lines as close to compressor as possible. Leave only enough tubing to pinch off and seal defective compressor. Plug or tape any open system tubing to avoid entrance of moisture and air into system. Remove inoperable compressor and transfer mounting parts to new compressor.
9. Install new compressor in exact same manner as original compressor.

## Section 4 Refrigeration

10. Reform both suction and discharge lines to align with new compressor. If they are too short, use additional lengths of tubing. Joints should overlap 0.5" to provide sufficient area for good solder joint. Clean and mark area where tubing should be cut. Cut tubing with tubing cutter. Work as quickly as possible to avoid letting moisture and air into the system.
11. Solder all connections according to soldering procedure.
12. Remove original filter-drier.



### CAUTION

**DO NOT unbrazed old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.**

13. Install new filter-drier at condenser outlet.
14. Evacuate and charge system using recommended procedure described under Evacuating and Recharging.
15. Reconnect compressor terminal leads in accordance with refrigerator wiring diagram.
16. Reassemble unit.

## Condenser Replacement



### NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to refrigerator/freezer.
2. Remove compressor access panel.
3. Recover refrigerant by using EPA approved recovery system.
4. Remove condenser fan mounting screws.
5. Unplug fan motor harness located in back of fan motor.
6. Remove fan motor and fan blade.
7. After refrigerant is completely recovered, disconnect inlet and discharge lines from condenser.
8. Lift front of condenser and pull out of retainers mounted to the drain pan.
9. Remove old condenser out the back of cabinet.
10. Install replacement condenser.
11. Remove original filter-drier.



### CAUTION

**DO NOT unbrazed old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.**

12. Install new filter-drier at condenser outlet.
13. Evacuate and charge the system using recommended procedure described under Evacuating and Recharging.
14. Reassemble unit.

### Filter-Drier Installation

Any time the sealed system is opened and the refrigerant charge is removed, the liquid line filter-drier must be replaced and the system thoroughly evacuated before replacing refrigerant.

#### CAUTION

**DO NOT unbraid old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.**

#### NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to refrigerator/freezer.
2. Recover refrigerant by using EPA approved recovery system.
3. Using a 3 cornered file, score a groove around capillary tube as close to old filter-drier as possible. Break capillary tube along score mark from filter-drier.
4. Cut condenser outlet tube at filter-drier. Discard filter-drier.
5. Thoroughly clean condenser outlet tube and capillary tube.
6. Place inlet connection of filter-drier over condenser tube approximately 1/4" and solder.
7. Insert capillary tube input end into filter-drier outlet. Do not allow tube to bottom against screen. Solder carefully so that solder does not plug capillary tube.
8. Install process tube adapter to filter-drier.
9. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging.
10. Reassemble unit.

### Evaporator and Suction Line Replacement

#### NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to refrigerator/freezer.
2. Recover refrigerant by using EPA approved recovery system.
3. Remove shelving.
4. Remove evaporator cover.
5. Remove evaporator from its installation position.
6. Cut or remove suction line from compressor.
7. Cut filter-drier from condensing unit.

#### CAUTION

**DO NOT unbraid old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.**

8. Remove sealant from cabinet where suction line enters.
9. Remove evaporator and suction line as one piece.
10. Install new evaporator with attached suction line.
11. Seal cabinet.
12. Install new filter drier at condenser outlet.
13. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging.

## Section 4 Refrigeration

### CAUTION

Check the serial plate for the correct refrigerant type. It is extremely important to verify the type of refrigerant in the system before starting any sealed system repairs.

With the possible exception of the vacuum pump, all service equipment that comes in contact with R-134a during evacuation and recharging must be dedicated. Accordingly, R-134a will require a dedicated charging cylinder, manifold gauge set, process tube adapters, and hoses. Any residual mineral oil on other tools (tubing cutter, etc.) must be thoroughly cleaned off before using on R-134a/Ester oil systems. It will be necessary to check with the manufacturer of your vacuum pump for refrigerant and oil compatibility issues.

If you use a vacuum pump with mineral oil to evacuate an R-134a system, it is **ABSOLUTELY ESSENTIAL** to have a shut-off valve between the pump and your manifold gauge set as shown on page 4-10. The hand valve must be closed during all times when the vacuum pump is not operating. This will prevent the migration of mineral oil vapor into the R134a/Ester oil system. If the vacuum pump should stop during evacuation for any reason, the hand pump shut-off valve must be closed immediately.

Insure that your refrigeration hoses are specified for use with R-134a refrigerant. Research has shown that compounds in standard refrigeration hoses may enter sealed systems and ultimately restrict the cap tube in an R-134a system.

### Equipment Needed for Evacuation & Recharging:

- Heated charging cylinder
- Standard 3-port manifold gauge set:
  - 4 charging hoses
  - Tee fitting with valve core stem removed (Robinair No. 40396)
  - Hand shut-off valve (Robinair No.40380)
- Two stage vacuum pump
- Process tube adapter kit (Robinair No.12458)
- Tubing cutter
- Pinch-off tool capable of making leak proof seal
- Complete brazing torch set
- Small 3-corner file
- Grit cloth or Scotch-Brite
- 45% silver solder and flux
- Heat Gun

### Installing Evacuation and Recharging Equipment

1. Disconnect refrigerator/freezer from electrical supply.
2. If compressor was replaced, install correct sized process tube adapter on process tube.  
If compressor was not replaced, cut process tube with tubing cutter leaving as much tube as possible and install correct size process tube adapter.
3. Install correct sized process tube adapter on high-side process tube.
4. Attach refrigeration service gauge manifold to system in following order:
  - Low-side (compound gauge) hose to suction side process tube adapter.
  - High-side (pressure gauge) hose to high-side process tube adapter.
  - Center port manifold hose before hand shut-off valve to charging cylinder.
  - Center port manifold hose after hand shut-off valve to vacuum pump.

### **WARNING**

**R-134a systems are particularly susceptible to moisture contamination which can only be prevented by evacuating the System for a minimum of 30 minutes to attain a minimum 29.9 inch (500 micron or lower) vacuum.**

### Evacuating System

To achieve the required levels of evacuation, a properly maintained two stage vacuum pump in good condition is required. It is absolutely essential to maintain your vacuum pump according to the manufacturer's instructions including required oil changes at the recommended intervals. Vacuum pump oil should always be changed after evacuating a contaminated system.

Vacuum pump performance should be checked periodically with a micron gauge.

1. Make certain that charging cylinder valve, hand shut-off valve, and manifold gauge valves are closed.
2. Start vacuum pump.
3. Open hand shut-off valve and slowly open both manifold valves, turning counterclockwise, for two full rotations.

### **CAUTION**

**If high vacuum equipment is used, just crack both manifold valves for a few minutes and then open slowly for the two full turns counterclockwise. This will prevent the compressor oil from foaming and being drawn into the vacuum pump.**

4. Operate vacuum pump for a minimum of 30 minutes to a minimum of 29.9" (500 micron) vacuum.
5. Close hand shut-off valve to vacuum pump. Watch compound gauge for several minutes. If reading rises, there is a leak in the system, go to step 6. If no leak is indicated, stop vacuum pump. System is now ready for charging.
6. If a leak is indicated, stop vacuum pump and introduce a small charge of refrigerant into system by cracking valve on bottom of charging cylinder until system is pressurized to 40 or 50 lbs psi.

7. Leak test low-side. Close compound gauge. Run compressor for a few minutes and leak test high-side. When leak is found, recapture refrigerant using EPA approved recovery system. Repair and go back to step 1.

### Charging The System

### **CAUTION**

**Check the serial plate for the correct refrigerant type. It is extremely important to verify the type of refrigerant in the system before starting any sealed system repairs. After charging the system with liquid be certain to wait at least 5 minutes before starting the compressor to give the refrigerant a chance to disperse throughout the system. Otherwise the compressor could be damaged by attempting to pump excessive quantities of liquid.**

### Preparing The Charging Cylinder:

1. Make certain that hand shut-off valve to vacuum pump is closed.
2. Close high-side manifold gauge valve.
3. Set charging cylinder scale to pressure indicated on cylinder pressure gauge.
4. Observe refrigerant level in sight glass. Subtract amount to be charged into system and note shut off point.
5. Open charging cylinder valve slowly and allow proper charge to enter system.
6. As soon as refrigerant in sight glass has gone down to predetermined level, close charging cylinder valve.

### **WARNING**

**Disconnect the charging cylinder heater at this time to prevent the cylinder pressure from exceeding its maximum limits.**

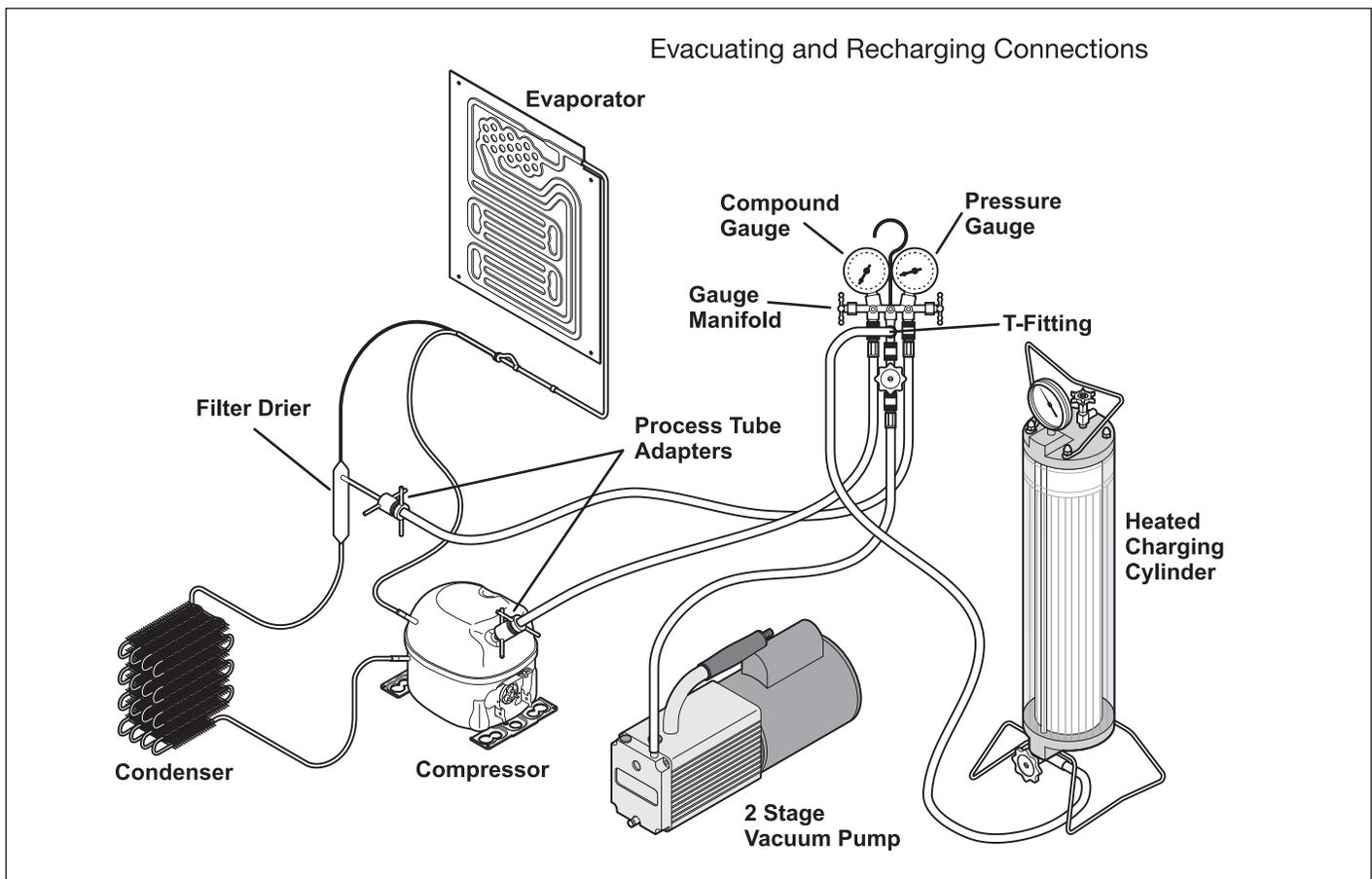
7. Allow system to sit for five minutes.
8. Turn on refrigerator compressor. Run compressor for a few minutes and monitor system pressures.
9. When satisfied that the unit is operating correctly, clamp the high-side process tube with the pinch-off tool while the unit is still running.

## Section 4 Refrigeration

10. Slowly open the high-side manifold gauge valve to allow the compressor to remove any refrigerant trapped in the high-side hose and the process fitting.
11. Close both of the manifold gauge valves. If the high-side gauge reading rises, the pinch-off must be corrected before proceeding.
12. Remove the high-side process tube adapter and solder the process tube closed.
13. Clamp the low-side process tube with the pinch-off tool while the unit is running. Remove the low-side process tube adapter and solder the process tube closed.
14. Check the process tubes for refrigerant leaks.

### Final Leak Test

1. With the refrigerator/freezer turned OFF, leak test all low-side system components.
2. Turn the unit ON and run until the condenser is warm. Leak test the high-side system components.



### Verify Refrigerant Type In The System



#### CAUTION

**R-134a and R-12 are completely incompatible. Before starting any sealed system repair, it is extremely important to check serial plate of product to verify the type of refrigerant in the system.**

### Dedicated Equipment

R-134a must not be mixed with other types of refrigerants. R-134a must be recovered in dedicated and properly identified recovery bags and tanks.

It will be necessary to check with the manufacturer of your recovery equipment to determine R-134a compatibility. Some recovery equipment manufacturers have changeover instructions for switching between refrigerant types. Protect yourself and your equipment by following all manufacturer guidelines.

Also, ensure that your refrigeration hoses are specified for use with R-134a refrigerant. Research has shown that compounds in standard refrigeration hoses may enter sealed systems and ultimately restrict the cap tube in an R-134a system.

### R-134a Refrigeration Systems

The sealed refrigeration system will consist of the same basic components being utilized in the R-12 systems.

There is a 10% to 15% discharge pressure increase using R-134a, with a 5% to 10% decrease in suction pressure when compared to the same product with an R-12 system operating at 90°F (32°C) ambient temperature conditions. Lower suction pressures result from the lower density of R-134a refrigerant which effects refrigerant flow rate. R-134a systems commonly operate in a 1"-2" vacuum on the suction side.

Products using R-134a refrigerant will generally have a longer capillary tube to maintain a similar flow rate and some models will have a larger condenser to reduce the discharge pressures and lower start-up sound transmission.

### Miscibility of R-134a and Ester Oil

A special synthetic oil known as Ester oil is used as a lubricant in refrigeration systems operating on R-134a. Ester oils are produced from alcohols and fatty acids and are available in several different variants. Ester oils have a pleasant aroma reminiscent of fruit.

Ester oils generally include various types of additives for improving certain properties such as viscosity, temperature sensitivity, etc. These additives are often aggressive, and skin contact with Ester oils should therefore be avoided.

One of the most important requirements made on a refrigerant system is that the oil mix with the refrigerant. Since mineral oil and ordinary synthetic oil DO NOT mix with R-134a, Ester oil is used for lubrication. Ester oil dissolves in R-134a.

Ester oil is broken down by chlorine and cannot be used with R-12 (R-12 contains chlorine) or any other compound containing chlorine. Therefore, R-134a refrigeration systems have virtually no tolerance for chlorine molecules from CFC refrigerants (R-134a is an HFC and contains no chlorine).



#### CAUTION

**During R-134a service, it is extremely important to avoid using equipment that may contain residual amounts of mineral oil, CFC's or HCFC's which could enter and contaminate the sealed system.**

## Section 4 Refrigeration

For example, hoses that were used for a refrigeration system operating on R-12 may contain small quantities of mineral oil which can block the capillary tube in a system operating on R-134a. As little as one milligram may be sufficient to cause a blockage. In addition, sealed system components that have been used with CFC systems must not be used with R-134a systems. These components may contain residual amounts of refrigerant and oil which could damage an R-134a system.

At the earliest stage of development work on R-134a, tests were carried out on a different type of synthetic oil known as Poly-Alkaline Glycol (PAG). This oil is also used in certain air conditioning systems for cars. PAG and Ester oil DO NOT mix with one another. Service equipment used for R-134a / Ester oil must not come into contact with PAG.

### Water In The Refrigeration System

Even in very small quantities, water in any refrigeration system can cause the following problems:

- Ice plugs in capillary tubes.
- Copper plating in compressor.
- Reactions with organic materials in systems.
- Corrosion of metals.

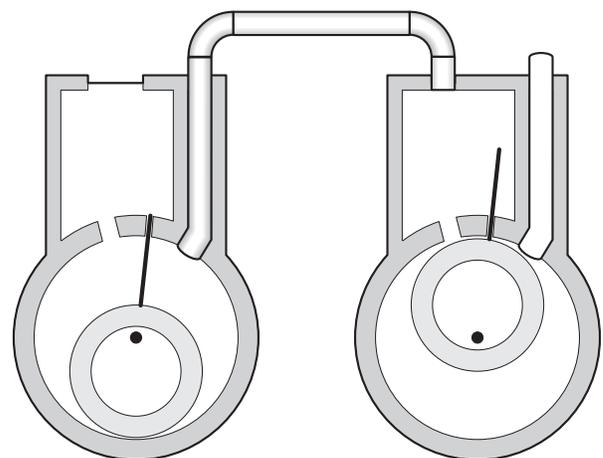
R-134a and Ester oil will aggravate the problem of water in the refrigeration system. Ester oil may react with water vapor and is hygroscopic (it will absorb water if it comes in contact with humid air). Water is also more soluble in R-134a than R-12.

To minimize the water content whenever service work is performed, the refrigeration system should always be thoroughly evacuated through process tube adapters on both the high and low sides of the system. Evacuation must be for a minimum of 30 minutes to at least a 29.9 inch (500 micron) vacuum.

VACUUM CHART		
Vacuum Inches Hg.	Microns	Boiling Point of Water °F
28.940	25000	77.9
29.530	10000	52.0
29.832	4600	32.0
29.882	1000	1.0
29.901	500	-11.2
29.915	150	-32.8
29.917	100	-38.2
29.919	50	-49.0

To achieve the required 29.9 inch (500 micron) vacuum, a properly maintained two-stage vacuum pump in good condition is required. A two stage pump can reach a deeper vacuum than a single stage because the exhaust from the first pumping stage is discharged into the second pumping stage. This means the second stage begins pumping at a lower pressure so a lower ultimate vacuum can be achieved.

2-Stage Vacuum Pump



### Vacuum Pump Maintenance

It is absolutely essential to maintain your vacuum pump according to the manufacturer's instructions including required oil changes at the recommended intervals. Vacuum pump oil should always be changed after evacuating a contaminated system. Vacuum pump performance should be checked periodically with a micron gauge.

Vacuum pump suppliers may or may not recommend changing the vacuum pump oil to the same type that's in the system being evacuated. Some manufacturers may recommend a vacuum pump that's dedicated to R-134a systems.

Robinair has stated that their current and discontinued vacuum pump models, using mineral oil currently specified for use in their vacuum pumps, can be used to evacuate R-134a/Ester oil systems. Robinair also states that it is acceptable to alternate between evacuating R-12/mineral oil and R-134a/Ester oil systems without adversely affecting the vacuum pump's performance.

For other brands of vacuum pumps, check with the manufacturer for restrictions and guidelines when using with R-134a.



### CAUTION

**If you use a vacuum pump with mineral oil to evacuate an R-134a system, it is ABSOLUTELY ESSENTIAL to have a shut-off valve between pump and your manifold gauge set as shown on page 4-10. The hand valve must be closed during all times when vacuum pump is not operating. This will prevent migration of mineral oil vapor into R134a/Ester oil system. If vacuum pump should stop during evacuation for any reason, the hand pump shut-off valve must be closed immediately.**

### Refrigerant Leaks

A system with R-134a and Ester oil will become saturated with moisture much faster than a system with R-12 and mineral oil. If your leak was in the low side of the refrigeration system when the compressor is running the pressure in the low side will go into a vacuum. As additional refrigerant leaks out the system will go deeper into a vacuum. The system running in this vacuum will allow air and moisture to be pulled into the sealed system. The moisture pulled in can then be mixed in to the Ester oil in the compressor.

If the product has had a low side leak you will need to install the two stage service dryer filter part number 5303918288. You must heat the crankcase area of the compressor using a heat gun on the high heat setting throughout the 30 minutes you are running your vacuum pump to pull a vacuum on the system. Every 4 to 5 minutes while you are running your vacuum pump and heating the crankcase area, shake the compressor. By heating the crankcase you are heating the oil in the compressor. This will drive the moisture out of the oil. By shaking the compressor this will allow the moisture to come to the top of the oil faster so the vacuum pump can remove the moisture from the system.

Electrolux Home Products does not approve the use of the Sweep Charge for sealed system repair. This method of servicing sealed systems is often used to repair products in the field. The Sweep Charge does not adequately remove moisture from the oil in the compressor. In a R-134a system you will need to replace the compressor if the product has had a low side leak and you are servicing with the Sweep Charge procedure.

R-134a refrigerant molecules are smaller than R-12 molecules. This means that R-134a will pass more minor leaks and the rate of flow will be greater than for R-12. Therefore, it is now more important than ever to follow good brazing practices. Use a good grade of silver solder. A 45% silver solder is recommended.

## Section 4 Refrigeration

### Leak Detection

R-134a system leaks can be pinpointed by means of an electronic leak detector or by bubble solution.

Electronic leak detectors for R-134a service are currently available from several manufacturers. The least expensive models are non-selective detectors that will detect any type of emission or vapor present, regardless of its chemical composition. Some non-selective detectors designed for use with R-12 may have a much lower sensitivity when used with R-134a. However, newly designed detectors with good R-134a sensitivity are now available. Be sure to consult with the manufacturer before selecting or using a non-selective detector with R-134a.

Halogen-specific detectors use a specialized sensor that allows detection of compounds containing chlorine, fluorine, bromine, and iodine without being activated by other species. The major advantage of this type of detector is a reduction in the number of "nuisance alarms". Halogen-specific detectors are generally more expensive than non-selective detectors but feature higher sensitivity.

### R-134a properties

The properties of R-134a are very similar to those of R-12. The principal data for the two refrigerants are shown in the chart below.

	REFRIGERANTS	
	R-12	R-134a
NAME	Dichlorodifluoromethane	1,1,1,2--Tetrafluoromethane
Formula	$\text{CCl}_2\text{F}_2$	$\text{CH}_2\text{F}-\text{CF}_3$
Molecular Weight (g/mol)	120.93	102.3
Ozone Depletion Potential (ODP)	1	0
Global Warming Potential (GWP)	3.1	0.3
Boiling Point °F	-21.6	-15.7
Vapor Pressure (77°F)	80 psig	82 psig
Flammability	None	None
Solubility of Water in Refrigerant (wt% @ 77°F)	0.009	0.11

HFC-134a, CFC-12 Pressure Temperature Chart

°F	°C	HFC-134a	CFC-12		°F	°C	HFC-134a	CFC-12
-60	-51.1	21.8*	19.0*		55	12.8	51.1	52.0
-55	-48.3	20.4*	17.3*		60	15.6	57.3	57.7
-50	-45.6	18.7*	15.4*		65	18.3	63.9	63.8
-45	-42.8	16.9*	13.3*		70	21.1	70.9	70.2
-40	-40.0	14.8*	11.0*		75	23.9	78.4	77.0
-35	-37.2	12.5*	8.4*		80	26.7	86.4	84.2
-30	-34.4	9.8*	5.5*		85	29.4	94.9	91.8
-25	-31.7	6.9*	2.3*		90	32.2	103.9	99.8
-20	-28.9	3.7*	0.6		95	35.0	113.5	108.3
-15	-26.1	0.0	2.4		100	37.8	123.6	117.2
-10	-23.3	1.9	4.5		105	40.6	134.3	126.6
-5	-20.6	4.1	6.7		110	43.3	145.6	136.4
0	-17.8	6.5	9.2		115	46.1	157.6	146.8
5	-15.0	9.1	11.8		120	48.9	170.3	157.7
10	-12.2	12.0	14.6		125	51.7	183.6	169.1
15	-9.4	15.0	17.7		130	54.4	197.6	181.0
20	-6.7	18.4	21.0		135	57.2	212.4	193.5
25	-3.9	22.1	24.6		140	60.0	227.9	206.6
30	-1.1	26.1	28.5		145	62.8	244.3	220.3
35	1.7	30.4	32.6		150	65.6	261.4	234.6
40	4.4	35.0	37.0		155	68.3	279.5	249.5
45	7.2	40.0	41.7		160	71.1	298.4	265.1
50	10.0	45.3	46.7		165	73.9	318.3	281.4

## Section 4 Refrigeration

### Inhalation Toxicity

HFC-134a poses no acute or chronic hazard when it is handled in accordance with DuPont recommendations and when exposures are maintained at or below the DuPont Acceptable Exposure Limit (AEL) of 1,000 ppm (8 and 12 hour Time-Weighted Average or TWA).

An AEL is an airborne exposure limit established by DuPont scientists that specifies time-weighted average (TWA) airborne concentrations to which nearly all workers may be repeatedly exposed without adverse effects. The AEL for HFC-134a has the same value as the Threshold Limit Values (TLVs) established for CFC-12 and HCFC-22. TLVs are established by the American Conference of Governmental and Industrial Hygienists (ACGIH).

However, inhaling high concentrations of HFC-134a vapor may cause temporary central nervous system depression with narcosis, lethargy and anesthetic effects. Other effects that may occur include dizziness, a feeling of intoxication and a loss of coordination. Continued breathing of high concentrations of HFC-134a vapors may produce cardiac irregularities (cardiac sensitization), unconsciousness, and with gross overexposure, death. Intentional misuse or deliberate inhalation of HFC-134a may cause death without warning. This practice is extremely dangerous.

If you experience any of the initial symptoms, move to fresh air and seek medical attention.

### Cardiac Sensitization

If vapors are inhaled at a concentration of 75,000 ppm, which is well above the AEL, the heart may become sensitized to adrenaline, leading to cardiac irregularities and, possibly, to cardiac arrest. The likelihood of these cardiac problems increases if you are under physical or emotional stress.

Medical attention must be given immediately if exposed to high concentrations of HFC-134a. DO NOT treat with adrenaline (epinephrine) or similar drugs. These drugs may increase the risk of cardiac arrhythmia and cardiac arrest. If the person is having difficulty breathing, administer oxygen. If breathing has stopped, give artificial respiration.

### Spills or Leaks

If a large release of vapor occurs, such as from a large spill or leak, the vapors may concentrate near the floor or low spots and displace the oxygen available for breathing, causing suffocation.

Evacuate everyone until the area has been ventilated. Use blowers or fans to circulate the air at floor level. DO NOT re-enter the affected area unless you are equipped with a self-contained breathing apparatus or unless an area monitor indicates that the concentration of HFC-134a vapors in the area is below the AEL.

Always use self-contained breathing apparatus or an air-line mask when entering tanks or other areas where vapors might exist. Use the buddy system and a lifeline. Refer to the Material Safety Data Sheet (MSDS) for HFC-134a for more information.

HFC-134a vapors have a slightly sweet odor that can be difficult to detect. Therefore, frequent leak checks and the installation of permanent area monitors may be necessary in enclosed spaces. Refer to ASHRAE Standards 15 and 34 for refrigeration machinery rooms.

To ensure safety when working with HFC-134a in enclosed areas:

1. Route relief and purge vent piping (if present) outdoors, away from air intakes.
2. Make certain area is well ventilated, using auxiliary ventilation if needed to move vapors.
3. Make sure area is clear of vapors prior to beginning work.
4. Install air monitoring equipment to detect leaks.

### Skin and Eye Contact

At room temperature, HFC-134a vapors have little or no effect on the skin or eyes. However, in liquid form, HFC-134a can freeze skin or eyes on contact, causing frostbite. Following contact, soak the exposed area in lukewarm water, not cold or hot. If medical treatment cannot begin immediately, apply a light coat of a nonmedicated ointment, such as petroleum jelly. If the exposed area is in a location where the presence of the ointment would be awkward, such as on the eye, apply a light bandage. In all cases of frostbite, seek medical attention as soon as possible.

Always wear protective clothing when there is a risk of exposure to liquid HFC-134a. Where splashing is possible, always wear eye protection and a face shield.

### Combustibility of HFC-134a

HFC-134a is nonflammable at ambient temperatures and atmospheric pressure. However, tests have shown HFC-134a to be combustible at pressures as low as 5.5 psi (139.3 kPa absolute) at 177°C (350°F) when mixed with air at concentrations generally greater than 60% volume air. At lower temperatures, higher pressures are required for combustibility. (HCFC-22 is also combustible at pressures above atmospheric in the presence of high air concentrations). Test results and calculations have shown:

- At ambient temperature, all concentrations of HFC-134a in air are nonflammable at pressures below 15 psi (205 kPa absolute).
- Combustible mixtures of air and HFC-134a will not form when liquid HFC-134a is pumped into closed vessel if initial air pressure in vessel is limited to one atmosphere absolute and final pressure is limited to 300 psi (2,170 kPa absolute). If initial air pressure is greater than one atmosphere, combustible mixtures may form as tank is filled.

**Based on above information, the following operating practices are recommended:**

### Leak Testing

- Equipment should NEVER be leak tested with a pressurized mixture of HFC-134a and air. HFC-134a may be safely pressured with dry nitrogen.

### Bulk Delivery and Storage

- Tanks should normally be evacuated at start of filling, and should never be filled while under positive air pressure.
- Tank pressure should never be allowed to exceed 300 psi (2,170 kPa) when filling with HFC-134a. Relief devices on either tanks or HFC-134a supply system usually prevent this.
- Tank pressures should be monitored routinely.
- Air lines should never be connected to storage tanks.

### Filling and Charging Operations

- Before evacuating cylinders or refrigeration equipment, any remaining refrigerant should be removed by recovery system.
- Vacuum pump discharge lines should be free of restrictions that could increase discharge pressures above 15 psi (205 kPa) and result in formation of combustible mixtures.
- Cylinders or refrigeration equipment should normally be evacuated at start of filling, and should never be filled while under positive air pressure.
- Final pressures should not exceed 300 psi (2,170 kPa).
- Filled cylinders should periodically be analyzed for air (nonabsorbable gas or NAG).

### Refrigerant Recovery Systems

Efficient recovery of refrigerant from equipment or containers requires evacuation at the end of the recovery cycle. Suction lines to a recovery compressor should be periodically checked for leaks to prevent compressing air into the recovery cylinder during evacuation. In addition, the recovery cylinder pressure should be monitored, and evacuation stopped in the event of a rapid pressure rise indicating the presence of noncondensable air. The recovery cylinder contents should then be analyzed for NAG, and the recovery system leak checked if air is present. DO NOT continue to evacuate a refrigeration system that has a major leak.

### Thermal Decomposition

HFC-134a vapors will decompose when exposed to high temperatures from flames or electric resistance heaters. Decomposition may produce toxic and irritating compounds, such as hydrogen fluoride. The pungent odors released will irritate the nose and throat and generally force people to evacuate the area. Therefore, it is important to prevent decomposition by avoiding exposure to high temperatures.



### Component Teardown

This section explains how to access and remove components from an All Refrigerator Pro and/or an All Freezer Pro unit, and has been arranged in such a way as to simulate which components would need to be removed first in order to gain access to other components. When following a component removal procedure, it may be necessary to reference another component removal procedure listed earlier in this section.

#### **IMPORTANT**

**Before continuing, please take note of the WARNINGS and CAUTIONS below.**

#### **WARNING**

- **If it is necessary to remove an All Refrigerator Pro and/or an All Freezer Pro unit from its installation, use proper lifting techniques as units are heavy and could fall resulting in serious injury or death. Pulling a unit from its installation should only be performed by a trained authorized service technician or installer.**
- **To avoid electric shock, power to an All Refrigerator Pro and/or an All Freezer Pro unit must be disconnected whenever accessing/ removing components powered by electricity or components near other electrical components.**
- **After service is completed, be sure all safety-grounding circuits are complete, all electrical connections are secure, and all access panels are in place.**
- **If unit was used prior to service, the compressor assembly will be hot. Wear protective gloves and the appropriate safety gear when working with compressors.**
- **If removing a door from a unit, remember that the doors are heavy. If a door were to fall, it could cause serious personal injury.**

#### **CAUTION**

- **Metal edges may be sharp. Use caution and wear appropriate safety equipment when servicing evaporators and condensers to avoid personal injury.**
- **If working in the compressor area, remember that compressor and tubing may be hot.**

### Exterior Components

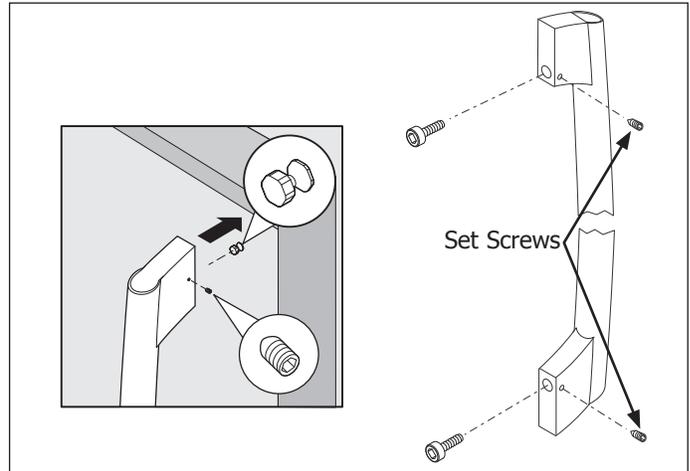
#### Door Handle Removal

The door handle is secured with setscrews to the handle mounting shoulder screws that are fastened into the front of the door assembly.

To remove the handle, use a 3/32" allen wrench and extract the setscrew located in each handle standoff. Pull handle assembly from door assembly.

(See Figure 5-1)

Use a 5/32" allen wrench to extract the screw located inside the handle standoff, that secures the handle standoff to the handle.



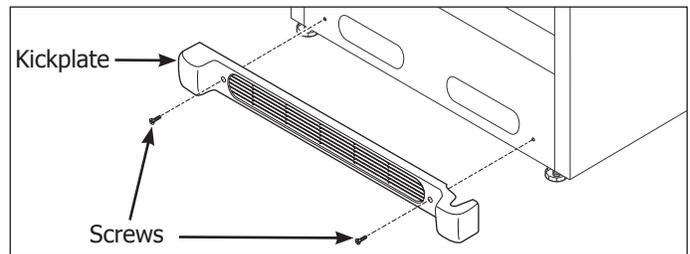
**Figure 5-1. Handle Removal**

#### Kickplate Removal

The kickplate is secured with two screws to the lower front of the unit.

To remove the kickplate, extract the screw from each end of the kickplate with a phillips head screwdriver.

(See Figure 5-2)



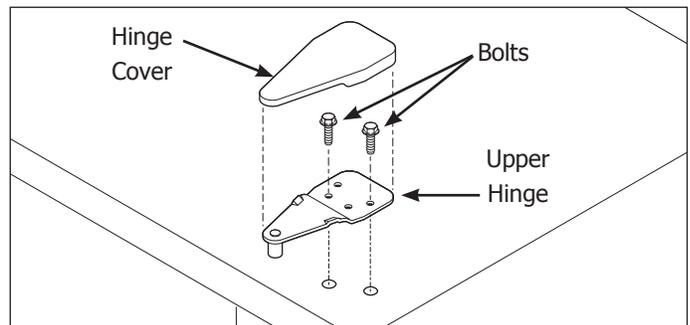
**Figure 5-2. Kickplate Removal**

#### Door Hinge and Door Assembly Removal

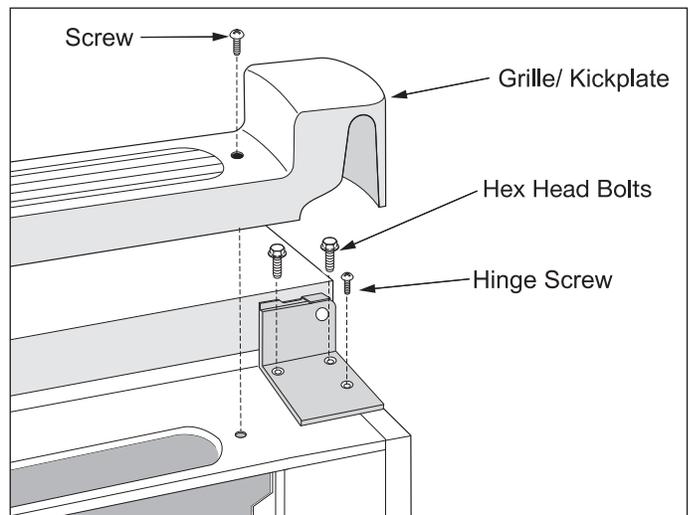
The door assembly is secured to the unit frame by an upper and lower hinge assembly.

To remove the door assembly:

1. Gently lay freezer on its back on a soft clean surface.
2. Lift plastic cover off upper hinge assembly. (See Figure 5-3)
3. Using a 3/8" socket or wrench, extract the two bolts securing the upper hinge to the unit frame.
4. Remove kickplate.
5. Using a 3/8" socket or wrench, extract the two bolts securing the lower hinge to the unit frame. Use a phillips head screwdriver to extract the remaining screw from the lower hinge assembly.
7. Lift the door assembly off of the unit frame.



**Figure 5-3. Upper Hinge Removal**



**Figure 5-4. Lower Hinge Removal**

**Door Stop Assembly Removal**

The door stop is secured to with two screws the underside of the door assembly.

To remove the door stop:

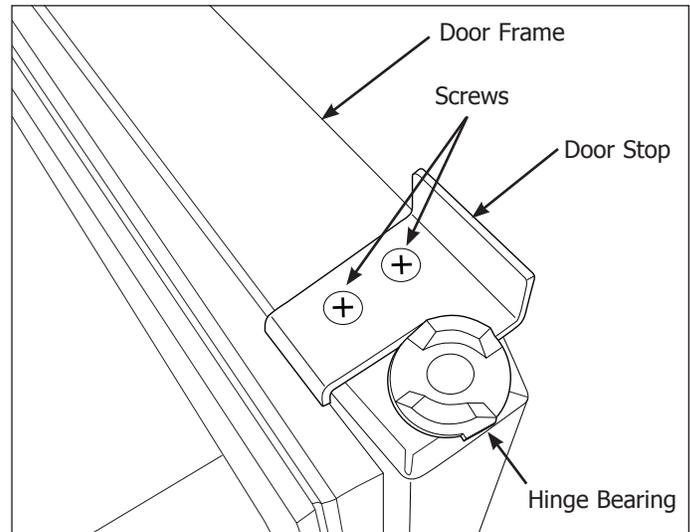
1. Remove door from unit.
2. Extract the two screws securing the door stop to the bottom of the door assembly. (See Figure 5-5)

**Door Gasket and Inner Panel Removal**

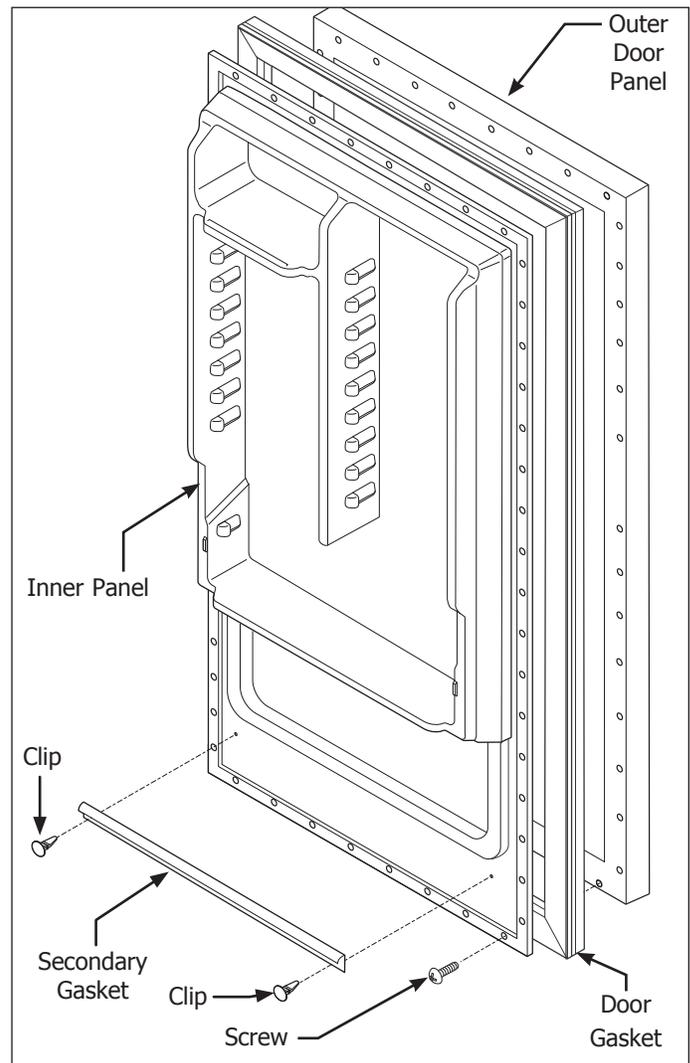
The inner panel of the door assembly is secured with screws that pass through the inner panel and fasten into the door assembly. The door gasket has an inner lip that is pressed between the inner panel and the door assembly and is secured in position when the inner panel screws are fastened to the door assembly. The inner panel does not have to be completely removed to extract the door gasket from the door assembly.

To remove the door gasket:

1. Lift the inside edge of the door gasket to access the inner panel screws.
2. Loosen the inner panel screws until the door gasket can be pulled out from under the inner panel. (See Figure 5-6)
3. Continue loosening screws around door assembly until door gasket is free.
4. To remove the inner panel, extract all screws from the outside edge of the inner panel and remove from unit.
5. The secondary gasket is secured with two retaining clips that snap into the inner door panel. Pry out the two retaining clips with a small putty knife, using caution not to damage the inner door panel. The secondary gasket is now free.



**Figure 5-5. Door Stop Removal**



**Figure 5-6. Inner Panel and Door Gasket Removal**

### Door Storage Components

#### Adjustable Door Bins Removal

There are four two liter door bins that can be arranged as needed by the user.

To remove a two liter door bin, lift the bin straight up until it is free of the supports molded into the door liner, then pull from unit. (See Figure 5-7)

#### Dairy Door Removal

The dairy door has a hole on each side that fits over molded pins in the door liner.

To remove the dairy door:

1. Open dairy door.
2. Grab the dairy door on each side and flex the outer edge inwards until the door is free of the pins in the door liner, then pull from door. (See Figure 5-8)

#### Gallon Door Bin Removal

The gallon door bin has slots on each end that fit over molded slots in the door liner.

To remove the gallon door bin, bend the inside lip of the gallon door bin away from the supports molded into the door liner while pulling out of the door. (See Figure 5-9)

#### Door Switch Removal

The door switch is mounted inside a hole in the cabinet base along the lower left hand side. (See Figure 5-10)

To remove the door switch:

1. Disconnect unit from power supply.
2. Remove kickplate.
3. Reach into the access hole next to the door switch and disconnect the electrical leads from the door switch terminals.
4. Press in on the retaining latch on the switch body and push switch through hole in cabinet base.

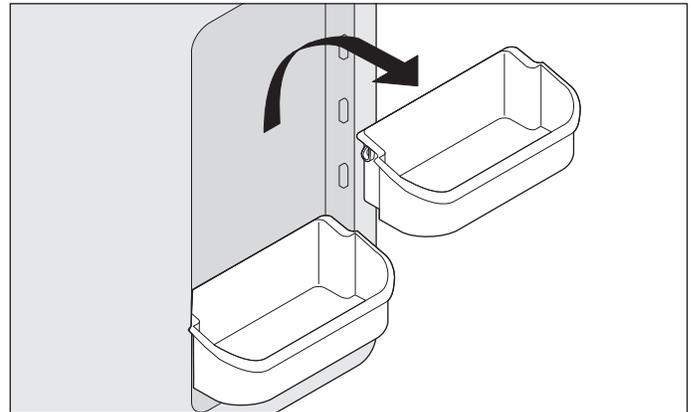


Figure 5-7. Adjustable Door Bin Removal

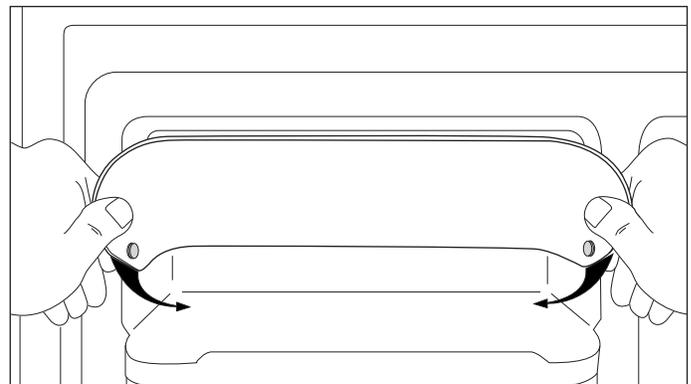


Figure 5-8. Dairy Door Removal

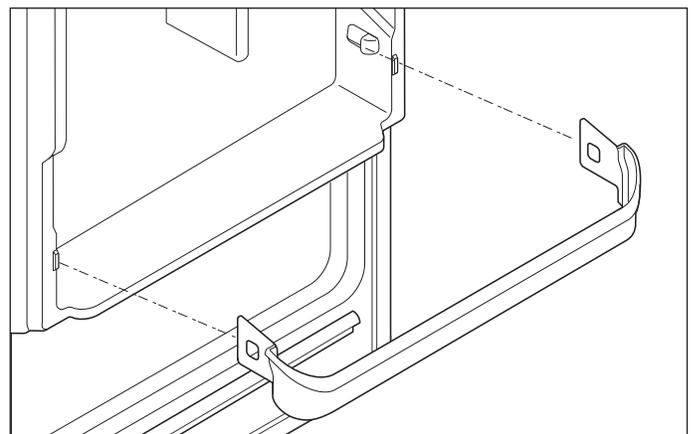


Figure 5-9. Door Lock Removal

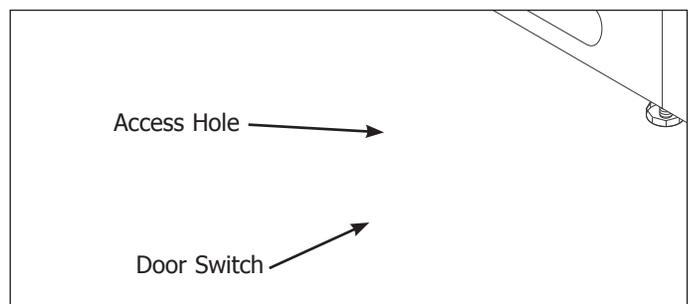


Figure 5-10. Door Switch Removal

## Interior Components

### Adjustable Interior Shelving Removal

Multi-position adjustable interior shelves can be moved to any position for larger or smaller packages. The cantilever shelves are supported at the back of the refrigerator. (See Figure 5-11) Replace the shelf by inserting the hooks at rear of the shelf into the wall bracket. Lower the shelf into the desired slots and lock into position.

To remove the shelf assemblies:

1. Lift front edge up.
2. Pull shelf out.

### Crisper Drawer Removal

The crisper drawers are removed by grabbing the drawer by the handle and pulling the drawers out of the unit. (See Figure 5-12)

To replace the crisper drawers, line up the plastic lip on the outside edge of the crisper drawer with the slots located under the crisper cover, then slide crisper drawers back into unit.

### Crisper Cover Assembly Removal

The crisper cover assembly slides into a slot formed in the left and right hand supports that are secured with screws to the liner sidewall.

To remove the crisper cover assembly:

1. Remove crisper drawers from unit.
2. Reach under the crisper cover and lift up on the crisper cover glass insert. Remove glass insert from unit. (See Figure 5-13)
3. Grab the crisper cover assembly from the front, lift upwards until front of crisper cover clears the front lip of the crisper cover supports then pull straight out.
4. The humidity damper control is separated from the crisper cover by using a flat bladed screwdriver from the inside of the crisper cover, and prying the top retaining latches of the damper control off of the crisper cover. Push the retaining latches through until the damper control is free from crisper cover.
5. To remove the crisper cover supports, extract the three screws securing each crisper cover support to the liner sidewall.

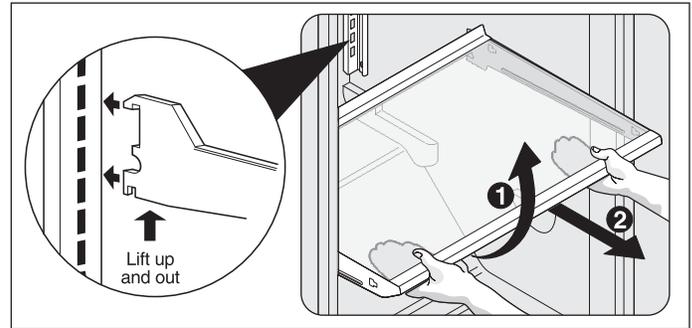


Figure 5-11. Interior Shelving Removal

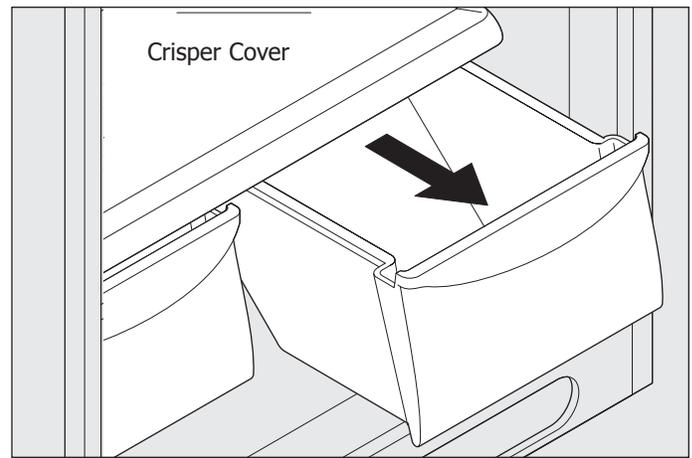


Figure 5-12. Crisper Drawer Removal

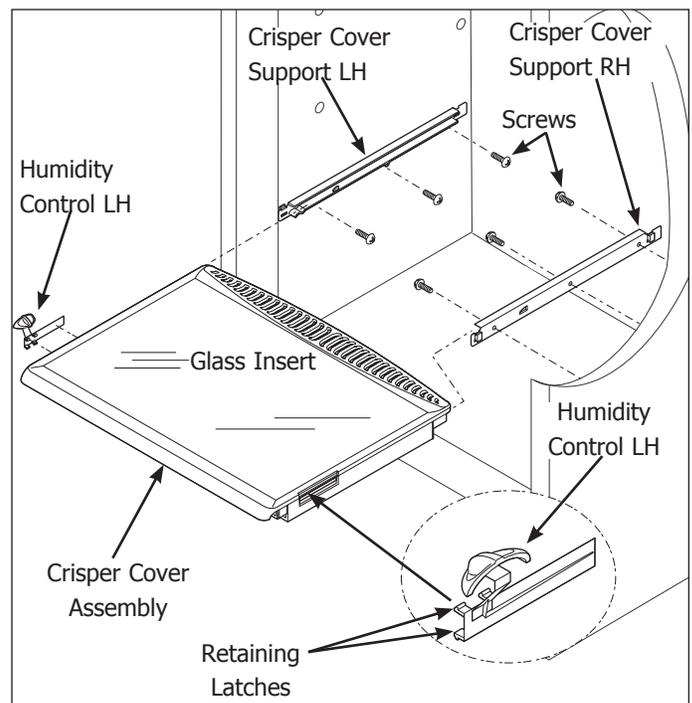


Figure 5-13. Crisper Cover Assembly Removal

### Light Shield Removal

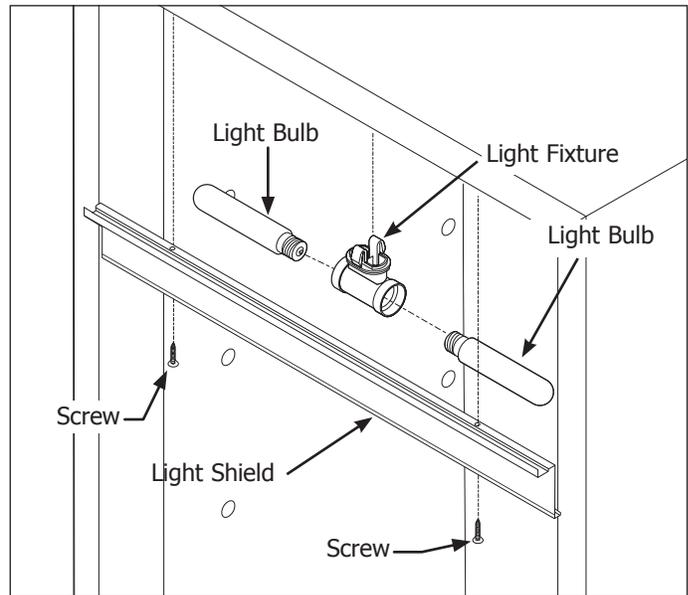
To remove the light shield, extract the two screws securing the light shield to the compartment ceiling.

### Light Fixture Removal

The light fixture is secured with retaining latches into the interior cabinet ceiling behind the light shield. (See Figure 5-14)

To remove the light fixture:

1. Disconnect unit from power supply.
2. Remove light bulb by turning counter-clockwise.
3. Pull down on the front of the light fixture while turning the fixture a quarter turn to release the retaining latches.
4. Disconnect wire leads from light fixture terminals.



**Figure 5-14. Light Shield and Fixture Removal**

### Baffle Plate Removal

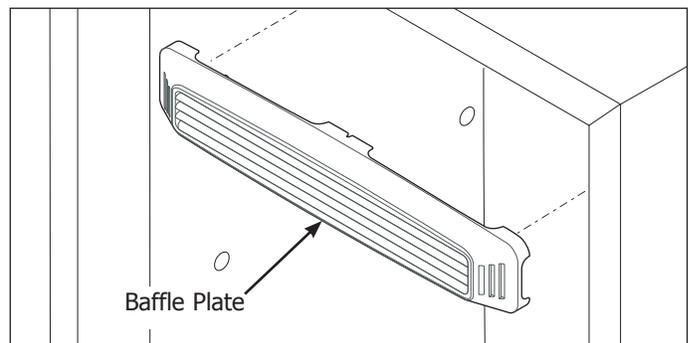
To remove the baffle plate, with one hand grab the baffle plate from the center and pull back while with the other hand, reach behind to disengage the retaining latches. (See Figure 5-15)

### Evaporator Cover Removal

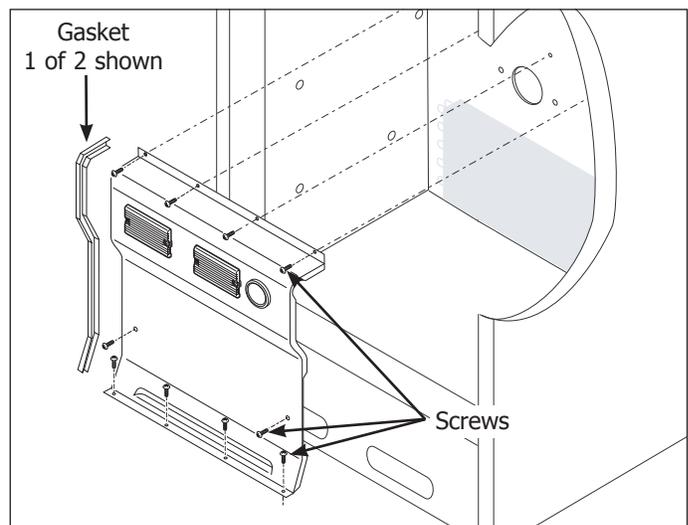
The evaporator cover is secured with screws to the back wall and bottom of the freezer compartment. The evaporator cover has a gasket on each side to create proper airflow in the compartment. (See Figure 5-16)

To remove the evaporator cover:

1. Disconnect unit from power supply.
2. Remove the cantilever shelves.
3. Remove the crispers and crisper supports.
4. Using a phillips head screwdriver, extract the ten (10) screws securing the evaporator cover to the refrigerator compartment.
5. Pull the thermostat knob from thermostat shaft.
6. Carefully pull the evaporator cover away from the back wall enough to access the wire harness connections to the light fixtures and thermostat. Use caution not to damage the gaskets on both sides of the evaporator cover.
7. From behind the evaporator cover, disconnect the wire leads from the light fixture terminals.
8. Compress the thermostat spring clip then pull the thermostat from the back of the evaporator cover. Evaporator cover may now be removed from unit.



**Figure 5-15. Baffle Plate Removal**



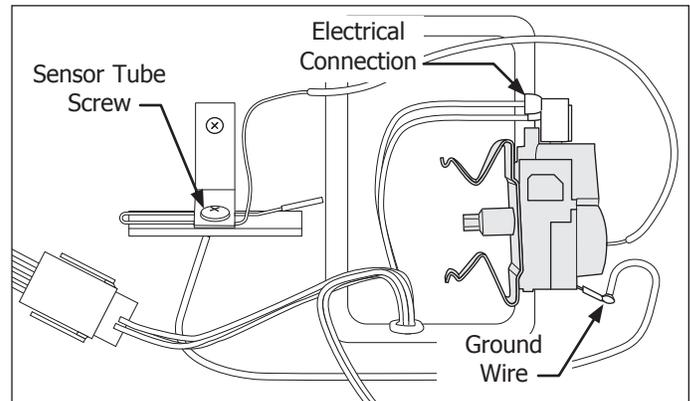
**Figure 5-16. Evaporator Cover Removal**

## Thermostat Control Removal

The evaporator cover does not need to be completely removed to access the thermostat control or the wire harness connections, however, removing the evaporator cover from the unit will make the task easier.

To remove the thermostat control:

1. Follow steps 1-8 from the previous page on removing the evaporator cover.
2. Extract the screw securing the sensor tube to the back wall of the cabinet interior. (See Figure 5-17)
3. Disconnect the 2 wire leads from the top of the thermostat control.
4. Disconnect the ground wire lead from the thermostat control. Thermostat control is now free.



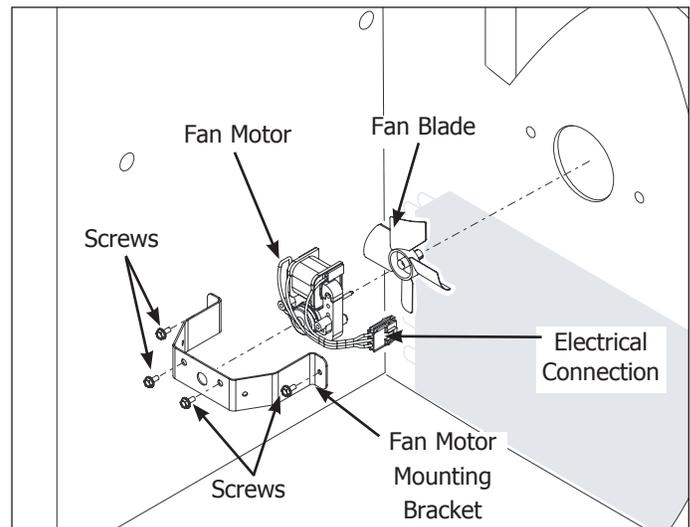
**Figure 5-17. Thermostat Control Removal**

## Evaporator Fan Assembly Removal

The evaporator fan assembly consists of the fan motor mount bracket, fan motor and fan blade. Two screws secure the fan motor to the fan motor mount bracket. The evaporator fan assembly is then secured with two screws to the back wall of the freezer compartment. (See Figure 5-18)

To remove the evaporator fan assembly:

1. Disconnect unit from power supply.
2. Remove the cantilever shelves.
3. Remove the crispers and crisper supports.
4. Remove the evaporator cover.
5. Remove wires from retaining clips mounted on the fan motor mounting bracket. Disconnect the electrical leads of fan motor at quick disconnect.
6. Using a 5/16" socket or nut driver, extract the two hex head screws securing the fan motor mounting bracket to the back wall of the unit.
7. Separate the fan motor from the mounting bracket by extracting the two hex head screws securing the fan motor to mounting bracket.
8. Pull fan blade from fan motor shaft.



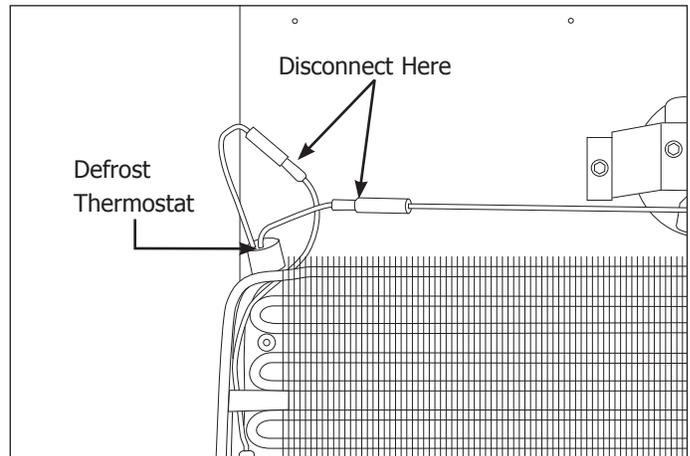
**Figure 5-18. Evaporator Fan Assembly Removal**

### Defrost Thermostat Removal

The defrost thermostat is secured with a retaining clip to the upper left corner of the evaporator assembly. The defrost thermostat and wire harness connections may be accessed without completely removing the evaporator cover. The top of the evaporator cover may be pulled away from the rear of the cabinet interior enough to remove the defrost terminator and disconnect the wire harness connections. (See Figure 5-19)

To remove the defrost thermostat:

1. Disconnect unit from power supply.
2. Remove the cantilever shelves.
3. Remove the crispers and crisper supports.
4. Remove the evaporator cover.
5. Disconnect the defrost thermostat wire leads from the wire harness. (See Figure 5-19)
6. Pull the defrost thermostat off of the evaporator inlet tubing.



**Figure 5-19. Defrost Thermostat Removal**

### NOTE

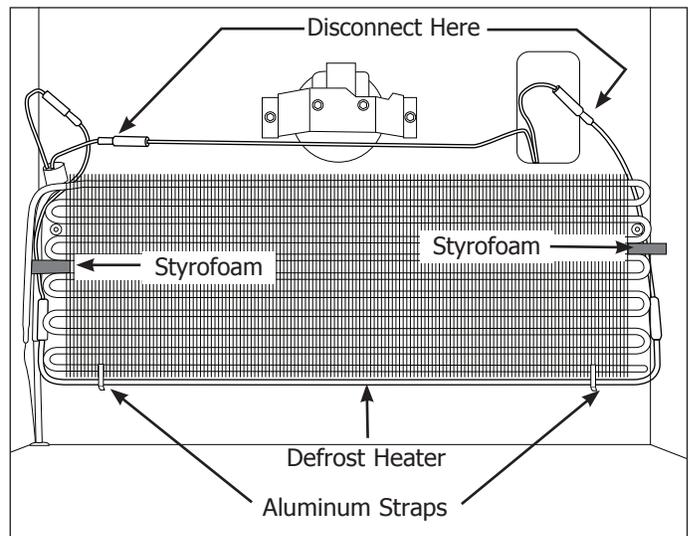
**Refrigerator defrost thermostat must be installed on the evaporator inlet tube.**

### Defrost Heater Removal

The defrost heater is secured with two aluminum straps to the bottom tube of the evaporator assembly.

To remove the defrost heater:

1. Disconnect unit from power supply.
2. Remove the cantilever shelves.
3. Remove the crispers and crisper supports.
4. Remove the evaporator cover.
5. Disconnect the defrost heater wire leads from the wire harness. (See Figure 5-20)
6. Release the aluminum straps securing the defrost heater to the bottom of the evaporator assembly.
7. Remove the styrofoam insulators from both sides of the evaporator.
8. Pull defrost heater from evaporator assembly.



**Figure 5-20. Defrost Heater Removal**

### Evaporator Removal

The evaporator sets upon the two screw standoffs mounted to the back wall of the freezer compartment. Two pieces of styrofoam are pressed between the evaporator assembly and the sidewalls of the unit, securing the assembly in position. (See Figure 5-21)

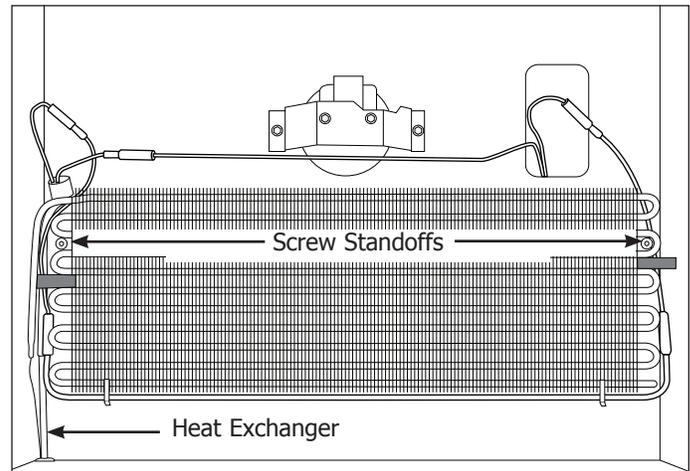
To remove the evaporator:

1. Disconnect unit from power supply.
2. Remove the cantilever shelves.
3. Remove the crispers and crisper supports.
4. Remove the evaporator cover.
5. Remove the styrofoam insulators from both sides of the evaporator.
6. Remove the defrost thermostat and defrost heater.
7. Recover refrigerant by using EPA approved recovery system.

#### NOTE

**Whenever the sealed system is opened the filter-drier must be replaced.**

8. Remove the filter-drier.
9. Cut suction line about 1" from compressor.
10. Straighten the tubing, remove the foam sleeve, and carefully feed the heat exchanger through the cabinet while pulling up on the evaporator.



**Figure 5-21. Evaporator Removal**

## Compressor Area Components

### All Refrigerator and All Freezer-Pro Models

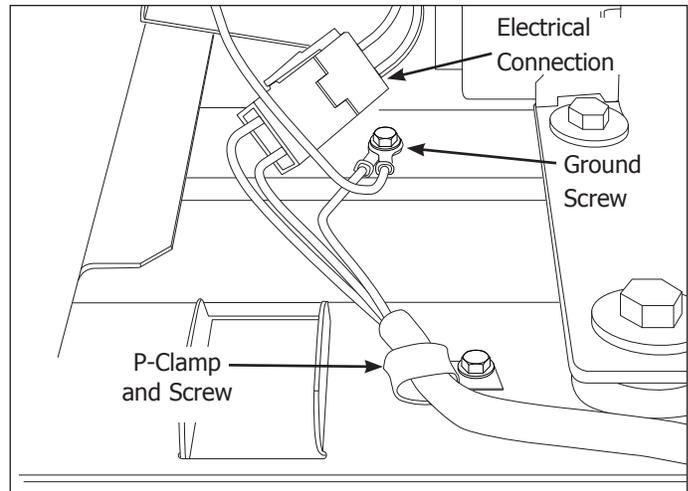
The compressor area components for the All Refrigerator and All Freezer-Pro Units are similar in layout and have the same access and removal steps. However, the part numbers for items in the compressor area may differ between the all refrigerator and all freezer models.

#### Power Cord Removal

The power cord enters the compressor area on the lower left side and is secured to the compressor mounting plate with a P-clamp and screw.

To remove the power cord:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Using a phillips head screwdriver, extract the four screws securing the compressor area shield to the rear of the unit. Remove shield.
3. Using a 1/4" socket or wrench, extract the screw securing the P-clamp to the compressor mounting plate. (See Figure 5-22)
4. Using a 1/4" socket or wrench, extract the screw securing the ground wires to the compressor mounting plate.
5. Disconnect power cord from the wire harness at the quick disconnect. Remove power cord from unit.



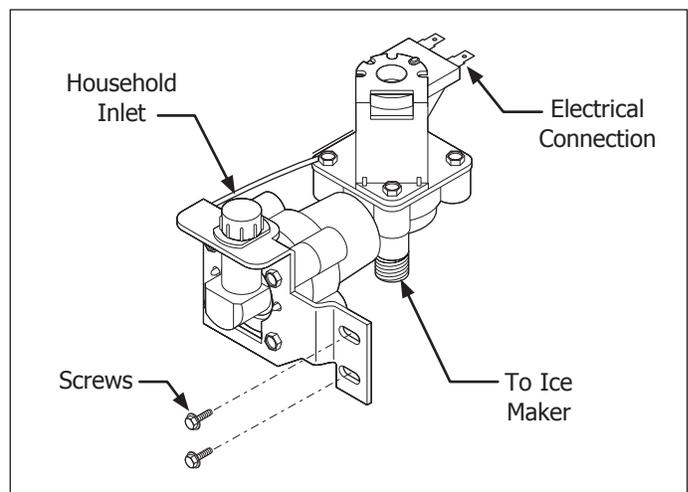
**Figure 5-22. Power Cord Removal**

#### Water Valve Removal (if equipped)

The water valve is secured with two screws to the right hand side of the unit behind the compressor area shield.

To remove the water valve:

1. Pull unit from its installation position to access the rear compressor area.
2. Using a phillips head screwdriver, extract the four screws securing the compressor area shield to the rear of the unit. Remove shield.
3. Disconnect water valve from household water supply. (See Figure 5-23)
4. Using fingers, disconnect the icemaker water line from water valve.
5. Using a 1/4" socket or wrench, extract screws securing water valve to unit frame.
6. Disconnect electrical connections from terminals of water valve.



**Figure 5-23. Water Valve Removal**

### Defrost Timer Removal

The defrost timer is mounted to a bracket which is secured to the bottom of the base tray with two 1/4" bolts. (See Figure 5-24)

To remove the defrost timer:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the fiber board cover to the unit frame and remove from unit.
3. Extract the upper screw first securing the defrost timer cover to the mounting bracket. Remove cover.
4. Extract lower screw. Pull defrost timer from mounting bracket.
5. Disconnect wire harness connector from defrost timer.
6. Extract the two bolts with a 1/4" socket or wrench to remove the mounting bracket to the base tray.

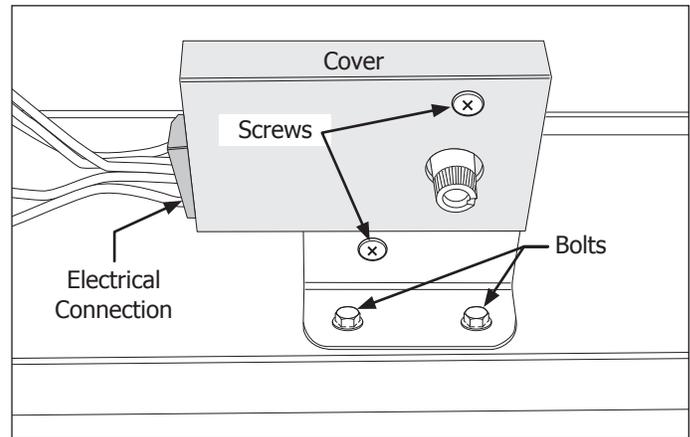


Figure 5-24. Defrost Timer Removal

### Filter-Drier Removal

The filter-drier is located in the compressor area on the left side of the compressor. (See Figure 5-25)

To remove the filter-drier:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the fiber board cover to the unit frame and remove from unit.
3. Recover refrigerant by using EPA approved recovery system.
4. Using a 3 cornered file, score a groove around capillary tube as close to old filter-drier as possible. Break capillary tube along score mark from filter-drier.
5. Cut condenser outlet tube at filter-drier. Discard filter-drier.
6. Thoroughly clean condenser outlet tube and capillary tube.
7. Place inlet connection of filter-drier over condenser tube approximately 1/4" and solder.
8. Insert capillary tube input end into filter-drier outlet. Do not allow tube to bottom against screen. Solder carefully so that solder does not plug capillary tube.
9. Install process tube adapter to filter-drier.
10. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging in the Refrigeration section.
11. Reassemble unit.

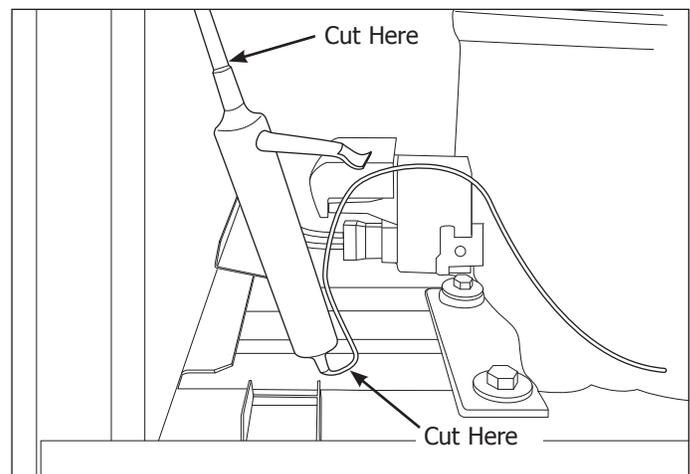


Figure 5-25. Filter-Drier Removal

### CAUTION

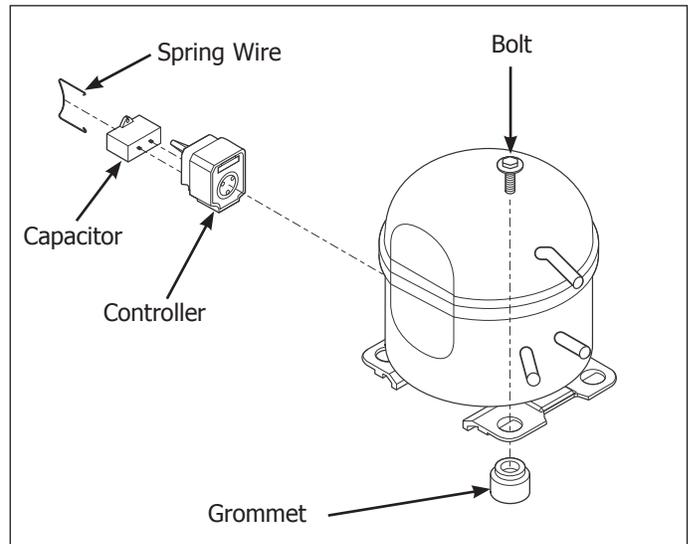
On R-134a systems, the system must NOT be left open to the atmosphere for more than 10 minutes to prevent moisture contamination of compressor oil.

### Compressor Removal

The compressor sits on four grommets and is secured with four screws to the compressor mounting plate. (See Figure 5-26)

To remove the compressor:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Using a small flat bladed screwdriver, release the locking tab from the wire harness connection and disconnect from compressor controller.
4. Using a needlenose pliers, remove spring wire holding the controller to the compressor.
5. Recover refrigerant by using EPA approved recovery system.
6. Using a 7/16" socket, remove the (4) bolts, one in each corner, holding the compressor to the base. (See Figure 5-26)
7. After refrigerant is completely recovered, cut suction and discharge lines as close to compressor as possible. Leave only enough tubing to pinch off and seal defective compressor. Plug or tape any open system tubing to avoid entrance of moisture and air into system. Remove inoperable compressor and transfer mounting parts to new compressor.
8. Install new compressor inexact same manner as original compressor.
9. Reform both suction and discharge lines to align with new compressor. If they are too short, use additional lengths of tubing. Joints should overlap 0.5" to provide sufficient area for good solder joint. Clean and mark area where tubing should be cut.
10. Cut tubing with tubing cutter. Work quickly to avoid letting moisture and air into system.
11. Reassemble unit.



**Figure 5-26. Compressor Components**

### Drain Pan Removal

The drain pan is secured with four screws to the bottom of the unit frame.

To remove the drain pan:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. The rear of the unit may need to be raised to access the drain pan screws.



### CAUTION

**Use caution when tilting a freezer unit. Use sturdy blocking materials that will not allow the freezer to rock or tip over when servicing unit.**

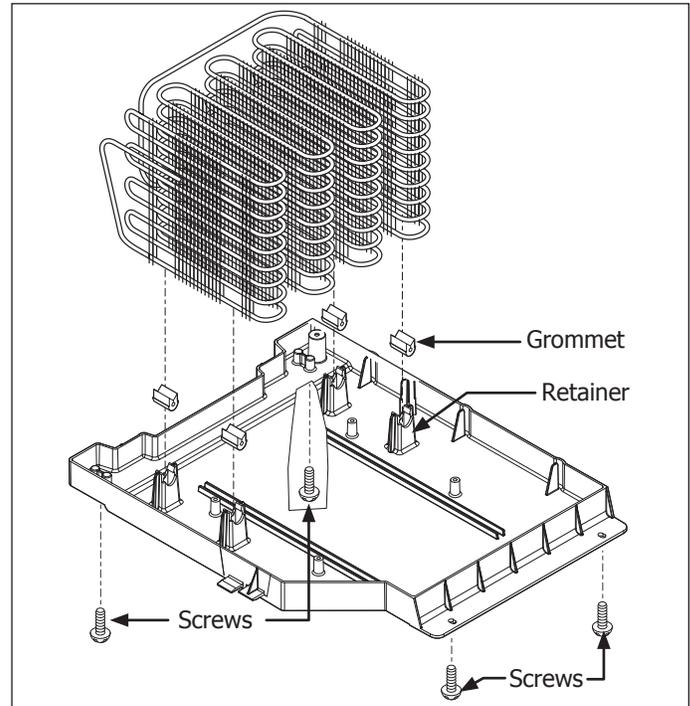
4. Using a short phillips head screwdriver, extract the two screws securing the drain pan to the bottom of the unit frame. (See Figure 5-27)
5. Position unit to access the front of the unit. Remove kickplate.
6. The front of the unit may need to be raised to access the drain pan screws.
7. Using a short phillips head screwdriver, extract the two screws securing the drain pan to the bottom of the unit frame. (See Figure 5-27)
8. Allow the drain pan to drop down. Pull drain tube from drain pan.
9. Pull condenser tubes out of the retainers mounted to the drain pan. Drain pan may now be removed from the unit.

### Condenser Fan Motor Removal

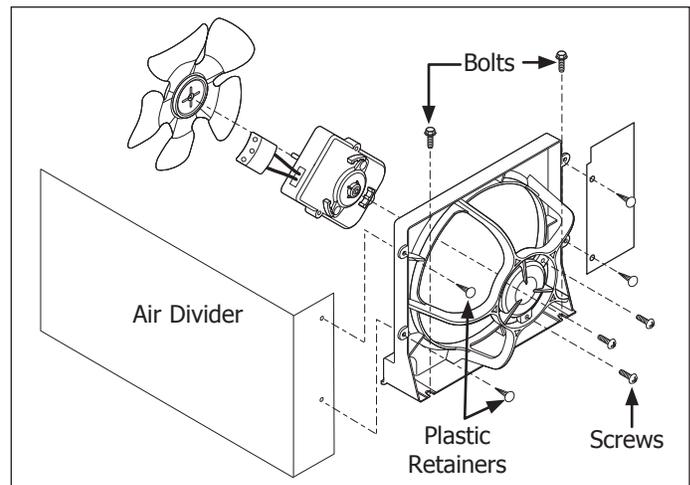
The condenser fan motor is secured with three screws to the condenser fan motor bracket. Two hooks and two screws at the base of the condenser fan motor bracket secure the assembly to the unit base. (See Figure 5-28)

To remove the condenser fan motor:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Disconnect wire harness from the wire leads of condenser fan at quick disconnect.
4. Remove the four drain pan screws. Allow the drain pan to drop from its installation position.



**Figure 5-27. Condenser Drain Pan Removal**



**Figure 5-28. Condenser Fan Motor Removal**

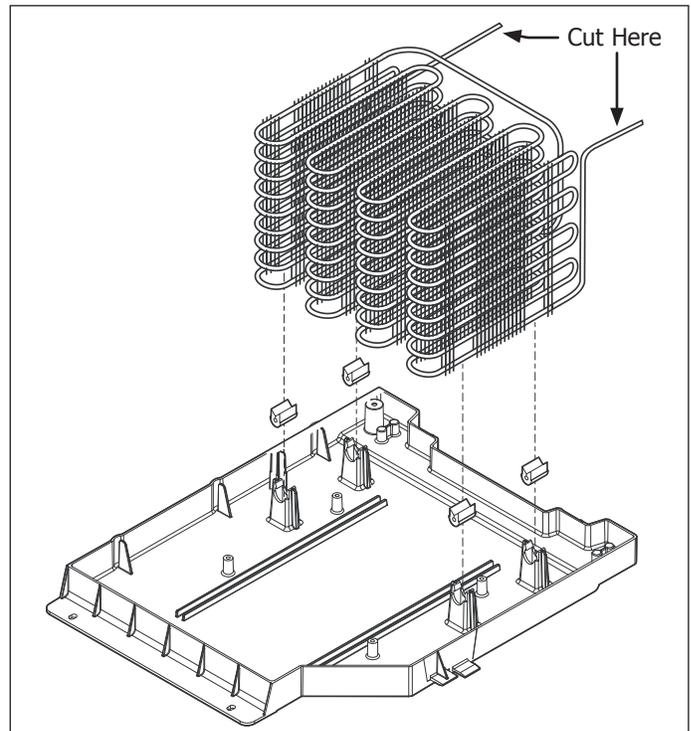
5. With a needle nose pliers, reach behind air dividers and compress the plastic retainers while pushing them out of the condenser fan mounting bracket. Remove air dividers.
6. Using a 1/4" socket or wrench, extract the two bolts securing fan mounting bracket to unit frame.
7. Using a phillips head screwdriver, extract the three screws securing the fan motor to the fan mounting bracket.
8. Pull fan motor and fan blade out from behind the mounting bracket. Remove fan blade by pulling the fan blade from the motor shaft.

### Condenser Coil Removal

The condenser coil is mounted to the drain pan by four retaining clips.

To remove the drain pan:

1. Pull unit from its installation position to access the rear compressor area. Disconnect power from unit.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Recover refrigerant by using EPA approved recovery system.
4. Remove condenser fan assembly from unit.
5. Disconnect inlet and outlet lines from condenser coil. (See Figure 5-29)
6. The front of the unit will need to be raised to access the drain pan screws.
7. Using a short phillips head screwdriver, extract the four screws securing the drain pan to the bottom of the unit frame.
8. Allow the drain pan to drop down. Pull drain tube from drain pan.
9. Pull condenser tubes out of the retainers mounted to the drain pan. Remove condenser from unit.
10. Replace old filter-drier after installing the new condenser coil.



**Figure 5-29. Condenser Coil Removal**

## Freezer Exterior Components

### Door Handle Removal

The door handle is secured with setscrews to the handle mounting shoulder screws that are fastened into the front of the door assembly.

To remove the handle, use a 3/32" allen wrench and extract the setscrew located in each handle standoff. Pull handle assembly from door assembly. (See Figure 5-30)

Use a 5/32" allen wrench to extract the screw located inside the handle standoff, that secures the handle standoff to the handle.

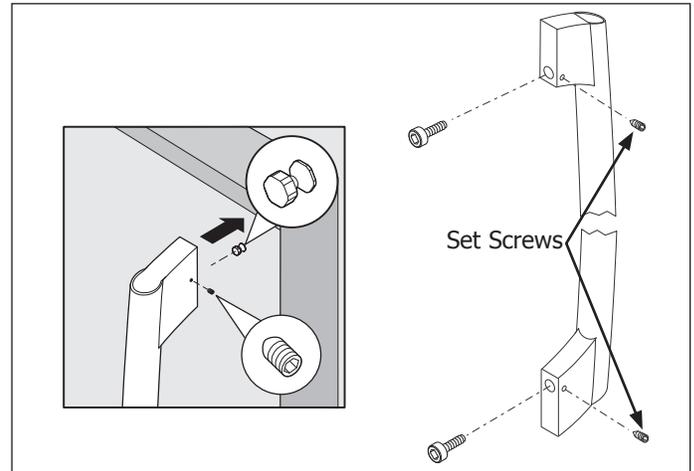


Figure 5-30. Handle Removal

### Kickplate Removal

The kickplate is secured with two screws to the lower front of the unit.

To remove the kickplate, extract the screw from each end of the kickplate with a phillips head screwdriver. (See Figure 5-31)

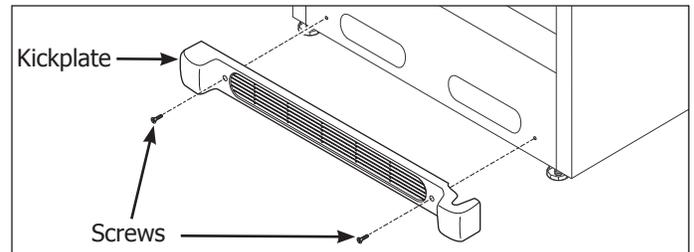


Figure 5-31. Kickplate Removal

### Door Hinge and Door Assembly Removal

The door assembly is secured to the unit frame by an upper and lower hinge assembly.

To remove the door assembly:

1. Gently lay freezer on its back on a soft clean surface.
2. Lift plastic cover off upper hinge assembly. (See Figure 5-32)
3. Using a 3/8" socket or wrench, extract the two bolts securing the upper hinge to the unit frame. (See Figure 5-33)
4. Remove kickplate.
5. Using a 3/8" socket or wrench, extract the two bolts securing the lower hinge to the unit frame. Use a phillips head screwdriver to extract the remaining screw from the lower hinge assembly.
6. Lift the door assembly off of the unit frame.

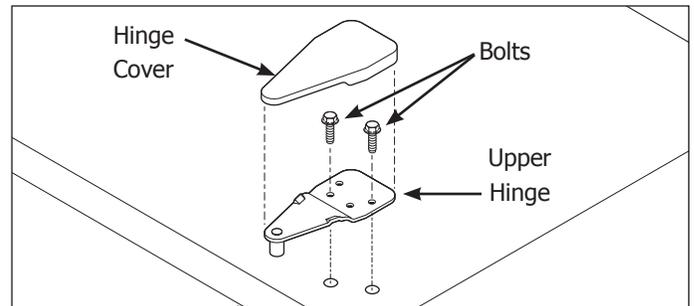


Figure 5-32. Upper Hinge Removal

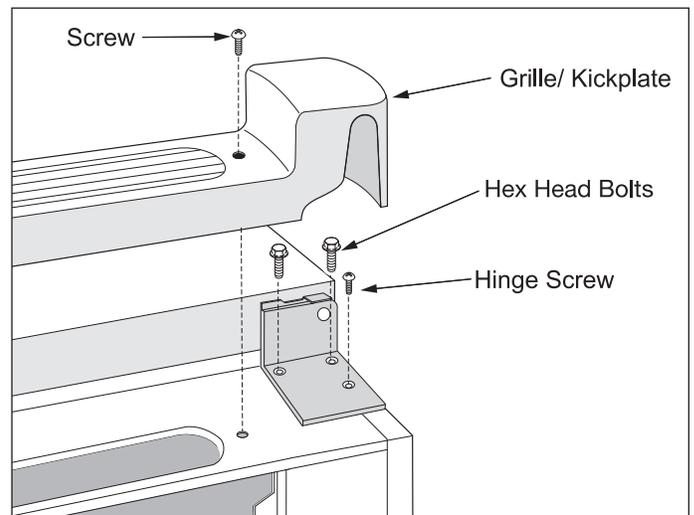


Figure 5-33. Lower Hinge Removal

### Door Stop Assembly Removal

The door stop is secured to with two screws the underside of the door assembly.

To remove the door stop:

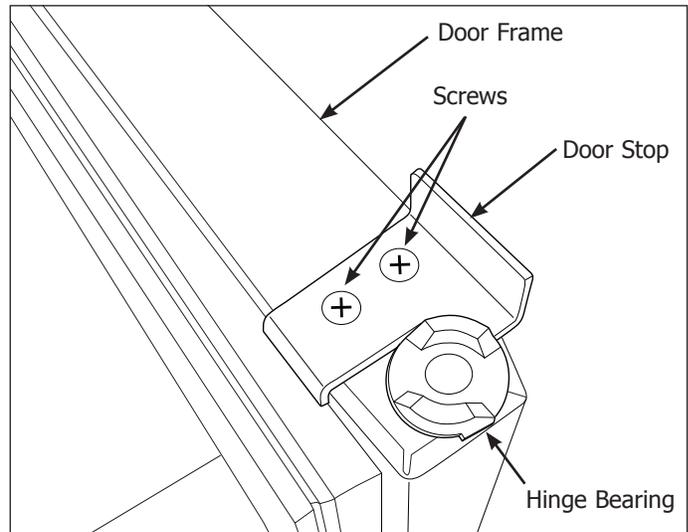
1. Remove door from unit.
2. Extract the two screws securing the door stop to the bottom of the door assembly. (See Figure 5-34)

### Door Gasket and Inner Panel Removal

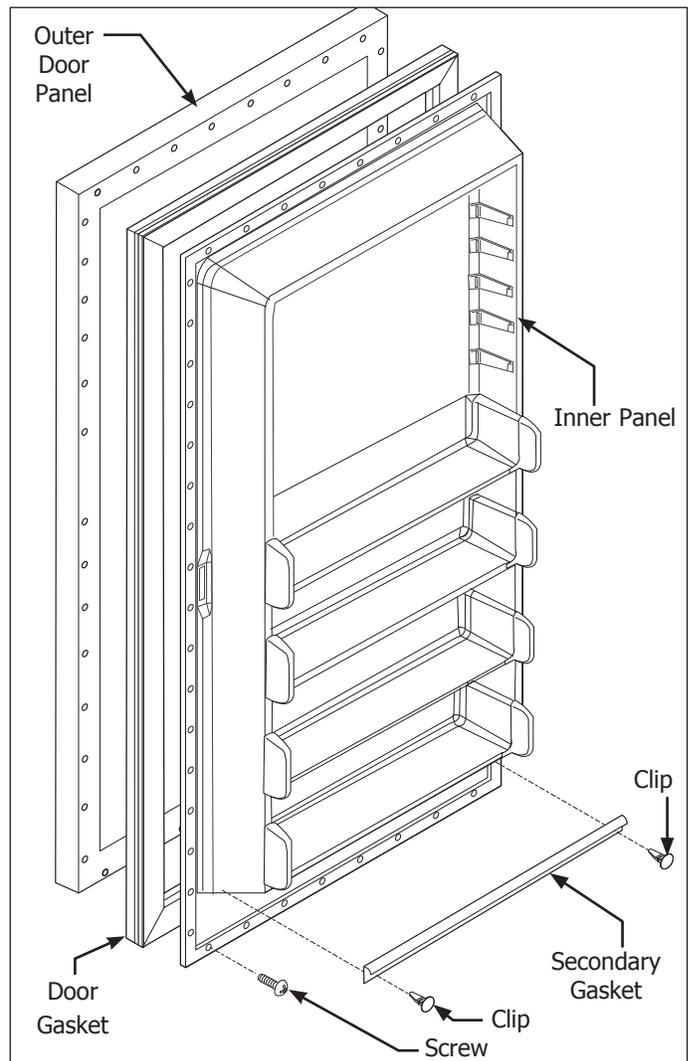
The inner panel of the door assembly is secured with screws that pass through the inner panel and fasten into the door assembly. The door gasket has an inner lip that is pressed between the inner panel and the door assembly and is secured in position when the inner panel screws are fastened to the door assembly. The inner panel does not have to be completely removed to extract the door gasket from the door assembly.

To remove the door gasket:

1. Lift the inside edge of the door gasket to access the inner panel screws.
2. Loosen the inner panel screws until the door gasket can be pulled out from under the inner panel. (See Figure 5-35)
3. Continue loosening screws around door assembly until door gasket is free.
4. To remove the inner panel, extract all screws from the outside edge of the inner panel and remove from unit.
5. The secondary gasket is secured with two retaining clips that snap into the inner door panel. Pry out the two retaining clips with a small putty knife, using caution not to damage the inner door panel. The secondary gasket is now free.



**Figure 5-34. Door Stop Removal**

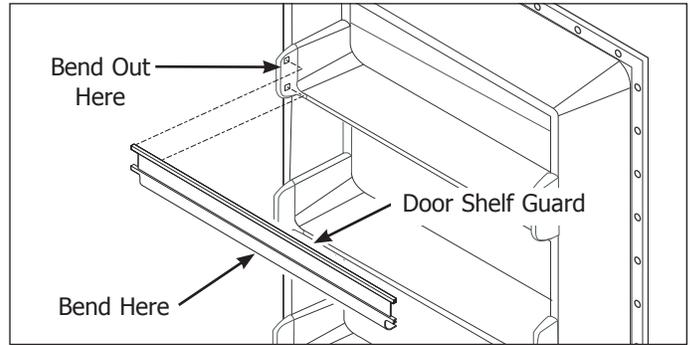


**Figure 5-35. Inner Panel and Door Gasket Removal**

### Door Shelf Guard Removal

The door shelf guard is secured to the inner door panel with two tabs on each end.

To remove the door shelf guard, bend the door shelf guard out in the middle while bending out the outer portion of the inner panel outwards, then pull the tabs of the door shelf guard out of the inner panel. (See Figure 5-36)



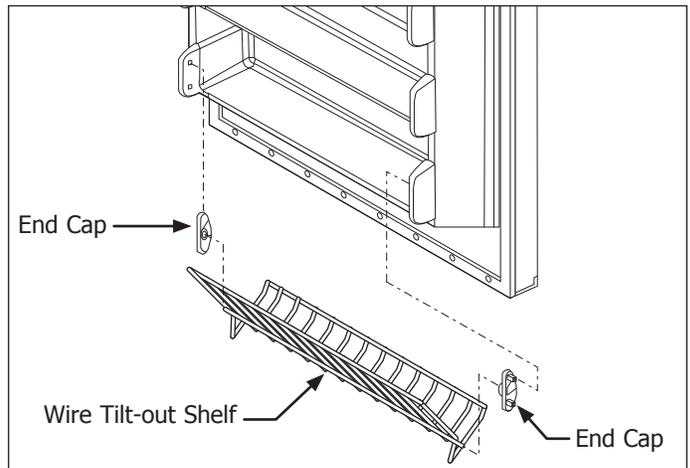
**Figure 5-36. Door Shelf Guard Removal**

### Tilt Out Wire Shelf Removal

The tilt out wire shelves have a bar that locates in the end caps that enable the wire shelves to tilt outward. The end caps have two standoffs that snap into holes in the inner panel.

To remove the tilt out wire shelves:

1. Flex the inner panel outward and lift the wire shelf out of the end cap. Then pull the opposite end of the wire shelf out of the opposite end cap. (See Figure 5-37)
2. The end caps are removed by simply pulling the end caps out of the inner panel.



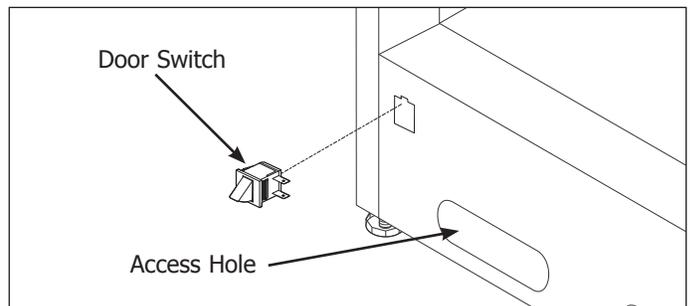
**Figure 5-37. Door Lock Removal**

### Door Switch Removal

The door switch is mounted inside a hole in the cabinet base along the lower left hand side. (See Figure 5-38)

To remove the door switch:

1. Remove kickplate.
2. Reach into the access hole next to the door switch and disconnect the electrical leads from the door switch terminals.
3. Press in on the retaining latch on the switch body and push switch through hole in cabinet base.



**Figure 5-38. Door Switch Removal**

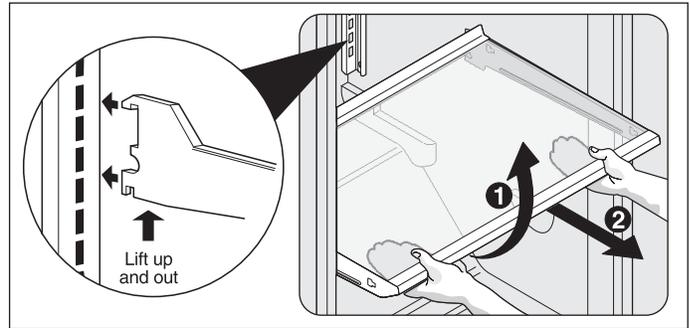
### Interior Components

#### Adjustable Interior Shelves

Multi-position adjustable interior shelves can be moved to any position for larger or smaller packages. The cantilever shelves are supported at the back of the refrigerator. (See Figure 5-39) Replace the shelf by inserting the hooks at rear of the shelf into the wall bracket. Lower the shelf into the desired slots and lock into position.

To remove the shelf assemblies:

1. Lift front edge up.
2. Pull shelf out.



**Figure 5-39. Interior Shelving Removal**

#### Glass Shelf and Glass Shelf Side Rails Removal

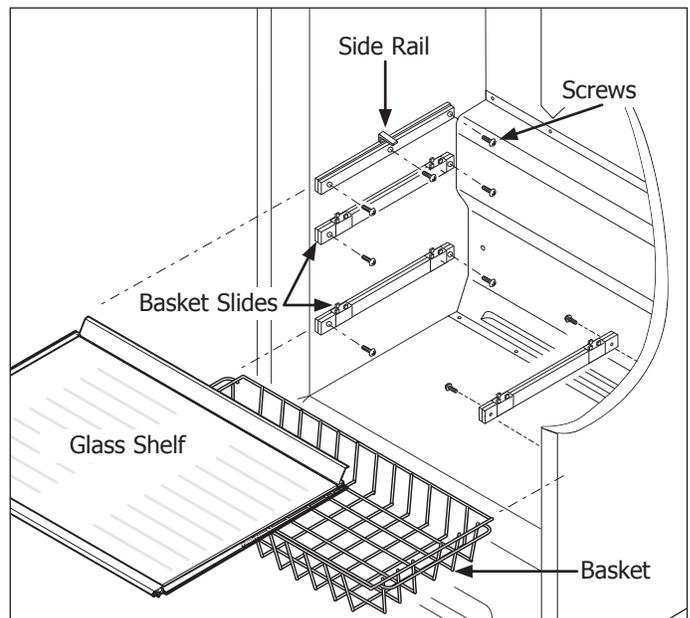
The glass shelf has a metal rod along each side that sets upon the glass shelf side rails. (See Figure 5-40)

To remove the glass shelf:

1. Remove the glass shelf by pulling the glass shelf out until it hits the stops.
2. Lift up on the front and pull the glass shelf the rest of the way out of the cabinet interior.

To remove the glass shelf side rails:

1. Remove the glass shelf.
2. Extract the 3 screws securing each side rail to the liner.



**Figure 5-40. Glass Shelf and Wire Basket Assemblies Removal**

#### Wire Basket Removal

The wire baskets are secured with retaining clips to the slide assemblies. (See Figure 5-40)

To remove the wire baskets:

1. Pull wire basket out from unit interior until the slides are fully extended.
2. Pull wire basket out from the retaining clips on each corner of the wire basket.

#### Wire Basket Slide Removal

The wire basket slides are secured with screws to the liner sidewalls. (See Figure 5-40)

To remove the wire basket slides:

1. Remove wire basket from slide assembly.
2. Using a phillips head screwdriver, extract the two screws securing the slides to the liner side wall.

## Light Shield Removal

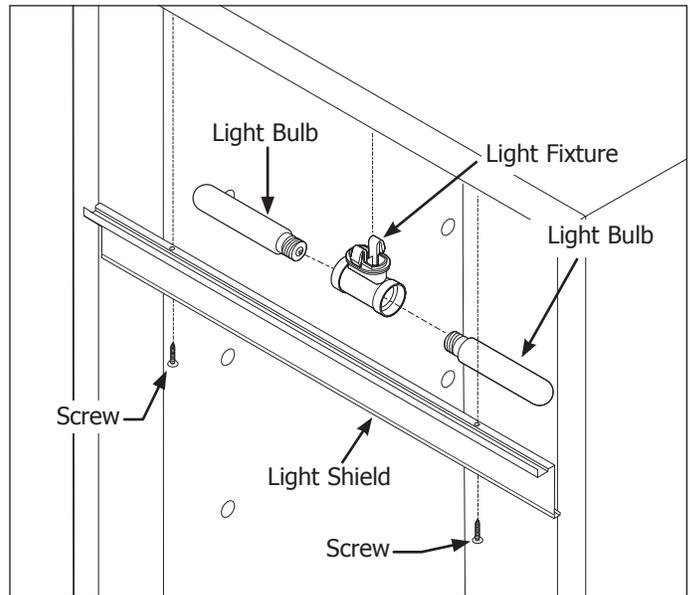
To remove the light shield, extract the two screws securing the light shield to the compartment ceiling.

## Light Fixture Removal

The light fixture is secured with retaining latches into the interior cabinet ceiling behind the light shield. (See Figure 5-41)

To remove the light fixture:

1. Remove light bulb by turning counter-clockwise.
2. Pull down on the front of the light fixture while turning the fixture a quarter turn to release the retaining latches.
3. Disconnect wire leads from light fixture terminals.



**Figure 5-41. Light Shield and Fixture Removal**

## Baffle Plate Removal

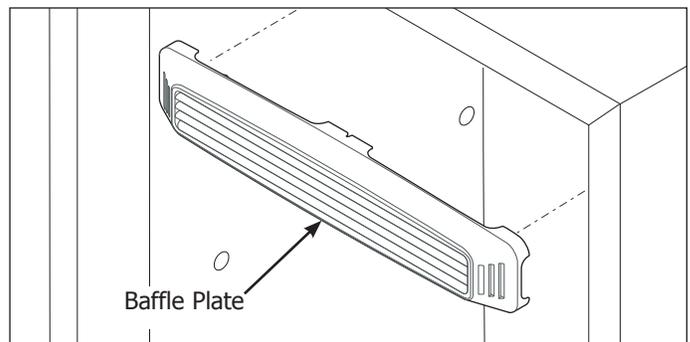
To remove the baffle plate, with one hand grab the baffle plate from the center and pull back while with the other hand, reach behind to disengage the retaining latches. (See Figure 5-42)

## Ice Maker Removal

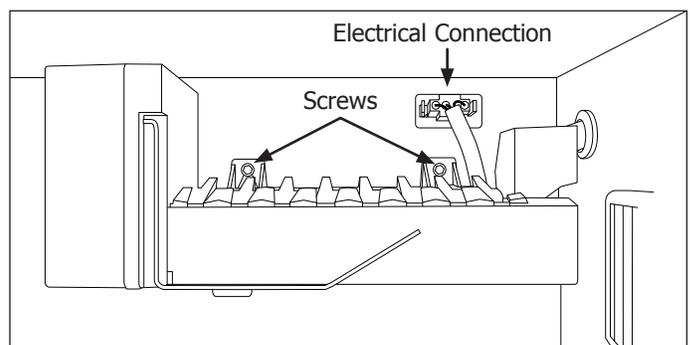
The icemaker is mounted with two 1/4" hex head screws to the upper left hand corner of the freezer compartment. (See Figure 5-43)

To remove the ice maker:

1. Remove uppermost glass shelf and ice bucket.
2. Using a 1/4" extended socket or nut driver, extract the two screws securing the icemaker to the left sidewall of the unit.
3. Disconnect wire leads from icemaker at the quick disconnect mounted in the upper left corner of the freezer compartment.



**Figure 5-42. Baffle Plate Removal**



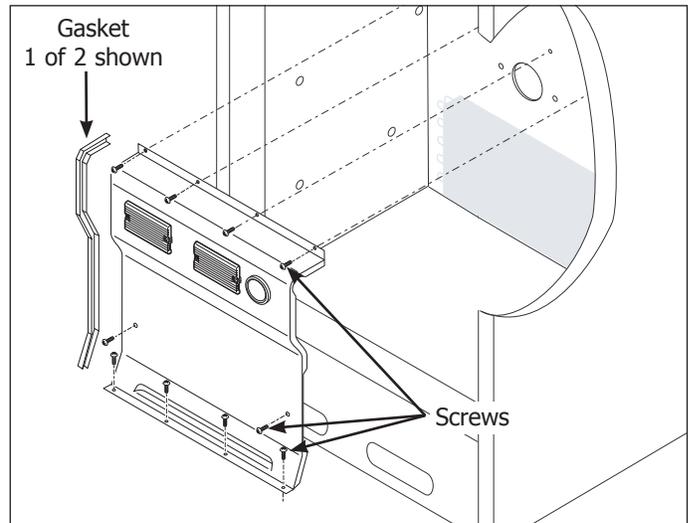
**Figure 5-43. Ice Maker Removal**

### Evaporator Cover Removal

The evaporator cover is secured with screws to the back wall and bottom of the freezer compartment. The evaporator cover has a gasket on each side to create proper airflow in the compartment. (See Figure 5-44)

To remove the evaporator cover:

1. Remove the cantilever shelves.
2. Remove the glass shelf and side rails.
3. Remove wire baskets and slides.
4. Using a phillips head screwdriver, extract the ten (10) screws securing the evaporator cover to the freezer compartment.
5. Pull the thermostat knob from thermostat shaft.
6. Carefully pull the evaporator cover away from the back wall enough to access the wire harness connections to the light fixtures and thermostat. Use caution not to damage the gaskets on both sides of the evaporator cover.
7. From behind the evaporator cover, disconnect the wire leads from the light fixture terminals.
8. Compress the thermostat spring clip then pull the thermostat from the back of the evaporator cover. Evaporator cover may now be removed from the unit.



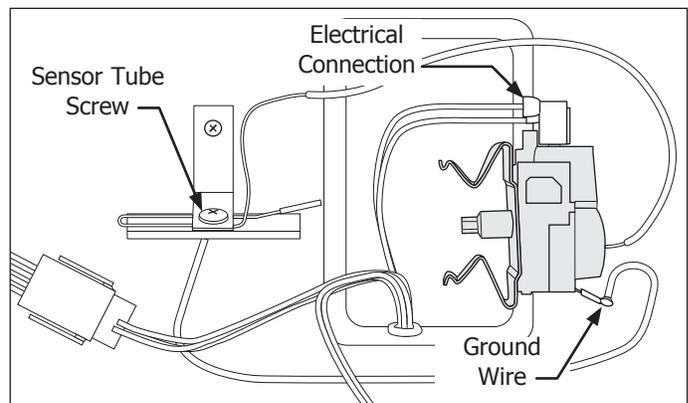
**Figure 5-44. Evaporator Cover Removal**

### Thermostat Control Removal

The evaporator cover does not need to be completely removed to access the thermostat control or the wire harness connections, however, removing the evaporator cover from the unit will make the task easier.

To remove the thermostat control:

1. Follow steps 1-8 above for removing the evaporator cover.
2. Extract the screw securing the sensor tube to the back wall of the cabinet interior. (See Figure 5-45)
3. Disconnect the 2 wire leads from the top of the thermostat control.
4. Disconnect the ground wire lead from the thermostat control. Thermostat control is now free.



**Figure 5-45. Thermostat Control Removal**

### Evaporator Fan Assembly Removal

The evaporator fan assembly consists of the fan motor mount bracket, fan motor and fan blade. Two screws secure the fan motor to the fan motor mount bracket. The evaporator fan assembly is then secured with two screws to the back wall of the freezer compartment. (See Figure 5-46)

To remove the evaporator fan assembly:

1. Remove the cantilever shelves.
2. Remove the glass shelf and side rails.
3. Remove wire baskets and slides.
4. Remove the evaporator cover.
5. Remove wires from retaining clips mounted on the fan motor mounting bracket. Disconnect the electrical leads of fan motor at quick disconnect.
6. Using a 5/16" socket or nut driver, extract the two hex head screws securing the fan motor mounting bracket to the back wall of the unit.
7. Separate the fan motor from the mounting bracket by extracting the two hex head screws securing the fan motor to mounting bracket.
8. Pull fan blade from fan motor shaft.

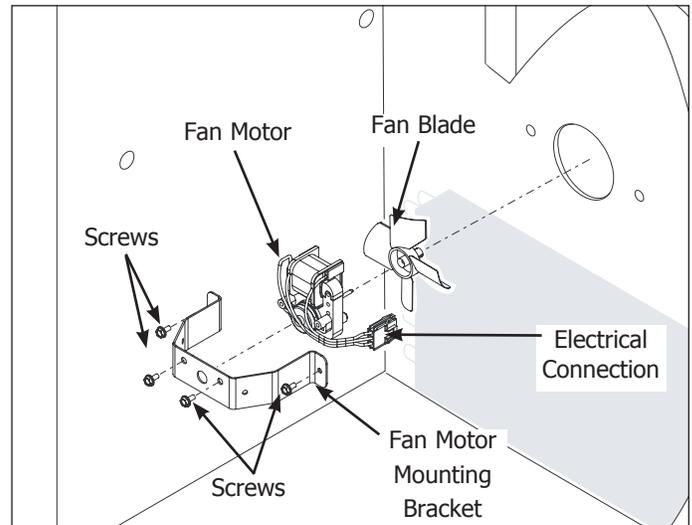


Figure 5-46. Evaporator Fan Assembly Removal

### Defrost Thermostat Removal

The defrost thermostat is secured with a retaining clip to the upper left corner of the evaporator assembly. The defrost thermostat and wire harness connections may be accessed without completely removing the evaporator cover. The top of the evaporator cover may be pulled away from the rear of the cabinet interior enough to remove the defrost terminator and disconnect the wire harness connections. (See Figure 5-48)

To remove the defrost thermostat:

1. Remove the cantilever shelves.
2. Remove the glass shelf and side rails.
3. Remove wire baskets and slides.
4. Remove the evaporator cover.
5. Disconnect the defrost thermostat wire leads from the wire harness. (See Figure 5-47)
6. Pull the defrost thermostat off of the evaporator outlet tubing.

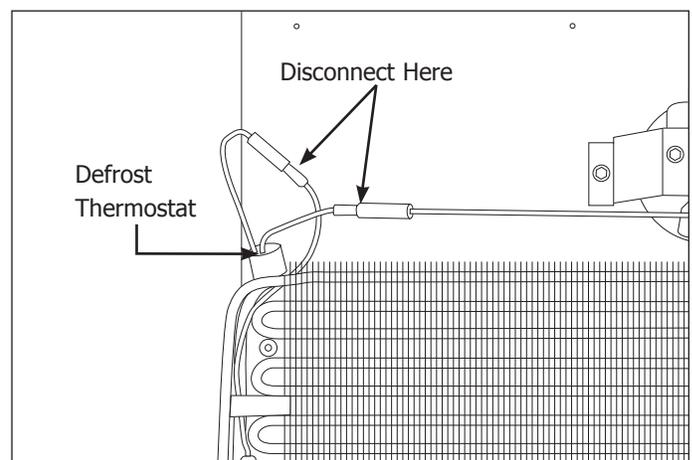


Figure 5-47. Defrost Thermostat Removal

### NOTE

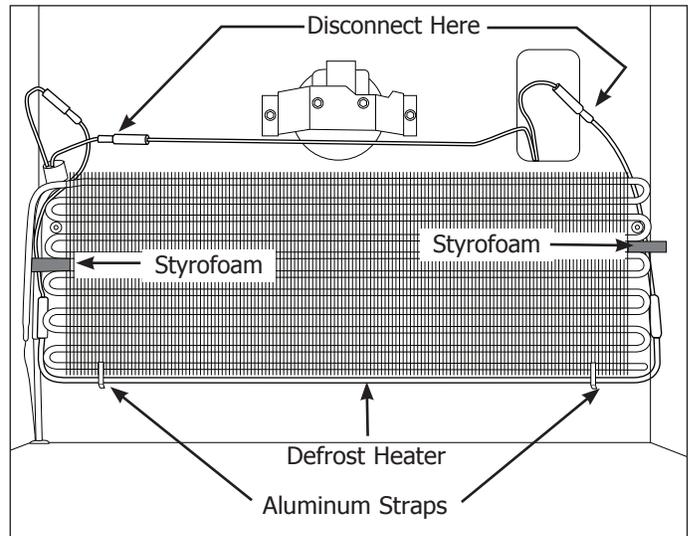
**Freezer defrost thermostat must be installed on the evaporator outlet tube.**

**Defrost Heater Removal**

The defrost heater is secured with two aluminum straps to the bottom tube of the evaporator assembly. (See Figure 5-48)

To remove the defrost heater:

1. Remove the cantilever shelves.
2. Remove the glass shelf and side rails.
3. Remove wire baskets and slides.
4. Remove the evaporator cover.
5. Disconnect the defrost heater wire leads from the wire harness. (See Figure 5-48)
6. Release the aluminum straps securing the defrost heater to the bottom of the evaporator assembly.
7. Remove the styrofoam insulators from both sides of the evaporator.
8. Pull defrost heater from evaporator assembly.



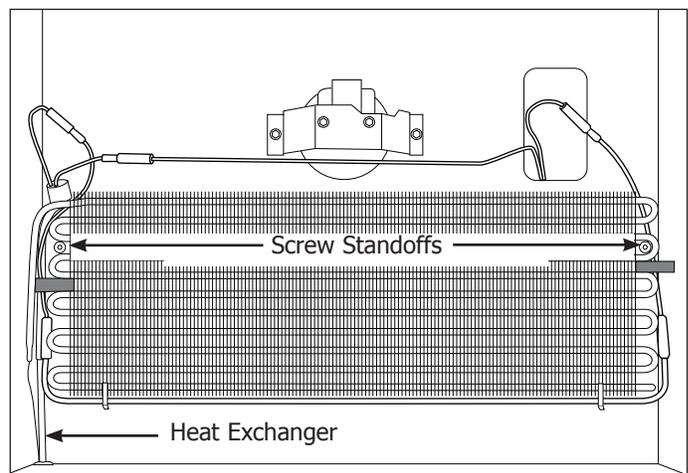
**Figure 5-48. Defrost Heater Removal**

**Evaporator Removal**

The evaporator sets upon the two screw standoffs mounted to the back wall of the freezer compartment. Two pieces of styrofoam are pressed between the evaporator assembly and the sidewalls of the unit, securing the assembly in position. (See Figure 5-49)

To remove the evaporator:

1. Remove the cantilever shelves.
2. Remove the glass shelf and side rails.
3. Remove wire baskets and slides.
4. Remove the evaporator cover.
5. Remove the styrofoam insulators from both sides of the evaporator.
6. Remove the defrost thermostat and defrost heater.
7. Recover refrigerant by using EPA approved recovery system.



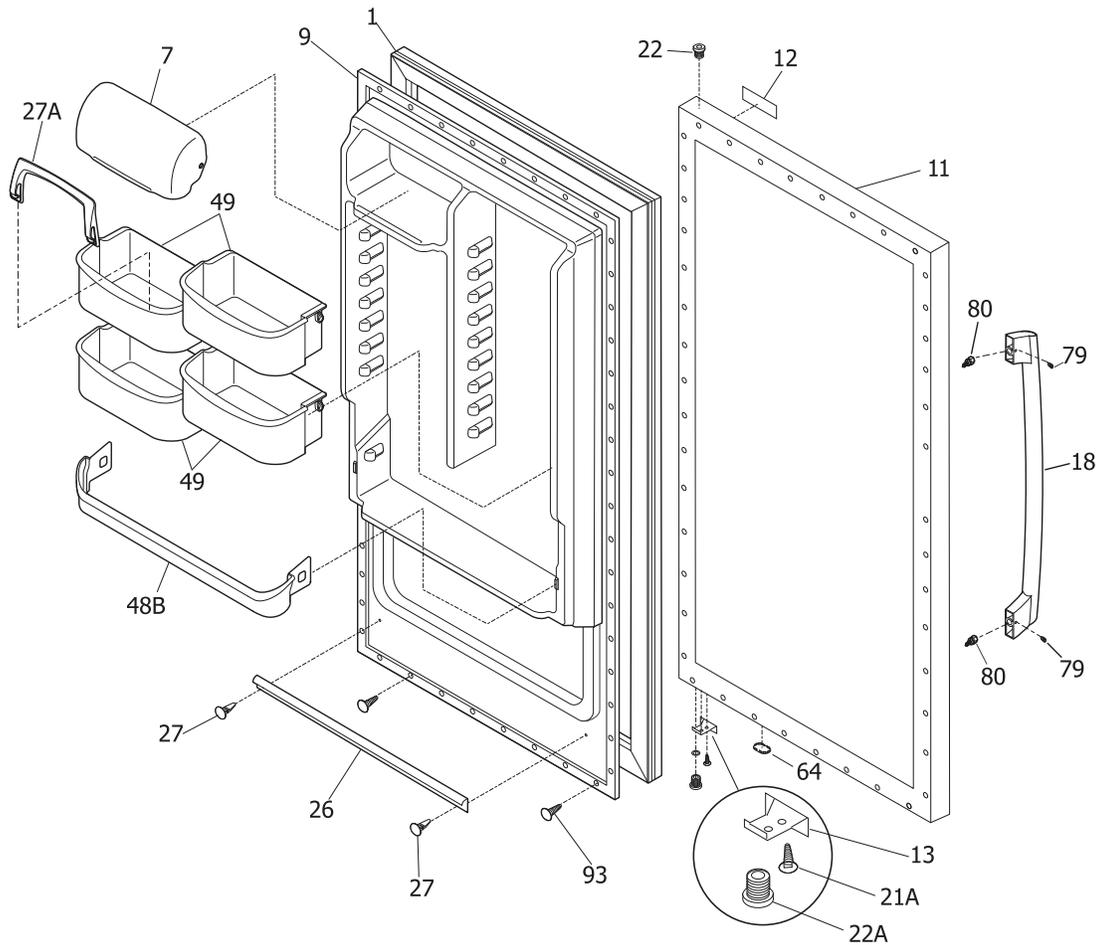
**Figure 5-49. Evaporator Removal**

**NOTE**

**Whenever the sealed system is opened the filter-drier must be replaced.**

8. Remove the filter-drier.
9. Cut suction line about 1" from compressor.
10. Straighten the tubing, remove the foam sleeve, and carefully feed the heat exchanger through the cabinet while pulling up on the evaporator.

## All Refrigerator Door Exploded View And Parts List



Ref #	Part #	Description
1	216522311	Gasket-door, black
7	240338313	Door, dairy, clear
9	216953600	Panel-inner door, refr
11	297316517	Panel-outer door, stainless
12	242015101	Label-nameplate
13	297257000	Door Stop, chrome, RH
18	241972501	Handle-door, stainless
*	240537301	Nut-anchor, door hdl screw
*	297048000	Screw, anchor, #8, white
21A	297197500	Screw, door stop mtg, FH38-16X.750, P Twin
22	216970800	Bearing, hinge w/o'ring, top
22A	297006800	Bearing-hinge, btm, w/o'ring
26	216524201	Gasket, secondary
27	5304472186	Clip, panel mtg
27*	5304406520	Clip, panel mtg kit, (40)
27A	240396102	Retainer, tall bottle
48B	240338001	Bin-door, pseudo, gallon, refr
49	216959802	Bin-door, 2-liter, (4)
64	216403700	Plug-button, hole filler, door base
79	218755401	Screw-set, 10-32 x 0.375
80	218755504	Screw-shoulder, #10 AB, handle mounting
93	5304460605	Screw, ph truss head, 8-18AB x 0.500

# Functional Parts  
\* Non-Illustrated Parts

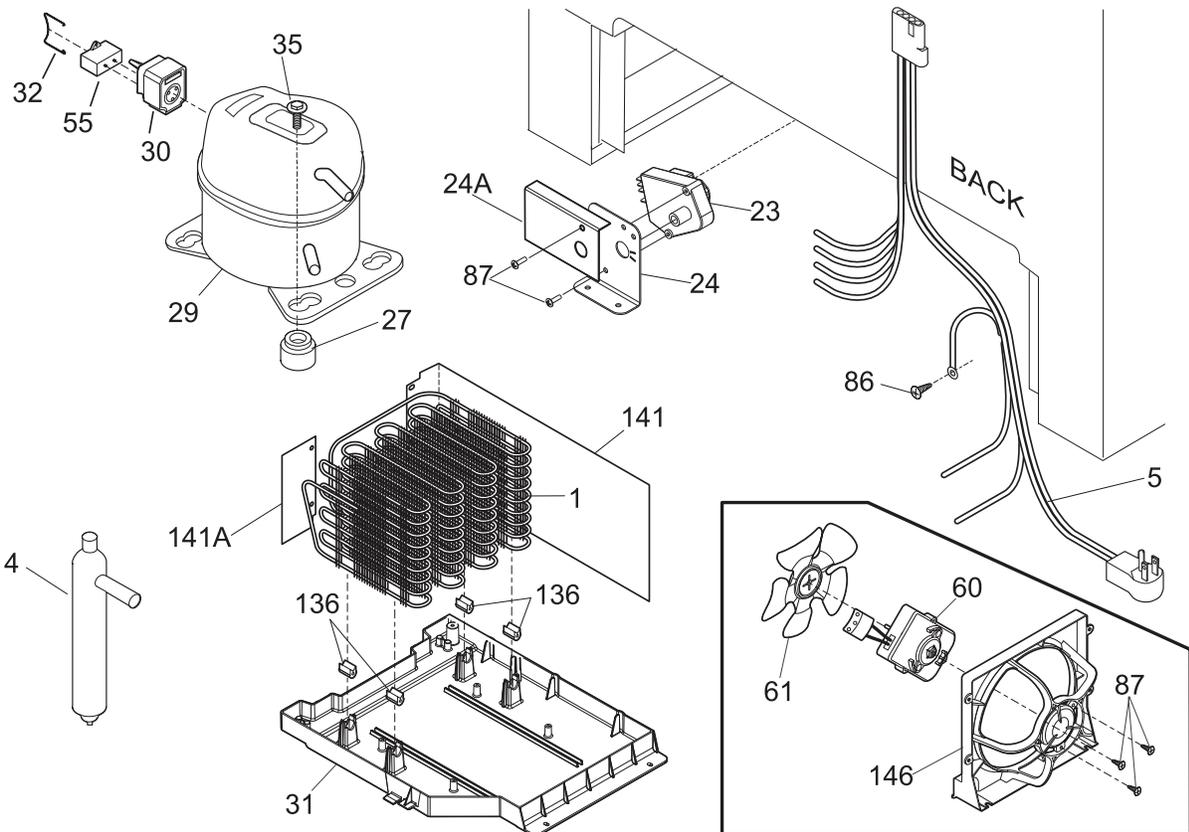
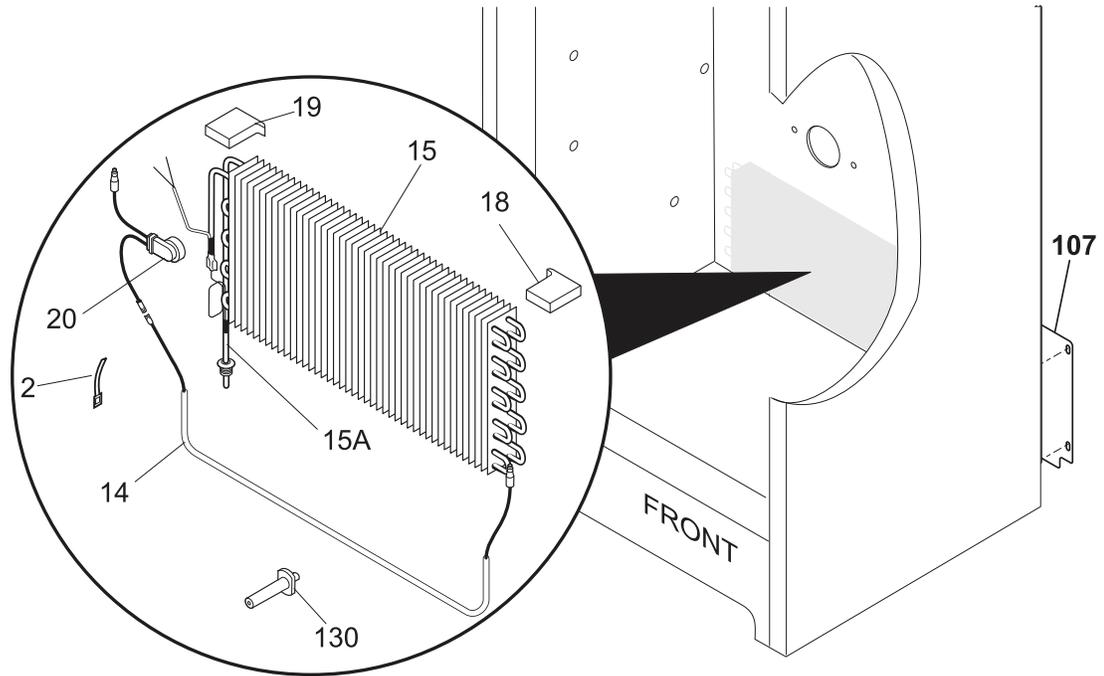


## Section 6 Parts List

<u>Ref #</u>	<u>Part #</u>	<u>Description</u>	<u>Ref #</u>	<u>Part #</u>	<u>Description</u>
3	216503100	Screen-drain	93	5304460605	Screw, ph truss head, 8-18AB x 0.500
5	297259600	Fan Blade, evaporator	93A	297174300	Screw, #8, 18x.63, self pierce
6	297200600	Breaker Kit w/corners, no lock slot	*	216327800	Clip, wire
9	297200100	Breaker Kit w/corners, 32", top and bottom	93B	216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
13 #	297250000	Motor, fan, 115 V	131	241513001	Channel-shelf mtg, side, (2)
14	216922800	Switch, light/lamp, ramp	132	5304460601	Screw, 6-20AB x 3/8
15	216988100	Light Bulb/Lamp, long, blue tint, 40 W, 120V	137	297050600	Frame-shelf, cantilever, (2)
15A	297048600	Light Bulb/Lamp, short	137A	297050601	Frame-shelf, cantilever
16	241507803	Socket-light	138	297050700	Trim-shelf, front, (2)
16*	297109500	Washer, vinyl	138A	216983601	Trim-shelf, side
16A	297139501	Socket, light/lamp, 25 W	138B	297050701	Trim-shelf, front
18	216707200	Knob, temp control	139	297050800	Trim-shelf, rear, (2)
19	216204902	Gasket-evap cover	139A	297050801	Trim-shelf, rear
20	216967200	Cover, temp control	148	216979403	Cover-crisper pan
21 #	216715500	Control temperature	149	240361301	Damper, humidity cont.
22	216823500	Clamp, cap tube, cold control	150	240361202	Knob, humidity cont.
22A	297058500	Tube, 10", plastic	151	216988200	Support-crspr cover, RH
24	5304460604	Screw, type A, 10-24 x 3/8	151	216988201	Support-crspr cover, LH
25	297099253	Cover-evaporator	154	297053000	Wire, jumper
26	216503300	Ramp, door closer	155	5303313703	Clip, (2)
26A	216959900	Pan-crisper, (2)	169	216912401	Screw, hex washer head, 8-32 x 0.500, bracket fan mtr, (2)
28	297283900	Hinge-bottom, stepped pin	170	297280401	Valve, breather, black
29	216313501	Hose-drain	*	297001704	Insulation, 24", drain tube
31A	240530811	Pan-meat, w/o graphics, clear	*	297226507	Energy Guide
32	5308005500	Drain	#	Functional Parts	
34	216816225	Shield-light	*	Non-Illustrated Parts	
34A	297053102	Shield-light			
34B	297053200	Lens, light			
35	216273000	Clip, drain hose			
37	297273901	Trim-cabinet corner, black, (2)			
38	297283800	Hinge-upper			
40	297164401	Cover-upper hinge, black			
41	240578902	Screw, hex head, 1/4-20 x 5/8			
42	216983102	Glass-shelf			
47	297192900	Baffle, air			
47A	240350608	Insert-pan cover, 23.82" x 15.50", glass			
50	08013207	Bracket-fan motor			
63	216396900	Screw, leveling foot, plastic, adjustable			
63*	297164650	Bracket, LH leg levelor			
63*	297164651	Bracket, RH leg levelor			
66	5303295947	Rack-wine			
71A	297146800	Screw, 8-18AB x 0.470			
72	297036901	Grille/Kickplate, 32", black			
80	06594601	Bracket, control			

## Section 6 Parts List

### All Refrigerator Sealed System Exploded View And Parts List



## Section 6 Parts List

Ref #	Part #	Description
1 #	297152200	Condenser, dynamic
2	5308000110	Strap-evap/heater, aluminum, (2)
4 #	216938600	Drier-filter
5 #	297171800	Harness-main
5*	240555002	Screw-#8-32 X 3/8
14	297216101	Heater-defrost
15 #	216997300	Evaporator
15A	297319400	Heat Exchanger
18	297078701	Insulator-evap, styrofoam, RH
19	297078801	Insulator-evap, styrofoam, LH
20	216731001	Thermostat, defrost
23 #	216744500	Timer-defrost
24	216968501	Bracket-timer
24A	297207900	Guard, timer
27	297293300	Grommet, compressor
29 #	297270400	Compressor, w/o electricals
30	216954229	Controller, compressor
31	297165800	Pan-drain
32	216649200	Clip, controller
35	297177200	Bolt, compressor
55 #	218909912	Capacitor, run, 220 VAC, 12 microfarad
60	241584301	Motor-condenser fan
61	241639501	Blade-condenser fan
86	216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
87	5304463290	Screw, hi-lo blunt, #8-18X1/2
107	297165400	Shield, compressor, Compartment
*	5304460605	Screw, ph truss head, 8-18AB x 0.500
130	297244700	Support, evaporator mtg
136	240405201	Grommet, rubber, black, cond tube/wire
141	297164200	Divider, air flow
141A	297194700	Divider, small, air flow
146	297164000	Shroud-fan orifice
146*	216337701	Screw, HWH, 10-24 x 0.500, Swage
*	216502500	Sleeve, suction line
*	297174300	Screw, #8, 18x.63, self pierce
* #	297169901	Cord-power, flat
*	297315800	Clip, wire

- # Functional Parts
- \* Non-Illustrated Parts



## Section 6 Parts List

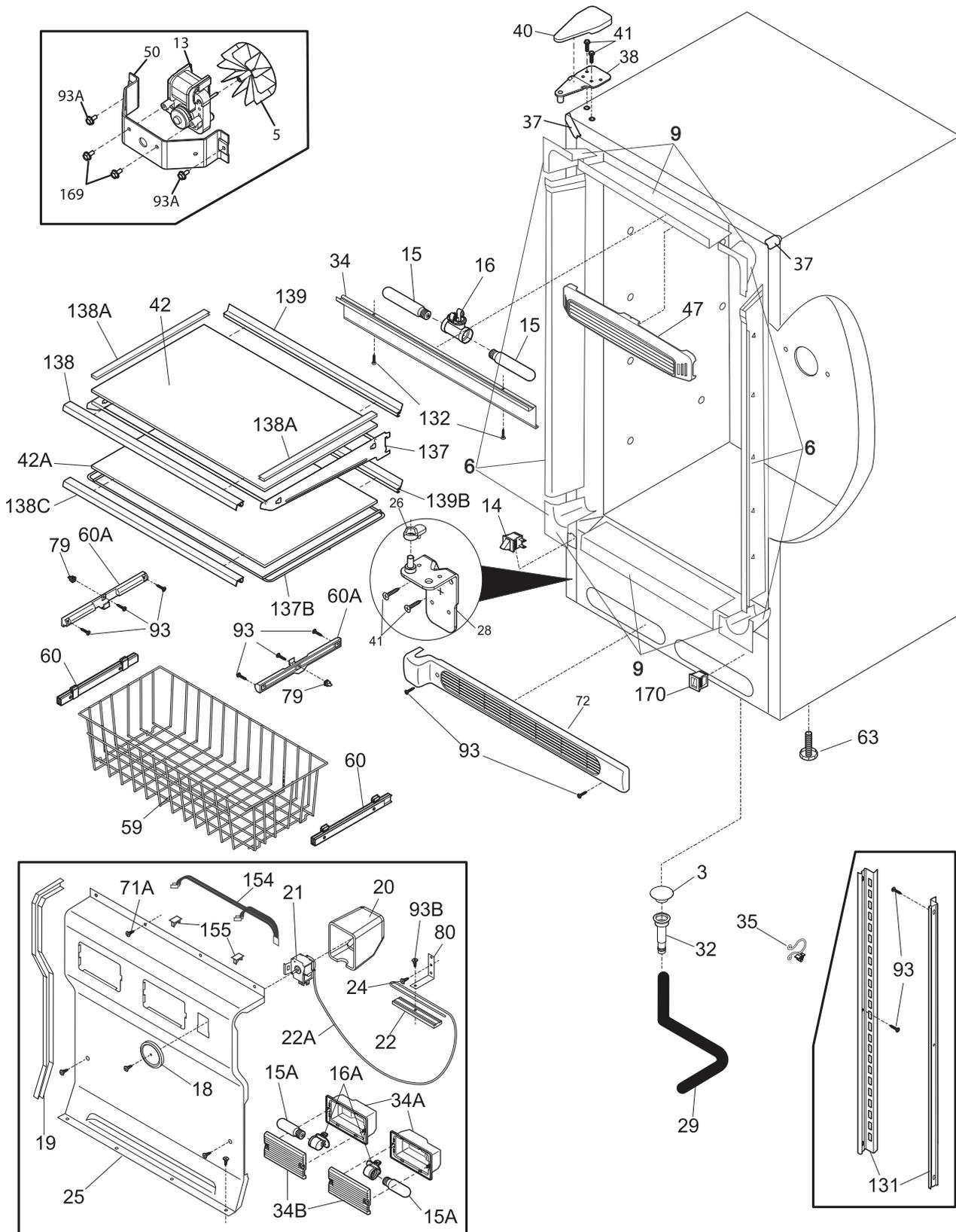
<b>Ref #</b>	<b>Part #</b>	<b>Description</b>
1	216522311	Gasket-door, black
9	216527813	Panel-inner door
11	297316518	Panel-outer door, stainless
12	242015101	Label-nameplate
13	297257002	Door Stop, LH
18	241972501	Handle-door, stainless
*	240537301	Nut-anchor, door hdl screw
*	297048000	Screw, anchor, #8, white
21A	5304460608	Screw, flat head, #1/4-20, door stop/hng
22	216970800	Bearing, hinge w/o'ring, top
22A	297006800	Bearing-hinge, btm, w/o'ring
26	216524201	Gasket, secondary
27	5304472186	Clip, panel mtg
27*	5304406520	Clip, panel mtg kit, (40)
28	216806100	Rack-door, contour, (3)
64	216403700	Plug-button, hole filler, door base
72	297118100	Shelf, tilt out, wire
73	216513900	End Cap, shelf, LH, tilt-out
74	216514000	End Cap, shelf, RH, tilt-out
79	218755401	Screw-set, 10-32 x 0.375
80	218755504	Screw-shoulder, #10 AB, handle mounting
93	5304460605	Screw, ph truss head, 8-18AB x 0.500

# Functional Parts

\* Non-Illustrated Parts

# Section 6 Parts List

## All Freezer Cabinet Exploded View And Parts List

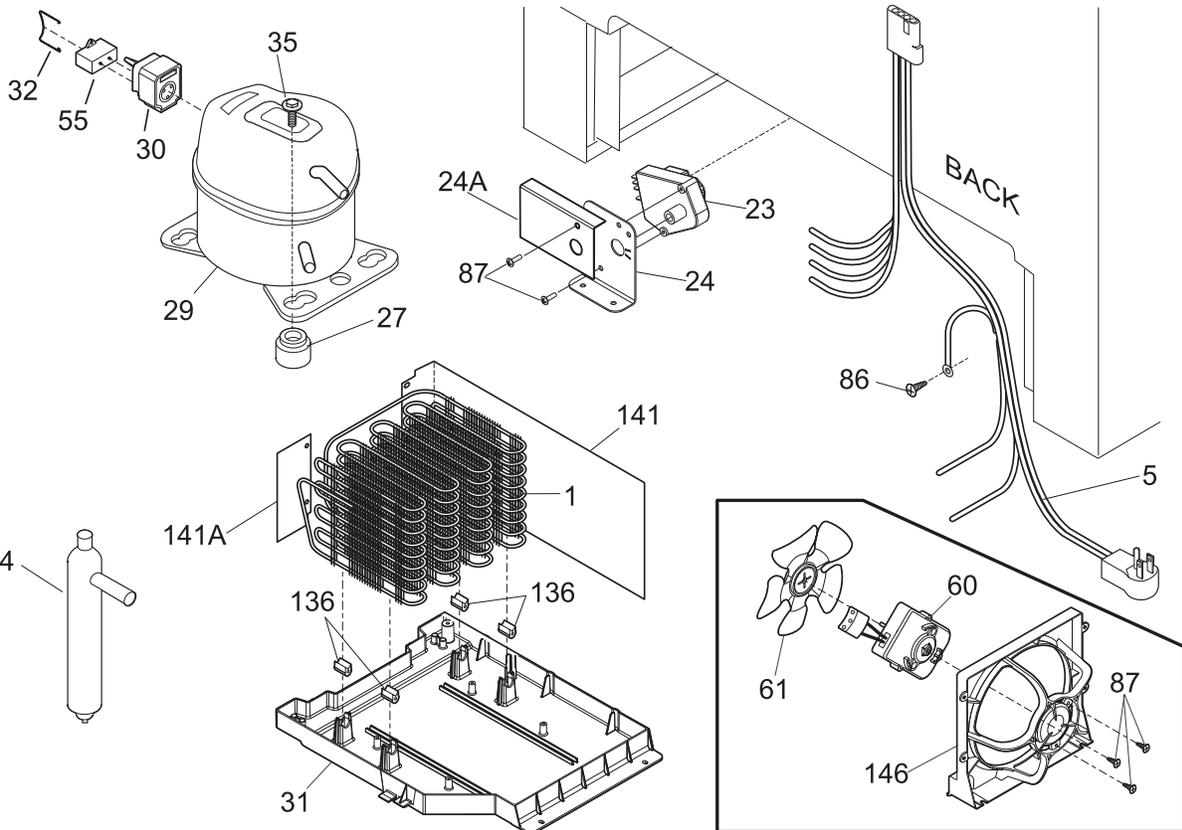
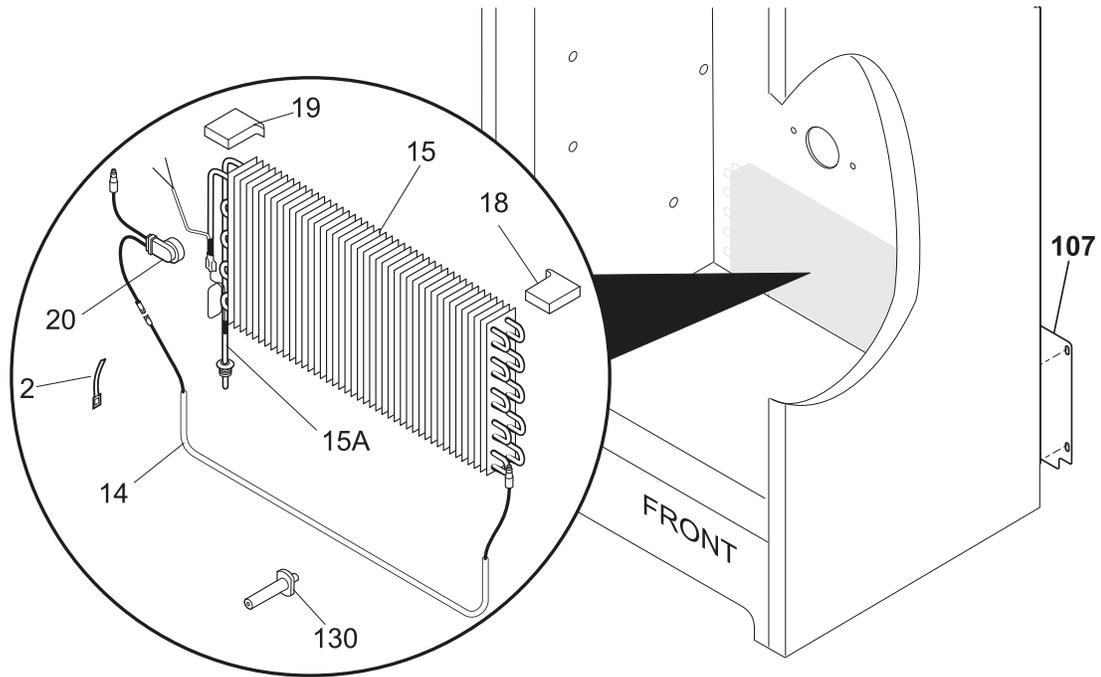


## Section 6 Parts List

<u>Ref #</u>	<u>Part #</u>	<u>Description</u>	<u>Ref #</u>	<u>Part #</u>	<u>Description</u>
3	216503100	Screen-drain	93	5304460605	Screw, ph truss head, 8-18AB x 0.500
5	297259600	Fan Blade, evaporator	93A	297174300	Screw, #8, 18x.63, self pierce
6	297200600	Breaker Kit w/corners, no lock slot	*	216327800	Clip, wire
9	297200100	Breaker Kit w/corners, 32", top and bottom	93B	216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
13 #	297250000	Motor, fan, 115 V	131	241513001	Channel-shelf mtg, side, (2)
14	216998100	Switch, light/lamp, black, ramp	132	5304460601	Screw, 6-20AB x 3/8
15	216988100	Light Bulb/Lamp, long, blue tint, 40 W, 120V	137	297050600	Frame-shelf, cantilever
15A	297048600	Light Bulb/Lamp, short	137B	297007600	Frame-shelf, sliding
16	241507803	Socket-light	138	297050700	Trim-shelf, front
16*	297109500	Washer, vinyl	138A	216983601	Trim-shelf, side
16A	297139501	Socket, light/lamp, 25 W	138C	297007800	Trim-shelf, front
18	216707200	Knob, temp control	139	297050800	Trim-shelf, rear
19	216204902	Gasket-evap cover	139B	297007900	Trim-shelf, rear
20	216967200	Cover, temp control	154	297053000	Wire, jumper
21	216715200	Control-temperature	155	5303313703	Clip, (2)
22	216823500	Clamp, cap tube, cold control	169	216912401	Screw, hex washer head, 8-32 x 0.500, bracket fan mtr, (2)
22A	5303916855	Tube, sensor sleeve, plastic, clear	170	297280401	Valve, breather, black
24	5304460604	Screw, type A, 10-24 x 3/8	*	216893800	Cover, external, ice maker, (2)
25	297099253	Cover-evaporator	*	216910416	Energy Guide
26	297248200	Ramp, door closer, LH	*	241586701	Plug-foam-wtr-inlet, round
28	297283901	Hinge-bottom, stepped pin, LH	*	297001704	Insulation, 24", drain tube
29	216313501	Hose-drain	*	297013100	Instructions, water line
32	5308005500	Drain	*	297095300	Plug, white
34	216816225	Shield-light	*	216901700	Installation Instructions, ice maker
34A	297053102	Shield-light	*	IM501	Ice Maker Kit
34B	297053200	Lens, light			
35	216273000	Clip, drain hose	#	Functional Parts	
37	241611303	Trim-cabinet corner, black, (2)	*	Non-Illustrated Parts	
38	297283800	Hinge-upper			
40	297164401	Cover-upper hinge, black			
41	240578902	Screw, hex head, 1/4-20 x 5/8			
42	216983102	Glass-shelf			
42A	297007702	Glass-shelf, sliding			
47	297192900	Baffle, air			
50	08013207	Bracket-fan motor			
59	297119000	Basket, (2)			
60	297054200	Slide-basket, RH, (2), w/clips			
60	297054201	Slide-basket, LH, (2), w/clips			
60*	297049500	Clip-slide, basket			
60A	297013500	Slide, basket			
63	216396900	Screw, leveling foot, plastic, adjustable			
71A	297146800	Screw, 8-18AB x 0.470			
72	297036901	Grille/Kickplate, 32", black			
79	3017666	Nut-insert			
80	06594601	Bracket, control			

## Section 6 Parts List

### All Freezer Sealed System Exploded View And Parts List



## Section 6 Parts List

Ref #	Part #	Description
1	297152201	Condenser
2	5308000110	Strap-evap/heater, aluminum, (2)
4	216987500	Drier-filter
5 #	297315700	Harness-main
14	297216101	Heater-defrost
15 #	216997300	Evaporator
15A	297238700	Heat Exchanger
18	297078701	Insulator-evap, styrofoam, RH
19	297078801	Insulator-evap, styrofoam, LH
20	297216600	Thermostat, defrost
23 #	216744500	Timer-defrost
24	216968501	Bracket-timer
24A	297207900	Guard, timer
27	5308002681	Grommet, compressor
29 #	297237400	Compressor, w/o electricals
30	216954212	Controller, compressor
31	297165800	Pan-drain
32	216649200	Clip, controller
35	297177200	Bolt, compressor
55 #	218909912	Capacitor, run, 220 VAC, 12 microfarad
60	241584301	Motor-condenser fan
61	241639501	Blade-condenser fan
86	216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
87	5304463290	Screw, hi-lo blunt, #8-18X1/2
107	297165400	Shield, compressor, Compartment
*	5304460605	Screw, ph truss head, 8-18AB x 0.500
130	297244700	Support, evaporator mtg
136	240405201	Grommet, rubber, black, cond tube/wire
141	297164200	Divider, air flow
141A	297194700	Divider, small, air flow
146	297164000	Shroud-fan orifice
146*	216337701	Screw, HWH, 10-24 x 0.500, Swage
*	216502500	Sleeve, suction line
*	240555002	Screw-#8-32 X 3/8
*	297014500	Plug-suction line
*	297048400	Clip
*	297174300	Screw, #8, 18x.63, self pierce
* #	297169900	Cord-power, flat

# Functional Parts

\* Non-Illustrated Parts



## Section 7 Troubleshooting

Problem	Cause	Correction
Freezer/refrigerator compressor does not run.	Unit is plugged into a circuit that has a ground fault interrupt.	Use another circuit. Check circuit for proper voltage.
	Temperature control is in the "OFF" position.	Set control to a temperature setting. Instruct customer.
	Unit may not be plugged in, or plug may be loose.	Ensure plug is tightly pushed into outlet.
	House fuse blown or tripped circuit breaker.	Check/replace fuse with a 15 amp time delay fuse. Reset circuit breaker.
	Power outage.	Check house lights. Call local Electric Company.
Freezer/refrigerator runs too much or too long.	Room or outside weather is hot.	It's normal for the freezer/refrigerator to work harder under these conditions.
	Unit has recently been disconnected for a period of time.	It takes 4 hours for the unit to cool down completely.
	Large amount of warm or hot food have been stored recently.	Warm food will cause unit to run more until the desired temperature is reached.
	Door is opened too frequently or kept open too long.	Warm air entering the unit causes it to run more. Open the door less often.
	Unit door may be slightly open.	See Problem section "Door will not close".
	Temperature control is set too low.	Set control to a warmer setting. Allow several hours for the temperature to stabilize.
	Freezer/refrigerator gaskets are dirty, worn, cracked or poorly fitted.	Clean or change gasket. Leaks in the door seal will cause unit to run longer in order to maintain desired temperature.
Interior freezer/refrigerator temperature is too cold.	Temperature control is set too low.	Set control to a warmer setting. Allow several hours for the temperature to stabilize.
Interior freezer/refrigerator temperature is too warm.	Temperature control is set too warm.	Set control to a colder setting. Allow several hours for the temperature to stabilize.
	Door is opened too frequently or kept open too long.	Warm air entering the unit causes it to run more. Open the door less often.
	Unit door may be slightly open.	See Problem section "Door will not close".
	Large amount of warm or hot food have been stored recently.	Wait until the unit has had a chance to reach its selected temperature.
	Unit has recently been disconnected for a period of time.	Unit requires 24 hours to cool down completely.
Freezer/refrigerator external surface temperature is warm.	The external freezer/refrigerator walls can be as much as 30°F warmer than room temperature.	This is normal while the compressor works to transfer heat from inside the unit cabinet.

## Section 7 Troubleshooting

Problem	Cause	Correction
Louder sound levels whenever Freezer/refrigerator is on.	Modern Freezers have increased storage capacity and more stable temperatures. They require heavy duty compressors.	This is normal. When the surrounding noise level is low, you might hear the compressor running while it cools the interior.
Louder sound levels when compressor comes on.	Freezer/refrigerator operates at higher pressures during the start of the ON cycle.	This is normal. Sound will level off or disappear as freezer/refrigerator continues to run.
Popping or cracking sound when compressor comes on.	Metal parts undergo expansion and contraction, as in hot water pipes.	This is normal. Sound will level off or disappear as freezer/refrigerator continues to run.
Bubbling or gurgling sound.	Refrigerant used to cool the unit is circulating throughout system.	This is normal.
Vibrating or rattling noise.	Freezer/refrigerator is not level. It rocks on the floor when it is moved slightly.	Level the freezer/refrigerator.
	Floor is uneven or weak.	Ensure floor can adequately support unit. Level the unit by putting wood or metal shims under part of the unit
	Freezer/refrigerator is touching the wall.	Re-level freezer/refrigerator or move slightly.
Moisture forms on inside Freezer/refrigerator walls.	Weather is hot and humid, which increases internal rate of frost build-up.	This is normal.
	Door is slightly open.	See Problem section "Door will not close".
	Door is opened too frequently or kept open too long.	Open the door less often.
Odors in Freezer/refrigerator.	Interior needs to be cleaned.	Clean interior with sponge, warm water, and baking soda. Replace air filter.
	Foods with strong odors are in the Freezer.	Cover the food tightly.
Door will not close.	Freezer/refrigerator is not level. It rocks on the floor when it is moved slightly.	This condition can force the cabinet out of square and misalign the door. Level unit.
	Floor is uneven or weak.	Ensure floor can adequately support unit. Level the unit by putting wood or metal shims under part of the unit.
Light bulb is not on.	The fluorescent lamp or light bulb is burned out.	Replace lamp or light bulb.
	No electric current is reaching the freezer/refrigerator.	See Problem section "Freezer/refrigerator compressor does not run" on previous page.
Automatic ice maker not working. (Some freezer models)	Ice maker is not working	<ol style="list-style-type: none"> <li>1. Ensure the wire signal arm is not in the UP position.</li> <li>2. Water supply is turned off.</li> <li>3. Water pressure is too low.</li> <li>4. The freezer is not cold enough.</li> </ol>

## Section 7 Troubleshooting

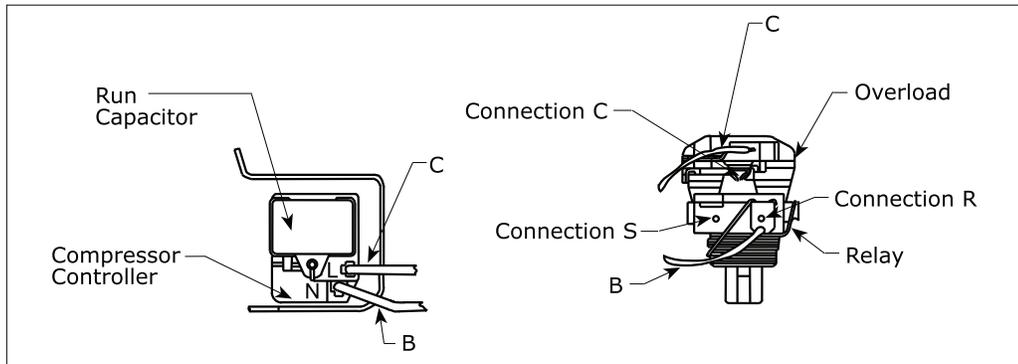
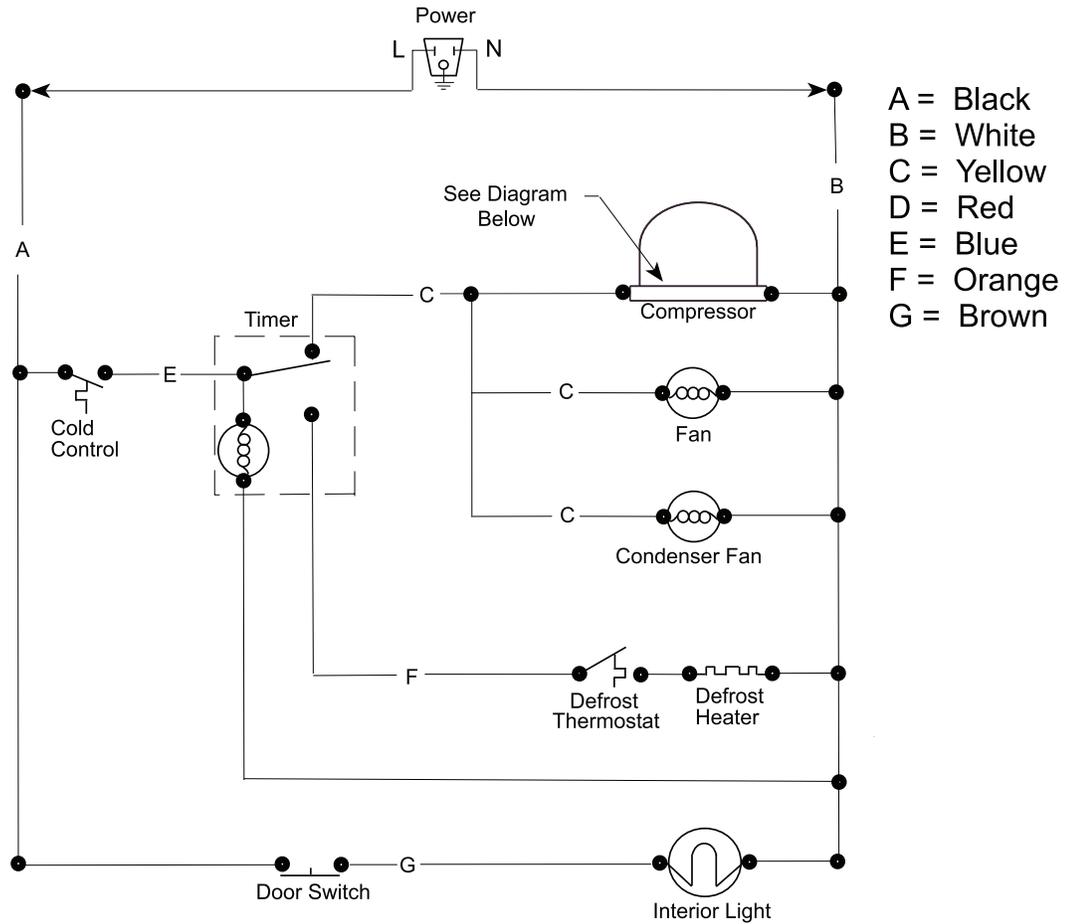
The following table relates to troubleshooting the thermostat, electronic components and compressor with its associated components.

Problem	Cause	Correction
Compressor and evaporator fan motor does not run.	<ol style="list-style-type: none"> <li>1. Is the temperature control set to off?</li> <li>2. Measure the input voltage to the electronic control. Is line to neutral voltage being applied?</li> <li>3. Disconnect the wiring harness from the compressor controller and measure the voltage drop between the two wires in the harness. Does the meter read line to neutral voltage?</li> </ol>	<p>Yes. Set control from 1 to 7 No. Go to step 3.</p> <p>Yes. Replace defective electronic control. No. Defective wire harness.</p> <p>Yes. Replace defective compressor controller or compressor and evaporator fan motor. No. Replace defective electronic control.</p>
Compressor does not run, but the evaporator fan motor does.	<ol style="list-style-type: none"> <li>1. Defective compressor or compressor controller.</li> </ol>	Replace compressor controller. If problem is not corrected replace compressor.
Evaporator fan motor does not run, but the compressor operates.	<ol style="list-style-type: none"> <li>1. Is there something blocking the fan blade?</li> </ol>	<p>Yes. Remove restriction from fan blade. No. Replace defective fan motor.</p>
Interior light does not glow when door is opened.	<ol style="list-style-type: none"> <li>1. Check the light bulb with an ohmmeter. Is the bulb good?</li> </ol>	<p>Yes. Replace defective door switch. No. Replace light bulb.</p>
Compressor runs continuously, but freezer is not cold.	<ol style="list-style-type: none"> <li>1. Connect a low side gauge to the processing tube on the compressor. Is the pressure in a vacuum or lower than normal?</li> </ol>	<p>Yes. System low on refrigerant, check for leak in system before adding refrigerant. No. Replace defective compressor.</p>
Compressor runs continuously and the freezer/refrigerator is too cold.	<ol style="list-style-type: none"> <li>1. Defective thermostat.</li> </ol>	Replace defective thermostat.
Freezer/refrigerator does not automatically defrost.	<ol style="list-style-type: none"> <li>1. Defective timer.</li> </ol>	<p>Yes. Check/replace defrost thermostat. Yes. Check/replace defrost heater. No. Replace defrost timer.</p>



# Section 8 Wiring Diagram

## All Refrigerator Wiring Diagram



Specifications subject to change without notice.  
\* For complete performance data by model refer to service manual.  
\*\* Options shown are not necessarily part of model

### IMPORTANT SAFETY NOTICE

The information provided herein is designed to assist qualified repair personnel only. Untrained persons should not attempt to make repairs due to the possibility of electrical shock. Disconnect power cord before servicing.

### IMPORTANT

If any green grounding wires are removed during servicing, they must be returned to their original position and properly secured.

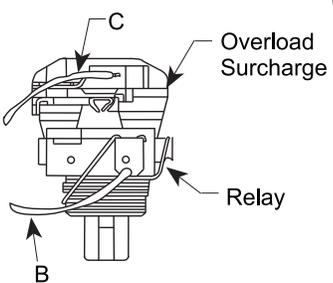
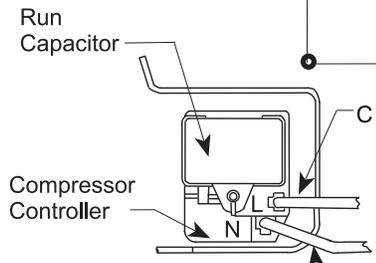
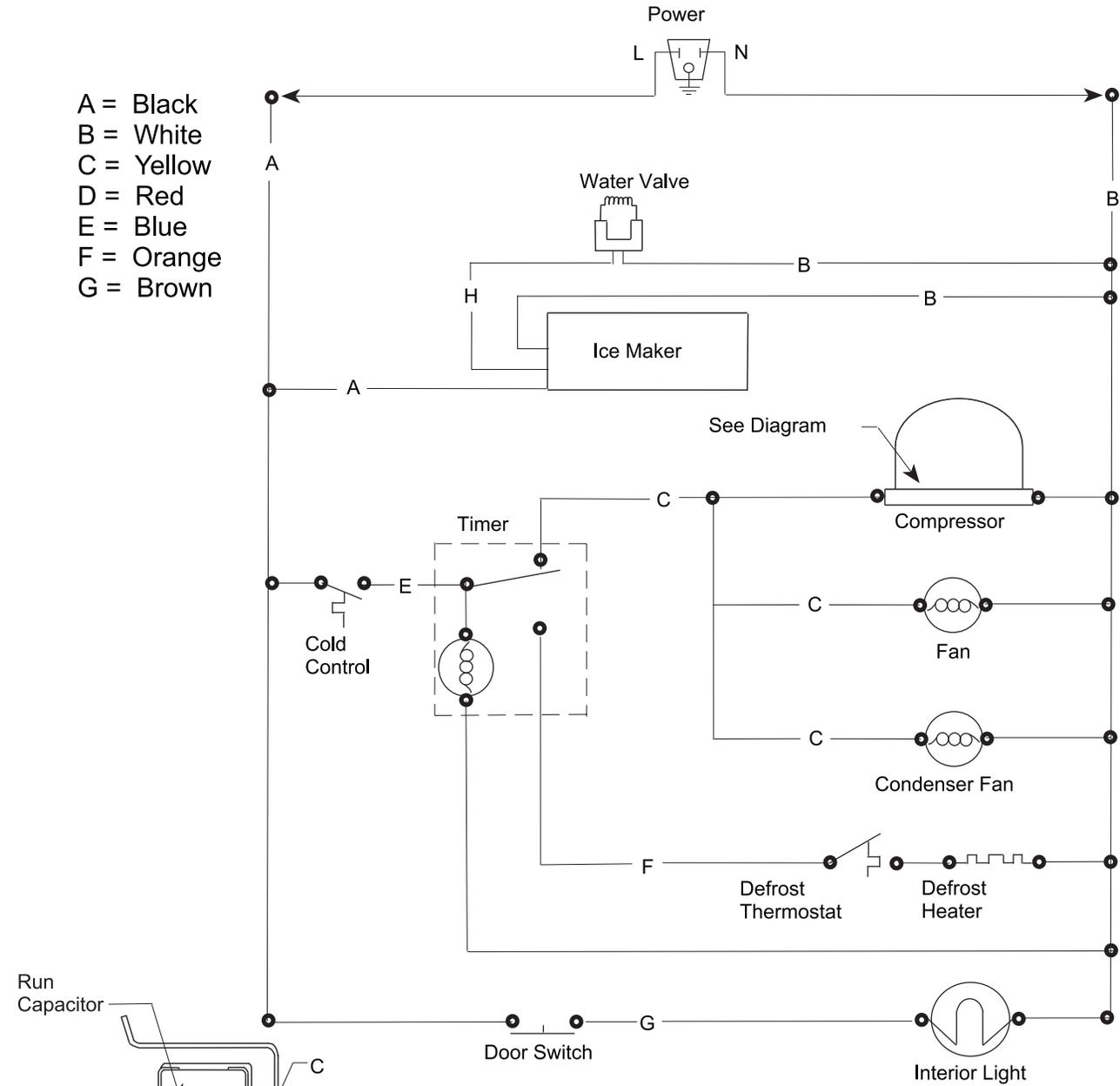
### INSTALLATION

This product is designed for "free standing installation only" and three inches of clearance must be provided on all sides of the refrigerator for air circulation. The refrigerator should be positioned on a solid floor, and the front of the cabinet should be raised just enough to provide easy door closure when open half way.

# Section 8 Wiring Diagram

## All Freezer Wiring Diagram

- A = Black
- B = White
- C = Yellow
- D = Red
- E = Blue
- F = Orange
- G = Brown



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