



ELECTROLUX MAJOR APPLIANCES OF NORTH AMERICA

SERVICE MANUAL
FRIGIDAIRE
COMMERCIAL
REFRIGERATORS
&
FREEZERS

Frigidaire

TAPPAN

W White-Westinghouse

Gibson

Kelvinator 

SAFE SERVICING PRACTICES - ALL APPLIANCES

To avoid personal injury and/or property damage, it is important that **Safe Servicing Practices** be observed. The 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 it in a safe and satisfactory manner.
2. Before servicing or moving an appliance:
 - Remove the power cord from the electrical outlet, trip the circuit breaker to the OFF position, or remove the fuse.
 - Turn off the gas supply.
 - Turn off the water supply.
3. Never interfere with the proper operation of any safety device.
4. **USE ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. SUBSTITUTIONS MAY DEFEAT COMPLIANCE WITH SAFETY STANDARDS SET FOR HOME APPLIANCES.**
5. **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.
6. 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

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 cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this manual.

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QUICK REFERENCE SHEET

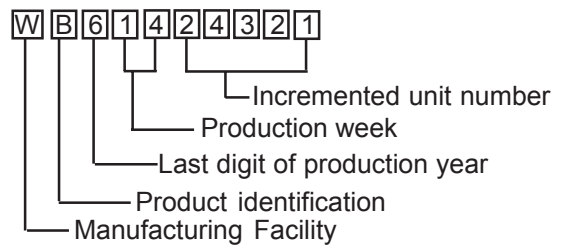
1. Serial nameplate location:
Ice cream and chest models
On the left side of the freezer, above the machine compartment.



- Upright models
Left-hand side of the freezer liner.



-
2. Serial number breakdown.



QUICK REFERENCE SHEET

Refrigerant Charge

Refer to charge information attached next to the compressor.

Electrical Specifications

Refer to serial name plate.

Temperature Control

Solid lid 7 cft chest freezer	8°F. cut-in, -7°F. cut-out
Glass lid 7 cft chest freezer	9.5°F. cut-in, -9.2°F. cut-out
Solid lid 15 cft chest freezer	9.5°F. cut-in, -1.5°F. cut-out
Glass lid 15 cft chest freezer	15°F. cut-in, -4°F. cut-out
Solid lid 20 cft chest freezer	9.5°F. cut-in, -1.5°F. cut-out
Glass lid 20 cft chest freezer	15°F. cut-in, -4°F. cut-out
Solid door 20 cft upright freezer	1°F. cut-in, -14°F. cut-out
Solid door 20 cft upright refrigerator	46°F. cut-in, 41°F. cut-out
Glass door 20 cft upright refrigerator	42°F. cut-in, 16°F. cut-out

Control set at #1 setting

Defrost Control (Upright models)

Defrost cycle	30 minutes every 12 hours
Defrost thermostat	Closes at 10 F. and opens at 50 F.

Performance (Control set at number 1 setting) Solid lid 7 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	5 to 10 F.	5 to 12 F.
Percent running time	18-28%	25-35%
Wattage range (Last 1/3 of cycle)	90-100	100-110
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	125-135	170-180

Performance (Control set at number 1 setting) Glass lid 7 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	5 to 10 F.	5 to 12 F.
Percent running time	25-35%	40-50%
Wattage range (Last 1/3 of cycle)	90-100	100-110
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	130-140	175-185

Performance (Control set at number 1 setting) Solid lid 15 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	2 to 7 F.	2 to 7 F.
Percent running time	20-30%	25-35%
Wattage range (Last 1/3 of cycle)	115-125	155-165
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	115-125	165-175

Performance (Control set at number 1 setting) Glass lid 15 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	0 to 5 F.	5 to 10 F.
Percent running time	35-45%	45-55%
Wattage range (Last 1/3 of cycle)	105-115	120-125
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	115-125	165-175

QUICK REFERENCE SHEET

Performance (Control set at number 1 setting) Solid lid 20 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	2 to 7 F.	2 to 7 F.
Percent running time	25-35%	35-45%
Wattage range (Last 1/3 of cycle)	115-125	125-135
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	115-125	165-175

Performance (Control set at number 1 setting) Glass lid 20 cft chest freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	5 to 10 F.	5 to 10 F.
Percent running time	35-45%	45-55%
Wattage range (Last 1/3 of cycle)	125-135	140-150
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	110-120	155-165

Performance (Control set at number 1 setting) Solid door 20 cft upright freezer

Room ambient	70 F.	90 F.
Freezer compartment temperatures	0 to 5 F.	0 to 5 F.
Percent running time	30-40%	45-55%
Wattage range (Last 1/3 of cycle)	160-170	165-175
Suction pressure (Cut-in, cut-out), PSIG	14-0	14-0
High side pressure (Last 1/3 of cycle), PSIG	95-105	135-145

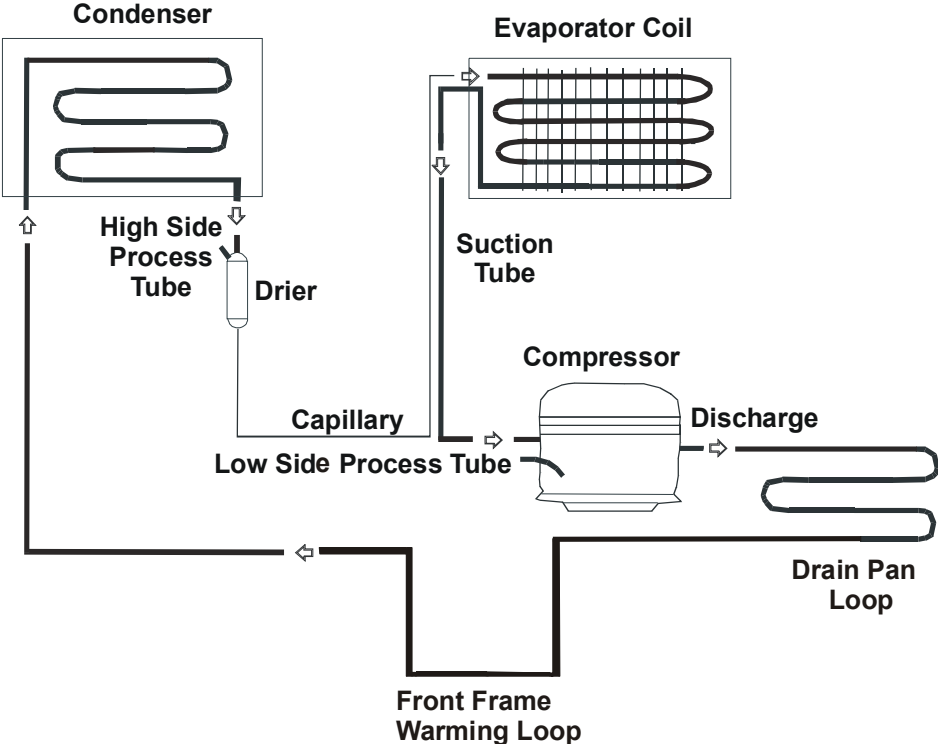
Performance (Control set at number 1 setting) Solid door 20 cft upright refrigerator

Room ambient	70 F.	90 F.
Refrigerator compartment temperatures	42 to 45 F.	42 to 45 F.
Percent running time	10-20%	15-25%
Wattage range (Last 1/3 of cycle)	160-170	175-185
Suction pressure (Cut-in, cut-out), PSIG	45-3	45-3
High side pressure (Last 1/3 of cycle), PSIG	140-145	190-200

Performance (Control set at number 1 setting) Glass door 20 cft upright refrigerator

Room ambient	70 F.	90 F.
Refrigerator compartment temperatures	42 to 45 F.	42 to 45 F.
Percent running time	15-20%	20-30%
Wattage range (Last 1/3 of cycle)	175-185	195-205
Suction pressure (Cut-in, cut-out), PSIG	45-3	45-3
High side pressure (Last 1/3 of cycle), PSIG	130-140	190-200

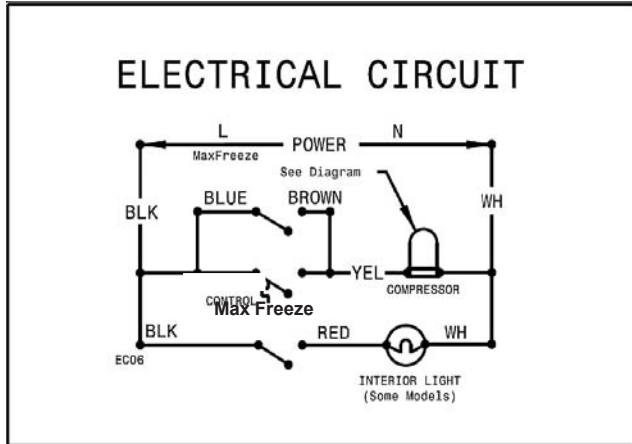
SYSTEM SCHEMATIC



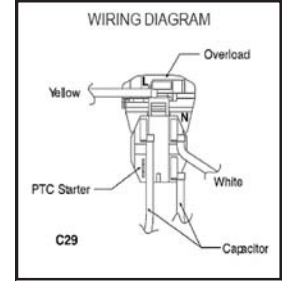
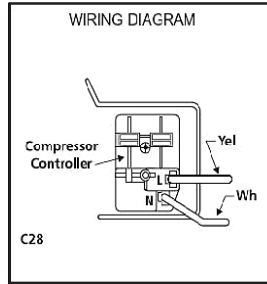
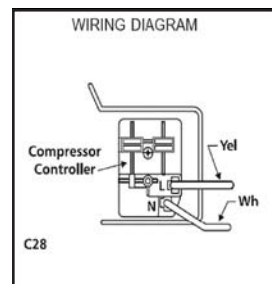
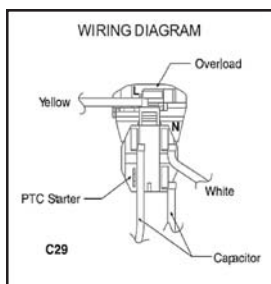
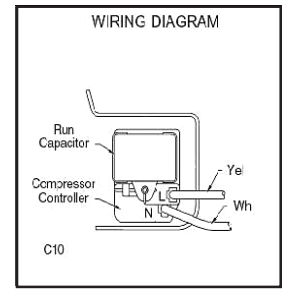
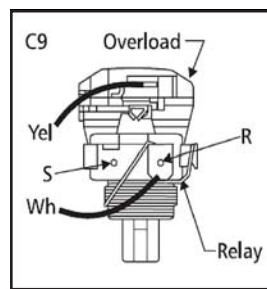
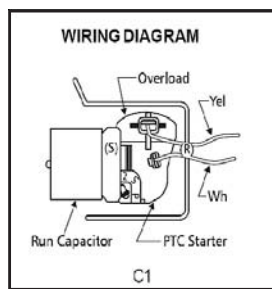
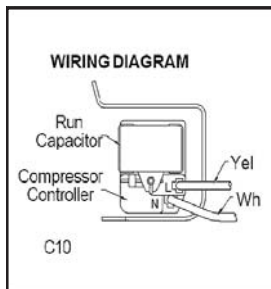
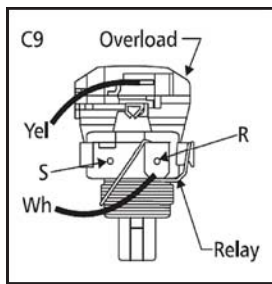
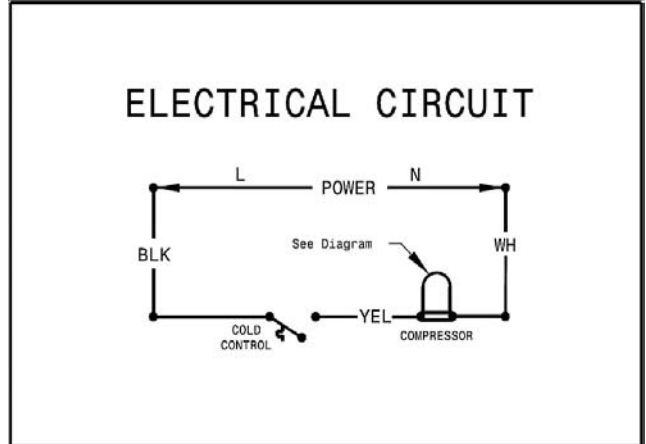
Chest Freezer Sample Wiring Diagram always refer to diagram with product

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 the power cord before servicing.

SOLID TOP CHEST MODELS



ICE CREAM FREEZER MODELS



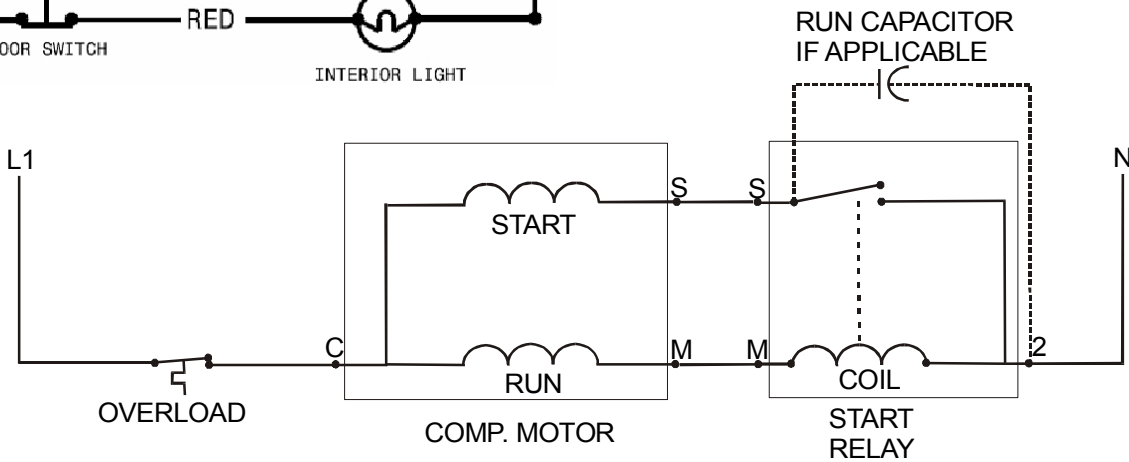
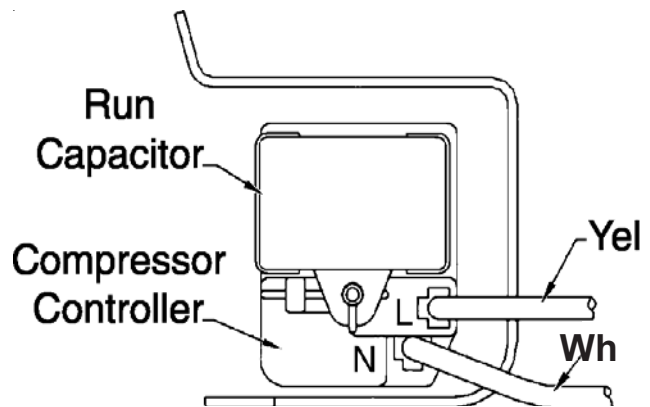
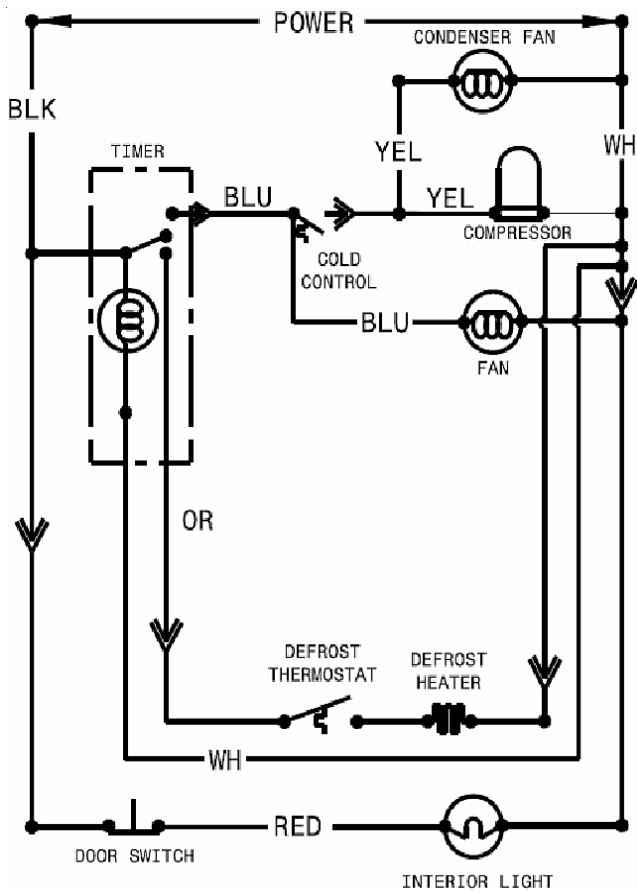
IMPORTANT

IF ANY GREEN GROUNDING WIRES ARE REMOVED DURING SERVICING, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY SECURED.

Solid Door Upright Freezers & Refrigerators Sample Wiring Diagram always refer to diagram with product

CAUTION: DISCONNECT ELECTRIC CURRENT BEFORE SERVICING. LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. VERIFY PROPER OPERATION AFTER SERVICING.

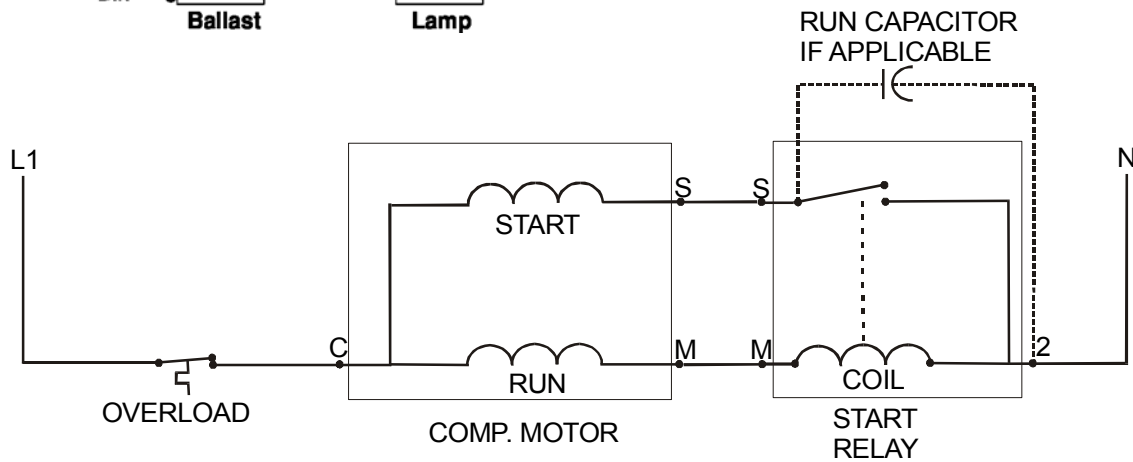
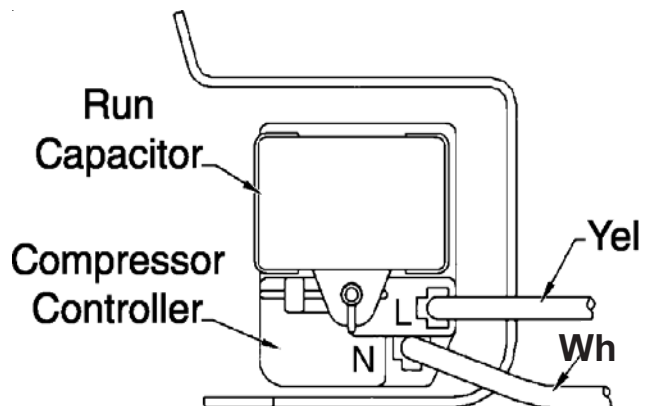
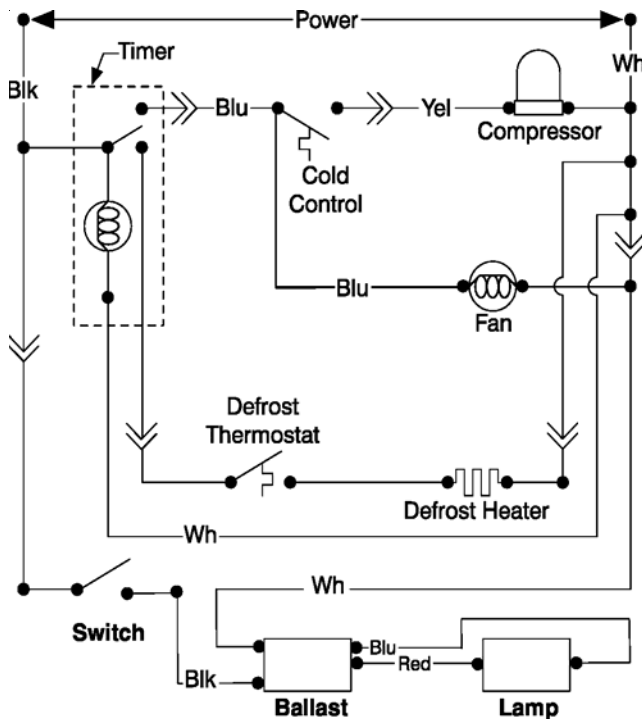
IMPORTANT
If any green grounding wires are removed during servicing, they must be returned to their original position and properly secured.



Glass Door Refrigerator Sample Wiring Diagram always refer to diagram with product

CAUTION: DISCONNECT ELECTRIC CURRENT BEFORE SERVICING. LABEL ALL WIRES PRIOR TO DISCONNECTION WHEN SERVICING CONTROLS. WIRING ERRORS CAN CAUSE IMPROPER AND DANGEROUS OPERATION. VERIFY PROPER OPERATION AFTER SERVICING.

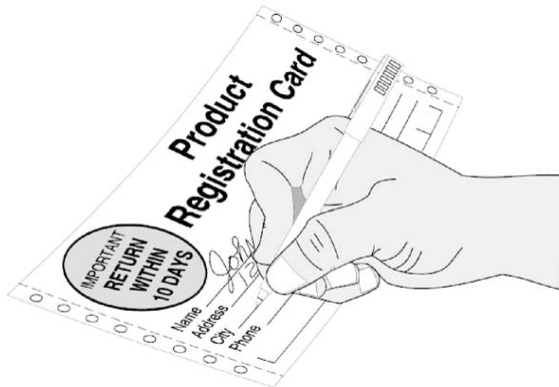
IMPORTANT
If any green grounding wires are removed during servicing, they must be returned to their original position and properly secured.



SECTION A - OWNERS GUIDE (Chest)

Product Registration

These instructions include information which is intended to assure the operator of correct installation, operation and service.



Before attempting installation, adjustment or maintenance, be certain of the following:

- That you have read and fully understand the instructions.
- That you have all the tools required and are trained to use them.
- That you have met all installation and usage restrictions and are familiar with the functions and operations of the unit.
- That you follow all instructions exactly as given. All the fittings, measurements, recommendations and procedures are significant. Substitutions and approximations must be avoided. Improper handling, maintenance, installation and adjustment, or service attempted by anyone other than a qualified technician, may void the future warranty claims and cause damage to the unit and/or result in injury to the operator and/or bystanders.

Record your Model and Serial Numbers

Record the model number and serial number of this appliance in the space provided below (the serial plate is located on the outside left wall of the freezer).

Model No. _____
Serial No. _____
Installation Date _____
Invoice Date _____
Start-up Date _____
Telephone for Service _____

Register Your Product

The self-addressed **PRODUCT REGISTRATION CARD** (shown above) should be filled in completely, signed and returned to the address provided.

Important Safety Instructions

Read all instructions before using this appliance

⚠ WARNING For Your Safety

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

⚠ WARNING Child Safety

- Destroy carton, plastic bags, and any exterior wrapping material immediately after the appliance is unpacked. Children should never use these items for play. Cartons covered with rugs, bedspreads, plastic sheets or stretch wrap may become airtight chambers and can quickly cause suffocation.
- A child might suffocate if he crawls into the appliance to hide or play. Remove the door/lid of the appliance when not in use, even if you plan to discard the appliance. Many communities have laws requiring you to take this safety precaution.

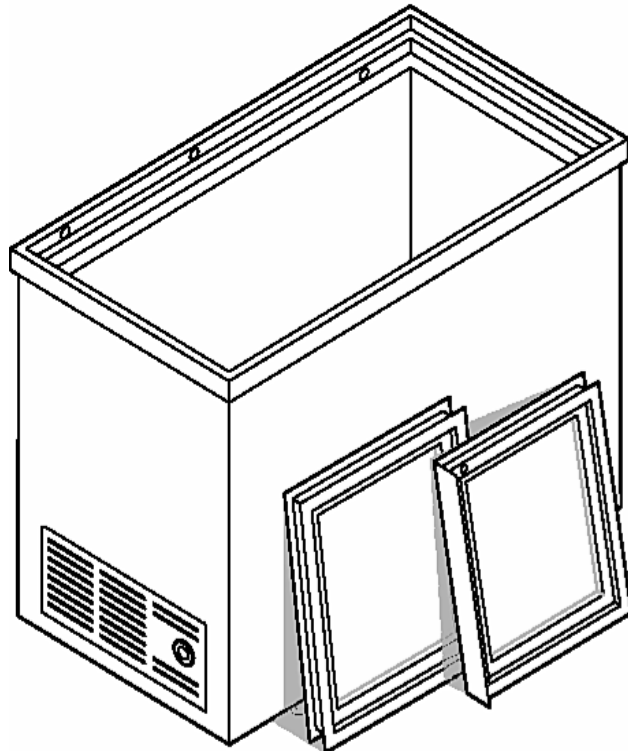
Proper Disposal of Freezer

⚠ WARNING Risk of Child Entrapment

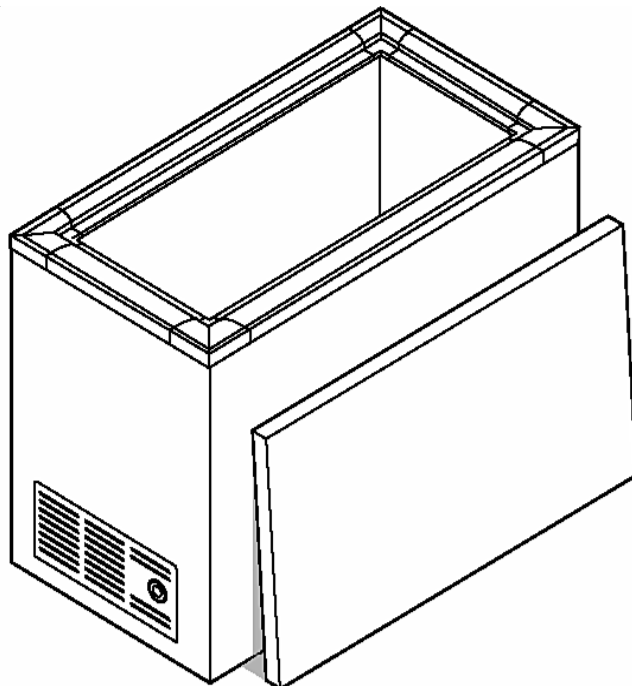
Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators or freezers are still dangerous – even if they will sit for “just a few

days". If you are getting rid of your old refrigerator or freezer, please follow the instructions below to help prevent accidents:

- Remove the lid.
- Have the refrigerant removed by a qualified technician.



ICE CREAM FREEZER



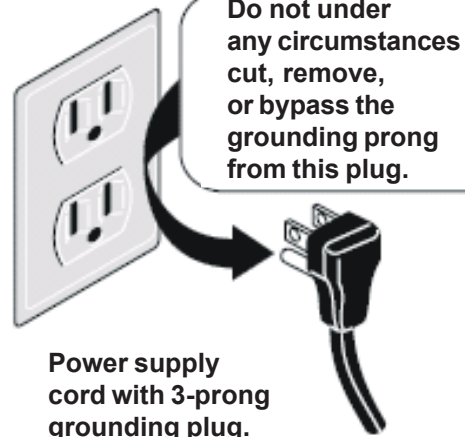
CHEST FREEZER

⚠️ WARNING Electrical Information

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

⚠️ 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.



- **Refer to the serial plate for correct electrical rating.** The power cord of the appliance is equipped with a three-prong grounding plug for protection against shock hazards. It must be plugged directly into 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 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 percent or more, appliance performance may be affected. Operating the appliance 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 appliance from being turned off accidentally, do not plug the unit into an outlet controlled by a wall switch or pull cord.
- **DO NOT** pinch, knot, or bend the power cord in any manner.

⚠ WARNING Other Precautions

- **NEVER** unplug the appliance by pulling on the power cord. Always grip the plug firmly and pull straight out from the receptacle.
- To avoid electrical shock, unplug the appliance before cleaning.

NOTE: Turning the control to “OFF” turns off the compressor but does not disconnect power to other electrical components.

Installation and Setup

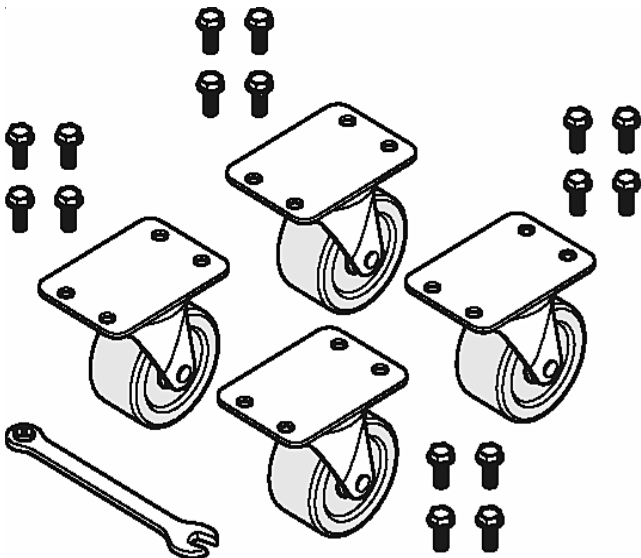
Inspection for Damage

Inspect the underside of the cabinet and packaging for damage such as a fork truck can cause. If hidden damage is found after uncrating, immediately call the delivery carrier and request an inspection. Retain all packaging and crating materials until the inspection is complete.

Uncrating and Set-up

- Using a utility knife with a sharp, short blade, cut along the perimeter of the carton as indicated.
- Lift the carton off the product.
- Remove the package containing the casters from the unit. This package will contain the following items:

- One (1) wrench
- Sixteen (16) screws
- Four (4) casters



Castors

- With an assistant, tilt the unit until it is resting on its back. Take care to protect the back from being scratched during this process.
- Using the wrench provided and the sixteen (16) screws, install all four (4) casters in the tapped holes in the bottom of the unit. Tighten the screws securely.
- With an assistant, tilt the unit back up onto its casters.
- To prevent unintended movement, block casters once the unit is in place.

Appliance Placement

Leave a three (3) inch space on all sides and the back of the cabinet for adequate air circulation. Choose a place that is near a grounded electrical outlet. For the most efficient operation, the appliance should be located where surrounding temperatures will not drop below 40°F (5°C) or exceed 110°F (43°C). Additional compressor heaters are not recommended.

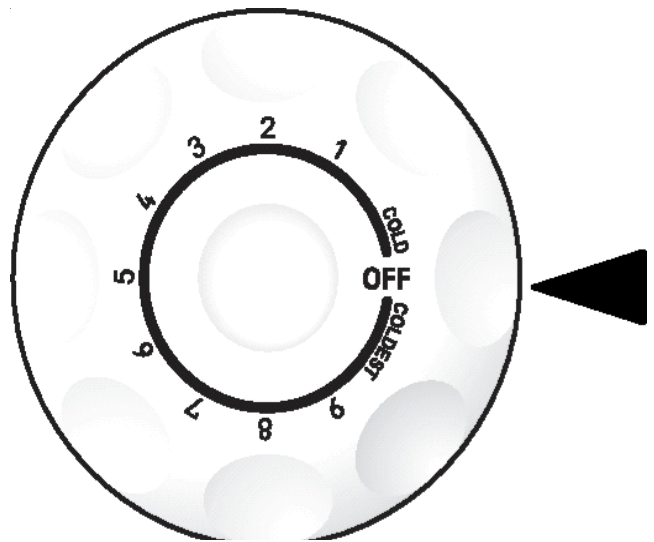
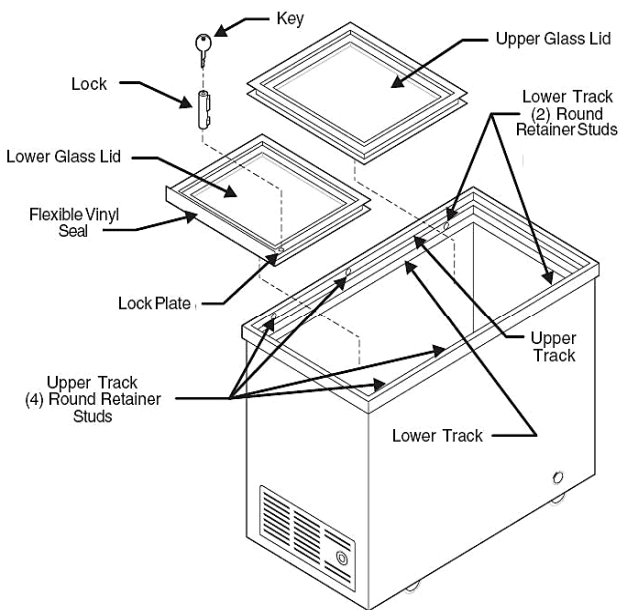
Insulation

The insulated space on this cabinet is sealed to maintain peak efficiency. DO NOT drill holes in the cabinet. Holes drilled in the cabinet may destroy that seal and damage electrical wiring located in the insulated space. It may also pierce and damage the sealed refrigeration system in the insulated space.

DAMAGED ELECTRICAL WIRING OR WET INSULATION CAUSED BY DRILLING WILL VOID THE WARRANTY.

Glass Lid (Glass Lid Models)

- There are two (2) glass lids, a smaller one that fits in the lower track of the ice cream freezer and a larger one that fits in the upper track. The lower track has two (2) round retaining studs and the upper has four (4) round retaining studs
- Install the lower glass first. Again, the lower glass is the smaller of the two. It has a flexible vinyl seal and a lock plate. The flexible seal should be facing up and positioned on the end away from the two round retaining studs. Place the panel in the center and slide along the lower track until it is secure under the two retaining studs.



Features

- Place the upper glass panel over the lower glass panel already in place. Slide it over the lower lid past the flexible seal. You will notice a slight resistance with the lower lid gasket. Slide the upper panel under the four studs on the upper track of the frame.
- When properly installed, there is a seal formed by the flexible vinyl seal between the two glass lids.

Appliance Start-up

Once the appliance has been located in its permanent location and the proper power and grounding has been provided, the following items must be checked or completed:

Cool Down Period

For safe food storage, allow 24 hours for the appliance to cool down completely before loading with food. The appliance will run continuously for the first several hours. Do not place any food in the appliance until after the first 24 hours of operation.

Thermostat Setting

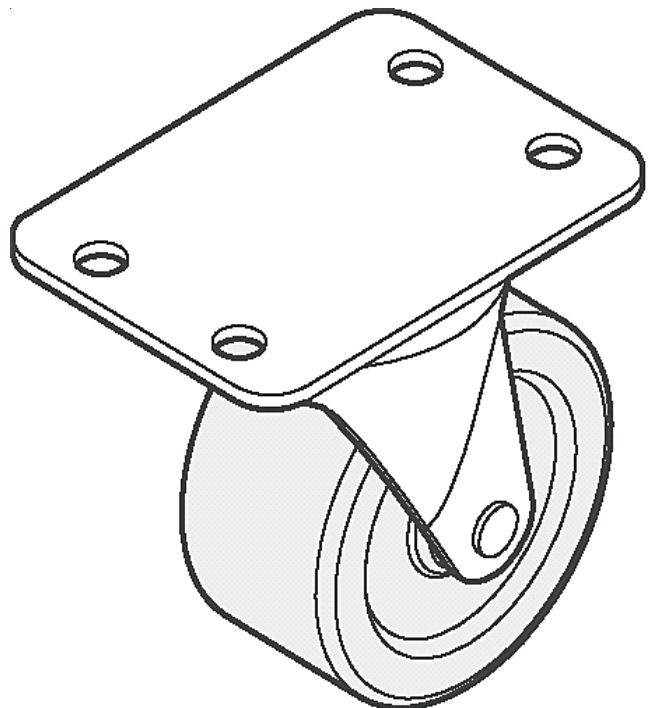
The appliance is shipped from the factory with the thermostat set at about the mid-point of the operating range. Adjustments colder or warmer can be made after the appliance has been running for at least 8 hours. Allow at least 8 hours for temperature stabilization before re-adjusting the thermostat.

Interior Lighting (Some Chest Freezer Models)

The light comes on automatically when the lid is opened. To replace the light bulb, turn the temperature control to "OFF" and **UNPLUG THE ELECTRICAL CORD**. Replace the old bulb with a bulb of the same type and 25 watt.

Four (4) Swivel Casters

The freezer comes with four (4) swivel casters. The casters allow the appliance to be moved with ease. Refer to the Installation and Setup section for caster installation instructions.



Commercial Grade Basket

The **NSF** certified basket helps organize odd-shaped items. To reach other packages in the freezer, slide the basket aside or lift it out.

Security Lock

This security lock fastens the lid snugly, ensuring that stored food is secure. To lock or unlock the freezer, slide the key into the lock and turn. The key pops out of the lock after it has been turned.

Adjustable Temperature Control

The adjustable thermostat control is located on the left outside wall of the unit.

Interior Thermometer

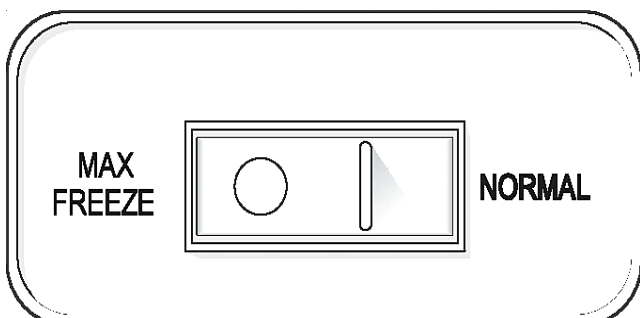
The appliance comes with an **NSF** certified thermometer to show internal temperatures. The thermometer is attached to the plastic interior lid panel on commercial chest freezers and on the wire basket on ice cream freezers.

MaxFreeze Switch (Some Chest Models)

When the Max Freeze setting is activated, the LED on the rocker switch will light up. This setting puts the compressor in a fulltime run mode and overrides the thermostatic control. This in turn results in constant cooling of the freezer and provides the fastest freezer cool down period.

In most conditions the MaxFreeze setting will maintain lower freezer compartment temperatures than would the Normal setting. The Normal setting can be used to save energy when rapid cool down times aren't needed or when constantly maintaining the lowest temperature is not required.

To return the freezer back to normal operating mode, push the switch to the normal position.



Routine Maintenance

Between Defrosting

To avoid frequent defrosting, occasionally use a plastic scraper to remove frost. Scrape with pulling motion. **NEVER** use a metal instrument to remove frost.

Defrosting

It is important to defrost and clean the freezer when $\frac{1}{4}$ to $\frac{1}{2}$ inch of frost has accumulated. Frost may tend to accumulate faster on the upper part of the freezer due to warm, moist air entering the freezer when the lid is opened. Remove food and leave the lid open when defrosting the freezer.

To use the defrost drain, place a shallow pan beneath the drain outlet (Figure 1). Pull out the drain plug inside the freezer, and pull off the outside defrost drain plug (Figure 2). Defrost water will drain out. Check pan occasionally so water does not overflow. Replace the drain plugs when defrosting is completed.

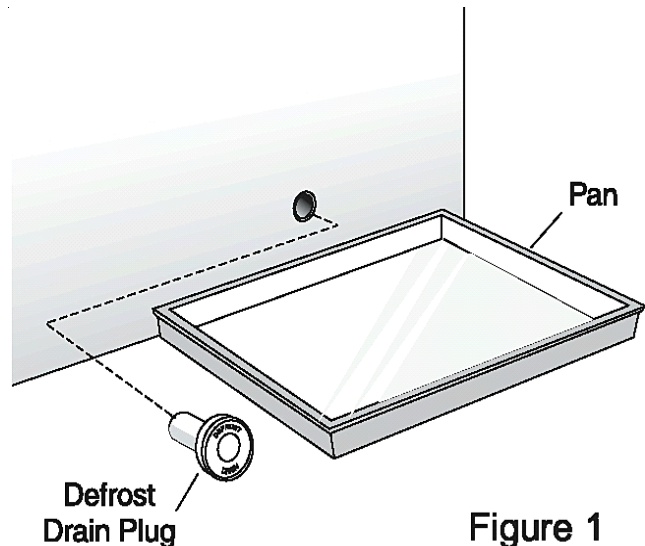


Figure 1

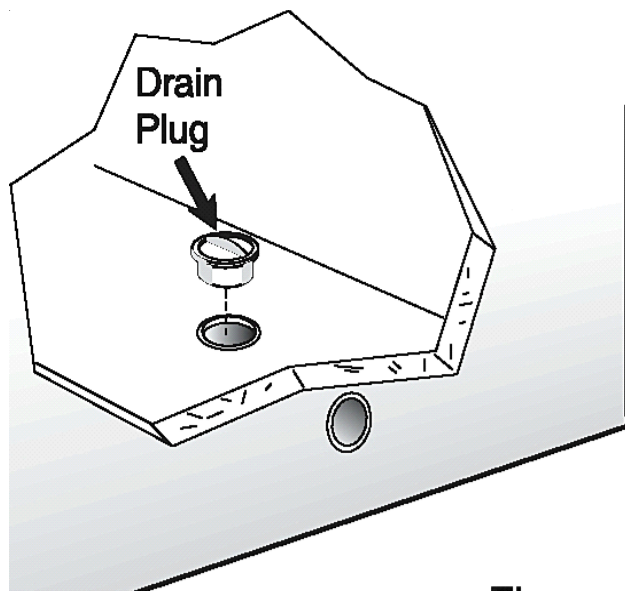


Figure 2

If the frost is soft, remove it by using a plastic scraper. If the frost is glazed and hard, fill deep pans with hot water and place them on the freezer bottom. Close the freezer lid. Frost should soften in about 15 minutes. Repeat this procedure if necessary.

Cleaning

After defrosting, wash inside and outside surfaces of the freezer with a solution of two (2) tablespoons of baking soda in one (1) quart (1.136 liters) warm water. Rinse and dry. Wring excess water out of the sponge or cloth when cleaning in the area of the controls, or any electrical parts.

Wash the removable parts with the baking soda solution mentioned above, or mild detergent and warm water. Rinse and dry. **NEVER** use metallic scouring pads, brushes, abrasive cleaners, or alkaline solutions on any surface. **DO NOT** wash removable parts in a dishwasher. Replace parts and food.

POWER FAILURE

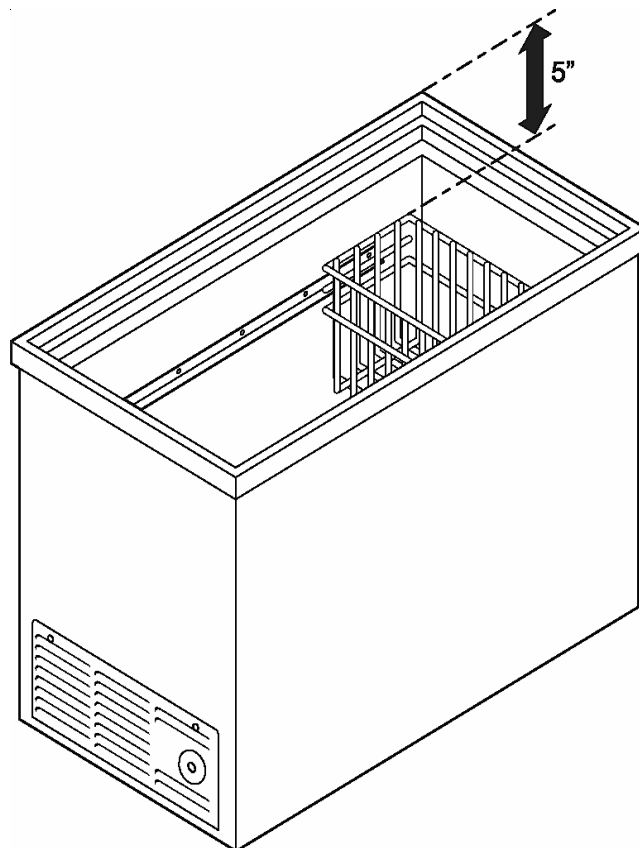
DO NOT open the freezer lid unnecessarily if the freezer is off for several hours.

If a power failure occurs, pack seven or eight pounds of dry ice into the freezer every 24 hours. Look in the Yellow Pages under "Dry Ice", "Dairies", or "Ice Cream Manufacturers" for local dry ice suppliers. Always wear gloves and use caution when handling dry ice.

Energy Conservation Measures

This appliance is designed for efficiency with heavy foam insulation. However, there are things that the user can do to maintain the appliance in operating condition.

- Do not operate the appliance any colder than necessary to maintain safe, product storage temperatures.
- Make sure the appliance is located to prevent direct exposure to sunlight, air ducts, etc.
- Keep the lid closed except for normal use. Inspect the lid often to see that it self-closes and the gaskets are in good condition.
- Do not overstock the product in the cabinet because it will block the normal air flow. See illustration below.



- Have at least annual inspections by a qualified service company to see that the refrigerant charge is correct.
- This appliance operates more efficiently in a cooler ambient than in a hot ambient. Try to maintain an ambient below 80°F (27°C) and 65% RH (Relative Humidity) for maximum efficiency.

Periods of Non-use and Moving Tips

Leave the freezer operating during periods of non-use of less than three (3) weeks.

Long Periods of Non-use

If the freezer will not be used for several months:

- Remove all food and unplug the power cord.
- Clean and dry the interior thoroughly.
- Leave the freezer lid open slightly, blocking it open if necessary, to prevent odor and mold growth.

Moving

When moving the freezer, follow these guidelines to prevent damage:

- Disconnect the power cord plug from the wall outlet.
- Remove foods, then defrost, and clean the freezer.
- Secure all loose items such as base panel, baskets, and shelves by taping them securely in place to prevent damage.
- In the moving vehicle, secure freezer in an upright position to prevent movement. Also, protect outside of freezer with a blanket or similar item.

TROUBLESHOOTING GUIDE		Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.
PROBLEM	CAUSE	CORRECTION
FREEZER OPERATION		
Freezer does not run.	* Freezer is plugged into a circuit that has a ground fault interrupt.	* Use another circuit. If you are unsure about the outlet, have it checked by a certified technician.
	* Temperature control is in the "OFF" position.	* See Thermostat Setting.
	* Freezer 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 runs too much or too long.	* Room or outside weather is hot.	* It's normal for the freezer to work harder under these conditions.
	* Freezer has recently been disconnected for a period of time.	* It takes 24 hours for the freezer to cool down completely.
	* Large amount of warm or hot food have been stored recently.	* Warm food will cause freezer to run more until the desired temperature is reached.
	* Lid is opened too frequently or kept open too long.	* Warm air entering the freezer causes it to run more. Open the lid less often.
	* Temperature control is set too low.	* Turn control knob to a warmer setting. Allow several hours for the temperature to stabilize.
	* Freezer gaskets are dirty, worn, cracked or poorly fitted.	* Clean or change gasket. Leaks in the lid seal will cause freezer to run longer in order to maintain desired temperature.
	* MaxFreeze switch is "ON".	* Deactivate MaxFreeze switch.
Interior freezer temperature is too cold.	* Temperature control is set too low.	* Turn control knob to a warmer setting. Allow several hours for the temperature to stabilize.
	* MaxFreeze switch is "ON".	* Deactivate MaxFreeze switch.

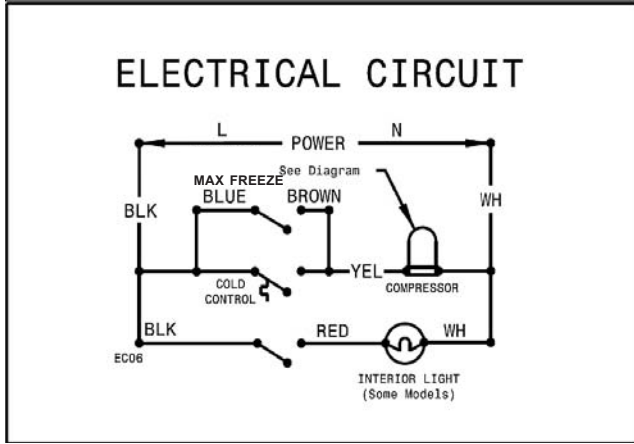
TROUBLESHOOTING GUIDE	Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.	
PROBLEM	CAUSE	CORRECTION
FREEZER OPERATION		
Interior freezer temperature is too warm.	* Temperature control is set too warm.	* Turn control knob to a colder setting. Allow several hours for the temperature to stabilize.
	* Lid is opened too frequently or kept open too long.	* Warm air entering the freezer causes it to run more. Open the lid less often.
	* Large amount of warm or hot food have been stored recently.	* Wait until the freezer has had a chance to reach its selected temperature.
	* Freezer has recently been disconnected for a period of time.	* Freezer requires 24 hours to cool down completely.
Freezer external surface temperature is warm.	* The external freezer 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 freezer cabinet.
SOUND AND NOISE		
Louder sound levels whenever freezer 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 operates at higher pressures during the start of the ON cycle.	* This is normal. Sound will level off or disappear as freezer 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 continues to run.
Bubbling or gurgling sound.	* Refrigerant (used to cool freezer) is circulating throughout the system.	* This is normal.
Vibrating or rattling noise.	* Freezer is not level. It rocks on the floor when it is moved slightly.	* Level the freezer by putting wood or metal shims under part of the freezer.
	* Floor is uneven or weak.	* Ensure floor can adequately support freezer. Level the freezer by putting wood or metal shims under part of the freezer.
	* Freezer is touching the wall.	* Re-level freezer or move freezer slightly.

TROUBLESHOOTING GUIDE		Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.
PROBLEM	CAUSE	CORRECTION
WATER / MOISTURE / FROST INSIDE FREEZER		
Moisture forms on inside freezer walls.	* Weather is hot and humid, which increases internal rate of frost buildup.	* This is normal.
ODOR IN FREEZER		
Odors in freezer.	* Interior needs to be cleaned.	* Clean interior with sponge, warm water, and baking soda.
	* Foods with strong odors are in the freezer.	* Cover the food tightly.

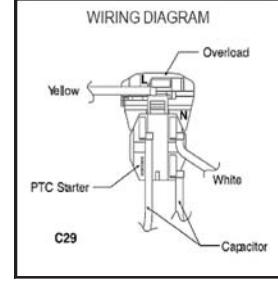
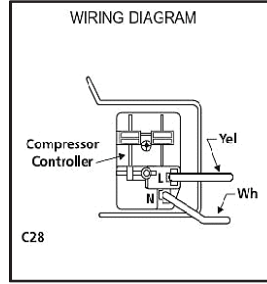
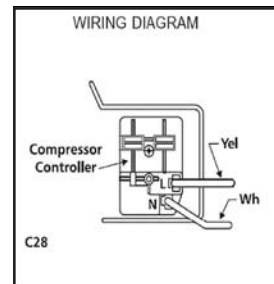
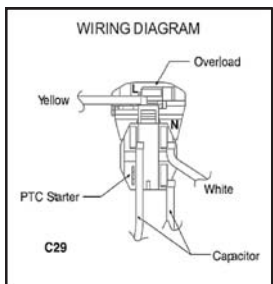
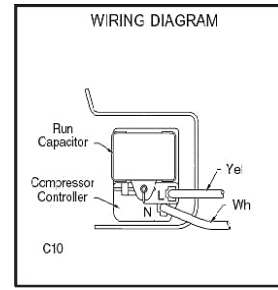
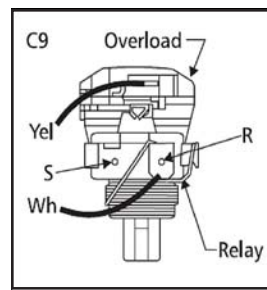
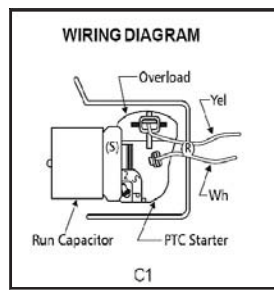
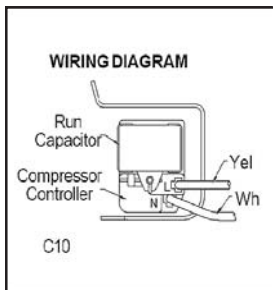
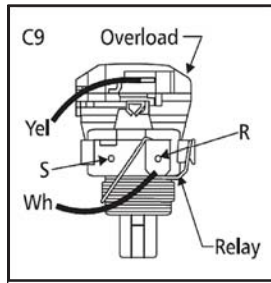
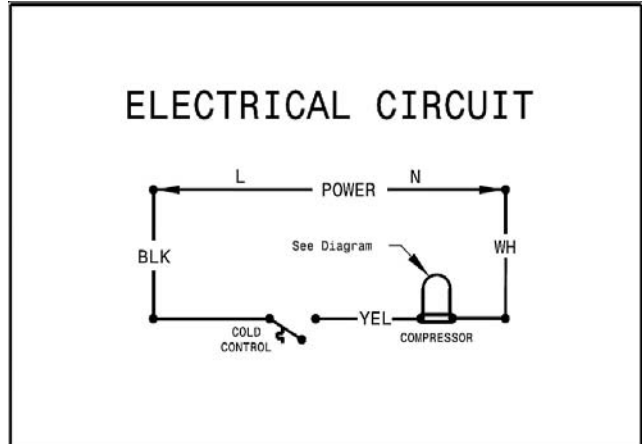
IMPORTANT SAFETY NOTICE

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 the power cord before servicing.

SOLID TOP CHEST MODELS



ICE CREAM FREEZER MODELS



IMPORTANT
IF ANY GREEN GROUNDING WIRES ARE REMOVED DURING SERVICING, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY SECURED.

Commercial Appliance Warranty Information

Your appliance is covered by a one year limited warranty. For one year from your original date of purchase, Electrolux will pay all costs for repairing or replacing any parts of this appliance that prove to be defective in materials or workmanship when such appliance is installed, used and maintained in accordance with the provided instructions.

SAMPLE WARRANTY ALWAYS REFER TO WARRANTY WITH PRODUCT

Exclusions

This warranty does not cover the following:

1. All labor costs on commercial laundry products.
2. Payment acceptance devices for commercial laundry products.
3. Products with original serial numbers that have been removed, altered or cannot be readily determined.
4. Normal wear and tear and gradual deterioration.
5. Product that has been transferred from its original owner to another party or removed outside the USA or Canada.
6. Rust on the interior or exterior of the unit.
7. Products purchased "as-is".
8. Food loss due to any refrigerator or freezer failures.
9. Damage caused at any time during shipment.
10. Service calls which do not involve malfunction or defects in materials or workmanship, or for appliances used other than in accordance with the provided instructions.
11. Service calls to correct the installation of your appliance or to instruct you how to use your appliance.
12. Expenses for making the appliance accessible for servicing, such as removal of trim, cupboards, shelves, etc., which are not a part of the appliance when it is shipped from the factory.
13. Service calls to replace appliance light bulbs, air filters, water filters, other consumables, or knobs, handles, or other cosmetic parts.
14. Surcharges including, but not limited to, any after hour, weekend, or holiday service calls, tolls, ferry trip charges, or mileage expense for service calls to remote areas, including the state of Alaska.
15. Damages to the finish of appliance and/or location that are incurred during installation, including but not limited to floors, cabinets, walls, etc.
16. Damages caused by: services performed by unauthorized service companies; use of parts other than genuine Electrolux parts or parts obtained from persons other than authorized service companies; or external causes such as abuse, misuse, inadequate power supply, accidents, fires, or acts of God.
17. Labor costs after ninety (90) days from your original date of purchase incurred for product repair or replacement as provided herein for appliances operated by a concessionaire or vendor in a trailer or other motorized vehicle or at varying locations.

DISCLAIMER OF IMPLIED WARRANTIES; LIMITATION OF REMEDIES CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR OR REPLACEMENT AS PROVIDED HEREIN. CLAIMS BASED ON IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR OR THE SHORTEST PERIOD ALLOWED BY LAW, BUT NOT LESS THAN ONE YEAR. ELECTROLUX SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES SUCH AS PROPERTY DAMAGE AND INCIDENTAL EXPENSES RESULTING FROM ANY BREACH OF THIS WRITTEN LIMITED WARRANTY OR ANY IMPLIED WARRANTY. SOME STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THESE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WRITTEN WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

If You Need Service

Keep your receipt, delivery slip, or some other appropriate payment record to establish the warranty period should service be required. If service is performed, it is in your best interest to obtain and keep all receipts. Service under this warranty must be obtained by contacting Electrolux at the addresses or phone numbers below.

This warranty only applies in the USA and Canada. In the USA, your appliance is warranted by Electrolux Major Appliances North America, a division of Electrolux Home Products, Inc. In Canada, your appliance is warranted by Electrolux Canada Corp. Electrolux authorizes no person to change or add to any obligations under this warranty. Obligations for service and parts under this warranty must be performed by Electrolux or an authorized service company. Product features or specifications as described or illustrated are subject to change without notice.

USA

1.866.738.1640

Electrolux Major Appliances
North America
P.O. Box 212378
Augusta, GA 30907



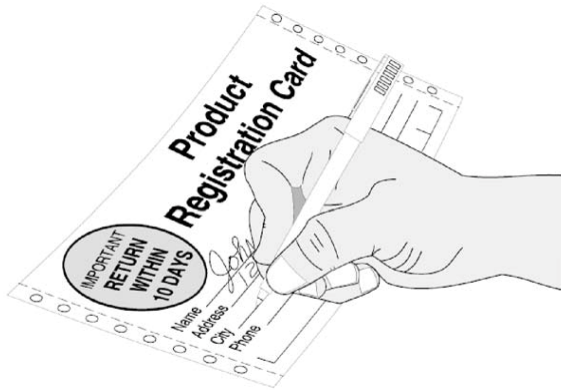
Canada

1.866.738.1640

Electrolux Canada Corp.
5855 Terry Fox Way
Mississauga, Ontario, Canada
L5V 3E4

SECTION B - OWNERS GUIDE (Upright Freezers/Refrigerator)

Product Registration



These instructions include information which is intended to assure the operator of correct installation, operation and service. Before attempting installation, adjustment or maintenance, be certain of the following:

- That you have read and fully understand the instructions.
- That you have all the tools required and are trained to use them.
- That you have met all installation and usage restrictions and are familiar with the functions and operations of the unit.
- That you follow all instructions exactly as given.

All the fittings, measurements, recommendations and procedures are significant. Substitutions and approximations must be avoided. Improper handling, maintenance, installation and adjustment, or service attempted by anyone other than a qualified technician, may void the future warranty claims and cause damage to the unit and/or result in injury to the operator and/or bystanders.

Record Your Model and Serial Numbers

Record the Model No. and Serial No. of this appliance in the space provided below. (the serial plate is located inside the cabinet compartment).

Model No. _____
Serial No. _____
Installation Date _____
Invoice Date _____
Start-up date _____
Telephone for Service _____

Register Your Product

The self-addressed **PRODUCT REGISTRATION CARD** (shown above) should be filled in completely, signed and returned to the address provided.

Important Safety Instructions

Read all instructions before using this appliance

⚠ WARNING For Your Safety

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

⚠ WARNING Child Safety

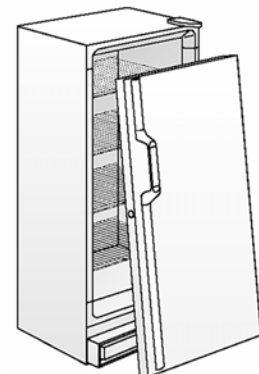
- Destroy carton, plastic bags, and any exterior wrapping material immediately after the appliance is unpacked. Children should never use these items for play. Cartons covered with rugs, bedspreads, plastic sheets or stretch wrap may become airtight chambers and can quickly cause suffocation.
- A child might suffocate if he crawls into the appliance to hide or play. Remove the door/lid of the appliance when not in use, even if you plan to discard the appliance. Many communities have laws requiring you to take this safety precaution.

Proper Disposal of Freezer

⚠ WARNING Risk of Child Entrapment

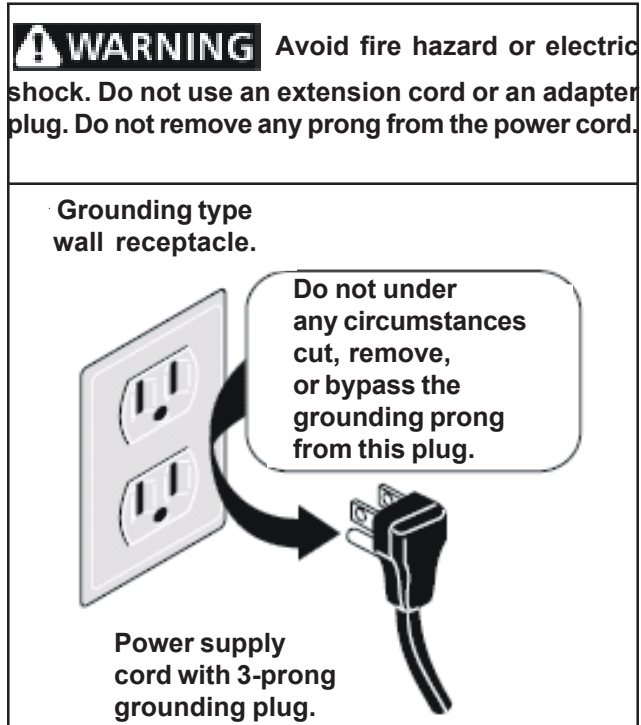
Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators or freezers are still dangerous – even if they will sit for “just a few days. If you are getting rid of your old refrigerator or freezer, please follow the instructions below to help prevent accidents.

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



⚠ WARNING Electrical Information

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



- Refer to the serial plate for correct electrical rating. The power cord of the appliance is equipped with a three-prong grounding plug for protection against shock hazards. It must be plugged directly into 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 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 voltage varies by 10 percent or more, appliance performance may be affected. Operating the appliance 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 appliance from being turned off accidentally, do not plug the unit into an outlet controlled by a wall switch or pull cord.
- Do not pinch, knot, or bend the power cord in any manner.

⚠ WARNING Other Precautions

- Never unplug the appliance by pulling on the power cord. Always grip the plug firmly and pull straight out from the receptacle.
- To avoid electrical shock, unplug the appliance before cleaning.

Note : Turning the control to OFF turns off the compressor, but does not disconnect power to other electrical components.

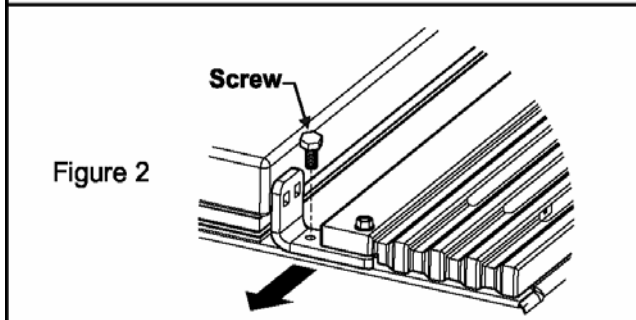
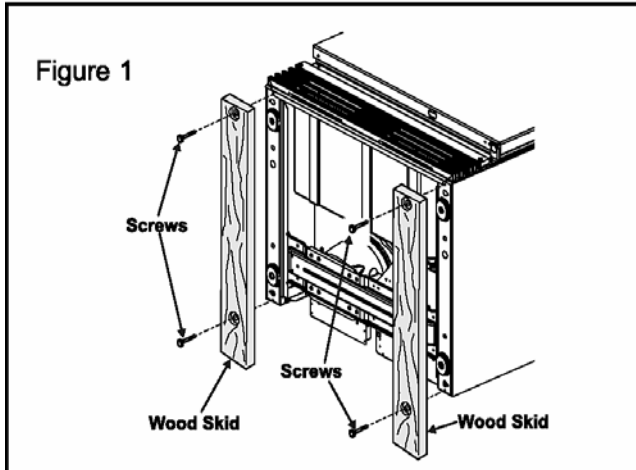
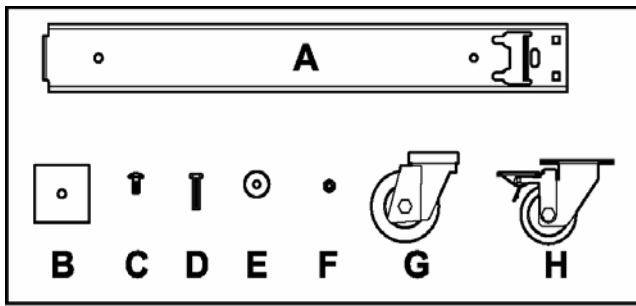
Installation and Setup

Inspect for Damage

Inspect the underside of the cabinet and packaging for damage such as a fork truck can cause. If hidden damage is found after uncrating, immediately call the delivery carrier and request an inspection. Retain all packaging and crating materials until the inspection is complete.

Uncrate and Set-up

- Remove carton and all loose parts from inside of freezer.
- Tip unit onto its back with the help of an assistant. Lay the unit gently to rest on blocks to avoid damaging the condensate drain hose, and the plastic raceway that covers the evaporator tubing on the back of the cabinet.
- Remove and discard the two wood skids from bottom and the four (4) screws (see the Fig. 1).
- Remove the bottom door hinge and screw on the lower lefthand side of the cabinet used to support the glass doorduring shipping using a 3/8 socket wrench (see Fig. 2).
- Remove the package containing the casters from the unit. This package will contain the following items:
 - Two (2) caster rail supports (A)
 - Two (2) spacer plates (B)
 - Eight (8) carriage bolts (C)
 - Four (4) bolts (D)
 - Four (4) washers (E)
 - Eight (8) locking nuts (F)
 - Two (2) swivel casters (G)
 - Two (2) fixed casters with brakes (H)



Front Fixed Caster Installation

- Put two (2) carriage bolts through the rear (non-brake) side of the fixed caster and hold the carriage bolts loosely in place by threading several turns each on the locking nuts. Do not tighten the bolts yet.
- Hold the caster in position, insert the carriage bolt heads into the slots near the front of the caster rail and slide the caster back.
- Insert the two (2) front carriage bolts thru the top side of the caster rail and then thru the front holes on the caster. Attach locking nuts to each.
- Tighten all locking nuts securely using a ½ inch end wrench or socket wrench (see Fig. 3).
- Repeat the same procedure for the other fixed caster.

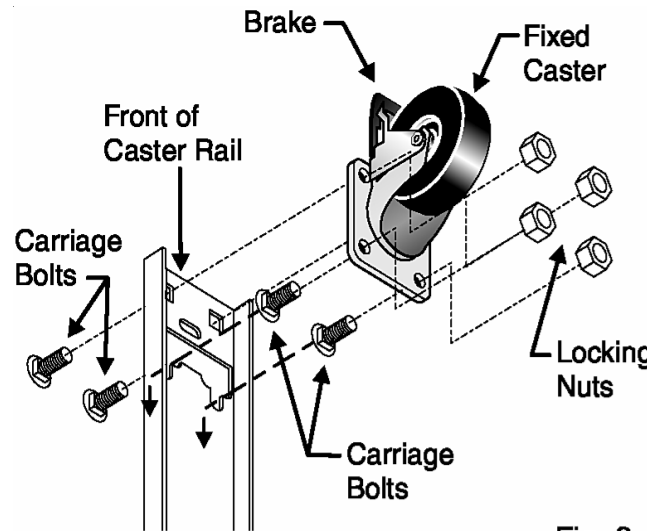


Fig. 3

Rear Swivel Caster Installation

- Place a washer on a long bolt and then feed the bolt through the hole in the swivel caster.
- Next, insert the caster bolt through the hole on the metal spacer and then thru the rear hole of the caster rail (see Fig. 4).

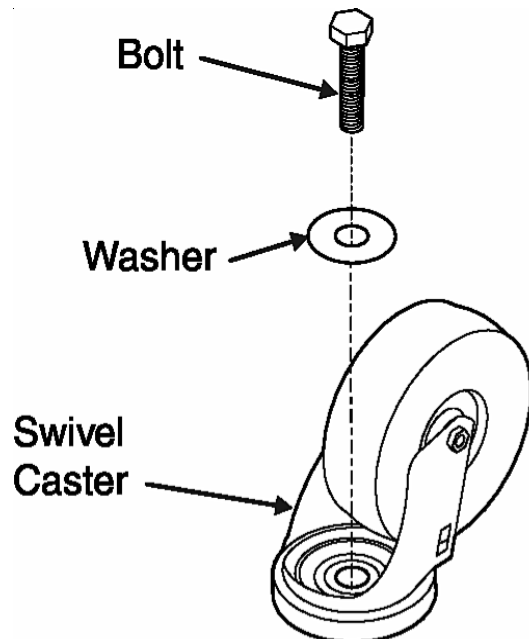


Fig. 4

Caster Rail Installation

- Holding the swivel caster in place, align the caster rail assembly with the right hand bottom side of the unit.
- Thread the caster bolt into the hole in the bottom-most foot pad on the base rail.

- Tighten the bolt securely using a ½ inch end wrench or socket wrench (see Fig. 5).

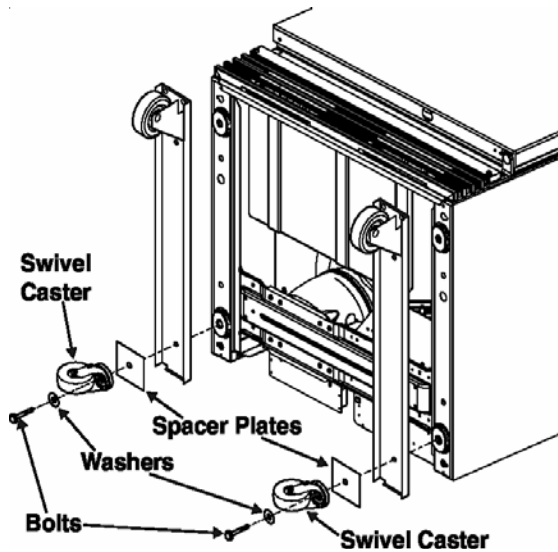


Fig. 5

- Repeat the same procedure on the left hand side with the other swivel caster and caster rail assembly. Fig. 6
- Place a washer onto a long bolt and slide bolt through the hole located just behind the fixed caster at the front of the caster rail.
- Align bolt with the hole in the front foot of the right hand base rail. Thread bolt into the hole and tighten securely using a ½ inch end wrench or socket wrench (see Fig. 6).
- Repeat the same procedure for the left hand caster rail assembly. After installation, tip the unit up with the help of an assistant.

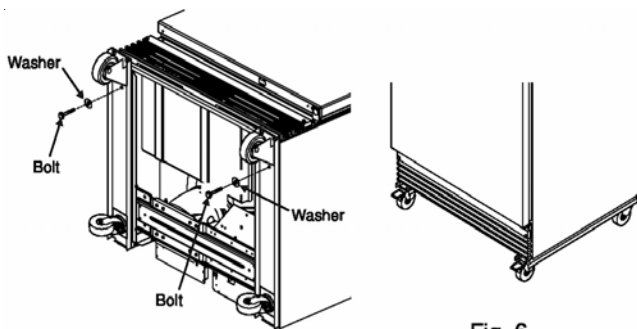


Fig. 6

Appliance Placement

Leave a one (1) inch space on all sides and the back of the cabinet for ease of installation, proper air circulation and electrical connections. **DO NOT block the front grill on the lower front of your appliance.** Sufficient air circulation is essential for the proper operation of your

appliance. Choose a place that is near a grounded electrical outlet. For the most efficient operation, the appliance should be located where surrounding temperatures will not drop below 40°F (5°C) or exceed 110°F (43°C). Additional compressor heaters are not recommended.

Insulation

The insulated space of this cabinet is sealed to maintain peak efficiency. **DO NOT** drill holes in the cabinet. Holes drilled in the cabinet may destroy that seal and damage electrical wiring located in the insulated space. It may also pierce and damage the sealed refrigeration system in the insulated space.

DAMAGED ELECTRICAL WIRING OR WET INSULATION CAUSED BY DRILLING WILL VOID THE WARRANTY.

Appliance Start-Up

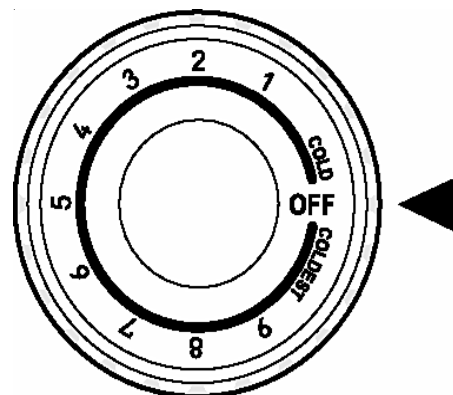
Once the appliance has been located in its permanent location and the proper power and grounding has been provided, the following items must be checked or completed:

Cool Down Period

For safe food storage, allow 24 hours for the appliance to cool down completely before loading with food. The appliance will run continuously for the first several hours. Do not place any food in the appliance until after the first 24 hours of operation.

Thermostat Settings

The appliance is shipped from the factory with the thermostat set at about the mid-point of the operating range. Adjustments colder or warmer can be made after the appliance has been running for at least 8 hours. Allow at least 8 hours for temperature stabilization before re-adjusting the thermostat.



Defrost Setting

The appliance is designed to defrost automatically every 12 hours. To set the time of defrost, wait until the desired time to defrost. With the notch on the timer knob aligned with the line on the bracket (Figure A), turn the defrost timer knob clockwise slowly. The timer will click several times, then once loudly, at which point the defrost cycle begins. The timer knob will advance through the defrost cycle, then click loudly at the end of the cycle (Figure B). The appliance will defrost automatically every 12 hours after the first defrost cycle.

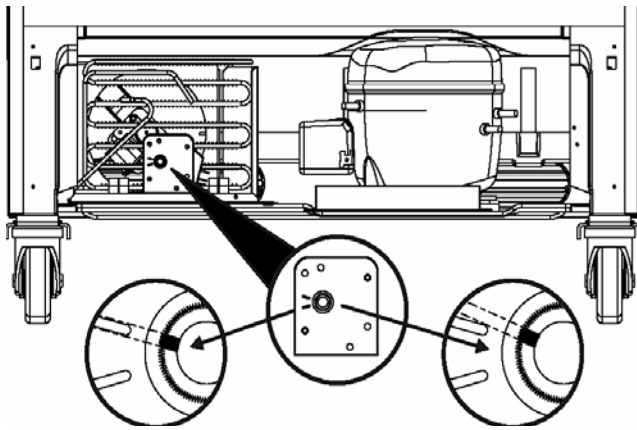


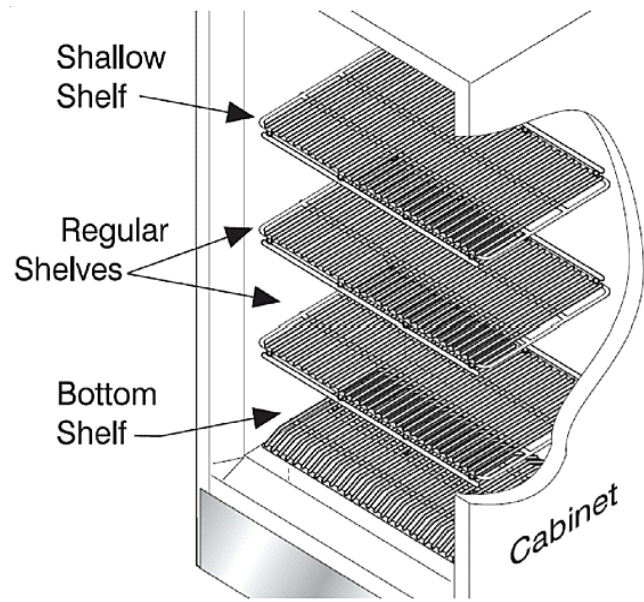
Fig. A
Position of knob before
at end turning clockwise
to start defrost cycle
(First click)

Fig. B
Position of knob
at the end of
the defrost cycle
(Second click)

Features

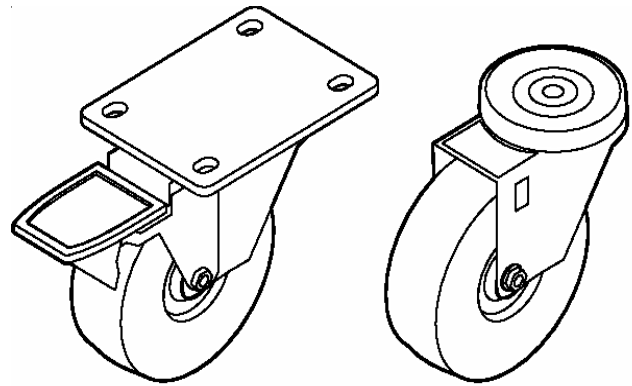
NSF and FDA Approved Adjustable Shelving

This appliance is provided with NSF and FDA approved heavy duty epoxy powder coated adjustable shelves. The one with the wires that are angled on the front and back goes on the floor of the cabinet. The others are placed in the adjustable stainless steel shelf supports that clip into the shelf support strips on each side of the interior. Make sure to place the shallow shelf in the upper-most position.



Front Fixed and Rear Swivel Casters

This appliance comes with two (2) front fixed casters with brakes and two (2) rear swivel casters. The casters allow the appliance to be moved with ease and then locked in position at its desired location.

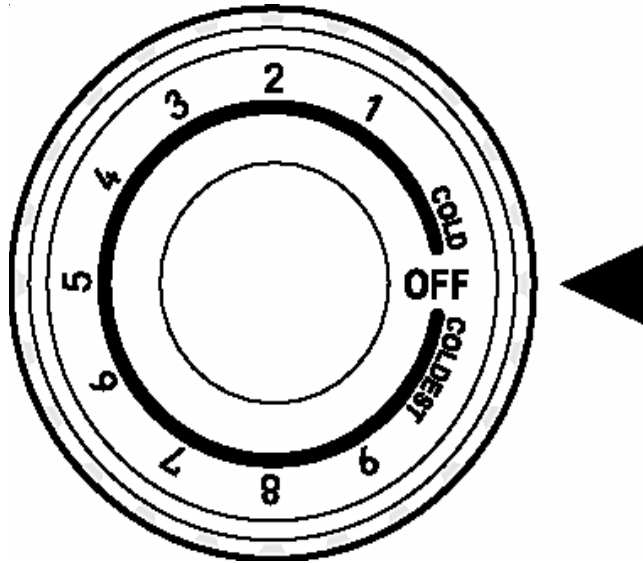


Fixed Caster

Swivel Caster

Adjustable Temperature Control

The adjustable cold control is located on the top left side of the evaporator housing inside the unit. “5” is the medium(recommended) setting and “9” is the coldest setting.



NSF Certified Temperature Gauge

This appliance is equipped with an NSF certified temperature gauge to display cabinet internal temperature. The temperature gauge is located on the top right side of the evaporator housing inside the unit.



Fluorescent Lamp (Glass Door Models)

The Glass Door Refrigerator is equipped with a 17 watt fluorescent lamp. A ballast – lamp mismatch may result in poor or no lighting.

If the lamp fails, replace with a lamp of the same type and wattage. Also, replace a lamp that flickers continuously. This could damage the ballast.

Turning the light off, when not in use, will save energy. However, frequent ON-OFF cycling will reduce the lamp life.

Use only NSF certified lamp which can be ordered from your Frigidaire Commercial Service Center by calling 1-866-738-1640.

Interior Light (Stainless Steel Door Models)

The Stainless Steel Door models are equipped with a 40 watt bulb that lights up when the door is opened. If the bulb goes bad, replace with bulb of the same type and wattage. This is a special bulb with a shatterproof coating. Use only an NSF certified bulb of the same type and wattage which can be ordered from your Frigidaire Commercial Service Center by calling 1-866-738-1640.

Routine Maintenance

Cleaning the Interior

Be sure to turn the temperature control to off and unplug the electrical cord. Wash the inside surface of the storage area with warm water and baking soda solution (about one tablespoon of baking soda per quart of water). Rinse thoroughly with clean, warm water and wipe dry.

Cleaning the Exterior

Wipe the cabinet exterior occasionally with a cloth dampened in mild detergent and water. Rinse and wipe dry with a soft cloth. Do not use razor blades or other sharp instruments that can scratch the appliance surface when removing adhesive labels. Any glue left from the tape can be removed with a mixture of warm water and mild detergent or touch the residue with the sticky side of tape already removed. **DO NOT REMOVE THE SERIAL PLATE.**

Condensate Pan

Some models have a condensate pan in a fixed position located behind the toe grill. This must not be removed from under the cabinet. If the pan is removed, condensate will drop onto the floor.

POWER FAILURE

DO NOT open the appliance lid unnecessarily if the appliance is off for several hours.

If a power failure occurs, pack seven or eight pounds of dry ice into the appliance every 24 hours. Look in the Yellow Pages under “Dry Ice”, “Dairies”, or “Ice Cream Manufacturers” for local dry ice suppliers. Always wear gloves and use caution when handling dry ice.

Energy Conservation Measures

This appliance is designed for efficiency with heavy foam insulation. However, there are things that the user can do to maintain the appliance in operating condition.

- Do not operate the appliance any colder than necessary to maintain safe, product storage temperatures.
- Make sure the appliance is located to prevent direct exposure to sunlight, air ducts, etc.
- Keep the door closed except for normal use. Inspect the door often to see that it self-closes and the gaskets are in good condition.
- Do not overstock the product in the cabinet because it will block the normal air flow.
- Have at least annual inspections by a qualified service company to see that the refrigerant charge is correct.
- This appliance operates more efficiently in a cooler ambient than in a hot ambient. Try to maintain an ambient below 80°F (27°C) and 65% RH (Relative Humidity) for maximum efficiency.

Periods of Non-use and Moving Tips

Leave the appliance operating during periods of non-use of less than three (3) weeks.

Long Periods of Non-use

If the appliance will not be used for several months:

- Remove all food and unplug the power cord.
- Clean and dry the interior thoroughly.
- Leave the appliance door open slightly, blocking it open if necessary, to prevent odor and mold growth.

Moving

When moving the appliance, follow these guidelines to prevent damage:

- Disconnect the power cord plug from the wall outlet.
- Remove foods, then defrost, and clean the appliance.
- Secure all loose items such as base panel, baskets, and shelves by taping them securely in place to prevent damage.

- In the moving vehicle, secure appliance in an upright position to prevent movement. Also, protect outside of appliance with a blanket or similar item.

TROUBLESHOOTING GUIDE	Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.	
PROBLEM	CAUSE	CORRECTION
APPLIANCE OPERATION		
Appliance does not run.	* Appliance is plugged into a circuit that has a ground fault interrupt.	* Use another circuit. If you are unsure about the outlet, have it checked by a certified technician.
	* Temperature control is in the "OFF" position.	* See Thermostat Setting.
	* Appliance 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.
Appliance runs too much or too long.	* Room or outside weather is hot.	* It's normal for the appliance to work harder under these conditions.
	* Appliance has recently been disconnected for a period of time.	* It takes 24 hours for the appliance to cool down completely.
	* Large amount of warm or hot food have been stored recently.	* Warm food will cause appliance to run more until the desired temperature is reached.
	* Door is opened too frequently or kept open too long.	* Warm air entering the freezer causes it to run more. Open the lid less often.
	* Temperature control is set too low.	* Turn control knob to a warmer setting. Allow several hours for the temperature to stabilize.
	* Appliance gaskets are dirty, worn, cracked or poorly fitted.	* Clean or change gasket. Leaks in the lid seal will cause freezer to run longer in order to maintain desired temperature.
	* Appliance door may be slightly open.	* See Door Problems.
Interior appliance temperature is too cold.	* Temperature control is set too low.	* Turn control knob to a warmer setting. Allow several hours for the temperature to stabilize.

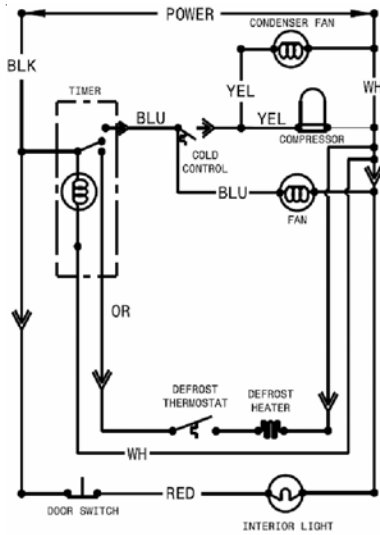
TROUBLESHOOTING GUIDE		
Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.		
PROBLEM	CAUSE	CORRECTION
APPLIANCE OPERATION		
Interior appliance temperature is too warm.	* Temperature control is set too warm.	* Turn control knob 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 freezer causes it to run more. Open the lid less often.
	* Appliance door may be slightly open.	* See Door Problems.
	* Large amount of warm or hot food have been stored recently.	* Wait until the freezer has had a chance to reach its selected temperature.
	* Appliance has recently been disconnected for a period of time.	* Appliance requires 24 hours to cool down completely.
Appliance external surface temperature is warm.	* The external appliance 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 appliance cabinet.
SOUND AND NOISE		
Louder sound levels whenever appliance is on.	* Modern appliance 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.	* Appliance operates at higher pressures during the start of the ON cycle.	* This is normal. Sound will level off or disappear as appliance 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 appliance continues to run.
Bubbling or gurgling sound.	* Refrigerant (used to cool freezer) is circulating throughout the system.	* This is normal.
Vibrating or rattling noise.	* Appliance is not level. It rocks on the floor when it is moved slightly.	* Level the appliance by putting wood or metal shims under part of the appliance.
	* Floor is uneven or weak.	* Ensure floor can adequately support freezer. Level the appliance by putting wood or metal shims under part of the appliance.
	* Appliance is touching the wall.	* Re-level appliance or move appliance slightly.

TROUBLESHOOTING GUIDE	Before calling for service, review this list. It may save you time and expense. This list includes common occurrences that are not the result of defective workmanship or materials in this appliance.	
PROBLEM	CAUSE	CORRECTION
WATER / MOISTURE / FROST INSIDE APPLIANCE		
Moisture forms on inside appliance walls.	* Weather is hot and humid, which increases internal rate of frost buildup.	* This is normal.
ODOR IN APPLIANCE		
Odors in appliance.	* Interior needs to be cleaned.	* Clean interior with sponge, warm water, and baking soda.
	* Foods with strong odors are in the appliance.	* Cover the food tightly.
DOOR PROBLEMS		
Door will not close.	* Appliance is not level. It rocks on the floor when it is moved slightly.	* Level the appliance by putting wood or metal shams under part of the appliance.
	* Floor is uneven or weak.	* Esure floor can adequately support appliance. Level the appliance by putting wood or metal shims under part of the appliance.
LIGHTING PROBLEMS		
Light bulb is not on.	* The fluoescent lamp or light bulb is burned out.	* See "Fluorescent Lamp" or "Interior Light" on Features Section.
	* No electrical current is reaching the appliance.	* See "Appliance Does Not Run."

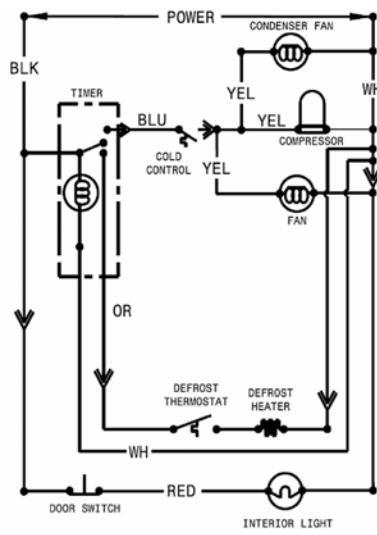
IMPORTANT SAFETY NOTICE

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 the power cord before servicing.

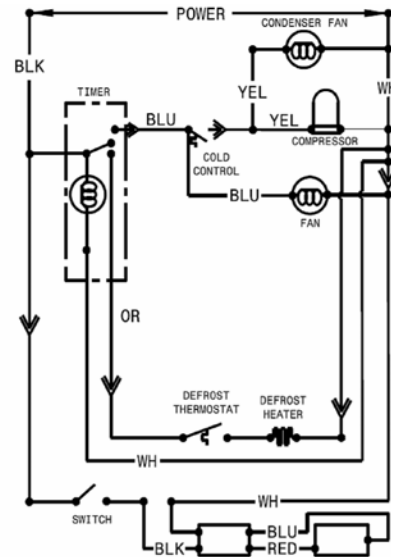
ELECTRICAL CIRCUIT



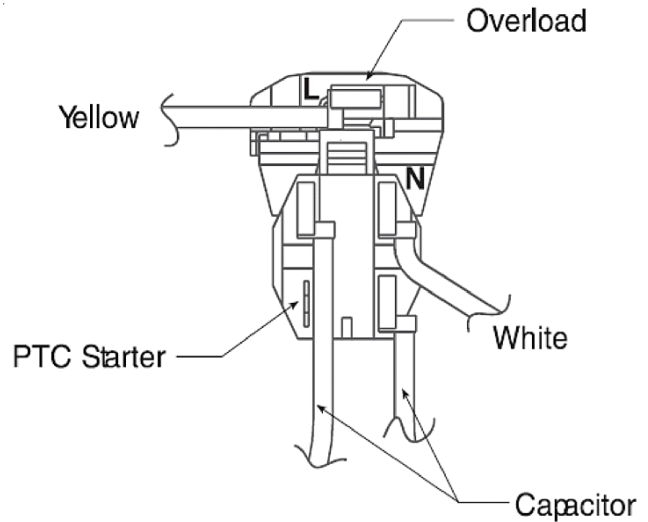
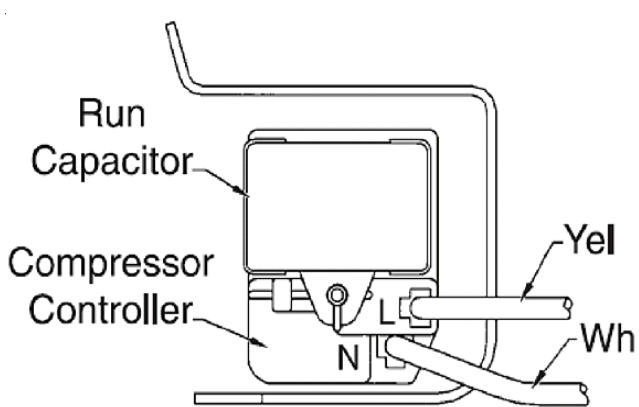
**STAINLESS STEEL DOOR
REFRIGERATOR**



**STAINLESS STEEL DOOR
FREEZER**



**GLASS DOOR
REFRIGERATOR**



IMPORTANT
IF ANY GREEN GROUNDING WIRES ARE REMOVED DURING SERVICING, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY SECURED.

Commercial Appliance Warranty Information

Your appliance is covered by a one year limited warranty. For one year from your original date of purchase, Electrolux will pay all costs for repairing or replacing any parts of this appliance that prove to be defective in materials or workmanship when such appliance is installed, used and maintained in accordance with the provided instructions.

SAMPLE WARRANTY ALWAYS REFER TO WARRANTY WITH PRODUCT

Exclusions

This warranty does not cover the following:

1. All labor costs on commercial laundry products.
2. Payment acceptance devices for commercial laundry products.
3. Products with original serial numbers that have been removed, altered or cannot be readily determined.
4. Normal wear and tear and gradual deterioration.
5. Product that has been transferred from its original owner to another party or removed outside the USA or Canada.
6. Rust on the interior or exterior of the unit.
7. Products purchased "as-is".
8. Food loss due to any refrigerator or freezer failures.
9. Damage caused at any time during shipment.
10. Service calls which do not involve malfunction or defects in materials or workmanship, or for appliances used other than in accordance with the provided instructions.
11. Service calls to correct the installation of your appliance or to instruct you how to use your appliance.
12. Expenses for making the appliance accessible for servicing, such as removal of trim, cupboards, shelves, etc., which are not a part of the appliance when it is shipped from the factory.
13. Service calls to replace appliance light bulbs, air filters, water filters, other consumables, or knobs, handles, or other cosmetic parts.
14. Surcharges including, but not limited to, any after hour, weekend, or holiday service calls, tolls, ferry trip charges, or mileage expense for service calls to remote areas, including the state of Alaska.
15. Damages to the finish of appliance and/or location that are incurred during installation, including but not limited to floors, cabinets, walls, etc.
16. Damages caused by: services performed by unauthorized service companies; use of parts other than genuine Electrolux parts or parts obtained from persons other than authorized service companies; or external causes such as abuse, misuse, inadequate power supply, accidents, fires, or acts of God.
17. Labor costs after ninety (90) days from your original date of purchase incurred for product repair or replacement as provided herein for appliances operated by a concessionaire or vendor in a trailer or other motorized vehicle or at varying locations.

DISCLAIMER OF IMPLIED WARRANTIES; LIMITATION OF REMEDIES CUSTOMER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY SHALL BE PRODUCT REPAIR OR REPLACEMENT AS PROVIDED HEREIN. CLAIMS BASED ON IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR OR THE SHORTEST PERIOD ALLOWED BY LAW, BUT NOT LESS THAN ONE YEAR. ELECTROLUX SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES SUCH AS PROPERTY DAMAGE AND INCIDENTAL EXPENSES RESULTING FROM ANY BREACH OF THIS WRITTEN LIMITED WARRANTY OR ANY IMPLIED WARRANTY. SOME STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THESE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS WRITTEN WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

If You Need Service

Keep your receipt, delivery slip, or some other appropriate payment record to establish the warranty period should service be required. If service is performed, it is in your best interest to obtain and keep all receipts. Service under this warranty must be obtained by contacting Electrolux at the addresses or phone numbers below.

This warranty only applies in the USA and Canada. In the USA, your appliance is warranted by Electrolux Major Appliances North America, a division of Electrolux Home Products, Inc. In Canada, your appliance is warranted by Electrolux Canada Corp. Electrolux authorizes no person to change or add to any obligations under this warranty. Obligations for service and parts under this warranty must be performed by Electrolux or an authorized service company. Product features or specifications as described or illustrated are subject to change without notice.

USA

1.866.738.1640

Electrolux Major Appliances
North America
P.O. Box 212378
Augusta, GA 30907



Canada

1.866.738.1640

Electrolux Canada Corp.
5855 Terry Fox Way
Mississauga, Ontario, Canada
L5V 3E4

SECTION C - ELECTRICAL CIRCUITS

Ice cream freezer models

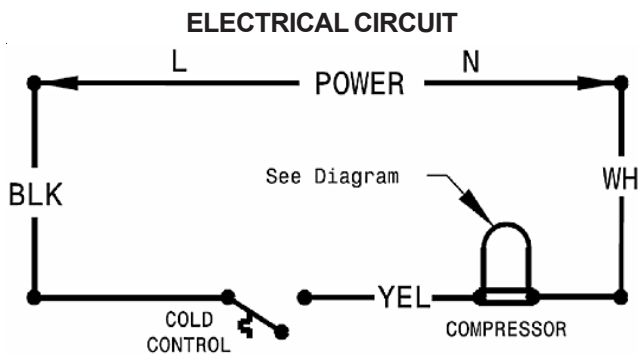
The ice cream freezer models are made with a single electrical circuit consisting of a cold control and the compressor.

The cold control is an hydraulically operated switch that senses the temperature in the freezer. When the temperature in the freezer raises above the cold control setting the contacts close applying power to the compressor.

When the contacts of the cold control are closed power is applied to the over load protector of the compressor. The overload protector is a thermal device that senses the temperature of the compressor shell and prevents damage to compressor motor by removing power if the compressor overheats.

The overload protector is connected to pin "C" of the compressor. Pin "C" of the compressor is connected internally in the compressor to the ends of the start and run windings of the compressor motor. The other end of the run winding is internally connected to pin "M" of the compressor, while the other end of the start winding is internally connected to pin "S" of the compressor.

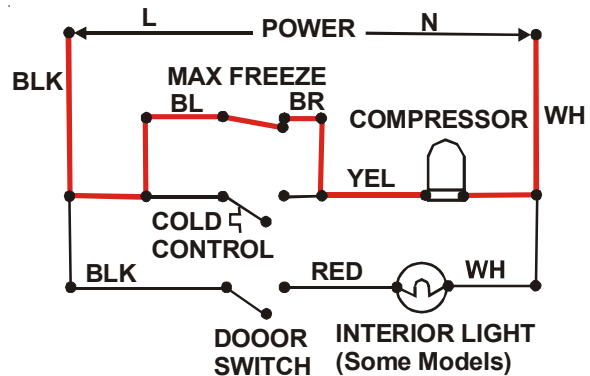
The compressor start relay is pushed on over the compressor pins "M" and "S". The start relay is a current sensitive relay, made up of a coil and a set of contacts. The coil of the relay is connected between pin "M" of the compressor and terminal (2) of the relay, which in turn is connected to neutral. The contacts of the relay are connected between terminal "S" of the compressor and terminal (2) of the relay.



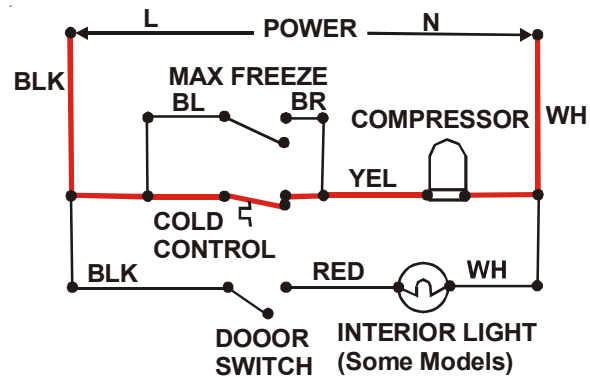
Solid top chest models

The solid top chest models have three electrical circuits; a circuit made up of the max freeze switch and the compressor, a circuit made up of the cold control and compressor and a circuit made up of the light switch and the interior light bulb.

The contacts of the max freeze switch are in parallel with the contacts of the cold control. When the switch is set to max freeze power is applied to the compressor continuously.



When the max freeze switch is in the normal (open) position, the temperature in the freezer is controlled by the cold control.



The cold control is an hydraulically operated switch that senses the temperature in the freezer. When the temperature in the freezer raises above the cold control setting the contacts close applying power to the compressor.

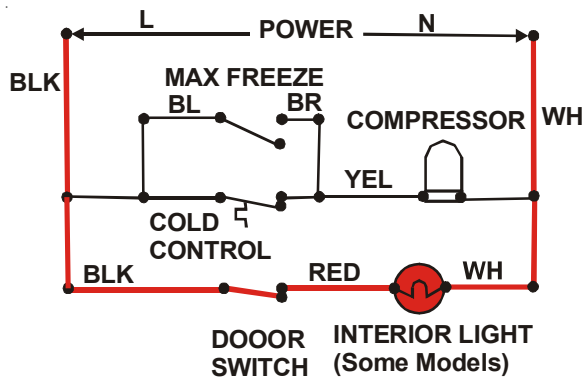
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The interior light circuit is controlled by the freezer door. When the doors opened, the contacts of the door switch close providing power to the interior light.



Upright freezer models

There are (4) electrical circuits in the upright freezer:

1. The Condenser Fan Motor, Compressor & Evaporator Fan Motor Circuit.

This circuit is made up of contacts (1) and (4) of the defrost timer, cold control, condenser fan motor, compressor and evaporator fan motor.

When power is applied to the freezer, line 1 is connected to terminal (1) of the defrost timer. The defrost timer is a single pole double throw switch that is operated by a motorized cam. The cam turns one revolution every (12) hours. The contacts between terminals (1) and (4), of the defrost timer, are closed for (11) hours and (30) minutes of the (12) hour cycle providing power to the cold control.

The cold control is an hydraulically operated switch that senses the temperature in the freezer. When the temperature in the freezer raises above the cold control setting the contacts of the cold control close applying power to condenser fan and evaporator fan motors and the compressor circuit.

The condenser fan motor runs drawing air from the rear of the freezer across the condenser coil to cool the coils helping to condense the refrigerant gas to a liquid.

The evaporator fan motor runs drawing air up through the evaporator and forces the cold air down across the food products. The movement of air across the evaporator allows a larger area to be cooled with a smaller evaporator.

Power to the compressor circuit is applied to the overload protector of the compressor. The overload protector is a thermal device that senses a temperature of the compressor shell and prevents damage to compressor motor by removing power if the compressor overheats.

The overload protector is connected to pin “C” of the compressor. Pin “C” of the compressor is connected internally in the compressor to the ends of the start and run windings of the compressor motor. The other end of the run winding is internally connected to pin “M” of the compressor, while the other end of the start winding is internally connected to pin “S” of the compressor.

The compressor start relay is pushed on over compressor pins “M” and “S”. The start relay is

a current sensitive relay, made up of a coil and a set of contacts. The coil of the relay is connected between pin “M” of the compressor and terminal (2) of the relay, which in turn is connected to neutral. The contacts of the relay are connected between terminal “S” of the compressor and terminal (2) of the relay.

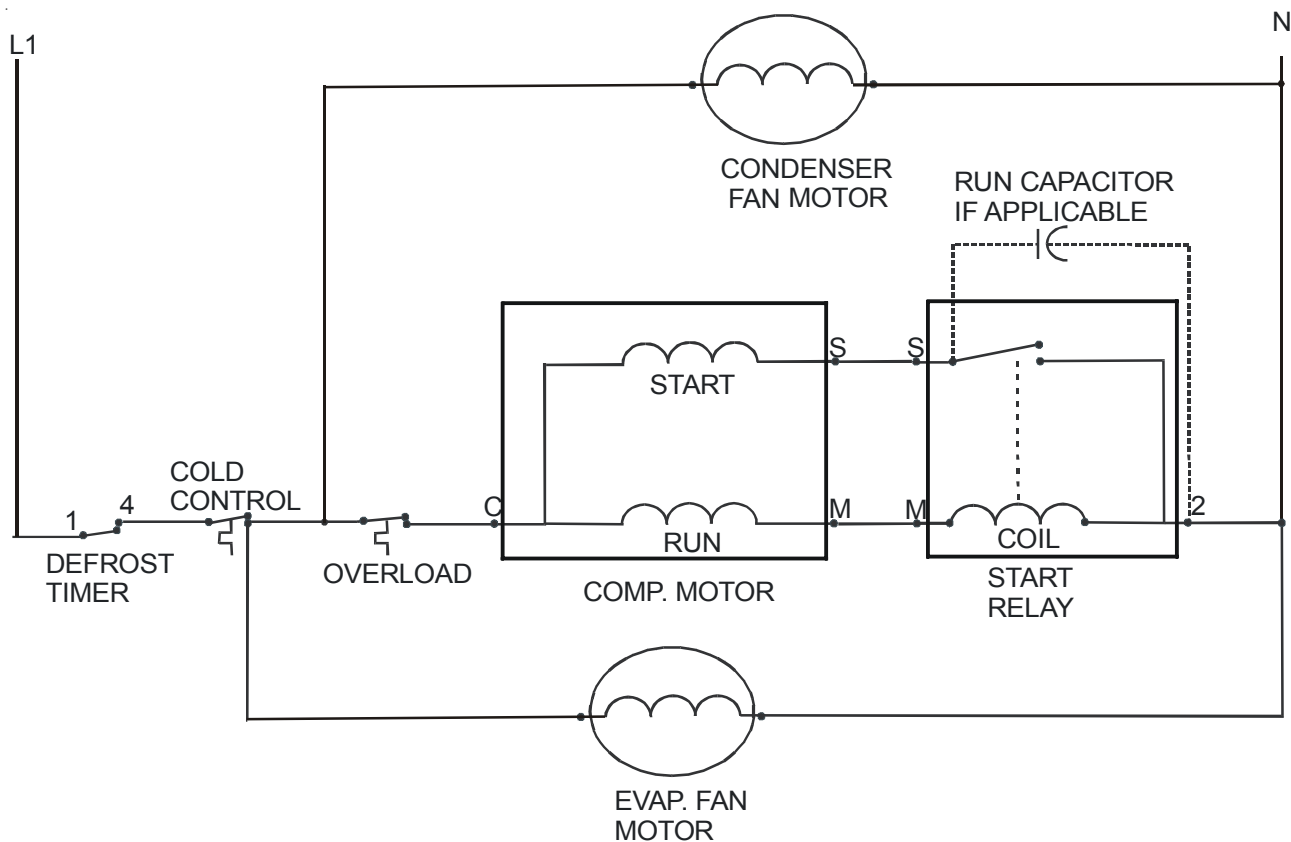
Electrical Current Flow

When the defrost timer is in the run mode, contacts (1) and (4) are closed, providing power to the cold control. When the contacts of the cold control are closed, power is applied across the condenser fan and the evaporator fan motors, causing the motors to run.

Also power is supplied to the overload protector of the compressor. Current flows through the overload applying power to both the start and run windings of the compressor. When the compressor is trying to start the only path for current flow is through the circuit formed by the run winding and the coil of the start relay to neutral.

Because of the relatively high starting resistance of the compressor the current through the coil is high enough to energize the relay coil. This closes the contacts of the start relay and connects the start winding to neutral. The current through the start winding induces a second, out-of-phase, magnetic field in the stator and starts the motor. As the motor speed increases, the run winding current is reduced. At a predetermined condition, the run winding current, which is also the current through the relay coil, drops to a value below that necessary to hold up the relay armature. The armature drops and opens the start relay contacts and removes the start winding from the circuit.

Since the condenser fan motor, the evaporator fan motor and the compressor are connected in parallel it is easier to troubleshoot the circuits. If any of the three components operate this indicates that contacts (1) and (4) the defrost timer are closed and the cold control contacts are closed. If none of the three components operate the check the defrost timer and cold control first. If two of the three components operate, then the component that is not operating or the wiring to the component that is not operating is defective.



2. The Defrost Circuit.

The defrost cycle, operates for 30 minutes out of every 12 hours, to remove the frost from the evaporator. The defrost circuit is made up of the contacts one and two of the defrost timer, defrost thermostat and the defrost heater.

When the defrost cycle is in operation, terminals (1) and (2) of the defrost timer are closed applying power to the defrost thermostat.

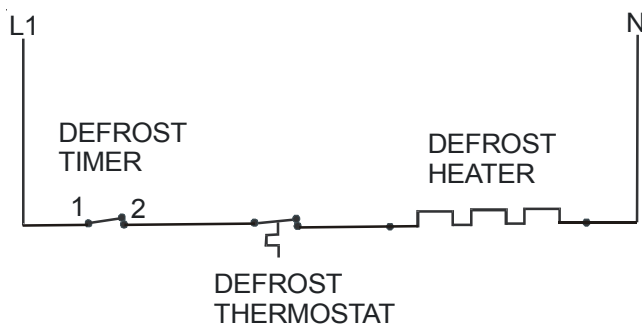
The defrost thermostat is a bimetal device that protects the evaporator from overheating, and damaging the cabinet, during the defrost cycle. The contacts of the defrost thermostat are closed at normal freezer temperatures. Power passes through the contacts of the defrost thermostat and is applied to the defrost heater.

Electrical Current Flow

When the cam of the defrost timer closes contacts (1) to (2), power is applied to defrost heater through the normally closed contacts of the defrost thermostat. The other end of the defrost heater is connected to neutral, which completes the circuit and allows current flow through the defrost heater.

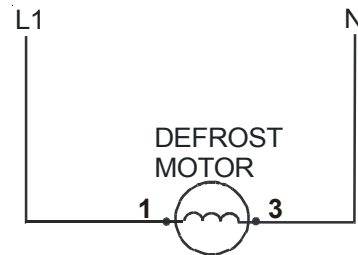
The specifications of the defrost thermostat are that it closes at 10°F and opens at 50°F. Although the defrost timer provides power to the circuit for 30 minutes, the heating element provides enough heat to open the contacts of the defrost thermostat in about 10 to 12 minutes.

The rest of the time is used to allow the moisture to drip off the evaporator so it does not refreeze when the compressor starts.



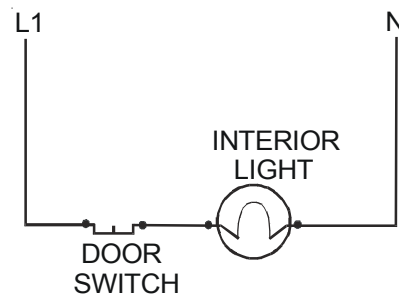
3. Defrost Timer Motor Circuit.

The defrost timer motor is connected internally in the timer between terminals (1) and (3). Line 1 is connected to terminal (1) of the defrost timer. Terminal three of the defrost timer is connected to neutral. This means that power is applied to the defrost timer motor whenever the freezer is connected to electrical power.



4. Freezer Interior Light.

The freezer interior light circuit is made up of a spring loaded door switch and a light bulb. Whenever the door is opened the contacts of the spring loaded switch closes, applying power to the light bulb.



Refrigerator Models

There are (5) electrical circuits in the upright refrigerator:

1. The Condenser Fan Motor & Compressor Circuit.

This circuit is made up of contacts (1) and (4) of the defrost timer, cold control, condenser fan motor and compressor.

When power is applied to the refrigerator, line 1 is connected to terminal (1) of the defrost timer. The defrost timer is a single pole double throw switch that is operated by a motorized cam. The cam turns one revolution every (12) hours. The contacts between terminals (1) and (4), of the defrost timer, are closed for (11) hours and (30) minutes of the (12) hour cycle providing power to the cold control.

The cold control is an hydraulically operated switch that senses the temperature in the refrigerator. When the temperature in the refrigerator raises above the cold control setting the contacts close applying power to condenser fan motor and compressor circuit.

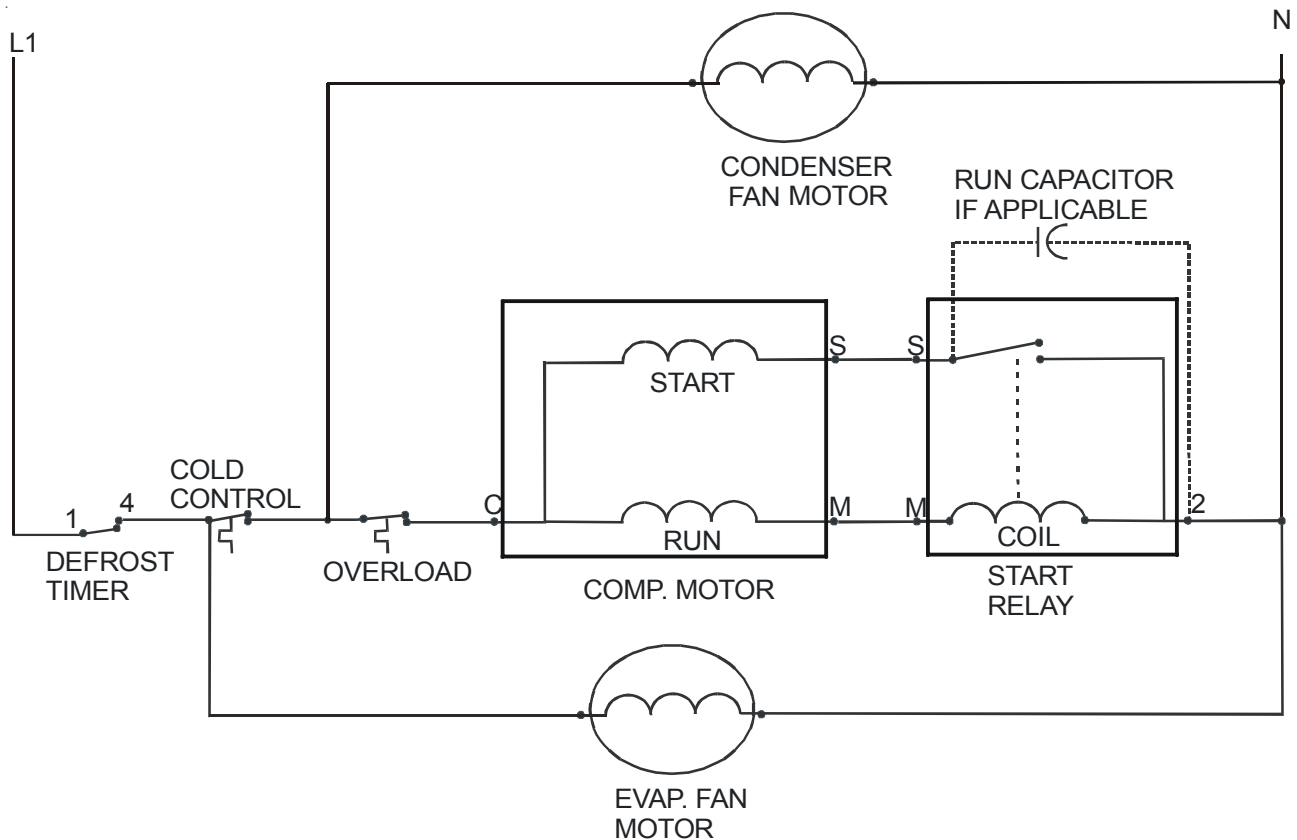
The condenser fan motor runs, whenever the contacts of the cold control are closed drawing air from the rear of the freezer across the condenser

coil to cool the coils and help condense the refrigerant gas to a liquid.

At the same time the cold control applies power to the overload protector of the compressor. The overload protector is a thermal device that senses a temperature of the compressor shell and prevents damage to compressor motor by removing power if the compressor overheats.

The overload protector is connected to pin "C" of the compressor. Pin "C" of the compressor is connected internally in the compressor to the ends of the start and run windings of the compressor motor. The other end of the run winding is internally connected to pin "M" of the compressor, while the other end of the start winding is internally connected to pin "S" of the compressor.

The compressor start relay is pushed on over compressor pins "M" and "S". The start relay is a current sensitive relay, made up of a coil and a set of contacts. The coil of the relay is connected between pin "M" of the compressor and terminal (2) of the relay, which in turn is connected to neutral. The contacts of the relay are connected between terminal "S" of the compressor and terminal (2) of the relay.



Electrical Current Flow

When the defrost timer is in the run mode, contacts (1) and (4) are closed, providing power to the cold control. When the contacts of the cold control are closed, power is applied across the condenser fan, causing the motors to run.

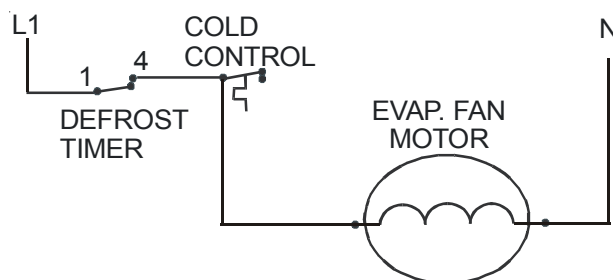
Also power is applied to the overload protector of the compressor. Current flows through the overload protector applying power to both the start and run windings of the compressor. When the compressor is trying to start the only path for current flow is through the circuit formed by the run winding and the coil of the start relay to neutral.

Because of the relatively high starting resistance of the compressor the current through the coil is high enough to energize the relay coil. This closes the contacts of the start relay and connects the start winding to neutral. The current through the start winding induces a second, out-of-phase, magnetic field in the stator and starts the motor. As the motor speed increases, the run winding current is reduced. At a predetermined condition, the run winding current, which is also the current through the relay coil, drops to a value below that necessary to hold up the relay armature. The armature drops and opens the start relay contacts and removes the start winding from the circuit.

Since the condenser fan motor and the compressor are connected in parallel it is easier to troubleshoot the circuits. If either of the components operate this indicates that contacts (1) and (4) the defrost timer are closed and the cold control contacts are closed. If neither of the components operate the check the defrost timer and cold control first. If one of the components operate, then the component that is not operating or the wiring to the component that is not operating is defective.

2. Evaporator Fan Circuit.

The evaporator fan motor is connected between the input terminal of the cold control and neutral. This means the evaporator fan motor run, anytime the defrost timer is in the run mode.



3. The Defrost Circuit.

The defrost cycle, operates for 30 minutes out of every 12 hours, to remove the frost from the evaporator. The defrost circuit is made up of the contacts one and two of the defrost timer, defrost thermostat and defrost heater.

When the defrost cycle is in operation, terminals (1) and (2) of the defrost timer are closed applying power to the defrost thermostat.

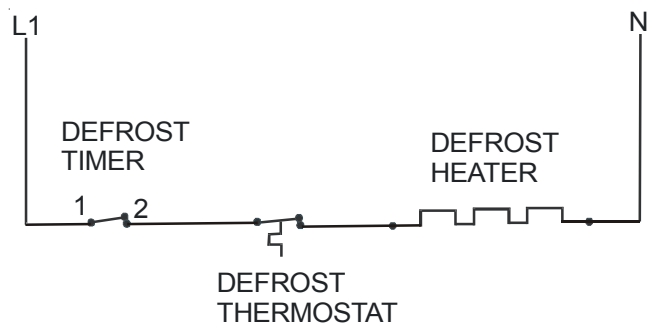
The defrost thermostat is a bimetal device that protects the evaporator from overheating and damaging the cabinet during the defrost cycle. The contacts of the defrost thermostat are closed at normal refrigerator temperatures. Power passes through the contacts of the defrost thermostat and is applied to the defrost heater.

Electrical Current Flow

When the cam of the defrost timer closes contacts (1) to (2), power is applied to defrost heater through the normally closed contacts of the defrost thermostat. The other end of the defrost heater is connected to neutral, which completes the circuit and allows current flow through the defrost heater.

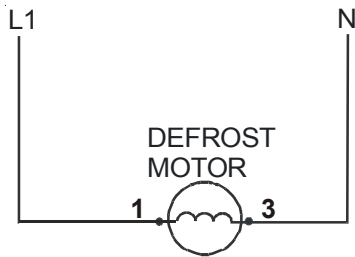
The specifications of the defrost thermostat are that it closes at 10°F and opens at 50°F. Although the defrost timer provides power to the circuit for 30 minutes, the heating element provides enough heat to open the contacts of the defrost thermostat in about 10 to 12 minutes.

The rest of the time is used to allow the moisture to drip off the evaporator so it does not refreeze when the compressor starts.



3. Defrost Timer Motor Circuit.

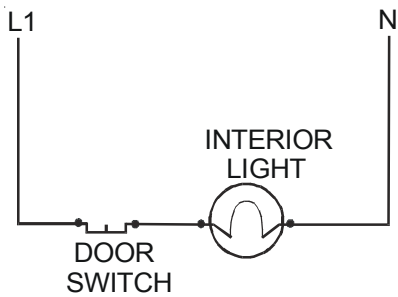
The defrost timer motor is connected internally in the timer between terminals (1) and (3). Line 1 is connected to terminal (1) of the defrost timer. Terminal three of the defrost timer is connected to neutral. This means that power is applied to the defrost timer motor whenever the refrigerator is connected to electrical power.



4. Refrigerator Interior Light.

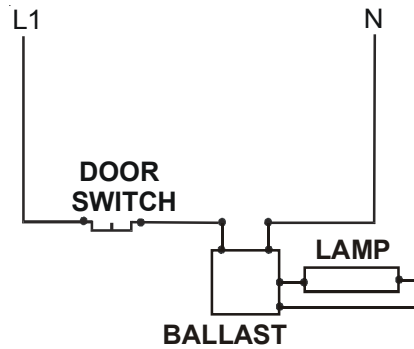
Stainless steel door models

The refrigerator Interior light circuit is made up of a spring loaded door switch and a light bulb. Whenever the door is opened the contacts of the spring loaded switch close, applying power to the light bulb.



Glass door models

The refrigerator Interior light circuit is made up of the light switch, fluorescent light bulb and ballast. When the switch is turned on the contacts close, applying power to the ballast. The ballast acts as an auto transformer building up voltage to breakdown the gas in the fluorescent light bulb to light the bulb. Once the bulb has illuminated the ballast act as resistor and reduces the amount of energy use by the circuit. The fluorescent light bulb, used as a self starting light bulb, so there's no fluorescent starter in the circuit.



SECTION D - REFRIGERATION SYSTEM & SERVICE

NOTICE: Instructions given here are furnished as a guide. Persons attempting to use these to make repairs to the sealed refrigeration system should have a working knowledge of refrigeration and previous training on sealed system repair.

Safety

WARNING **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 terminal 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 it happens, a spark at the compressor shell could ignite the refrigerant and oil mixture.

WARNING **Charging Sealed Systems:** Over charging a refrigerator or freezer 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. Electrical current continues to flow through the compressor motor windings which become, in effect, electrical 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 the 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 refrigerant specified for the system.

Soldering

CAUTION Wear the proper and 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 a proper fit. The 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 a loose fit. The 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 a liquid flux recommended for silver soldering to the surfaces to be joined, and to the surfaces immediately adjacent to the joint.
4. Align the tubing so that is no stress on the joint. Do not move the tubing while the solder is solidifying or leaks will result.

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

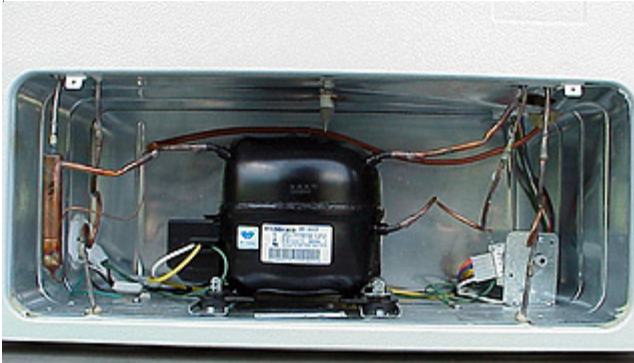
5. Use a torch of adequate capacity so that the joint can be quickly heated with a minimum of heat travel to other points. Use a good grade of silver solder.
6. Solder the connections. If the tubing is properly cleaned and fluxed, solder will flow readily. Do not use an excessive amount of solder, just enough to make a good bond.

7. Allow the joint to cool then wash exterior with water to remove flux.

Refrigeration System

Basic components of a refrigeration system are:

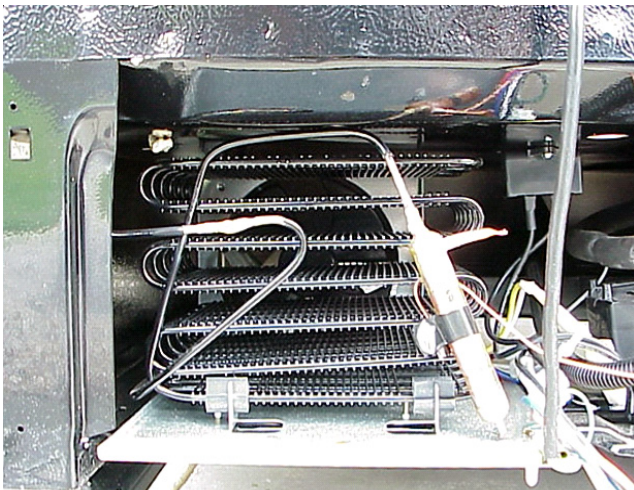
1. The compressor located in the machine compartment.



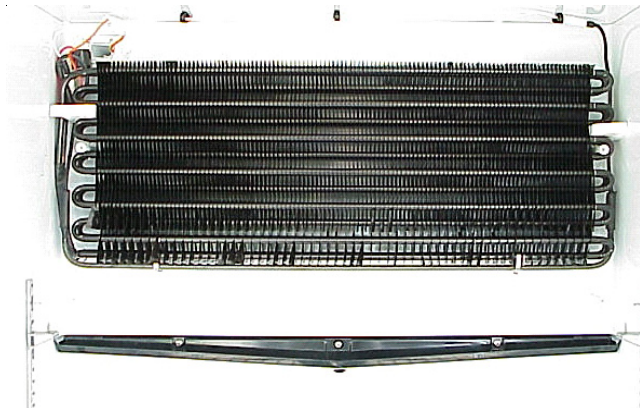
2. The condenser that is foamed to the outer walls of the cabinet or



mounted in the machine compartment.



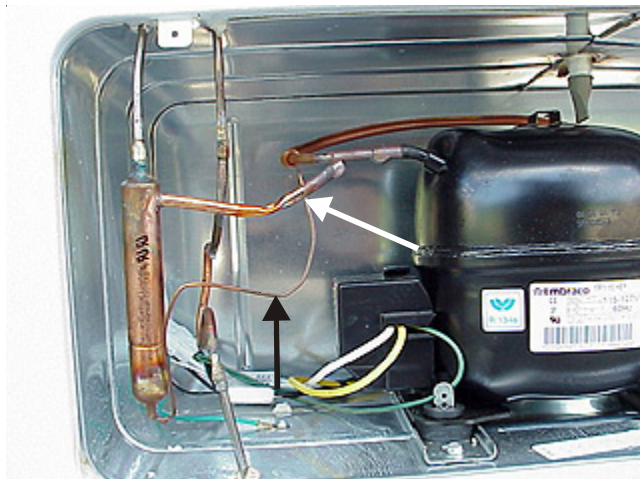
3. The evaporator mounted to the rear wall of the food compartment or



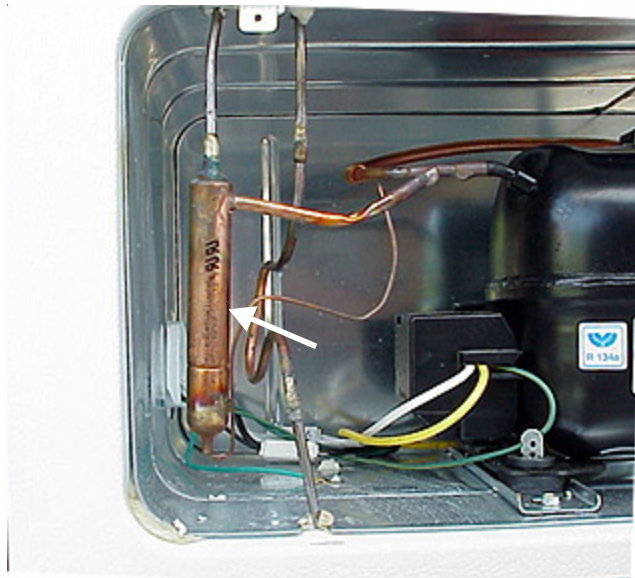
attached to the food compartment liner.



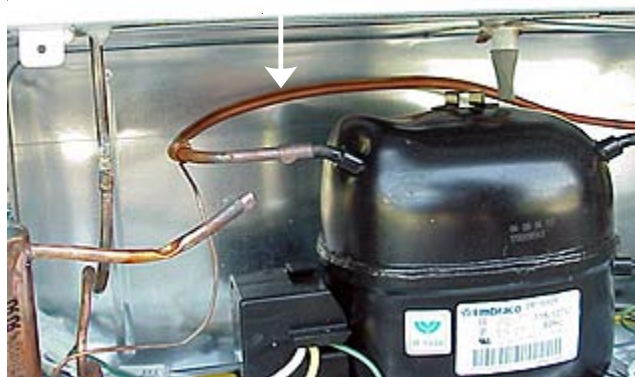
4. The capillary tube connects the output end of the drier to the input of the evaporator.



5. The filter-drier located in the machine compartment.



6. The suction line connects the output of the evaporator to the input side of the compressor.



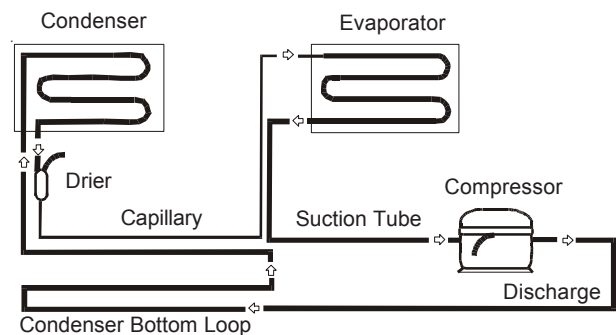
Note: Portions of the capillary tube and the suction line are soldered together to form the heat exchanger.

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 the heat introduced by the product load and door openings. The refrigerant vapor is then drawn from the evaporator, through the suction line, to the compressor. The pressure and temperature of the vapor is raised in the compressor by compression, 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 flows from the condenser to the evaporator, through the small

diameter liquid line (capillary tube). Before it enters the evaporator, it is sub-cooled in the heat exchanger by the low temperature suction vapor in the suction line.

SYSTEM SCHEMATIC



Low or High Side Leak or Undercharge

A loss of refrigerant results in excessive or continuous compressor operation; above normal refrigerator or freezer compartment temperature; a partially frosted evaporator (depending on the amount of refrigerant loss); above normal refrigerator or freezer compartment temperature; low suction pressure (vacuum) and low wattage. The condenser will be "warm to cool," again, depending on the amount of refrigerant lost.

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. In the case of a low side refrigerant leak, resulting in a complete loss of refrigerant, the compressor will run, but with no refrigeration. Suction pressure will drop below atmospheric pressure, and air and moisture will be drawn into the system, saturating the filter-drier.

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

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 evaporator, excessive amounts of moisture may have entered the system. In such cases the compressor may need to be replaced to prevent repetitive service.

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

Test for Refrigerant Leaks

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 would 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 1/4" line piercing valve to the compressor process tube. Add sufficient refrigerant to increase the pressure to 75 lb. per sq. inch. Through this procedure, slow leaks are more easily detected before discharging the system.

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

Procedure for Checking Condenser Leaks (Chest Freezer)

Before checking for leaks in the condenser, check all accessible system components and joints for leaks.

If a condenser leak is suspected:

1. Discharge the system by using refrigerant recovery equipment.
2. Disconnect the condenser tube from the drier and pinch off and solder both the drier and condenser tube closed.
3. Remove the discharge tube from the compressor and seal the opening to the compressor.
4. Connect a pressure gauge and access valve to the discharge tube and pressurize to 250 lbs. using dry nitrogen or carbon dioxide.

⚠ WARNING Never pressurize with oxygen. Never open a high pressure tank unless it is equipped with a pressure regulator. Never put high pressure on the dome of the compressor. Make sure the gauge and fitting is in good condition and do not leak.

5. Leave the pressure on the condenser for 24 hours. Any drop in pressure is an indication of a leak.

Procedure for Checking Condenser for Leaks (Upright Freezer and Refrigerators)

If a condenser leak is suspected:

1. Discharge the system by using refrigerant recovery equipment.

2. Disconnect the input and output tubes to the condenser.
3. Pinch off and solder the opening to the warm wall condenser loop and filter drier.
4. Pinch off and solder one of the condenser tubes, and connect a pressure gauge and access valve to other tube.
5. Pressurize to 250 lbs. using dry nitrogen or carbon dioxide.

⚠ WARNING Never pressurize with oxygen. Never open a high pressure tank unless it is equipped with a pressure regulator. Never put high pressure on the dome of the compressor. Make sure the gauge and fitting is in good condition and do not leak.

5. Leave the pressure on the condenser for 24 hours. Any drop in pressure is an indication of a leak.

Procedure for Checking Warm-Wall Condenser Loop for Leaks (Upright Freezer and Refrigerators)

If a warm wall condenser loop leak is suspected:

1. Discharge the system by using refrigerant recovery equipment.
2. Disconnect the suction tube at the compressor and input tube to the condenser.
3. Seal the opening to the compressor and input tube to the condenser.
4. Pinch off and solder the end of the disconnected tube from the warm wall condenser loop at the condenser.
5. Connect a pressure gauge and access valve to the discharge tube and pressurize to 250 lbs. using dry nitrogen or carbon dioxide.

⚠ WARNING Never pressurize with oxygen. Never open a high pressure tank unless it is equipped with a pressure regulator. Never put high pressure on the dome of the compressor. Make sure the gauge and fitting is in good condition and do not leak.

6. Leave the pressure on the condenser for 24 hours. Any drop in pressure is an indication of a leak.

Tee fitting with valve core stem removed.
(Robinair No. 40396).
Hand shut-off valve (Robinair No.40380).

Evacuating and Recharging

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.

CAUTION: **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 adaptors, 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.**

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 the pump and your manifold gauge set. 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.**

CAUTION: **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.

- 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.

Installing Evacuation and Recharging Equipment:

1. Disconnect the appliance from electrical supply.
2. If compressor was replaced, install correct sized process tube adaptor 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 adaptor.
3. Install correct sized process tube adaptor 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 adaptor.
 - High-side (pressure gauge) hose to high-side process tube adaptor.
 - Center port manifold hose before hand shut-off valve to charging cylinder.
 - Center port manifold hose after hand shut-off valve to vacuum pump.

Evacuating System

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.

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 the 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 psig.
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.

CAUTION: 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 compressor. and allow it to run 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.
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 adaptor 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 adaptor and solder the process tube closed.

14. Check the process tubes for refrigerant leaks.

Final Leak Test:

1. With the refrigerator 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.

SECTION E - TROUBLESHOOTING CHART

Complaint.	Clause-Remedy
<p>Compressor Will Not Run.</p>	<ol style="list-style-type: none"> 1. No voltage at wall receptacle - check circuit breaker or fuse. 2. Service cord pulled out of the wall receptacle - replace. 3. Low voltage causing compressor to cycle on overload. (Voltage fluctuation should not exceed 10% plus or minus from normal rating.) 4. Control thermostat dial in "Off" position - turn control on. 5. Inoperative control thermostat - replace control. 6. Compressor stuck - replace compressor. 7. Compressor windings open - replace compressor. 8. Defrost timer stuck in defrost - replace defrost timer. (refrigerators and upright freezer models) 9. Compressor overload open - replace overload. 10. Relay lead loose - repair or replace Lead. 11. Relay inoperative - replace relay. 12. Service cord pulled out of harness - repair connection. 13. Faulty cabinet wiring - repair wiring.
<p>Compressor Runs, but No Refrigeration.</p>	<ol style="list-style-type: none"> 1. System out of refrigerant - check for leaks. 2. Compressor not pumping - replace compressor. 3. Restricted filter-drier - replace filter-drier. 4. Restricted capillary tube - replace heat exchanger. 5. Moisture in the system - check for leaks in low side.
<p>Compressor Short Cycles.</p>	<ol style="list-style-type: none"> 1. Erratic control thermostat - replace control. 2. Faulty relay - replace relay. 3. Restricted airflow over condenser - insure condenser has unobstructed airflow. 4. Low voltage - fluctuation exceeds 10%. (Call qualified electrician.) 5. Compressor draws excessive wattage - replaced compressor

Complaint.	Clause-Remedy
<p>Compressor Runs Too Much or 100%.</p>	<ol style="list-style-type: none"> 1. Erratic control thermostat, or setting too cold - replace or reset to normal position. 2. Appliance exposed to unusual heat - relocate appliance. 3. Abnormally high room temperature - advise customer. 4. Low pumping capacity compressor - replace compressor. 5. Lid or door gasket not sealing - adjust or replace necessary parts. 6. System undercharged - check for leaks. 8. Interior light stays on - check lid/door switch. 9. Non-condensables in system - replace filter drier, evacuate, and recharge. 10. Capillary tube kinked or partially restricted - replace heat exchanger. 11. Filter drier, partially restricted - replace filter drier. 12. Excessive service load - advise customer. 13. Restricted airflow over condenser - ensure condenser has unobstructed airflow.
<p>Noisy.</p>	<ol style="list-style-type: none"> 1. Tubing vibrates - adjust tubing. 2. Internal compressor noise - replace compressor. 3. Compressor vibrating on cabinet frame - adjust compressor. 4. Loose parts - check shelving, kick plate, and defrost drain pan. 5. Compressor operating at high head pressure due to restricted airflow around freezer - ensure freezer is installed properly.

Complaint.	Clause-Remedy
Freezer Too Warm. (Ice Cream and Chest Freezers)	<ol style="list-style-type: none"> 1. Excessive service load - advise customer. 2. Freezer lid left open - advise customer. 3. Controlled thermostat out of calibration - replace control. 4. Lid gasket not sealing - adjust or replace necessary parts. 5. Control thermostat sensing element improperly positioned - reposition sensing element. 6. Shortage of refrigerant - check for leaks. 7. Restricted filter drier or capillary tube - check for leaks or burned compressor windings.
Evaporator Blocked With Ice. (Refrigerators and Upright Freezers)	<ol style="list-style-type: none"> 1. Inoperative defrost timer- check wiring and defrost timer. 2. Defrost thermostat terminates too early - check for correct position of defrost thermostat or replace. 3. Defrost timer incorrectly wired - check wiring. 4. Inoperative fan motor - check wiring and fan motor. 5. Inoperative defrost thermostat - check wiring and defrost thermostat. 6. Inoperative defrost heater - check wiring and defrost heater. 7. Freezer door left open - advise customer. 8. Freezer defrost drain plug - clean defrost port.

Complaint	Clause-Remedy
Appliance Too Warm. (Refrigerators and Upright Freezers)	<ol style="list-style-type: none"> 1. Inoperative fan motor - check wiring and fan motor. 2. Improperly positioned fan blade - position blade at end of shaft. 3. Evaporator iced up - check defrost system. 4. Defrost heater in operative - check wiring and defrost heater. 5. Inoperative defrost thermostat - checked wiring and defrost thermostat. 7. Wire loose at defrost timer - repair wire. 8. Excessive service load - advise customer. 9. Appliance door left open - advise customer. 10. Control thermostat out of calibration - replace control. 11. Door gasket not sealing - adjust or replace necessary parts. 12. Control thermostats sensing element improperly positioned - reposition sensing element. 13. Shortage of refrigerant - check for leaks. 14. Restricted filter drier or capillary tube - check for leaks or burned compressor windings.
Interior Light Does Not Glow. (Solid Door Refrigerators, Upright and Chest Freezers Models)	<ol style="list-style-type: none"> 1. Replace lightbulb if problem not corrected, check door or lid switch.
Interior Light Does Not Glow. (Glass Door Refrigerator Models)	<ol style="list-style-type: none"> 1. Replace lightbulb if problem is not corrected, check light switch and wiring. If problem still exists replace ballasts

SECTION F - TEARDOWN

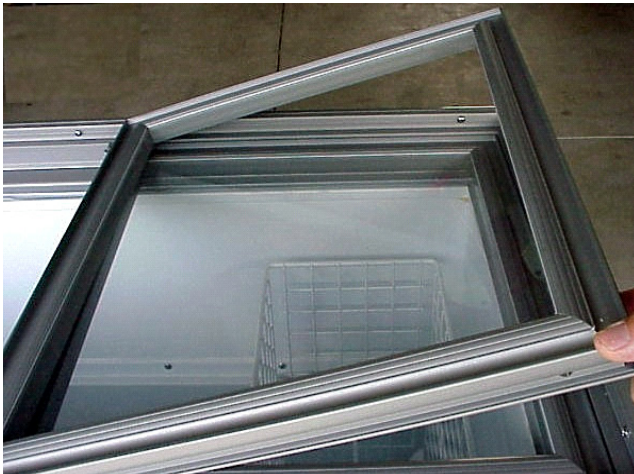
This section will describe how to remove components from the appliances. Unless stated, reverse the procedure to reinstall the component.

⚠ WARNING Always remove electrical power from the appliance when working in an area where electrical power is present.

Ice Cream Cabinet:

Removing the Upper Lid:

1. Slide the lid completely to the right and lift it out.



Removing the Lid Glides:

1. Remove the Phillips head screw holding the glide to the frame.



Removing the Lower Lid:

1. Slide the lid to the left until it clears the glide and lift the lid off.



Removing the Lid Lock Assembly:

1. Remove the lower lid and turn it over.
2. Remove the (2) Phillips head screws holding the lock assembly in the lid frame and lift the lock assembly out.



Removing the Basket:

1. Slide the lid open and the basket will lift out.



4. Once the corners have been raised, take a flat object such as a kitchen knife, and slide it between the outer frame and the breaker trim to release the tape.



Replacing the Outer Frame:

The (4) pieces of the outer frame are held together in each corner by (2) metal L brackets, inserted in the frame, and fastened by (4) screws in each corner. The outer frame is held to the breaker's trim by (2) inch wide two-sided sticky tape. When ordering a replacement outer frame also order replacement tape, part number 216622900.



5. Once the tape is been released slide one of the end pieces of the outer frame off.



1. Remove the upper and lower lid.
2. Remove (16) screws holding the outer frame together.
3. Using a flat blade of screwdriver pry up at each corner of one of the end pieces.

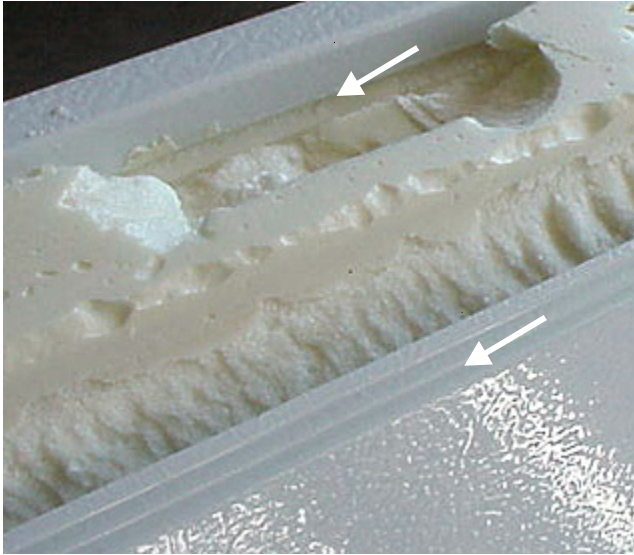
6. With the end piece removed start with either the front or the back piece on the open end, pry up and work the knife along to release the frame from the tape.
7. With the (4) pieces removed, clean the tape off of the breaker, install the new tape and set the outer frame down on the breaker trim.

Replacing the Breaker Trim:

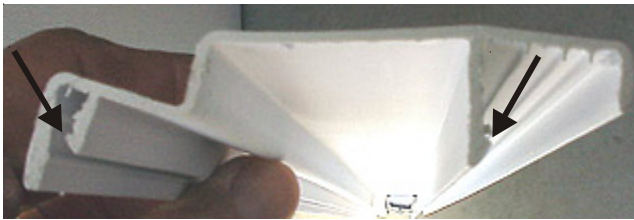
When the ice cream cabinet is manufactured, the trim and end caps are installed before foam is added to the freezer. When foam is added to the freezer, some of the foam adheres to the trim and caps, helping to hold them in place. When a piece of trim or a cap is removed,

some of the foam will come with it. If the trim or end cap is to be reused the foam must be cleaned off.

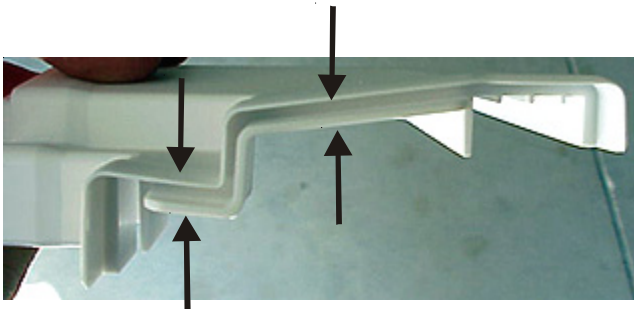
The outer liner of the cabinet has a 3/16" flange and the inner liner has (2) grooves in it.



The trim has a channel with a locking tab that snaps down over the inner liner and a flange with a locking tab that snaps under the flange of the outside liner.



The end caps are formed to allow the trim to slide into them.



Removing the breaker Trim:

1. Remove the lid and outer frame, starting at the inside center, lift up and out on the trim to disengage it from the inside liner. Then pull up and out on the trim to disengage it from the foam, and the flange of the outer cabinet liner.

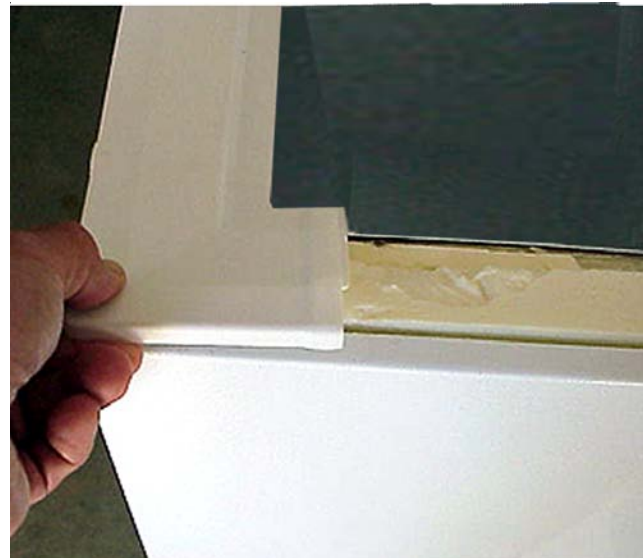


2. Once the trim has been disengaged from the liners and the foam, bow the center of the trim up to disengage from the end cap.

Note: Replace any large pieces of foam that have been pulled off by the trim.

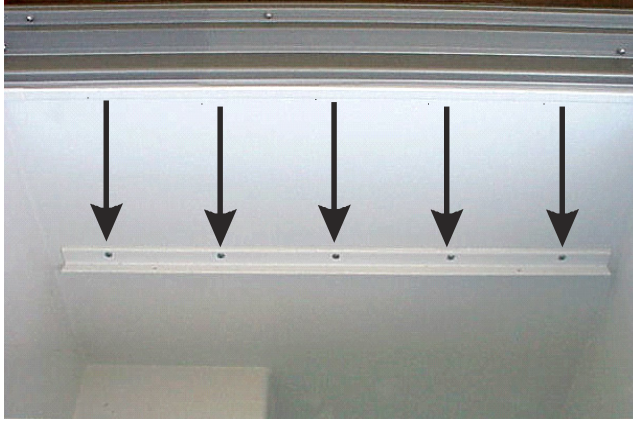
Removing the End Caps:

1. Remove the lid and outer frame.
2. Remove one the pieces of trim connect to the end cap.
3. Lift up on the front edge of the end cap, that is in line with the remaining piece of trim, and slide it off.



Removing the Basket Tracks:

1. Remove the lids and basket.
2. Remove (5) Phillips head screws holding the track to the liner and lift the track out.



Removing the External Drain Cap:

1. The drain cap pulls off.



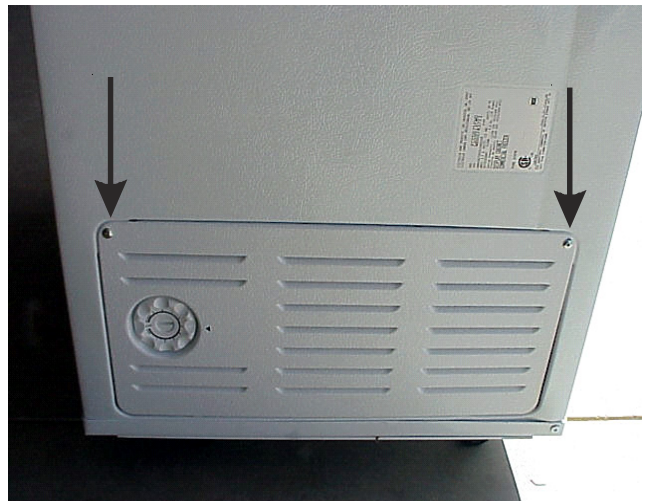
Removing the Internal Drain Cap:

1. Slide the lower lid open, and the basket to the left.
2. The drain cap lifts off.



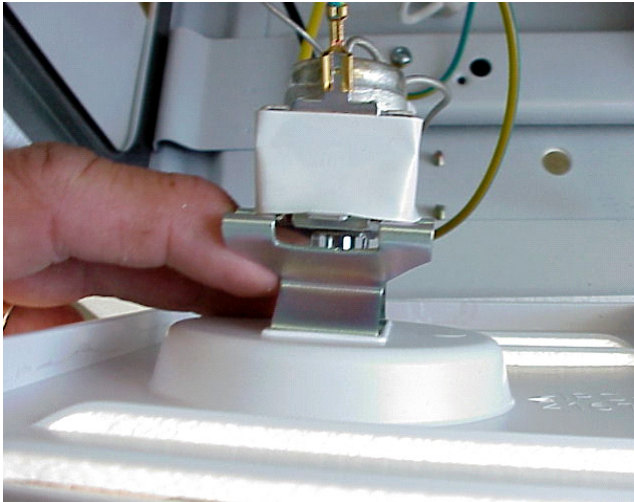
Releasing the Machine Compartment Cover:

1. Disconnect electrical power.
2. Remove the (2) Phillips head screws holding the machine compartment cover to the outer liner.
3. Pull out on the top of the cover.



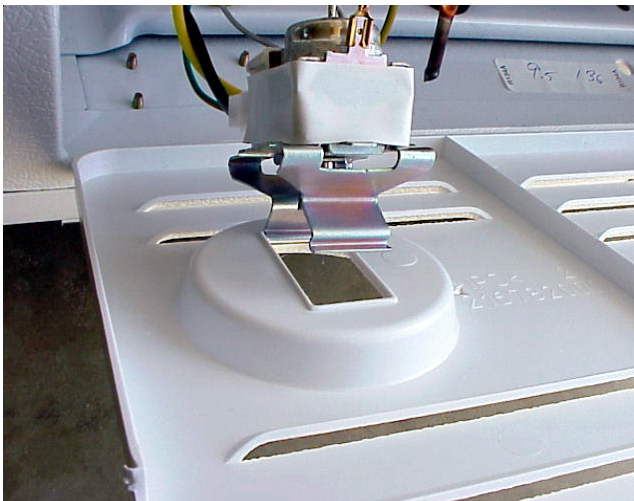
Removing the Cold Control Knob:

1. Disconnect electrical power and release the machine compartment cover.
2. Place your finger behind the shaft of the knob and push the knob off.



Removing the Machine Compartment Cover:

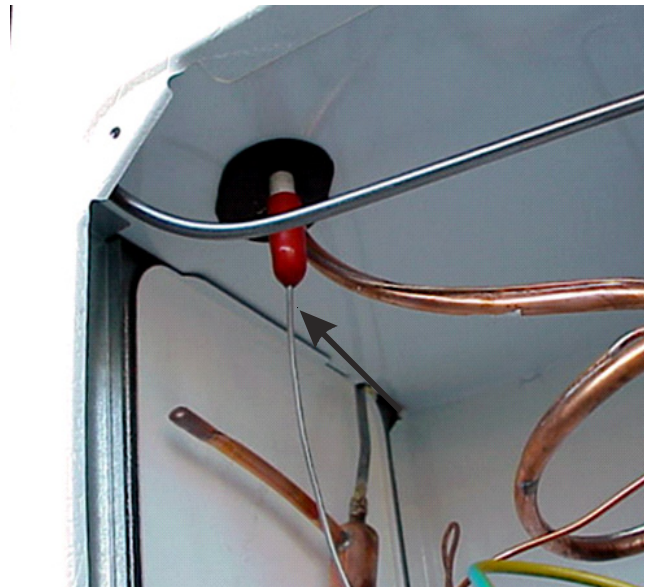
1. Disconnect electrical power.
2. Remove the (2) Phillips head screws holding the machine compartment cover to the outer liner and pull the top cover out.
3. Remove the cold control knob and release the cold control from the cover by pushing down on the spring-loaded mounting bracket.



4. Lift the cover out of the two slots in the base of the cabinet.

Removing the Cold Control:

1. Disconnect electrical power and release the machine compartment cover.
2. Disconnect electrical wires from the cold control.
3. Release the cold control from the machine compartment cover.
4. Pull the cold control bulb out of the freezer sleeve and lift the cold control out.



Removing the Filter-Drier:

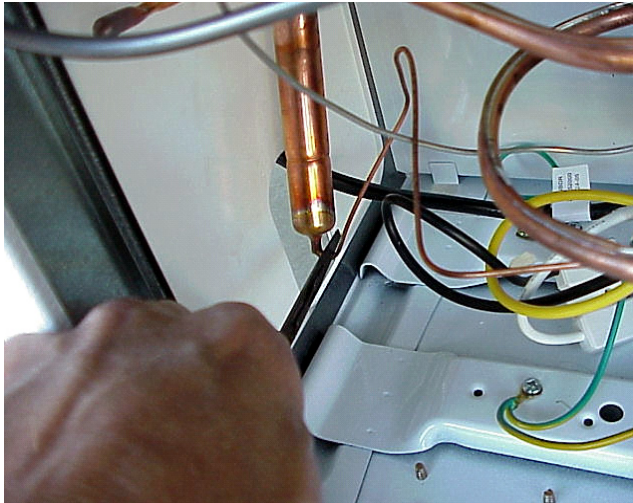
1. Disconnect power from the freezer and remove the machine compartment cover.

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.

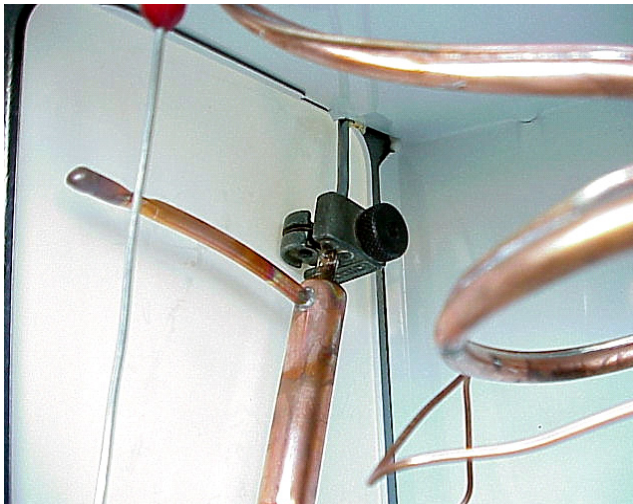
2. Recover refrigerant by using EPA approved recovery system.

CAUTION: DO NOT un-braze 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.

- Using a three corner file score and break the tube at the bottom of the filter-drier.



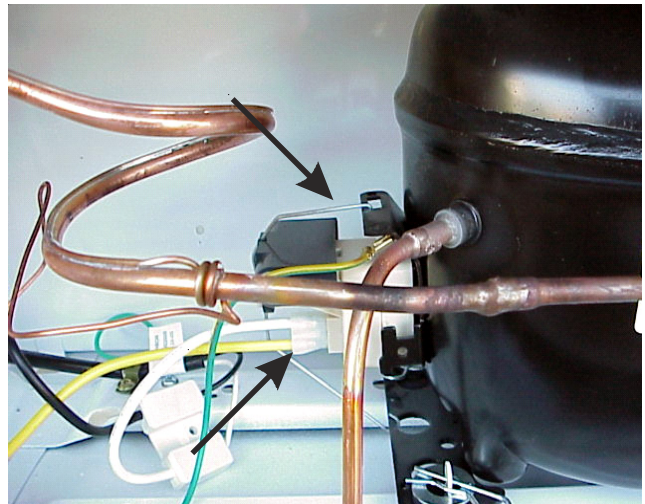
- Remove the filter-drier by cutting the tube at the top of the filter-drier as close as possible.



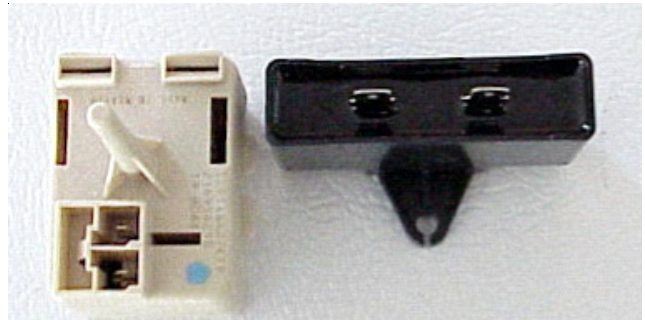
- Evacuate and charge system using recommended procedure described under Evacuating and Recharging.

Removing the Run Capacitor and Controller Assembly:

- Disconnect electrical power and remove the machine compartment cover.
- Unplug the wires from the controller and release the spring wire clip holding the run capacitor and controller assembly to the compressor.



- Pull the controller from the compressor and slide the capacitor off of the controller.



Replacing the Compressor:

CAUTION: NEVER install a new compressor without first checking for possible system contamination from the old compressor.

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

- If the oil has burned odor, but no color change or residue — install the new compressor
- If oil has a burned odor and a sugar or gritty feel as well as showing signs of contamination (dark color) — Flush The System. Remove as much of contamination as possible from system before installing new compressor and filter-drier.

To Flush the System:

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.

CAUTION: Use extreme care when using 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.

CAUTION: The end of the flushing hose on this tank regulator must be equipped with a hand shut-off valve. (Robinair No. 4038) Close hand shut-off valve and adjust nitrogen regulator to correct pressure before proceeding with flushing procedure.

Using Dry Nitrogen to Flush the System:

1. Remove compressor and filter-drier. Connect process coupling to outlet tube of condenser.
2. Fasten cloth over the other end of coil to prevent old oil from spraying over room.
3. Connect hand shut-off valve on flushing hose to the 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 PSIG.

5. Reassemble system.

Using Refrigerant to Flush the System:

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

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.
4. Reassemble system.

Installing a New Compressor:

NOTE: Entirely new compressors have been developed for 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 appliances 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.

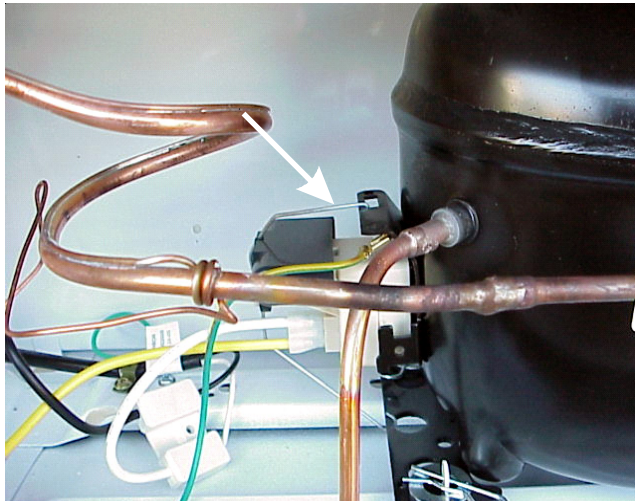
If the compressor checks OK, reinstall the plug. Do not remove any of the plugs again until the compressor is in position and you are ready to braze the lines.

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

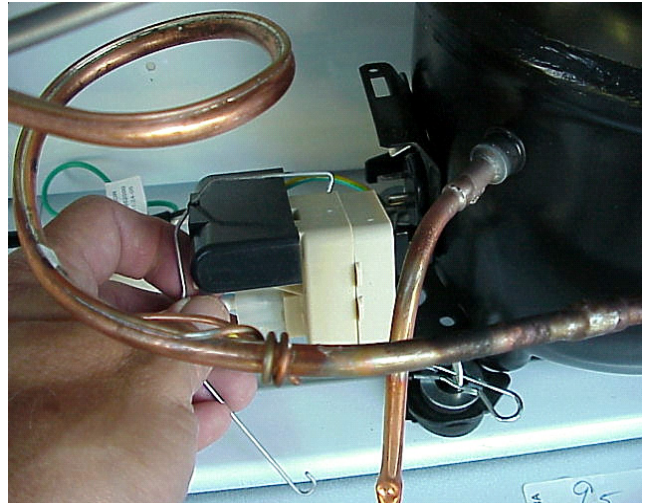
A new compressor which is cold (e.g. after having been kept in a cold service van) should be left to warm to the surrounding temperature before the plugs on the compressor connections are removed. This will help prevent condensation from forming in the oil and the compressor. Also, avoid opening the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

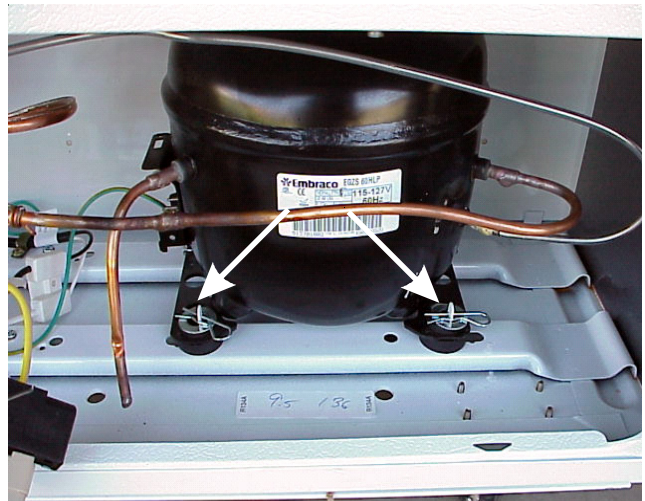
1. Disconnect electrical supply to appliance.
2. Remove machine compartment panel.
3. Recover refrigerant by using EPA approved recovery system.
4. Release the run capacitor and controller by unhooking the spring-loaded wire.



5. Pull the run capacitor and controller off and disconnect the ground wire.



6. Remove the spring clips and washers.



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 in exact 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.

Cut tubing with tubing cutter. Work as quickly as possible to avoid letting moisture and air into system.

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

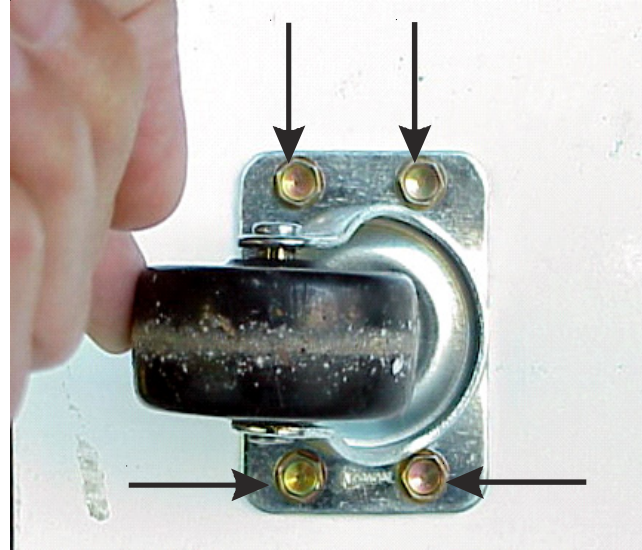
10. Solder all connections.

13. Replace the original filter-drier.

CAUTION: DO NOT un-braze 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.

15. Evacuate and charge system using recommended procedure described under Evacuating and Recharging.

2. Using a 5/16" socket, remove the (4) bolts holding the caster to the cabinet and lift the caster off.



Replacing the Condenser:

The condenser is foamed in place and is not accessible for repair. However, repair can be made by installing a service replacement condenser kit. Refer to the appropriate part list of the model been service for the correct kit part number.

Each service replacement condenser kit consists of: a condenser assembly that can be installed on the back of the cabinet, mounting hardware, replacement filter-drier and a complete installation instructions.

To install, use the following procedure:

2. Recover refrigerant by using EPA approved recovery system.
3. Installed the replacement condenser in accordance with the instructions included with the kit.
4. Evacuate and charge a system using the recommended procedure described under evacuation and recharging found in section D.

Removing the Casters:

1. Raise the cabinet off of the floor.

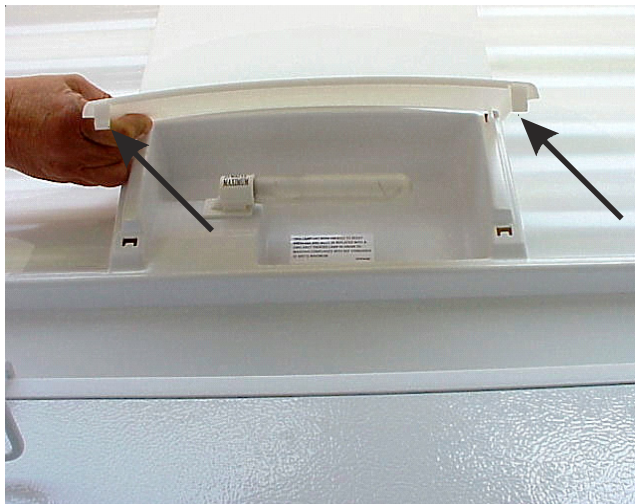
Chest Freezer Teardown:

This section will describe how to remove components from the appliance. Unless stated, reverse the procedure to reinstall the component.

⚠ WARNING Always remove electrical power from the freezer when working in an area where electrical power is present.

Removing Interior Light Shield:

1. Raise the lid, release the tabs on both end at the bottom and lift the shield off.



Removing Interior Light Bulb:

1. Raise the lid, remove the light shield and unscrew the light bulb.



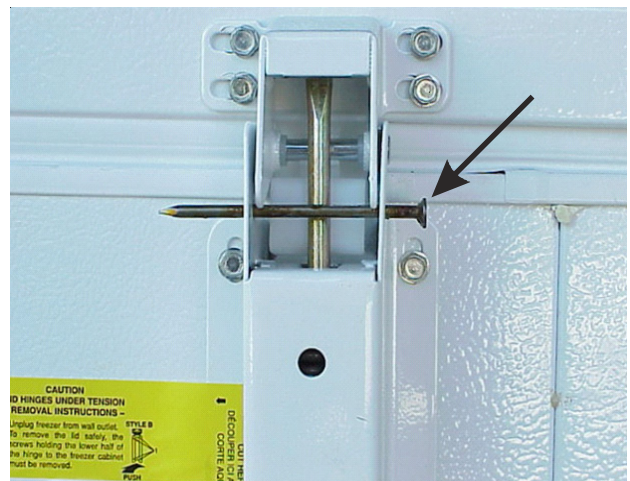
Removing the Thermometer:

1. Raise the lid, using a flat blade screwdriver release the rivet from each end.

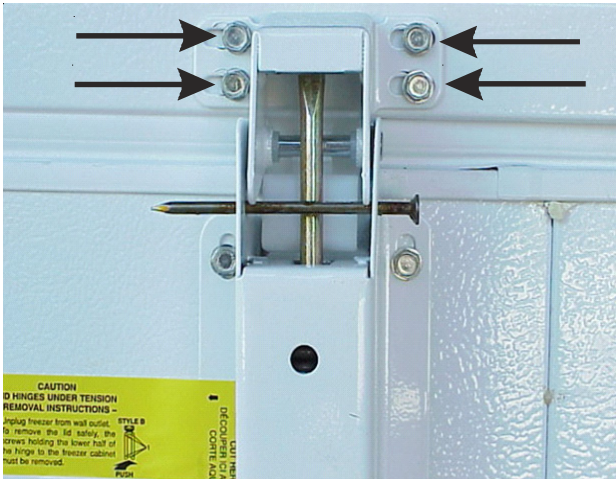


Releasing the Lid:

1. Disconnect electrical power from the freezer and insert a nail in each of the hinges to lock the hinges open.



- Using a 5/16" socket, remove the (4) screws, from each hinge, holding the upper part of the hinge to the lid.



Note: The electrical cord, providing power to the lid is still connected.

- Place something behind the freezer, that is about the same height as the freezer, and carefully lift the lid over the hinges, turn the lid over and lay the lid on the object.



Removing Lid Inner Liner and Seal:

The lid inner liner is held to the lid outer liner by (36) plastic rivets and (4) Phillips head screws that are hidden in the seal.

- Disconnect electrical power from the freezer, released the lid and place it on the support with the inner liner up.

- Roll the seal back and using a common screwdriver pop-out the (36) rivets.



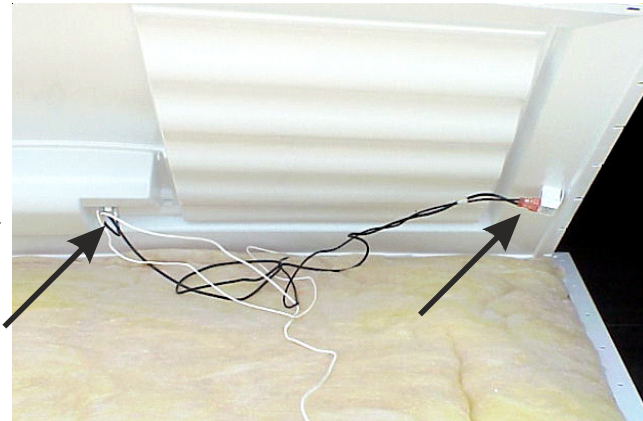
- Remove the (4) Phillips screws, one in each corner, holding the inner liner to the outer liner.



4. The seal will now lift off.



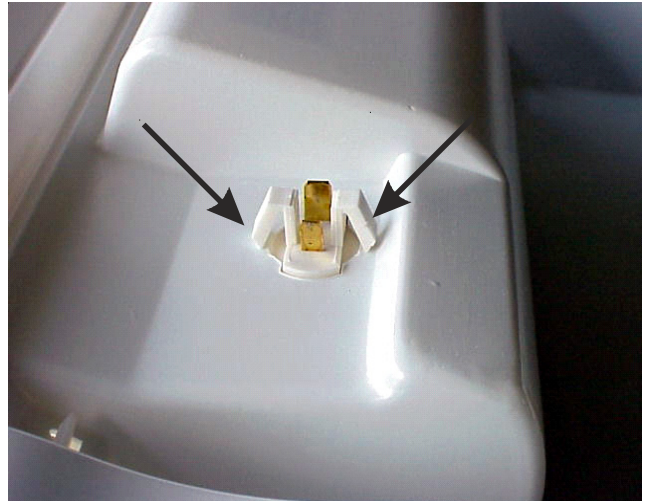
5. Remove the light shield and a light bulb, raise the inner liner and disconnect the wires from a light socket and light switch. The inner liner will now lift off.



Removing Interior Light Socket:

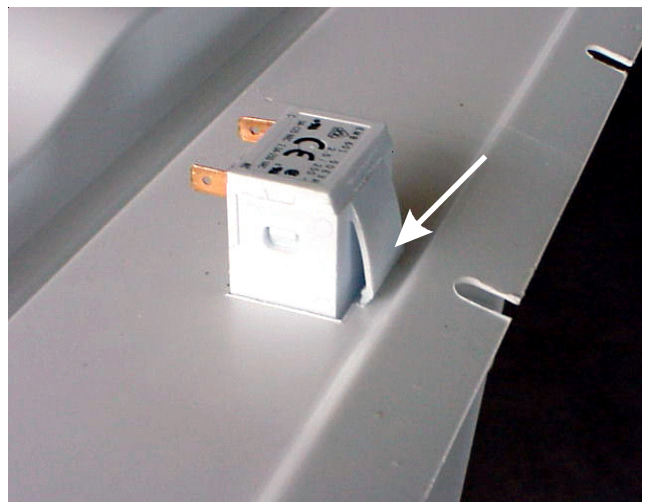
1. Disconnect electrical power from the freezer and remove the light shield and light bulb.
2. Release the lid and remove the (36) plastic rivets and (4) Phillips head screws holding the inner liner to the outer liner.
3. Raise the inner liner, disconnect the two wires from the socket. When reconnecting the wires be sure to connect the white wire to the terminal marked W.

4. Squeeze the (2) locking tabs and push the socket out of the liner.



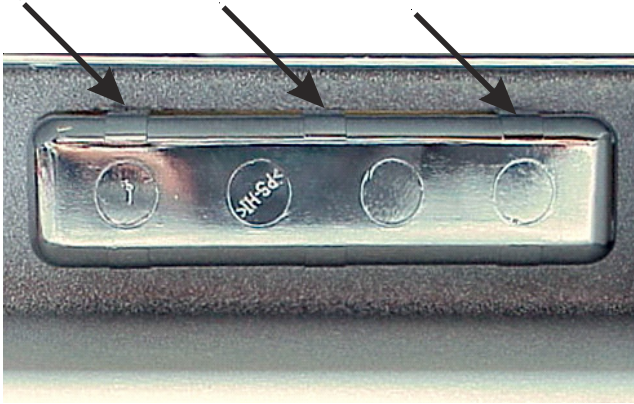
Removing Interior Light Switch:

1. Disconnect electrical power from the freezer and remove the light shield and light bulb.
2. Release the lid and remove the (36) plastic rivets and (4) Phillips head screws holding the inner liner to the outer liner.
3. Raise the inner liner and disconnect the two wires from the switch.
4. Release the locking tab and push the socket out of the liner.

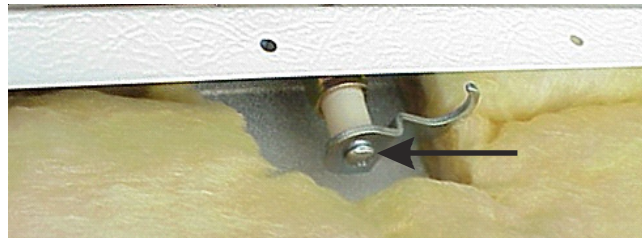


Removing Lid Handle:

1. Disconnect electrical power from the freezer and release the inner lid liner.
2. Using a common screwdriver press down on the locking tabs and push the handle out the front.



2. Remove the Philips head screw holding the hook to the lock mechanism and lift the hook off.

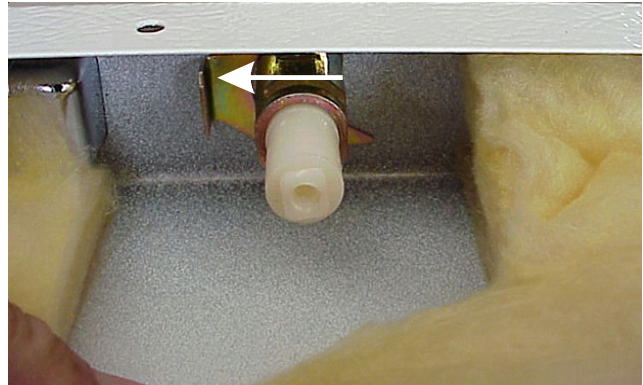


Removing Lock Mechanism:

1. Disconnect electrical power from the freezer, release the inner lid liner and remove the lock mechanism hook.
2. Remove the spring-loaded metal clip that holds the lock mechanism to the outer lid liner by sliding it to the left and pull the lock mechanism out the front.

Removing Lock Mechanism Cover:

1. Disconnect electrical power from the freezer and release the inner lid liner.
2. Rotate and lift the cover out.



Removing Max Freeze Switch Assembly:



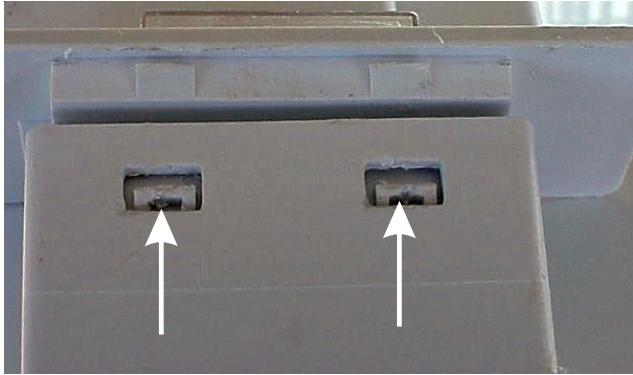
Removing Lock Mechanism Hook:

1. Disconnect electrical power from the freezer and release the inner lid liner.

Removing Max Freeze Switch Cover:

1. Disconnect electrical power from the freezer and release the inner lid liner.

- Released the (2) locking tabs and slide the cover off.



Removing Max Freeze Rocker Switch:

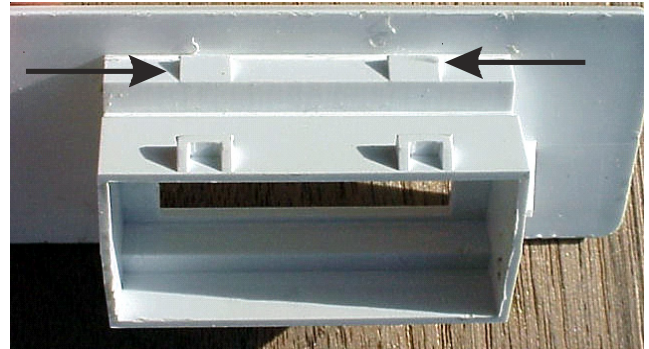
- Disconnect electrical power from the freezer, release the inner lid liner and remove the switch cover.
- Disconnect the (3) wires from the switch, release the (2) locking tabs, one on each side, and push the switch out the front.



Removing Max Freeze Rocker Switch Bezel:

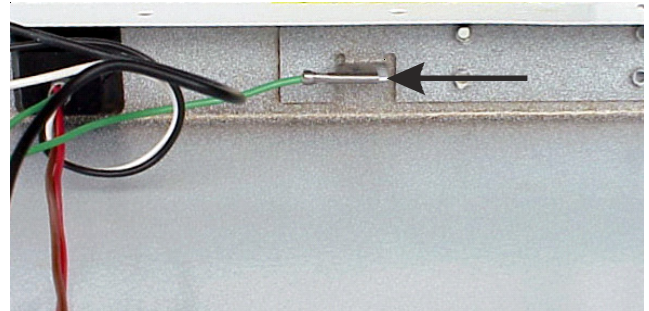
- Disconnect electrical power from the freezer, release the inner lid liner and remove the switch cover.
- Disconnect the (3) wires and remove the switch.

- Using a common screwdriver release the locking tabs on the bezel and pushed the bezel out the front.

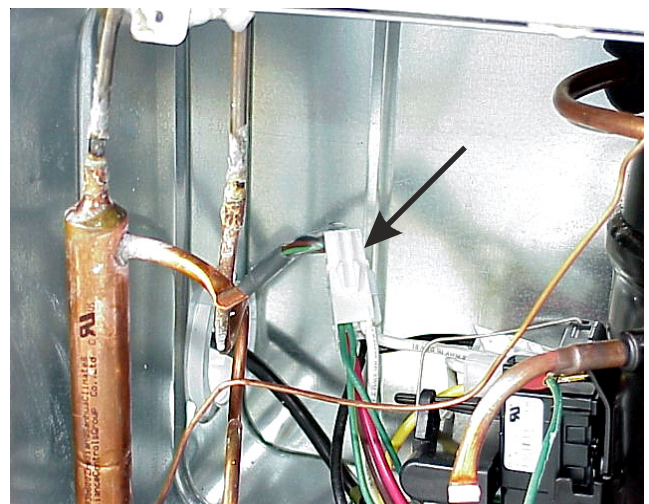


Removing Lid Wire Harness:

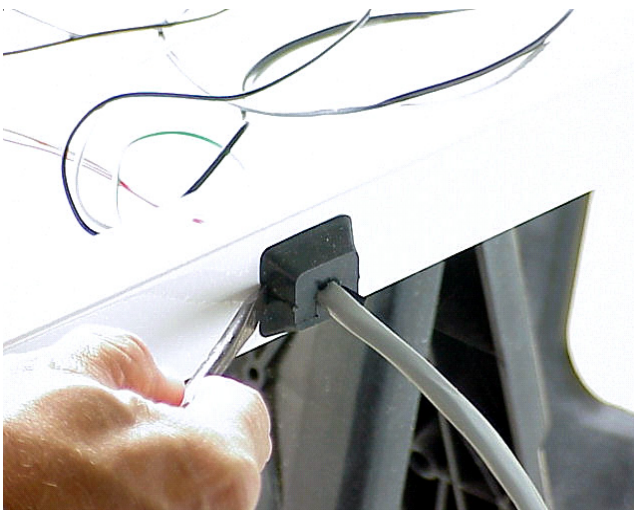
- Disconnect electrical power from the freezer and remove the inner lid liner.
- Disconnect the wire from the Max freeze switch, lift insulation out and disconnect the green ground wire from the outer lid panel.



- Unplug the wires to the lid harness in the machine compartment.

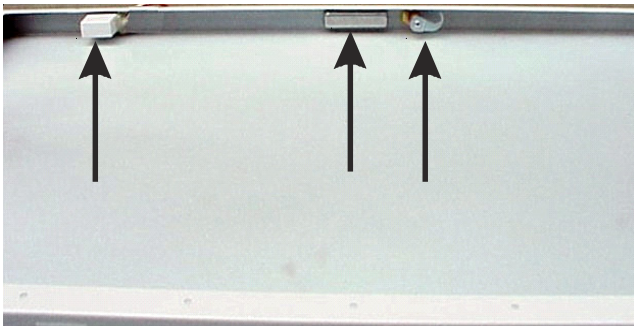


- Using a common screwdriver work the wiring gromit into the outer lid panel and remove the harness.



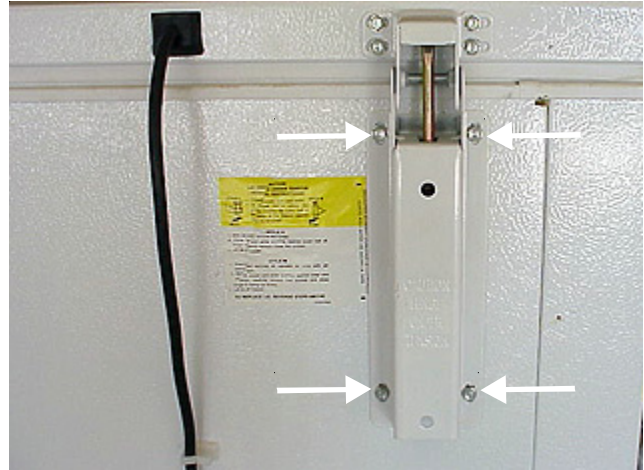
Removing Outer Lid Panel:

- Disconnect electrical power from the freezer and remove the inner lid liner.
- Disconnect the wire from the Max freeze switch, lift insulation out and remove the lid wiring harness.
- Remove the max freeze switch, locking assembly, lid handle and lift the panel off.

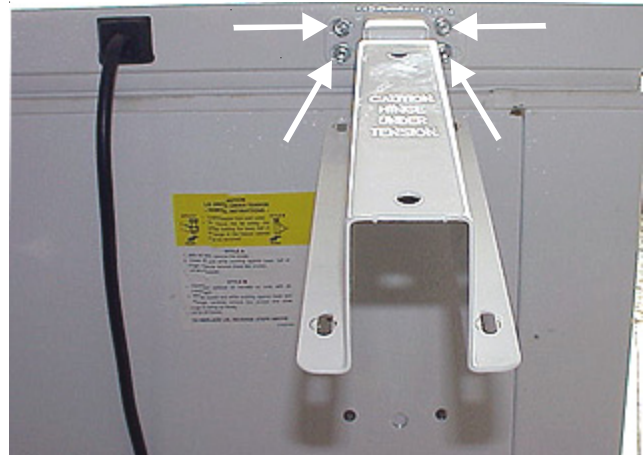


Removing the Hinges:

- While holding in on the bottom part of the hinge, use a 5/16 " socket, to remove the (4) screws holding the bottom part of the hinge to the freezer.

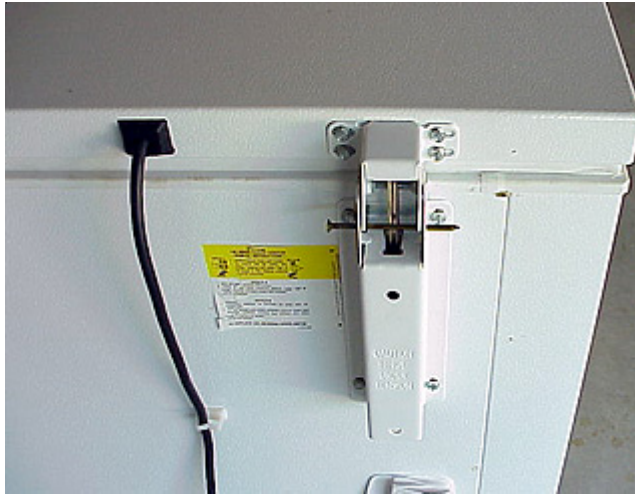


- Slowly release the pressure from the bottom part of the hinge.
- While holding the hinge, use a 5/16 " socket, to remove the (4) screws holding the hinge to the lid.

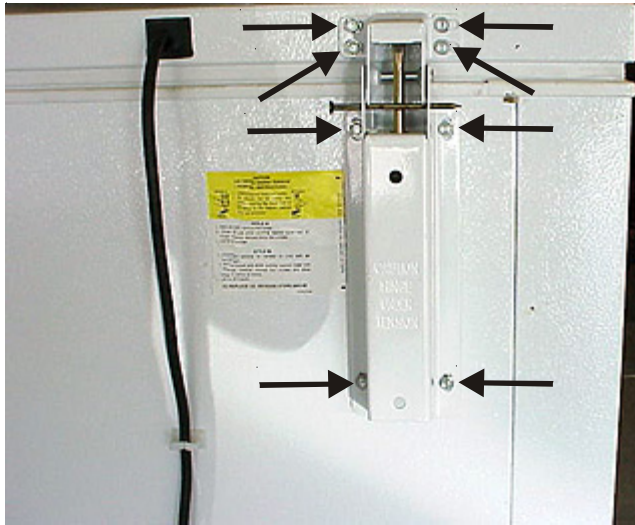


Removing the Hinges:(Alternate Method)

1. With the lid closed insert a pin or nail into the hinge to lock it closed.

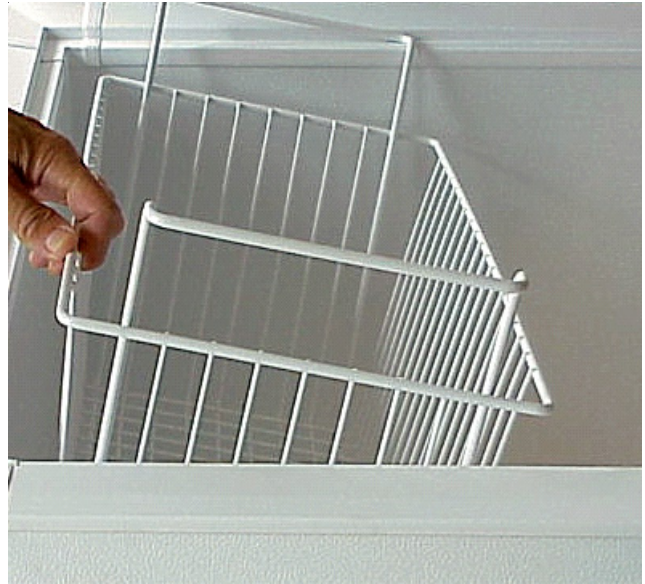


2. using a 5/16" socket remove the (4) screws holding the hinge to the lid and the (4) screws holding the hinge to the chassis.



Removing the Food Baskets:

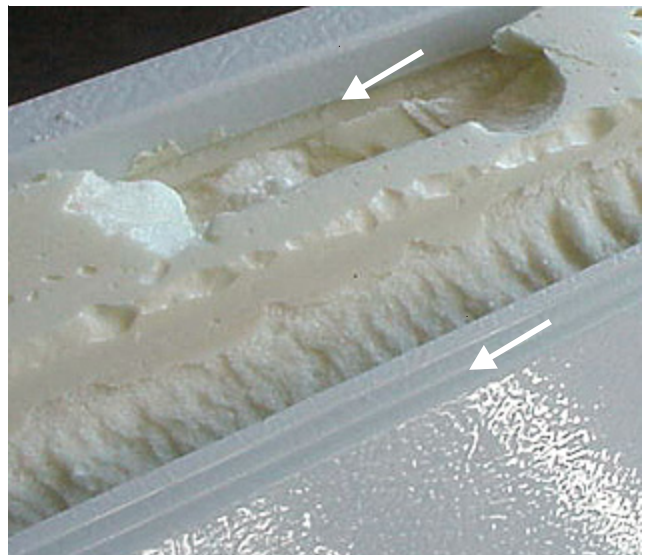
1. The food baskets lift out of the freezer compartment.



Replacing the Breaker Trim:

When the Freezer is manufactured, the trim and end caps are installed before foam is added to the freezer. When foam is added to the freezer, some of the foam adheres to the trim and caps, helping to hold them in place. When a piece of trim or an end cap is removed, some of the foam will come with it. If the trim or end cap is to be reused the foam must be cleaned off.

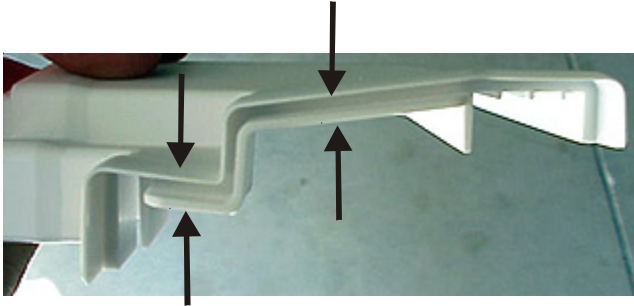
The outer liner of the cabinet has a 3/16" flange and the inner liner has (2) grooves in it.



The trim has a channel with a locking tab that snaps down over the inner liner and a flange with a locking tab that snaps under the flange of the outside liner.



The end caps are formed to allow the trim to slide into them.



Removing the Breaker Trim:

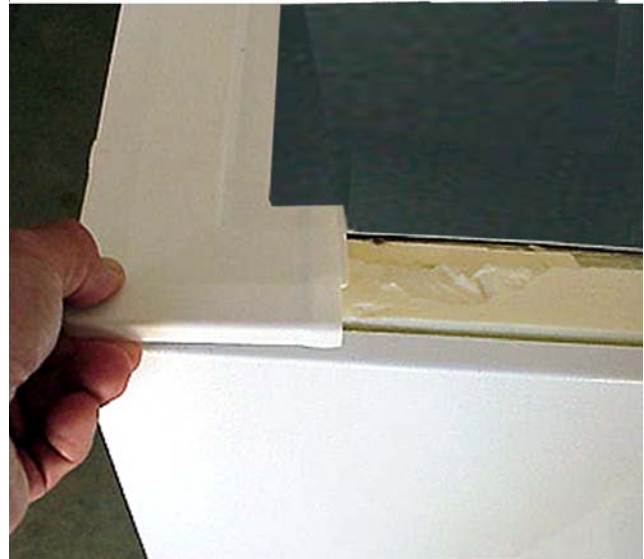
1. Lift the lid and start at the inside center, lift up and out on the trim to disengage it from the inside liner. Then pull up and out on the trim to disengage it from the foam, and the flange of the outer cabinet liner.



2. Once the trim has been disengaged from the liners and the foam, bow the center of the trim up to disengage from the end cap.

Removing the End Caps:

1. Remove the lid.
2. Remove one the the pieces of trim connect to the end cap.
3. Lift up on the front edge of the end cap, that is in line with the remaining piece of trim, and slide it off.



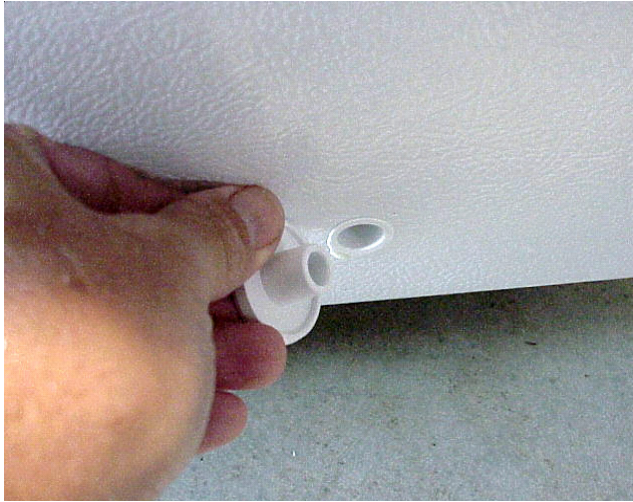
Removing the Internal Drain Cap:

1. Raise the lid and the slide the baskets to the left.
2. The drain cap lifts off.

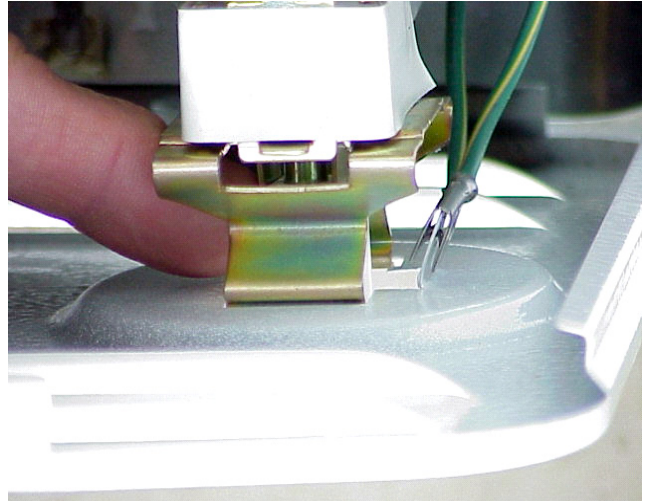


Removing the External Drain Cap:

1. The drain cap pulls off.

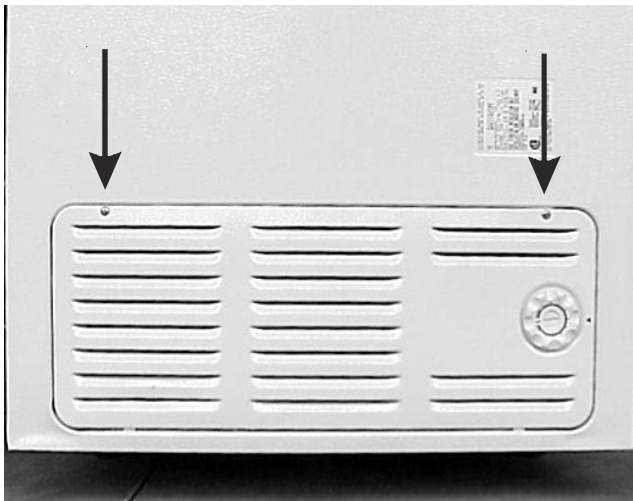


2. Place your finger behind the shaft of the knob and push the knob off.



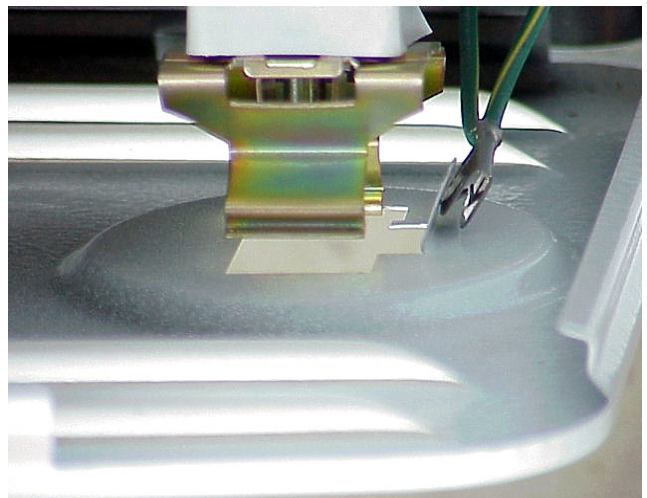
Releasing the Machine Compartment Cover:

1. Disconnect electrical power.
2. Remove the (2) Phillips head screws holding the machine compartment cover to the outer liner.
3. Pull out on the top of the cover.



Removing the Machine Compartment Cover:

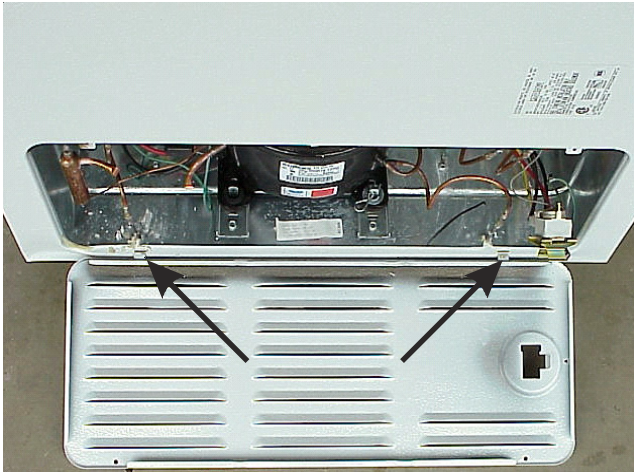
1. Disconnect electrical power.
2. Remove the (2) Phillips head screws holding the machine compartment cover to the outer liner and pull the top of the cover out.
3. Disconnect the green ground wire.
4. Remove the cold control knob and release the cold control from the cover by pushing down on the spring-loaded mounting bracket.



Removing the Cold Control Knob:

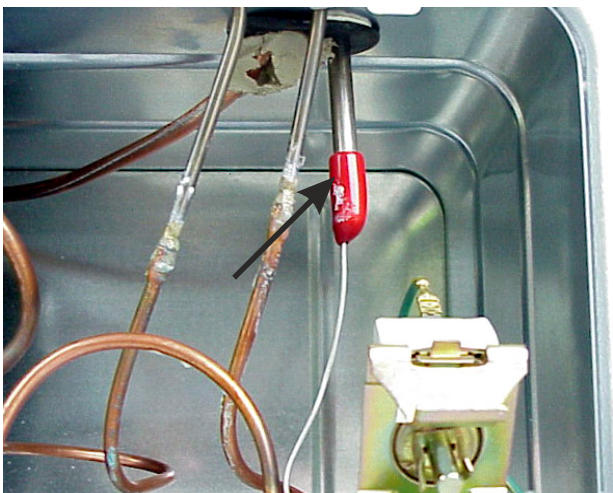
1. Disconnect electrical power and released the machine compartment cover.

- Lift the cover out of the two slots in the base of the cabinet.



Removing the Cold Control:

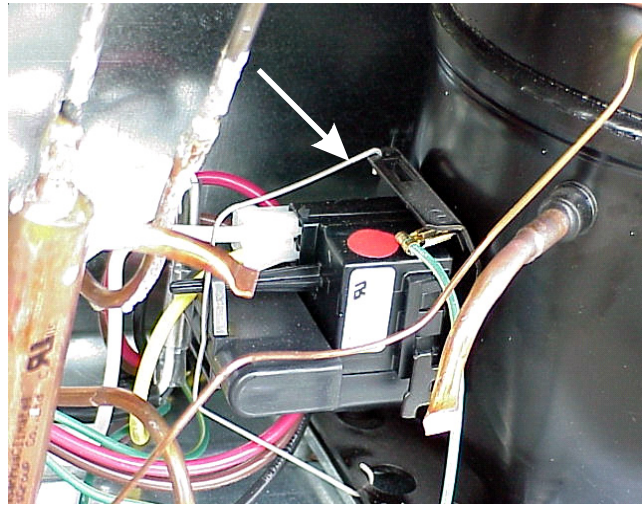
- Disconnect electrical power and release the machine compartment cover.
- Disconnect electrical wires from the cold control.
- Release the cold control from the machine compartment cover.
- Pull the cold control bulb out of the freezer sleeve and lift the cold control out.



Removing the Run Capacitor and Controller Assembly:

- Disconnect electrical power and remove the machine compartment cover.

- Unplugged the wires from the controller and release the spring wire clip holding the run capacitor and controller assembly to the compressor.



- Pull the controller off of the compressor and slide the capacitor off of the controller.



Removing the Filter-Drier:

- Disconnect power from the freezer and remove the machine compartment cover.

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.

- Recover refrigerant by using EPA approved recovery system.

CAUTION: DO NOT un-braze 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.

- Using a three corner file score and break the tube at the bottom of the filter-drier.



- Remove the filter-drier by cutting the tube at the top of the filter-drier as close as possible.



- Evacuate and charge system using recommended procedure described under Evacuating and Recharging.

Replacing the Compressor:

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

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

- If the oil has burned odor, but no color change or residue — install the new compressor

- If oil has a burned odor and a sugar or gritty feel as well as showing signs of contamination (dark color) — Flush The System. Remove as much of contamination as possible from system before installing new compressor and filter-drier.

To Flush the System:

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.

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.

CAUTION: The end of the flushing hose on this tank regulator must be equipped with a hand shut-off valve. (Robinair No. 4038) Close hand shut-off valve and adjust nitrogen regulator to correct pressure before proceeding with flushing procedure.

Using Dry Nitrogen to Flush the System:

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

CAUTION: DO NOT exceed 300 PSIG.

- Reassemble system.

Using Refrigerant to Flush the System:

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

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.
4. Reassemble system.

Installing a New Compressor:

NOTE: Entirely new compressors have been developed for 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 freezer 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.

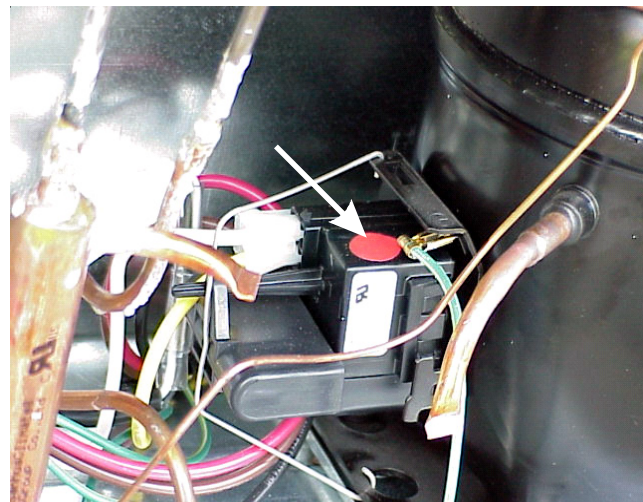
If the compressor checks OK, reinstall the plug. Do not remove any of the plugs again until the compressor is in position and you are ready to braze the lines.

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

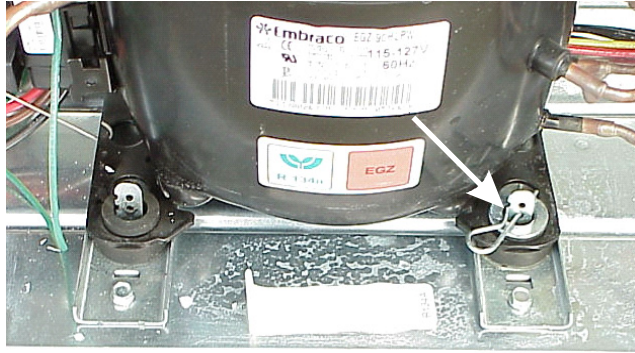
A new compressor which is cold (e.g. after having been kept in a cold service van) should be left to warm to the surrounding temperature before the plugs on the compressor connections are removed. This will help prevent condensation from forming in the oil and the compressor. Also, avoid opening the 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 appliance.
2. Remove machine compartment panel.
3. Recover refrigerant by using EPA approved recovery system.
4. Remove the controller and run capacitor from the compressor and unplug the ground wire.



- Remove mounting clips and washers.



- 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.
- Install new compressor in exact same manner as original compressor.
- 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 system.

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

- Solder all connections.
- Replace the original filter-drier.

CAUTION: DO NOT un-braze 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.

- Evacuate and charge system using recommended procedure described under Evacuating and Recharging.

Replacing the Condenser:

The condenser is foamed in place and is not accessible for repair. However, repair can be made by installing a service replacement condenser kit. Refer to the appropriate part list of the model been service for the correct kit part number.

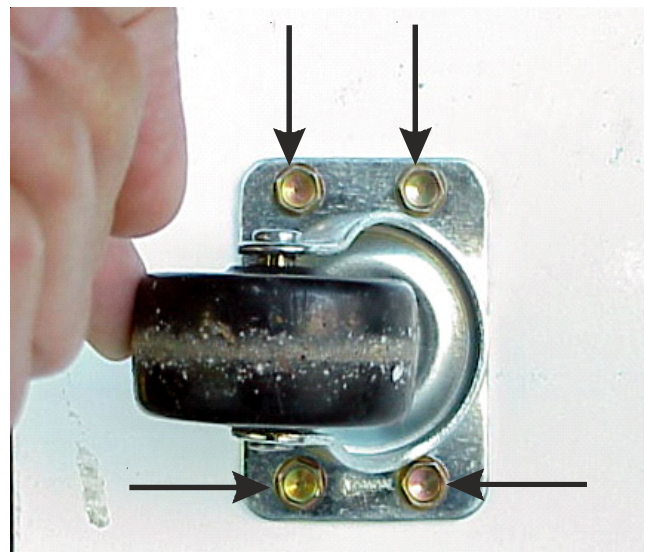
Each service replacement condenser kit consists of: a condenser assembly that can be installed on the back of the cabinet, mounting hardware, replacement filter-drier and a complete installation instructions.

To install, use the following procedure:

- Disconnect unit from source of power.
- Recover refrigerant by using EPA approved recovery system.
- Installed the replacement condenser in accordance with the instructions included with the kit.
- Evacuate and charge a system using the recommended procedure described under evacuation and recharging found in section D.

Removing the Casters:

- Raise the cabinet off of the floor.
- Using a 5/16" socket, remove the (4) bolts holding the caster to the cabinet and lift the caster off.



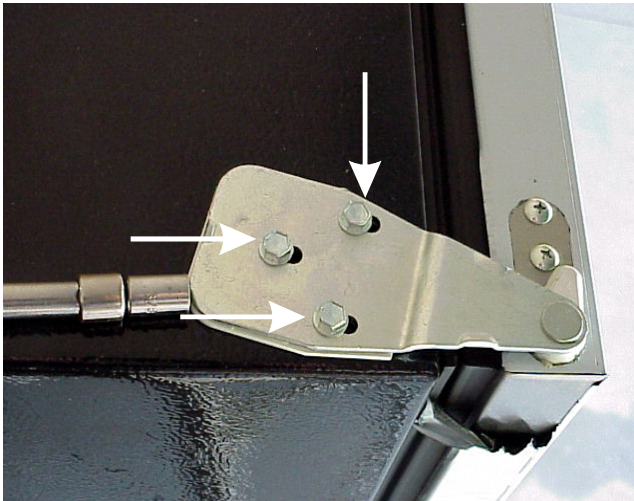
UPRIGHT FREEZERS, GLASS AND SOLID DOOR REFRIGERATORS TEARDOWN

This section will describe how to remove components from the appliance. Unless stated, reverse the procedure to reinstall the component.

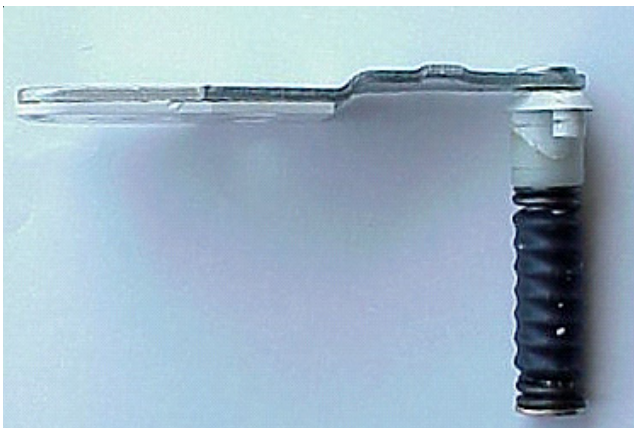
⚠ WARNING Always remove electrical power from the appliance when working in an area where electrical power is present.

Removing the Top Door Hinge and Door Closing Mechanism: (Freezer and Solid Door Refrigerator Models)

1. With the door closed, using a 3/8" socket, remove the (3) screws holding the hinge to the cabinet.



2. Lift the hinge and door closing mechanism out of the door.



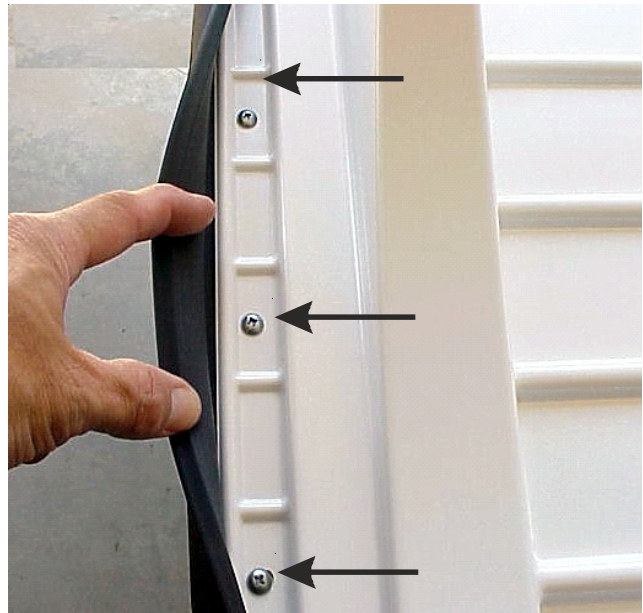
Removing the Door: (Freezer and Solid Door Refrigerator Models)

1. Remove the top door hinge and door closing mechanism.
2. Open the door and lift the door off of the bottom hinge.
3. Place the door on a soft surface to protect the outer door liner.



Removing the Door Inner Liner: (Freezer and Solid Door Refrigerator Models)

1. Remove the door and place it on a soft surface.
2. Roll the seal back and remove the (46) Phillips head screws holding the inner liner to the outer liner.



3. Lift the inner liner off of the outer liner.

Removing the Door Seal: (Freezer and Solid Door Refrigerator Models)

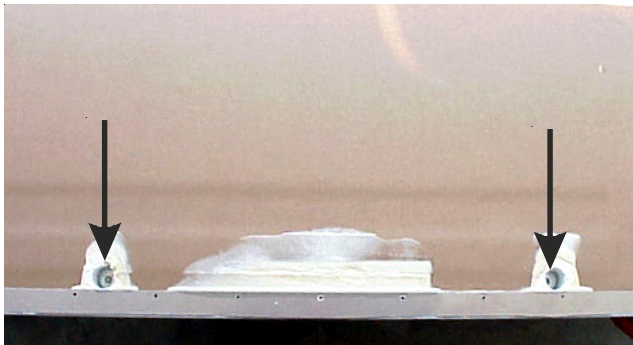
1. Remove the door and place it on a soft surface.

2. Remove the inner liner from the outer liner.
3. Lift the door seal off of the inner liner.



Removing the Door Handle: (Freezer and Solid Door Refrigerator Models)

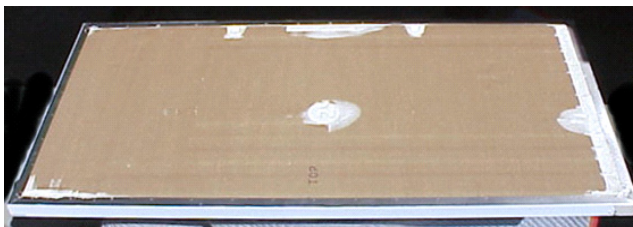
1. Remove the door and place it on a soft surface.
2. Remove the inner liner from the outer liner.
3. While holding the handle remove the (2) Phillips head screws holding the handle to the outer liner.



Removing the Door Outer Liner: (Freezer and Solid Door Refrigerator Models)

Note: The outer liner of the door is insulated with foam.

1. Remove the door and place it on a soft surface.
2. Remove the inner liner from the outer liner.
3. Remove the door handle and the lower hinge receptacle.



Removing the Door Handle: (Glass Door Refrigerator Models)

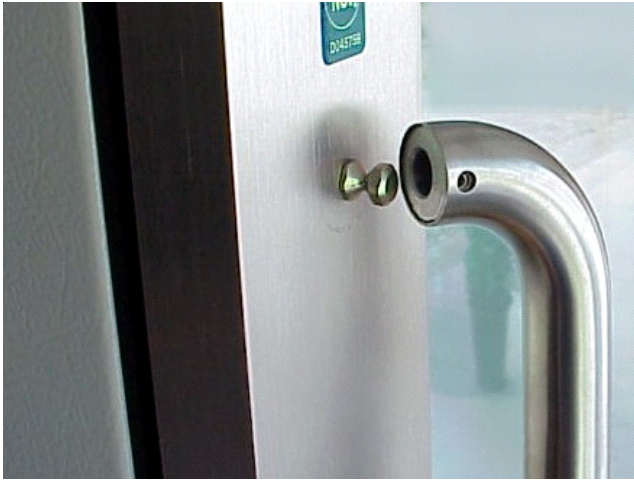
1. Remove the (2) small plastic plug covering the locking Allen screw in the side of the handle.



2. Using a 3/32 Allen wrench loosen the (2) Allen screws, one at the top and one at the bottom, locking the handle to the shoulder mounting handle screws.



3. Lift the handle off of the shoulder mounting handle screws.



Removing the Shoulder Mounting Handle Screws: (Glass Door Refrigerator Models)

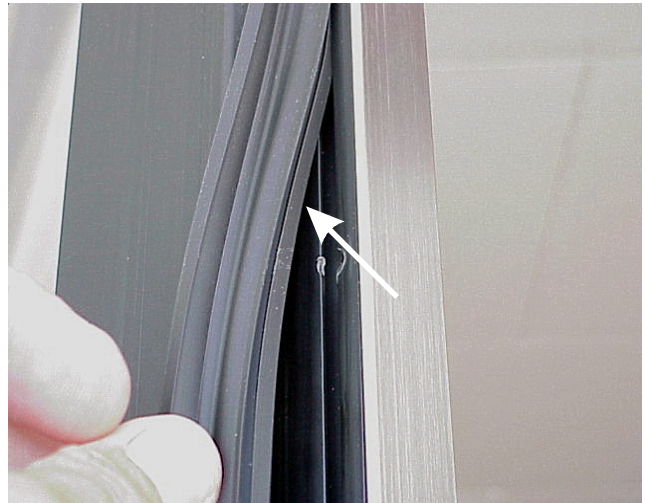
1. Remove the door handle.
2. Using a 3/8" socket turn the shoulder mounting handle screws counterclockwise to remove.



Removing the Door Seal: (Glass Door Refrigerator Models)

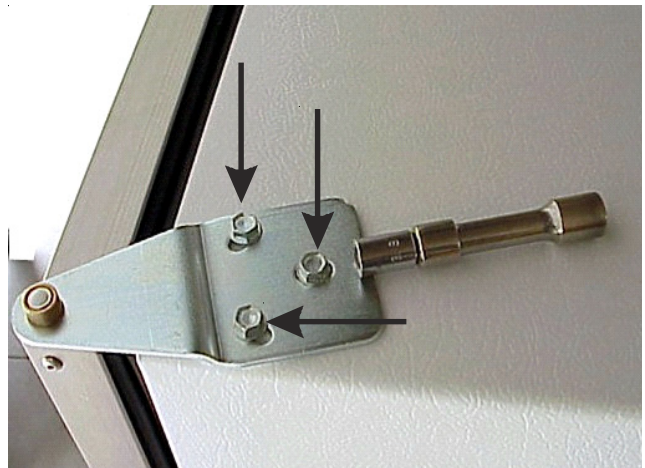
1. Open the refrigerator door.

2. The door seal is held to the door frame by a locking ridge, that is forced into a channel in the door frame. To remove the seal, pull out on the seal to disengage the ridge from the channel.



Removing the Top Door Hinge: (Glass Door Refrigerator Models)

1. With the door closed, hold the door and remove the (3) screws holding the hinge to the cabinet, using a 3/8" socket.



2. Lift the top hinge off of the hinge pin.



Removing the Door:(Glass Door Refrigerator Models)

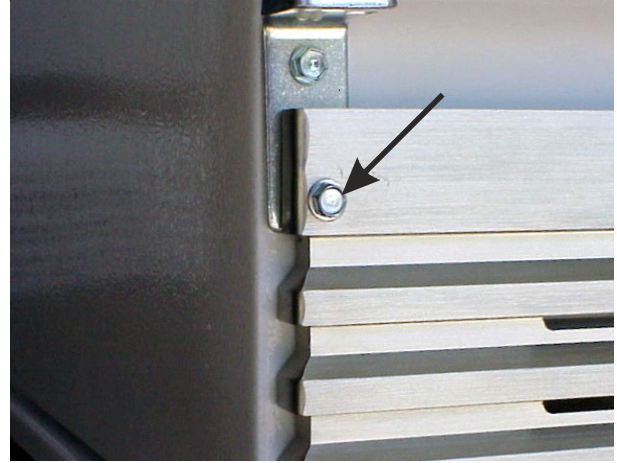
1. Remove the top door hinge.
2. Open the door and lift the door off of the bottom hinge.
3. Place the door on a soft surface to protect the door.



4. If replacing the door glass assembly, remove the door seal, door handle, nameplate and handle shoulder mounting screws.

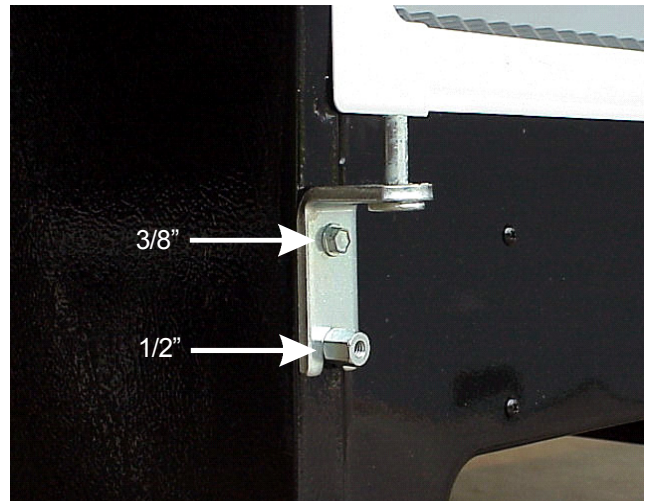
Removing the Kickplate Grille:(All Models)

1. Using a 3/8" socket remove the (2) screws, one on each end, holding the kickplate to the front of the chassis.



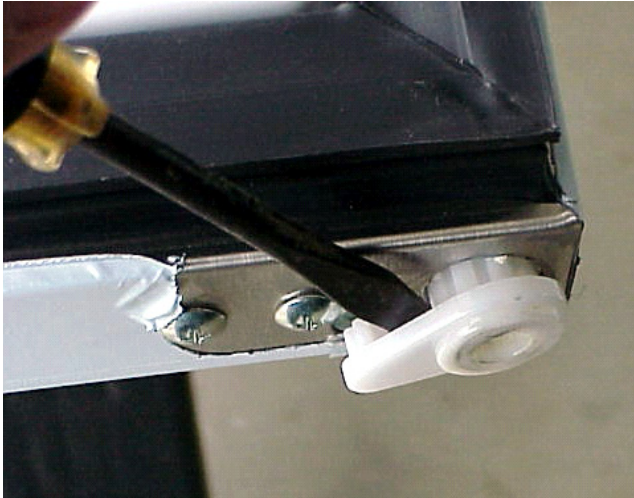
Removing the Lower Door Hinge: (Freezer and Solid Door Refrigerator Models)

1. Remove the door and the kickplate grille.
2. Using a 3/8" socket remove the top screw holding the hinge to the cabinet.
3. Using a 1/2" socket loosen the bottom screw and lift the hinge off.



Removing the Lower Hinge Bearing: (Freezer and Solid Door Refrigerator Models)

1. Remove the door.
2. Using a common screwdriver pop the hinge bearing out of the door.



Removing the Wide Trivet:(All Models)

1. The wide trivet lift out.



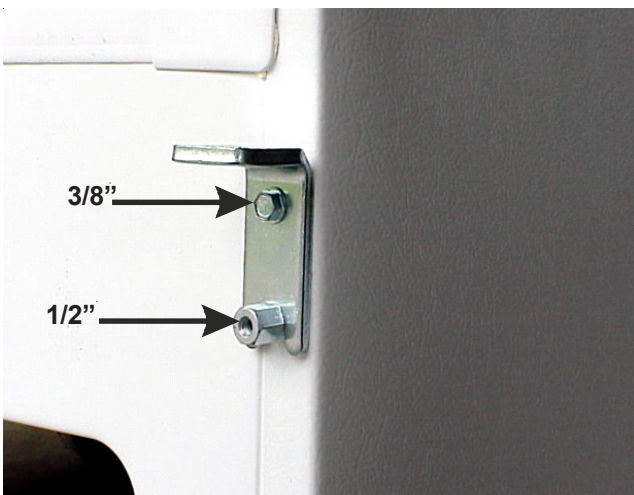
Removing the Shelves:(All Models)

1. The shelves lift out.



Removing the Lower Door Hinge:(Glass Door Refrigerator Models)

1. Remove the kickplate grille.
2. Using a 3/8" socket remove the top screw holding the door hinge to the cabinet.
3. Using a 1/2" socket loosen the bottom screw and lift the door Hinge off.



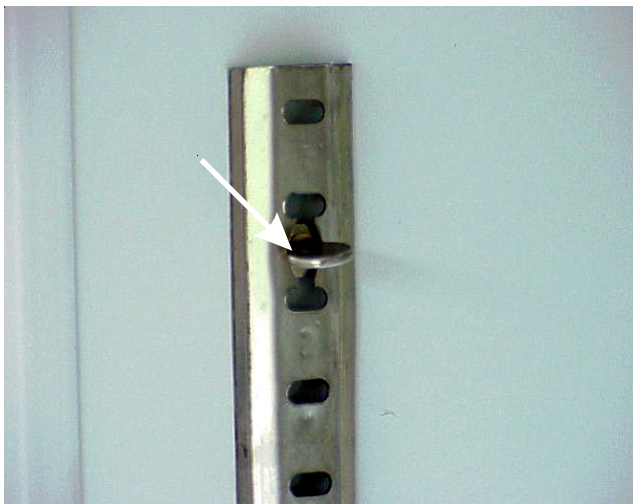
Removing the Shelf Support:(All Models)

1. To remove the shelf supports push up on the end of the support.



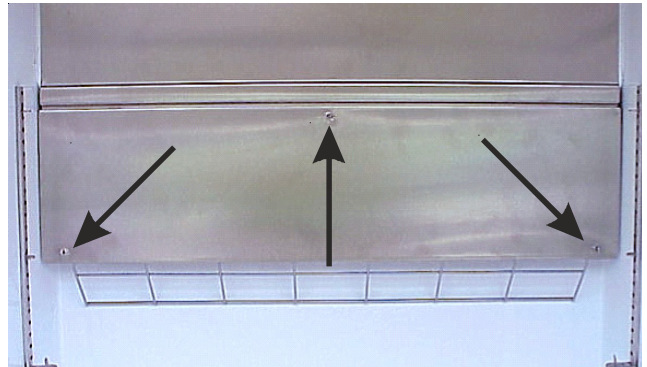
Removing the Shelf Support Tracts:(All Models)

1. Turn the (6) thumb screws one quarter turn counter clockwise and lift the track off.



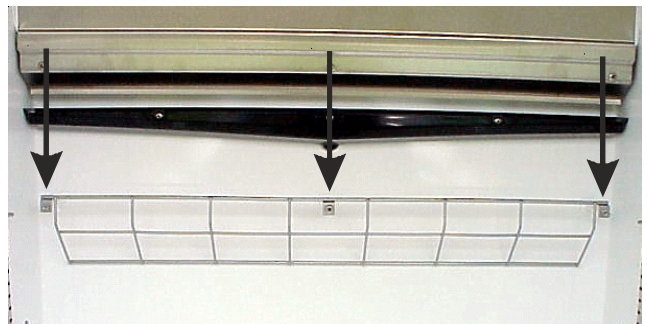
Removing the Drain Trough Cover:(All Models)

1. Turn the (3) thumb screws one quarter turn counter clockwise and lift the cover off.



Removing the Air Intake Grate:(All Models)

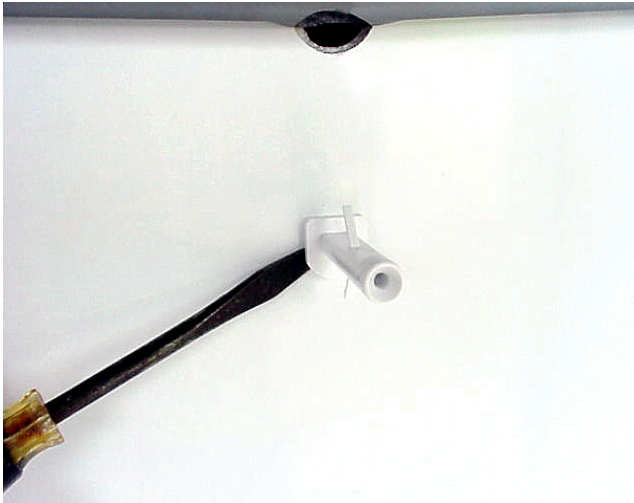
1. Remove the drain trough cover.
2. Removed the Phillips head screw in the center, the (2) thumb screws, one on each end, and lift the grate off.



Removing the Air Intake Grate Supports:(All Models)

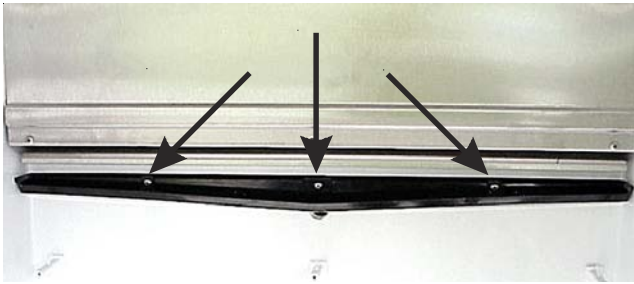
1. Remove the drain trough cover and the air intake grate.

- Using a common screwdriver, work the supports out of the liner.



Removing the Drain Trough:(All Models)

- Remove the drain trough cover.
- Remove the (3) Phillips head screws holding the drain trough to the liner and lift the drain trough off.



Removing the Cold Control Knob:(All Models)

- The cold control knob pulls straight off.



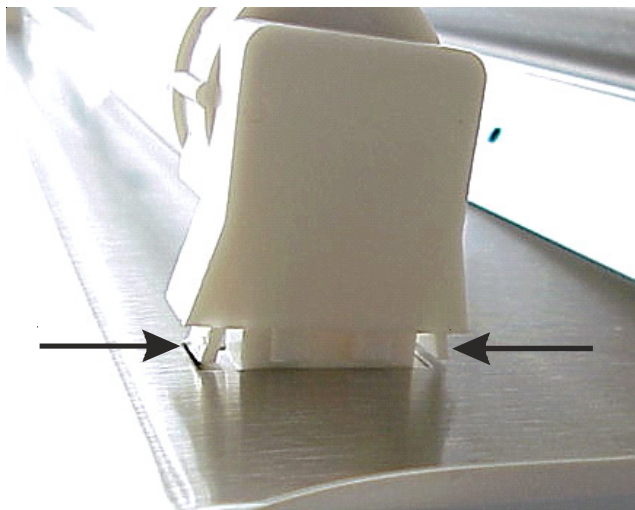
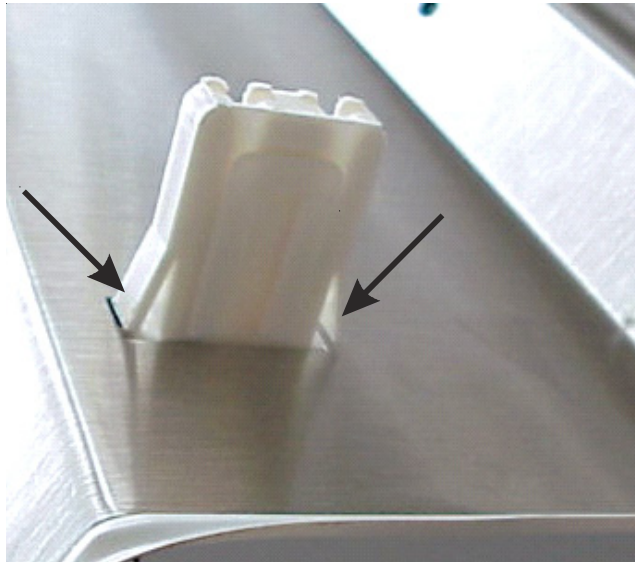
Removing the Light Bulb: (Freezer and Solid Door Refrigerator Models)

- Turn the light bulb counterclockwise to unscrew the bulb from the socket.



Removing the Fluorescent Light Bulb: (Glass Door Refrigerator Models)

1. The fluorescent light sockets are two-piece sockets that snap together and are locked by two tabs on the lower half. To remove the light bulb, you must disassemble the socket.

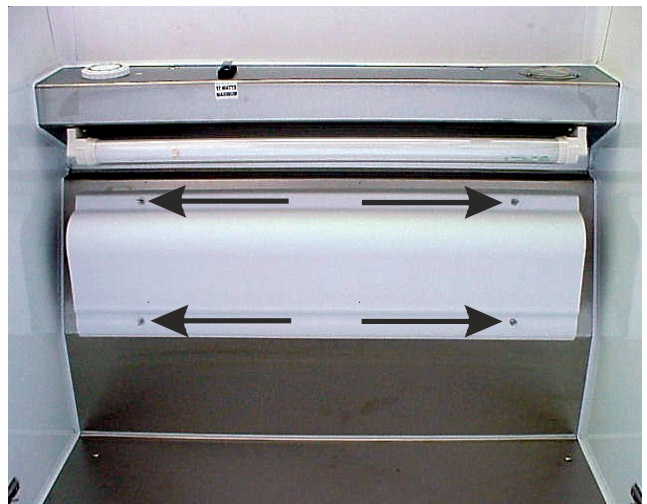


2. Push in on the locking tabs and lift the top halves of the sockets off. Once the two halves of the sockets have been separated, the top halves of the sockets will slide off the light bulb. With the sockets removed the bulb will slide out of its protective shield.



Removing the Air Deflector:(Glass Door Refrigerator Models)

1. Remove the (4) thumb screws holding the air deflector to the evaporator cover assembly and lift the air deflector off.



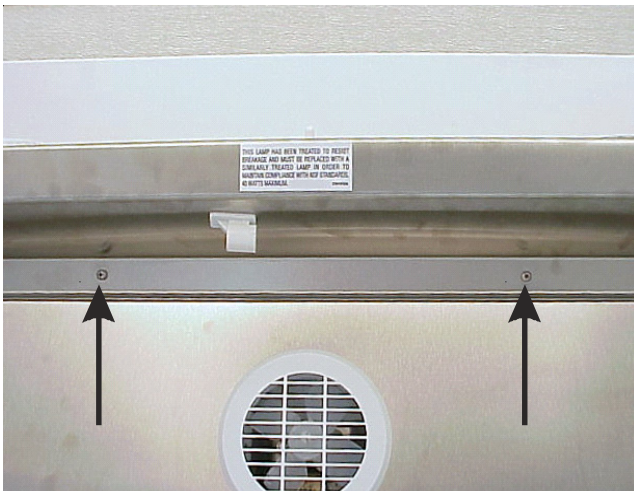
Removing the Evaporator Cover Assembly: (Freezer and Solid Door Refrigerator Models)

1. Disconnect power and remove the drain trough cover.

2. The evaporator cover assembly is held in place by (8) Phillips head screws. (4) on the back wall,



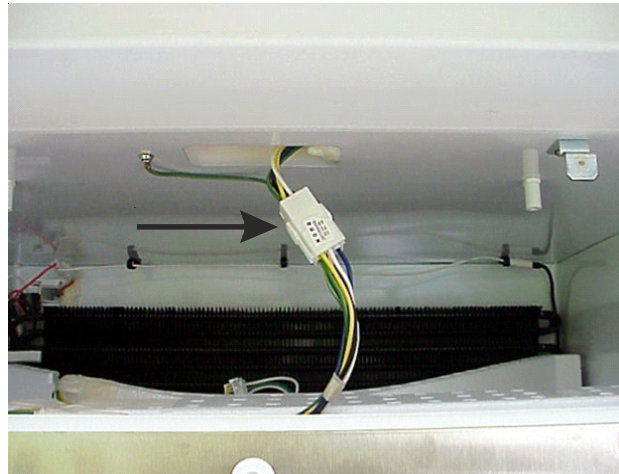
(2) on the top about one third of the way back and



(2) in the front.



3. Disconnect electrical plug supplying power to the evaporator cover assembly and slide the assembly out.

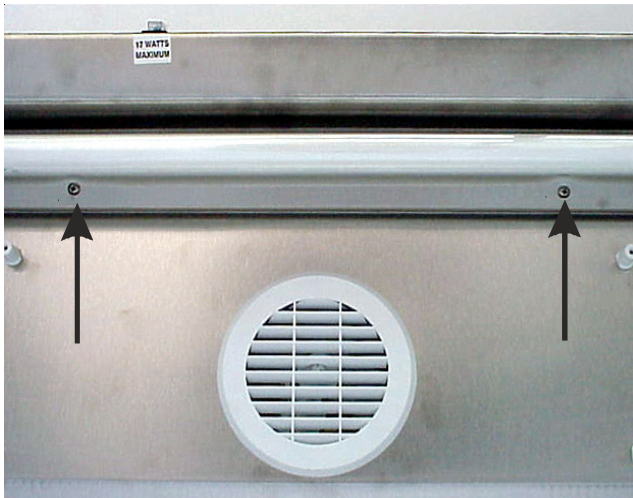


Removing the Evaporator Cover Assembly: (Glass Door Refrigerator Models)

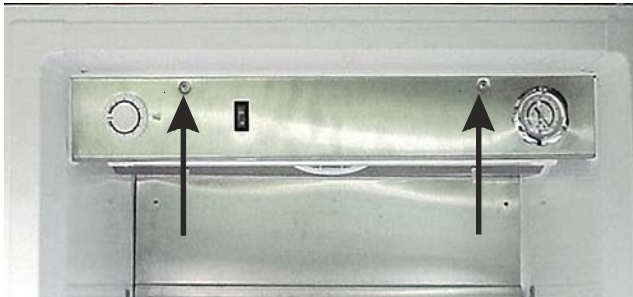
1. Disconnect power, remove the drain trough cover and the air deflector.
2. The evaporator cover assembly is held in place by (8) Phillips head screws. (4) on the back wall,



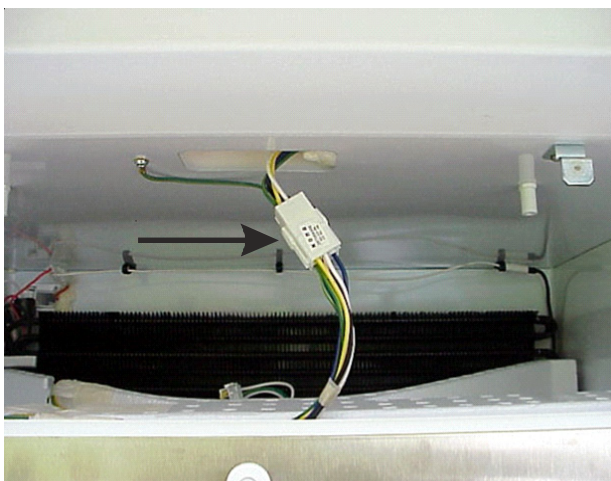
(2) on the top about one third of the way back and



(2) in the front.

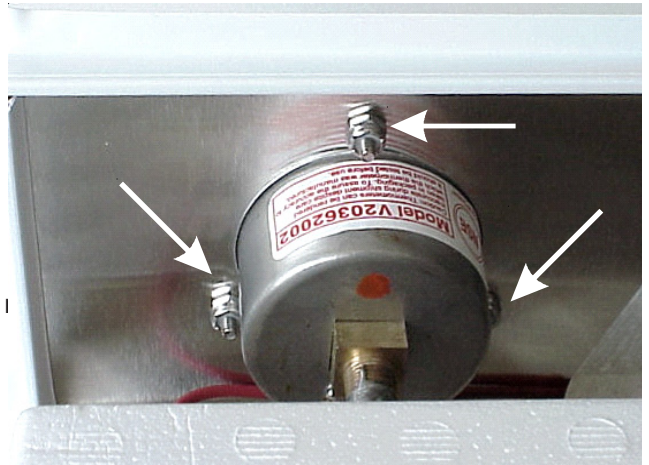
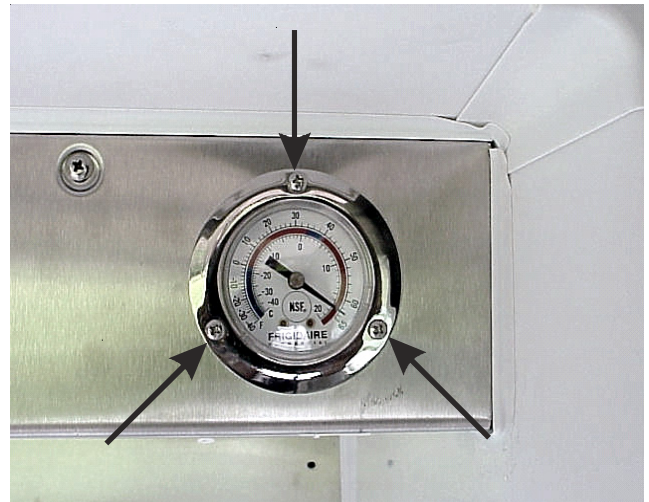


3. Disconnect electrical plug supplying power to the evaporator cover assembly and slide the assembly out.

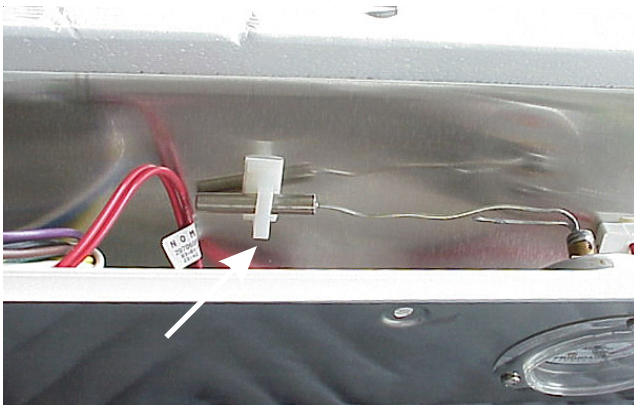


Removing the Dial Thermometer:(All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. The thermometer is held to the evaporator cover by (3) Phillips head bolts, and (3) 5/16" nuts. Turn the bolts counterclockwise, while holding the nuts

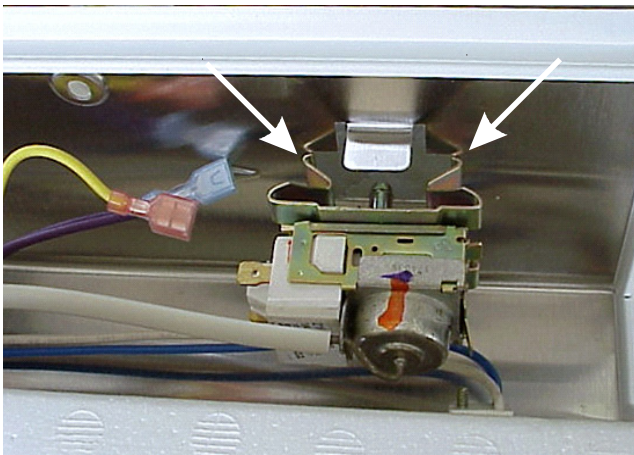


4. Disconnect the sensing bulb from its bracket and slide the thermometer out the front.

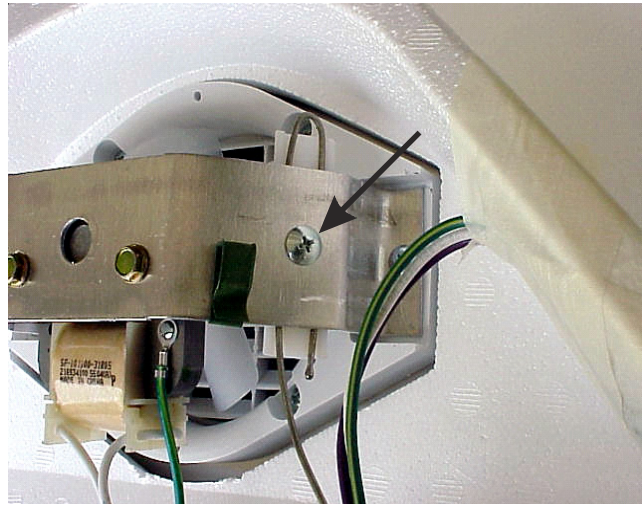


Removing the Cold Control:(All Models)

1. Disconnect power from the appliance and remove the cold control knob.
2. Remove the evaporator cover assembly.
3. Disconnect the wires from the control and squeeze the locking brackets on the cold control to release it from the evaporator cover.



4. Remove the Phillips head screw holding the cold control bulb to the fan mounting bracket and lift the control out.

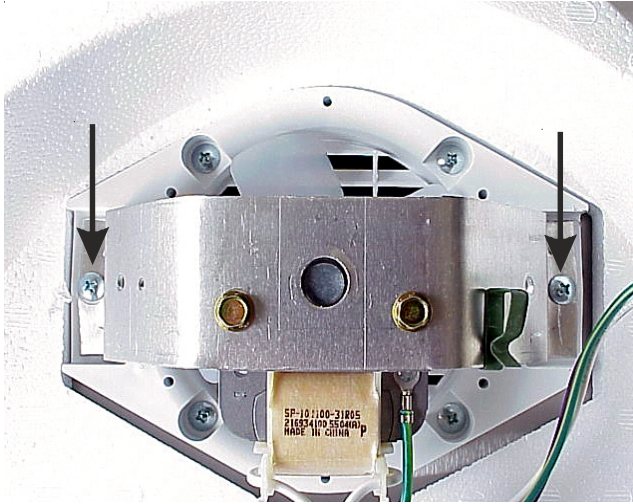


Removing the Evaporator Fan Assembly: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Unplug the wiring harness to the fan and remove the cold control bulb.

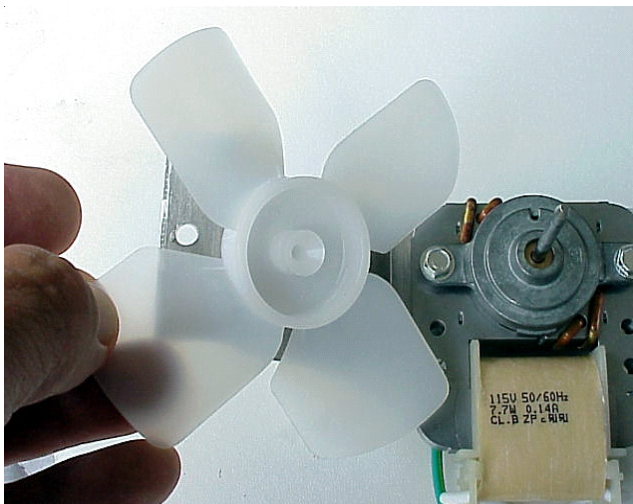


3. Remove the (2) Phillips head screws holding the fan assembly to the blower venturi and lift the fan assembly out.



Removing the Evaporator Fan Blade: (All Models)

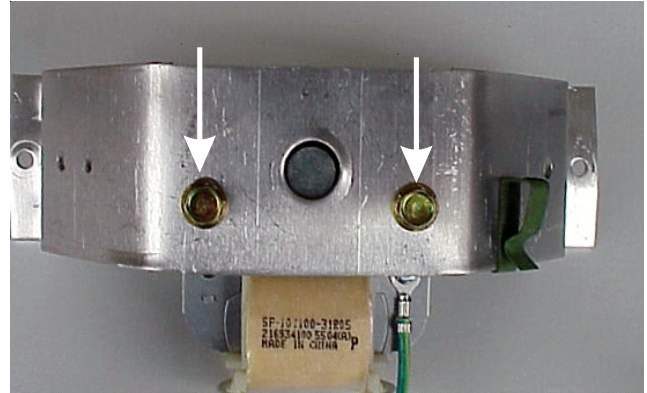
1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Remove the fan assembly.
3. Pull the fan blade off.



Note: When installing the fan blade, be sure to push it completely on.

Removing the Evaporator Fan Motor: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Remove the fan assembly and the fan blade.
3. Using a 5/16" socket remove the (2) bolts holding the fan motor to the fan mounting bracket, and lift the bracket off.

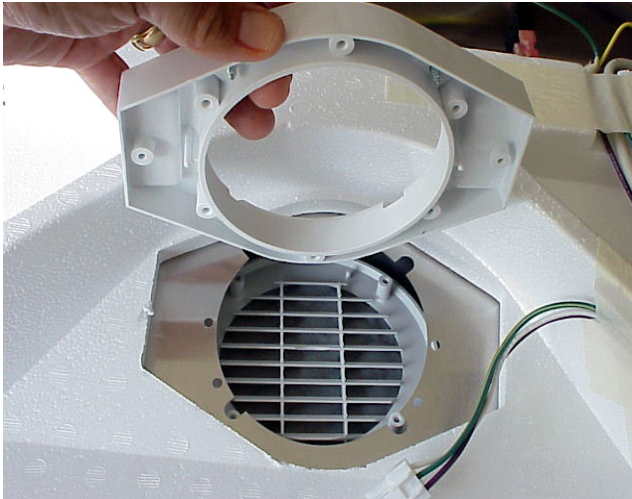


Removing the Blower Venturi and Fan Cover: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Remove the fan assembly.
3. Remove the (4) Phillips head screws holding the blower venturi to the fan cover.

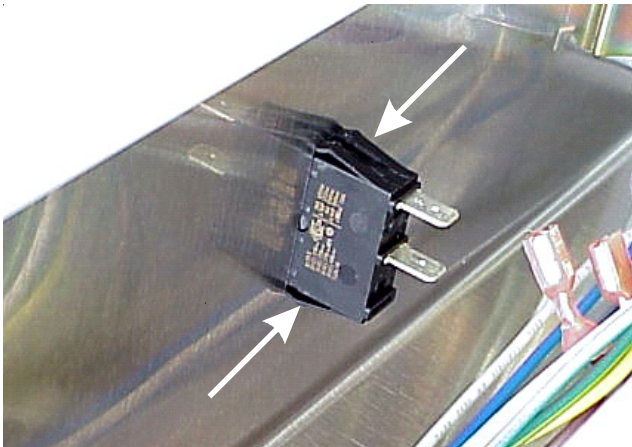


4. The blower venturi will now lift off and fan cover will drop down.



Removing the Fluorescent Light Switch: (Glass Door Refrigerator Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Disconnect the wires from the switch and squeeze the spring-loaded tabs at the top and bottom of the switch and push it out the front.

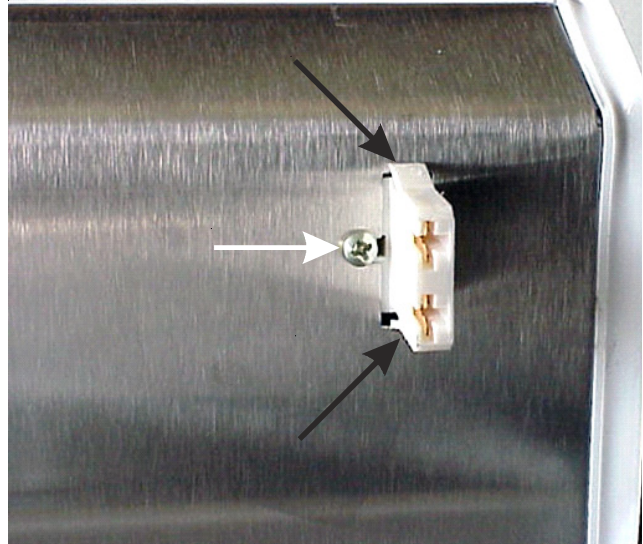


Removing Lower Half of the Fluorescent Light Socket: (Glass Door Refrigerator Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Remove the fluorescent light bulb.

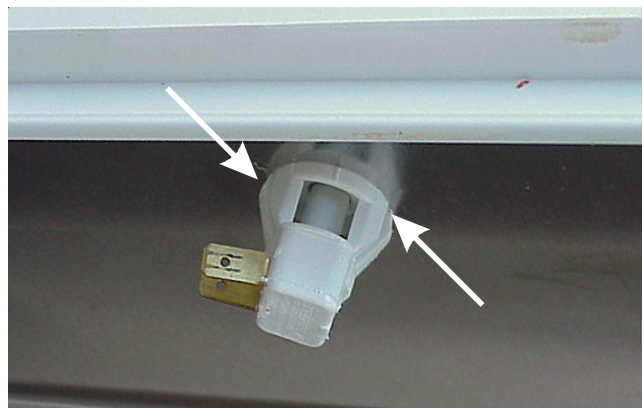
3. Remove the (2) wires from the disconnect plug.

4. Remove the Phillips head screw locking the socket to the evaporator cover, squeeze the tabs on the sides of the socket and pushed the socket through the evaporator cover.



Removing the Light Switch: (Freezer and Solid Door Refrigerator Models)

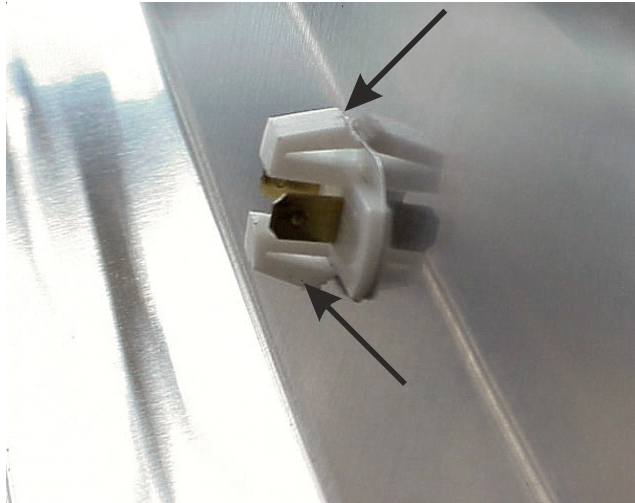
1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Disconnect the wires from the switch, squeeze the locking tabs and push the switch out the front.



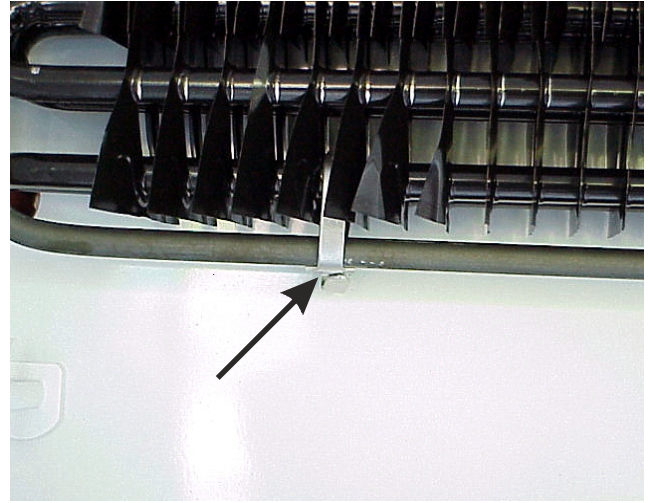
Removing the Light Socket: (Freezer and Solid Door Refrigerator Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.

2. Disconnect the wires, release the locking tabs on the socket and push the socket out the front.

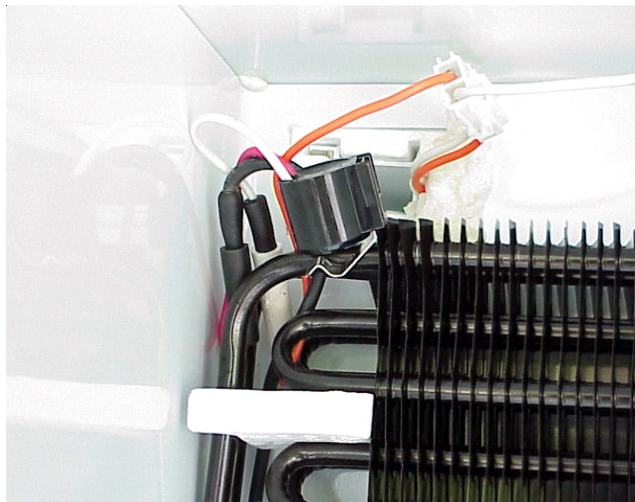


3. Release the (2) of aluminum straps securing the heater to the bottom of the evaporator.



Removing the Defrost Thermostat: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Disconnect the wires to the thermostat and unsnap the thermostat from the evaporator.



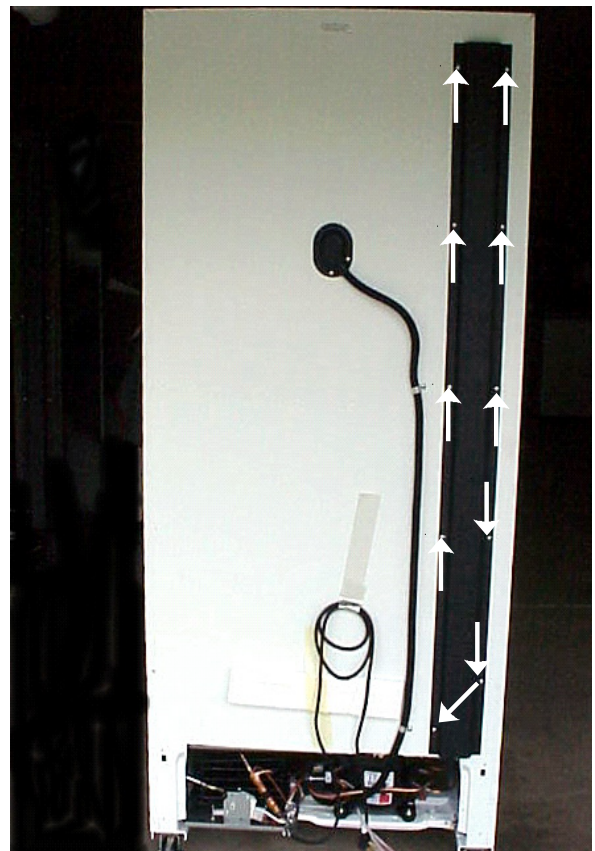
Removing the Defrost Heater: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Disconnect the wires to the heater.

4. Pull the heater down to disengage it from the evaporator.

Removing the Rear Wiring Cover: (All Models)

1. Obtain access to the rear of the appliance and remove the (10) Phillips head screws holding the cover to the rear wall.



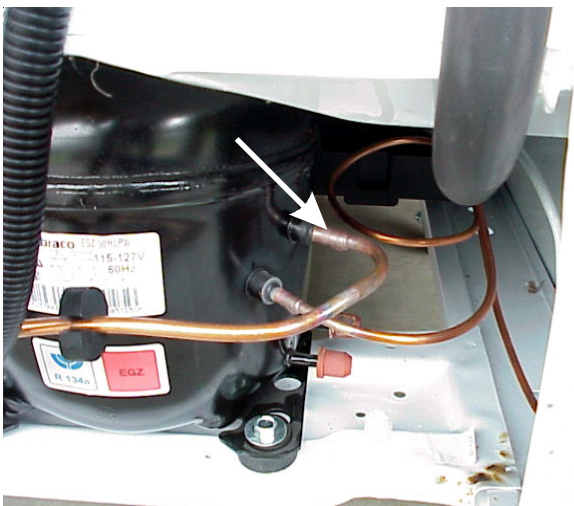
Removing the Evaporator: (All Models)

1. Disconnect power from the appliance and remove the evaporator cover assembly.
2. Remove the defrost heater, termination thermostat and the styrofoam blocks between the evaporator and the refrigerator liner
3. Remove the rear wiring cover.
4. Recover refrigerant by using EPA approved recovery system.

Note: Whenever this sealed system is opened, the filter-drier must be replaced.

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.

5. Remove the filter-drier.
6. Cut the suction line at the compressor.

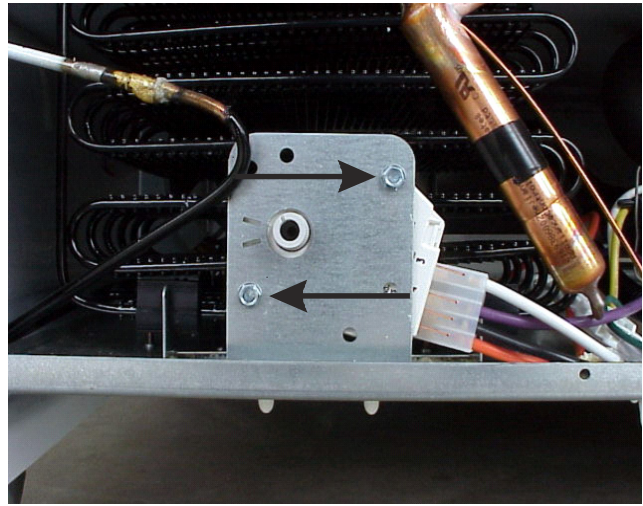


7. Straighten the tubing, remove the foam sleeve and carefully feed the heat exchanger, through the cabinet, while pulling out on the evaporator.

Removing the Defrost Timer: (All Models)

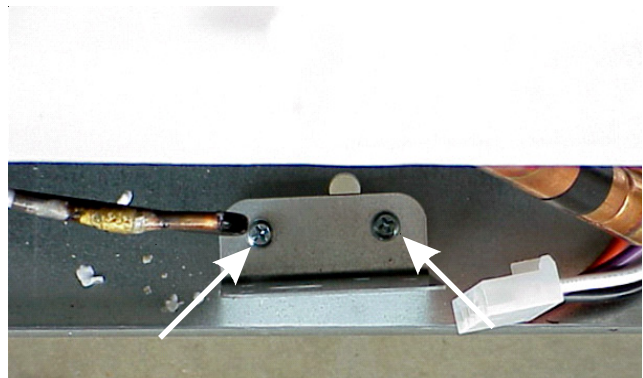
1. Disconnect power and obtain access to the rear of the appliance.

2. Unplugged the wiring harness from the defrost timer and using a 1/4" socket remove the (2) screws holding the timer to the timer mounting bracket.



Removing the Defrost Timer Mounting Bracket: (All Models)

1. Disconnect power and obtain access to the rear of the appliance.
2. Remove the defrost timer.
3. Removes the (2), Phillips head screws holding the mounting bracket to the condenser base plate.



Removing the Filter-Drier: (All Models)

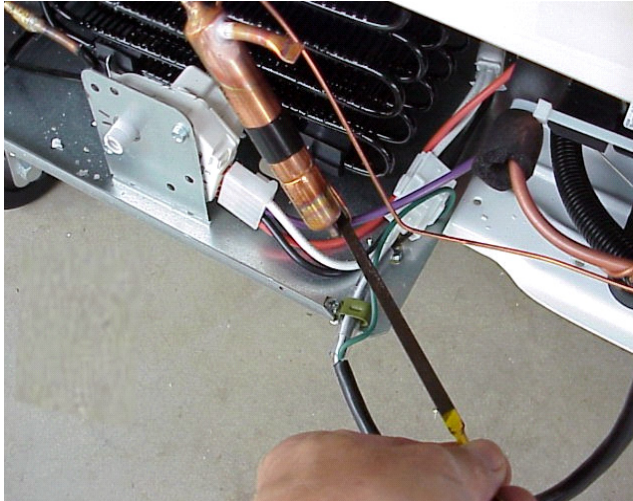
1. Disconnect power and obtain access to the rear of the appliance.

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.

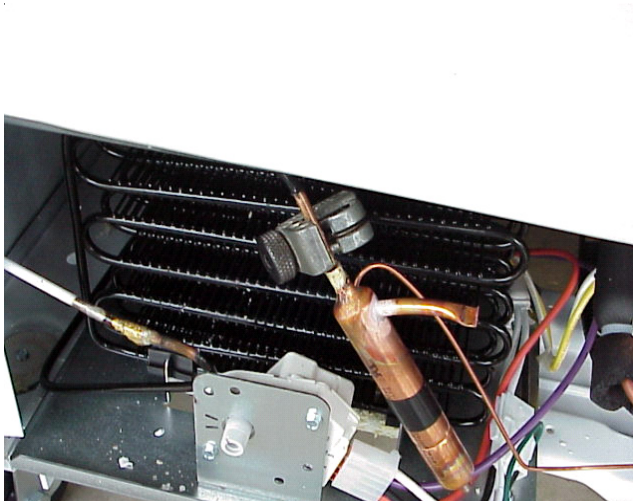
2. Recover refrigerant by using EPA approved recovery system.

CAUTION: DO NOT un-braze 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.

3. Using a three corner file score and break the tube at the bottom of the filter-drier.

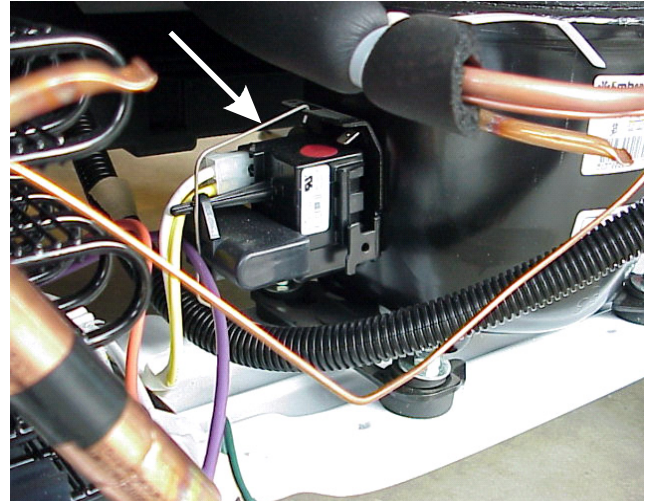


4. Remove the filter-drier by cutting the tube at the top of the filter-drier as close as possible.

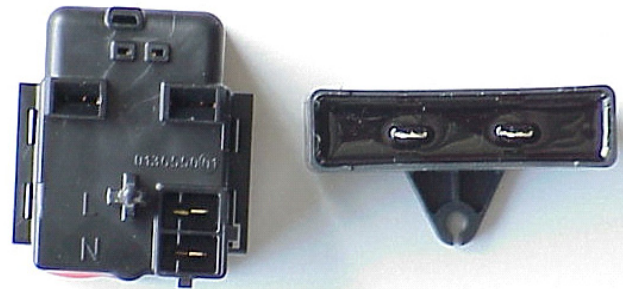


Removing the Run Capacitor and Controller Assembly: (Upright Refrigerators)

1. Disconnect power and obtain access to the rear of the appliance.
2. Unplugged the wires from the controller and release the spring wire clip holding the run capacitor and controller assembly to the compressor.



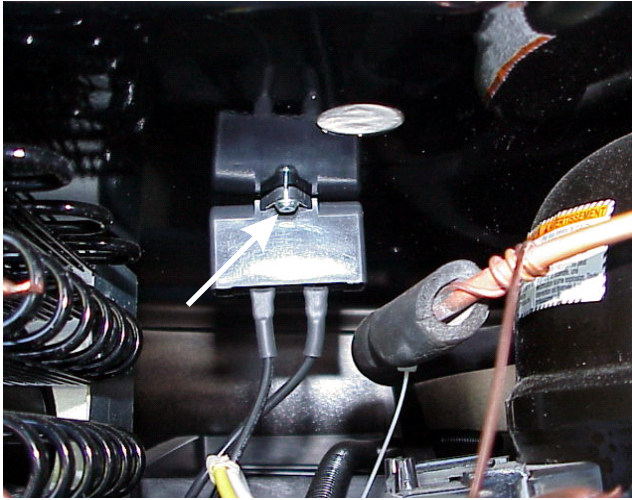
3. Pull the controller off of the compressor and slide the capacitor from the controller.



Removing the Run Capacitor: (Upright Freezers)

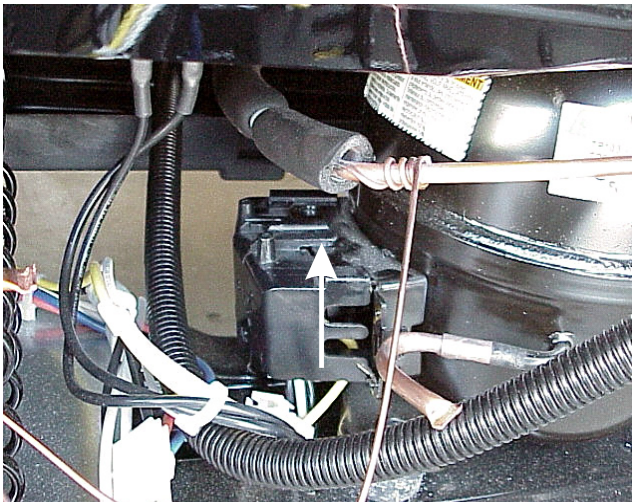
1. Disconnect power and obtain access to the rear of the appliance.

2. Disconnect the (2) wires from the capacitor and remove the Phillips head screw holding the capacitor to the chassis.



Removing the Terminal Cover: (Upright Freezers)

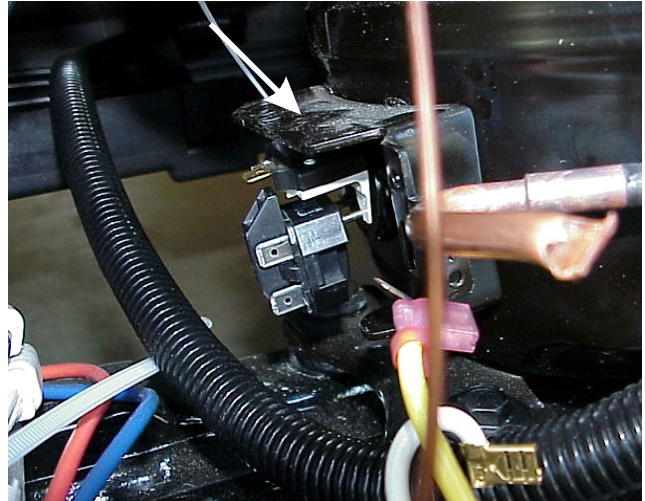
1. Disconnect power and obtain access to the rear of the appliance.
2. Release the locking tab on the top of the cover and slide to cover back.



Removing the Start Relay: (Upright Freezers)

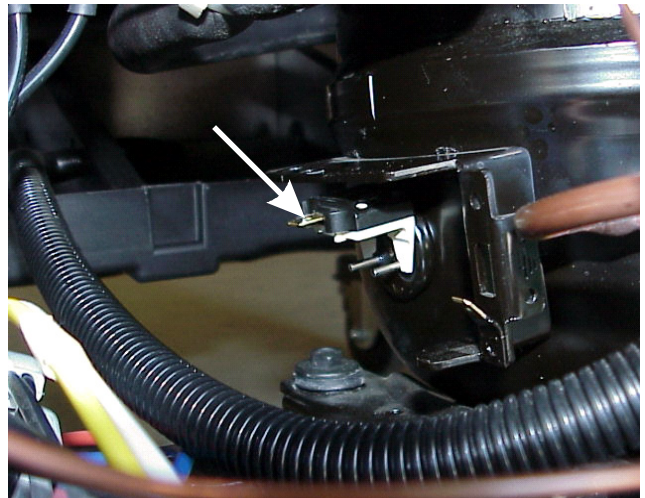
1. Disconnect power and obtain access to the rear of the appliance.

2. Remove the terminal cover and disconnect the wires from the start relay.
3. Slide the relay back off of the pins of the compressor.



Removing the Overload Protector: (Upright Freezers)

1. Disconnect power and obtain access to the rear of the appliance.
2. Remove the terminal cover and slide start relay off of the compressor pins.
3. Disconnect the wire and slide the overload protector off of the compressor pin.



Replacing the Compressor: (All Models)

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

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

- If the oil has burned odor, but no color change or residue — install the new compressor
- If oil has a burned odor and a sugar or gritty feel as well as showing signs of contamination (dark color) — Flush The System. Remove as much of contamination as possible from system before installing new compressor and filter-drier.

To Flush the System:

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.

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.

CAUTION: The end of the flushing hose on this tank regulator must be equipped with a hand shut-off valve. (Robinair No. 4038) Close hand shut-off valve and adjust nitrogen regulator to correct pressure before proceeding with flushing procedure.

Using 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 out into the 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 PSIG.

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

CAUTION: DO NOT exceed 150 PSIG.

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

CAUTION: DO NOT exceed 300 PSIG.

7. Reassemble system.

Using 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 SYSTEM.

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: To flush evaporator and heat exchanger you must remove evaporator from inside product to disconnect cap tube.

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 adaptor.
6. Reassemble system.

Installing a New Compressor:

NOTE: Entirely new compressors have been developed for 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 appliances 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.

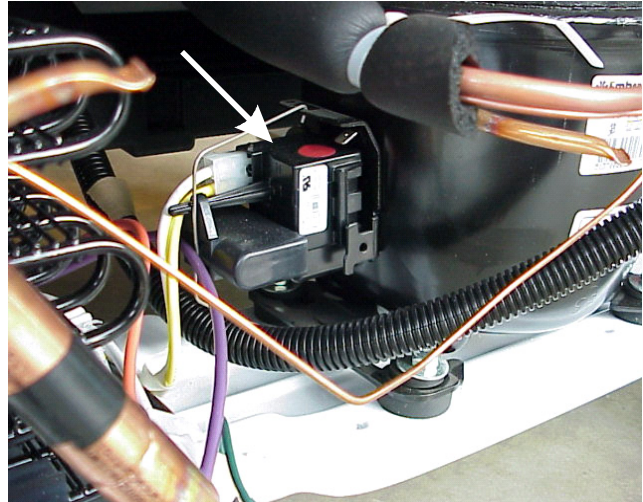
If the compressor checks OK, reinstall the plug. Do not remove any of the plugs again until the compressor is in position and you are ready to braze the lines.

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

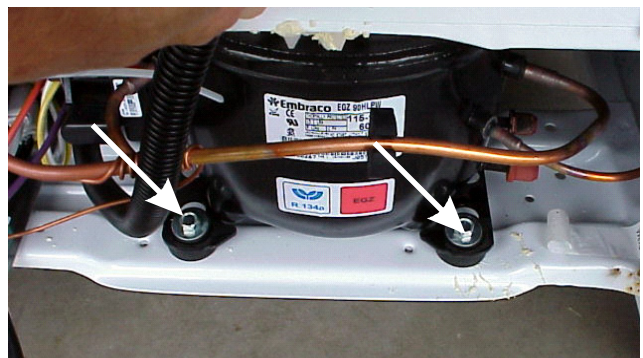
A new compressor which is cold (e.g. after having been kept in a cold service van) should be left to warm to the surrounding temperature before the plugs on the compressor connections are removed. This will help prevent condensation from forming in the oil and the compressor. Also, avoid opening the 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 power from the appliance.
2. To obtain access to the rear of the compliance
3. Recover refrigerant by using EPA approved recovery system.
4. Remove the controller and run capacitor from the compressor. (Refrigerator Models)



5. Remove the start relay and the overload protector. (Upright Freezer Models)
6. Remove the (4), bolts holding the compressor to the base.

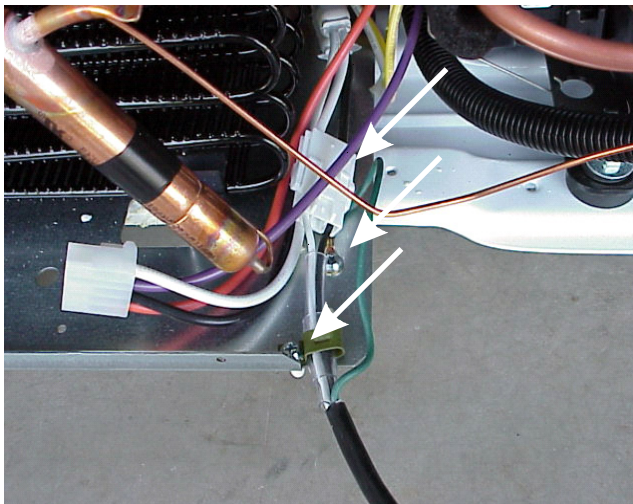


7. After refrigerant is completely recovered, cut suction and discharge lines as close to compressor as possible. Leave only enough tubing to pinch off and seal defective compressor. Plug or tape any open system tubing to avoid entrance of moisture and air into system. Remove inoperable compressor and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

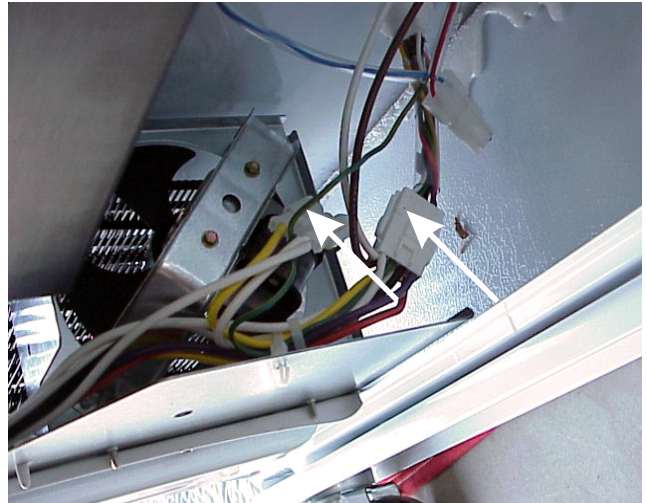
9. Reform both suction and discharge lines to align with new compressor. If they are too short, use additional lengths of tubing. Joints should overlap 0.5" to provide sufficient area for good solder joint. Clean and mark area where tubing should be cut. Cut tubing with tubing cutter. Work as quickly as possible to avoid letting moisture and air into system.

Removing the Condenser: (All Models)

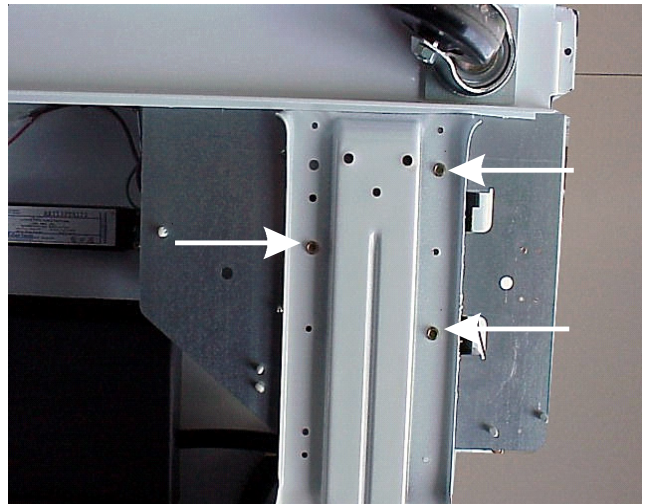
1. Disconnect electrical power and obtain access to the rear of the appliance.
2. Remove the defrost timer and a defrost timer mounting bracket.
3. Disconnect the incoming electrical wiring, and the ground wire.



4. Remove the front kickplate Grill and disconnect the wires from the condenser fan and a cabinet.



5. Using a 5/16 in socket remove the (3) bolts holding the condenser mounting plate to the appliance base.



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.

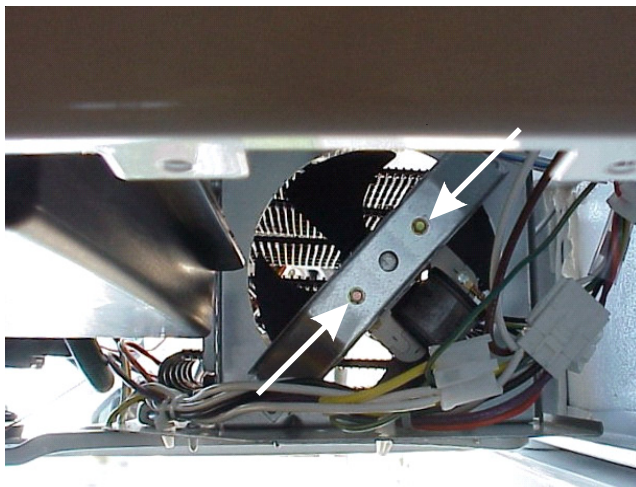
6. Recover refrigerant by using EPA approved recovery system.
7. After refrigerant is completely recovered, remove the dryer, and cut the incoming line to the condenser. Plug or tape any open system tubing to avoid entrance of moisture and air into system.

CAUTION: DO NOT un-braze 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.

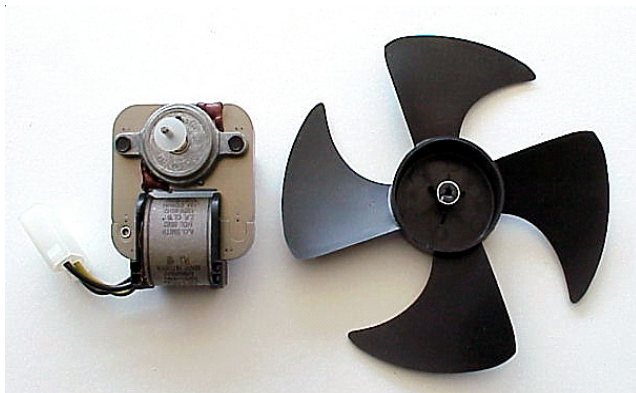
8. With the tubing disconnected, lift up on the condenser and pull the condenser and the condenser fan assembly out the back.

Removing the Condenser Fan Motor and Blade: (All Models)

1. Disconnect electrical power and remove the front kickplate grille.
2. Unplug the wires to the fan motor.
3. Using a 1/4" driver remove the (2) screws holding the fan motor to the fan mounting bracket and lift the fan blade and motor out.

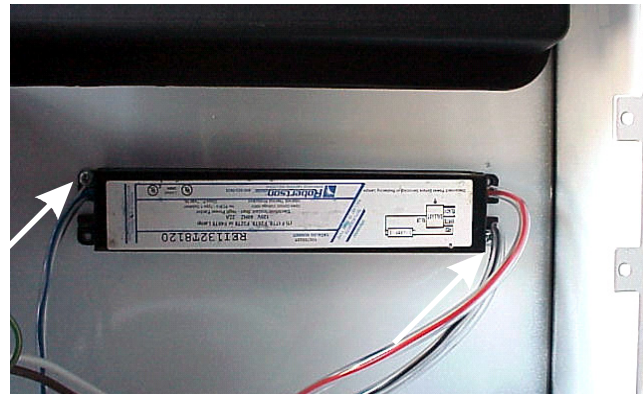


4. Remove the fan blade by pulling it off the motor shaft.



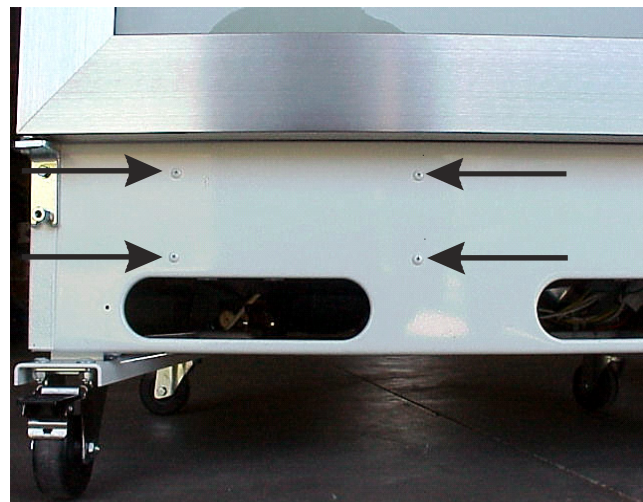
Removing the Fluorescent Light Ballasts: (Glass Door Models)

1. Disconnect electrical power and remove the front kickplate grille.
2. Unplug the wires to the ballast.
3. Remove the (2) Phillips head screws holding the ballast to the bottom of the cabinet.



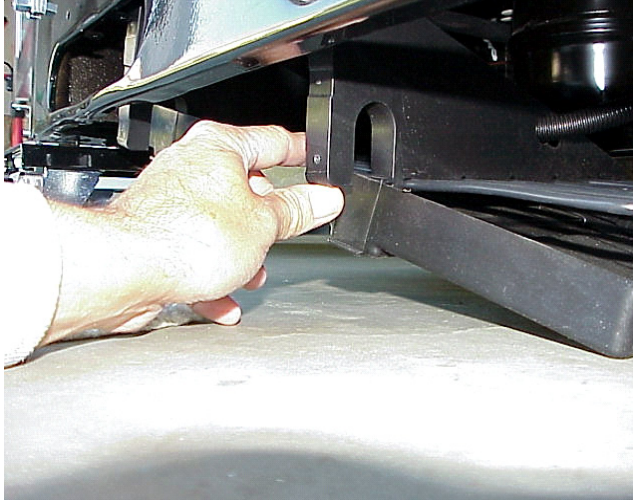
Removing the Drain Pan: (All Models)

1. Remove the front kickplate grille.
2. Removed the (4) Phillips head screws holding the Drain pan to the front of the cabinet and allow the drain pan drop down.



Note: The high side tubing is looped and laid in the bottom of the drain pan to aid in the evaporation of the drain water.

3. Snap the (2) drain pan brackets, holding the tubing to the bottom of the drain pan, out by lifting them up.



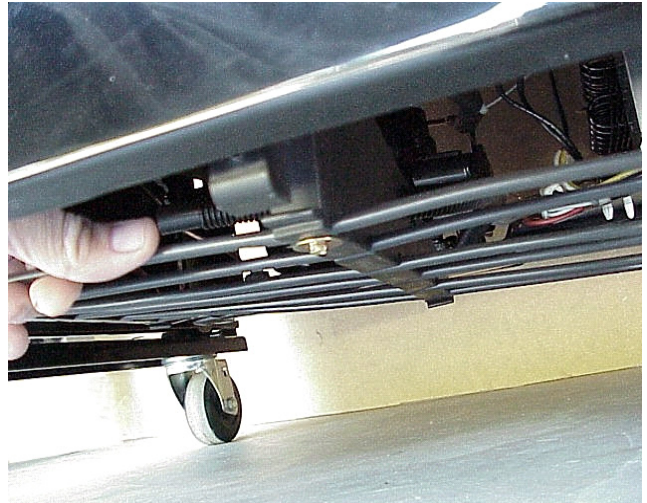
4. With the brackets removed, the drain pan will slide out the front.



Removing the Drain Pan Brackets: (All Models)

1. Remove the front kickplate grille and dropped the drain pan.

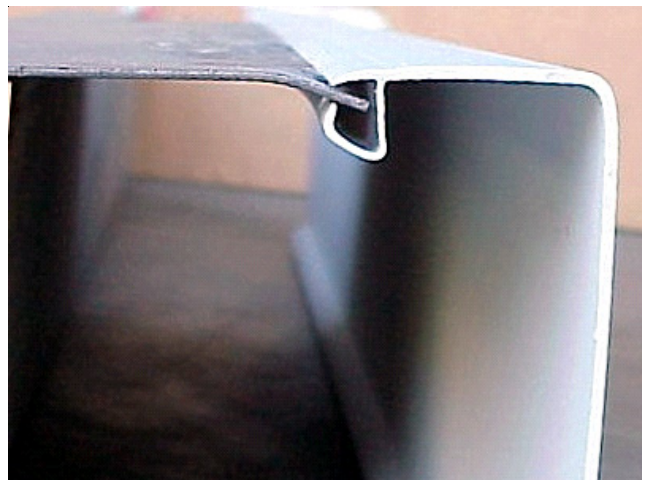
2. Remove the Phillips head screw and washer holding the tubing to the bracket and lift the bracket off.



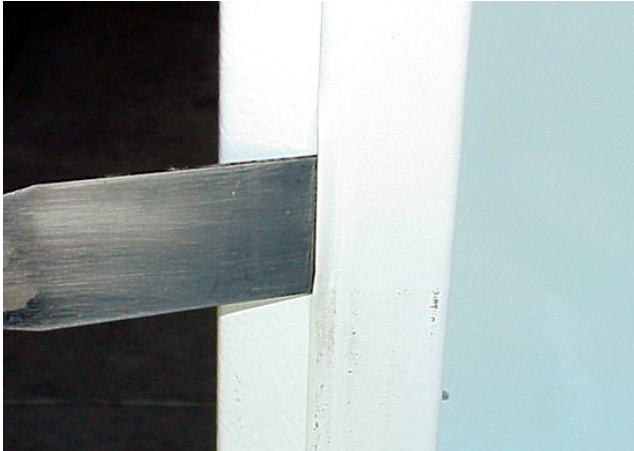
Removing the Main Breakers: (All Models)

Note: The breakers are installed on the appliance before foam is added to the appliance. When the foam is added to the appliance, the foam adheres to the breakers. When removing the breakers, pieces of foam may break off and stick to the breakers. Remove any of the larger pieces from the breakers and put them back in the cabinet.

Note: The edge breakers are formed so they snap and lock to the edge of the cabinet and the edge of the liner.



1. Using a regular putty knife, start at the middle of the breaker, and carefully worked it between the cabinet and the breaker, push it as far towards inside edge to the breaker is possible. The goal is to break the inner flange on the underside of the breaker that is attaching it to the cabinet. Worked the knife toward each end, breaking through the flange is you go.



2. Carefully peel back the breaker from the cabinet towards the inside of the unit so as to minimize the amount of foam that sticks to the breaker. Use a putty knife to remove any large pieces of foam that stick to the breaker and placed them back in the cabinet.
3. Repeat the process using a regular putty knife break the breaker flange between the inside breaker edge in the interior liner.



4. Starting in the center pull the breaker out from the appliance, using the putty knife to separate the breaker from the foam. Tried to remove as little of the foam as possible. And a large pieces of the foam that are missing need to be replaced with additional insulation.

Removing the Corner Breaker: (All Models)

Note: The corner breakers are flange to except main breakers.



1. Remove one of the main breakers, that is attached to the corner breaker.
2. Using a pair of pliers pull the corner breaker away from the other main breaker.

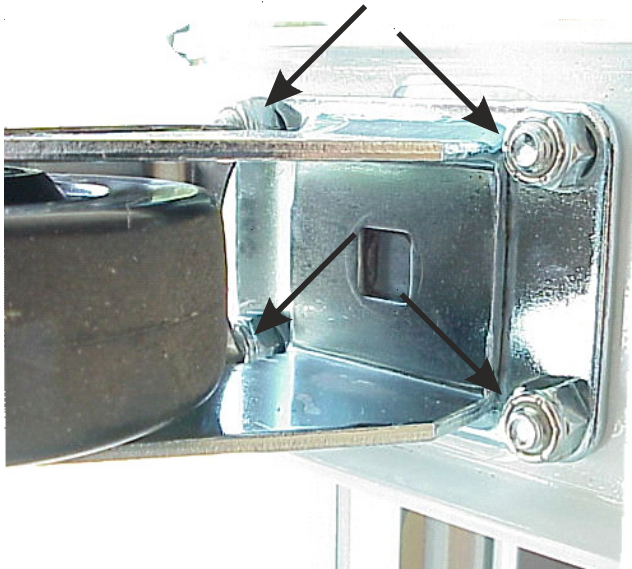
Assembling the New Main Breaker and (2) New Corner Breakers: (All Models)

1. Work the (2) corner breakers onto the existing breakers.
2. Allowing the main breaker to flex in the middle and gradually work the corner breakers and the main breaker over the cabinet and liner flanges until they lays down smoothly.
3. Seal any joints and openings with NSF-approve sealant.

Removing the Front Casters: (All Models)

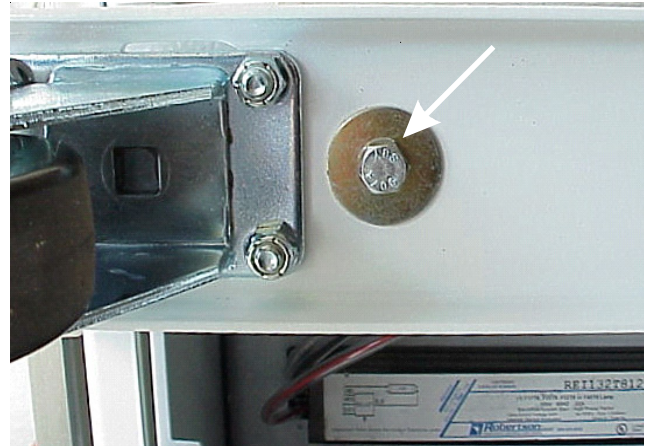
1. Raise the appliance to remove the weight from the caster.

- Using a 1/2" wrench remove the (4), nuts holding the front caster to the caster mounting bar and the caster will drop off.



Removing the Caster Mounting Bar: (All Models)

- Raise the appliance to remove the weight from the casters.
- Remove the rear caster.
- Using a 1/2" wrench remove the bolt holding the front of the bar to the cabinet and the front caster and mounting bar will drop off.



Removing the Rear Casters: (All Models)

- Raise the appliance to remove the weight from the caster.
- Using a 1/2" wrench remove the bolt holding the rear caster to the cabinet and the caster will drop off.



