*GE Appliances*

# TECHNICIAN MANUAL

## 1997 INTERNATIONAL REFRIGERATORS

### NEW GENERATION SxS G/K LINES

Pub. No. 31-45703

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## NEW GENERATION SUMMARY

The New Generation models (28' and BIS24') supplement the Current Generation models (20', 22', and 25') and are planned for introduction in January 1997. The G/K2 line provides a non-transformerized, improved performance refrigerator for the European/Asian market. Other improvements of the New Gen G/K2 line over the Current Gen G/K1 line include decreased noise, decrease external and internal sweat, and increased internal volume per given footprint. Appearance-wise, the most noticeable difference of the New Gen models is the rounded edges of the freezer and fresh food doors.

## G/K2 PRODUCT DIMENSIONS

| | CURRENT GENERATION | | | NEW GENERATION | | |
|---|---|---|---|---|---|---|
| **Model** | **TFG20** | **TFG22** | **TFG25** | **TPG24** | **TFK28** | **TPG30** |
| Height | 66.63" *(169 cm)* | 66.63" *(169 cm)* | 68.75" *(175 cm)* | 68.75" *(175 cm)* | 68.75" *(175 cm)* | 68.75" *(175 cm)* |
| Width | 31.50" *(80 cm)* | 33.50" *(85 cm)* | 35.75" *(91 cm)* | 35.75" *(91 cm)* | 36.00" *(91 cm)* | 35.75" *(91 cm)* |
| Depth (including handles) | 32.50" *(83 cm)* | 32.50" *(83 cm)* | 32.50" *(83 cm)* | 28.44" *(72 cm)* | 33.50" *(85 cm)* | 34.50" *(88 cm)* |
| Depth (no handles) | 30.50" *(77 cm)* | 30.50" *(77 cm)* | 30.50" *(77 cm)* | 26.38" *(67 cm)* | 33.50" *(85 cm)* | 34.50" *(88 cm)* |

## MODEL NOMENCLATURE

**T P G 24 P R Z A**

BRAND / PRODUCT
T = GE Refrigerator

CONFIGURATION
F = Side-by-Side
P = Built-In Style

ENERGY
G = 230V @ 50 Hz
K = 220V @ 60 Hz

CAPACITY
(cubic feet) AHAM Rated Volume

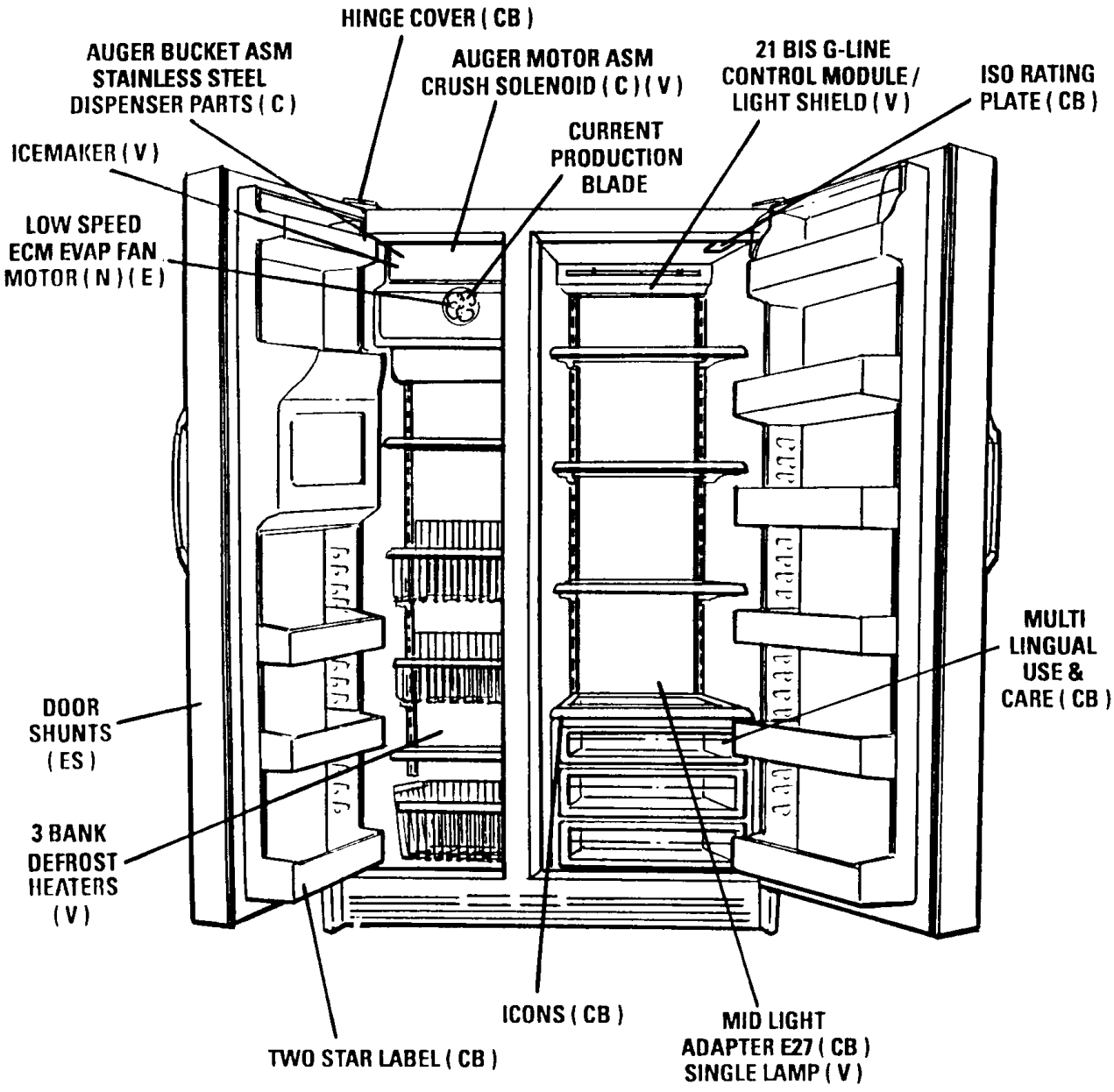
ENGINEERING DESIGN / REVISION
A = Initial Design
B = First Revision

MODEL YEAR
Z = 1997

ICEMAKER / DISPENSER / EXTERIOR
A = Icemaker Ready
R = Cube, Crushed & Water Dispenser
W = Cube & Water Dispenser

INTERIOR FEATURES / SHELVES
P = Profile Line Features
J = Glass

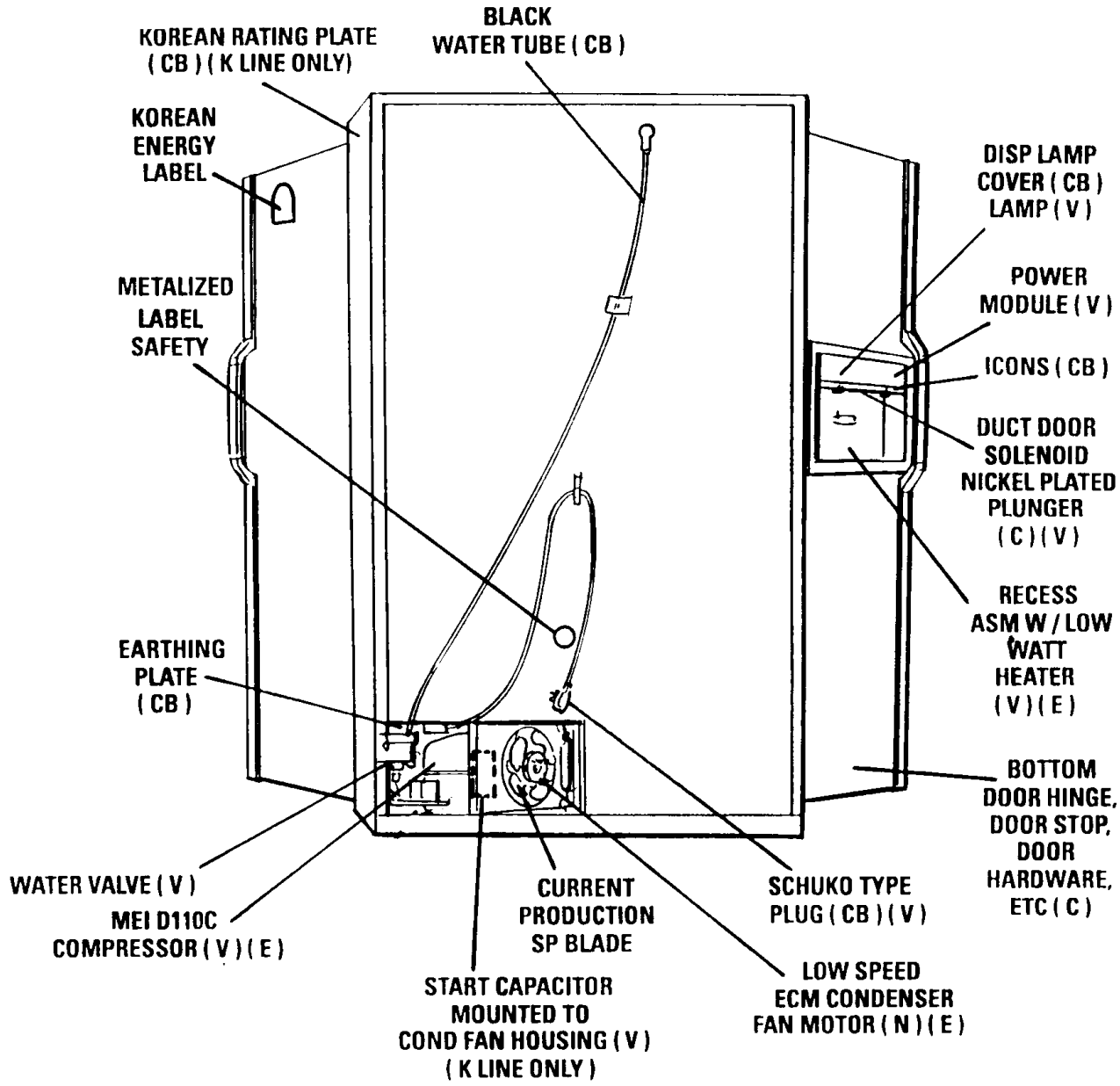
**NEW GEN (24', 28', 30') - TFK / TPG PRODUCT LINE**
FRONT VIEW




**IMPROVEMENT CODING**
**(ES): EXTERNAL SWEAT**
**(C): CORROSION**
**(N): NOISE**
**(E): ENERGY**
**(F): FEATURE & APPEARANCE**
**(CB): CODE BOARD**

**(V): VOLTAGE/THERMAL**

**NEW GEN (24', 28', 30') - TFK / TPG PRODUCT LINE**
REAR VIEW

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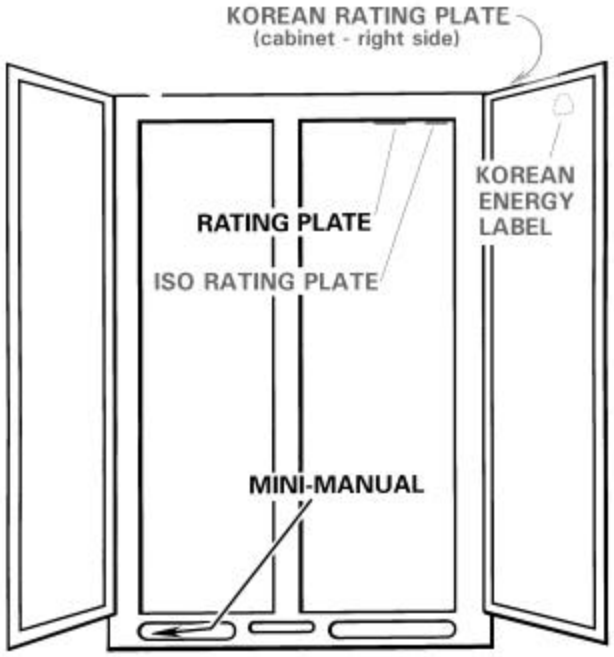
## RATING PLATE

The rating plate is located at the top of the fresh food liner, near the right front corner. In addition to the refrigerator model and serial numbers, the rating plate specifies the minimum installation clearances; the electrical voltage, frequency, and amperage ratings; and the refrigerant type and charge quantity.

The model and serial numbers of the refrigerator are also located on a bar-code label at the rear of the cabinet.




## KOREAN RATING PLATE (K-Line only)

The Korean rating plate is located on the right-hand side of the outer cabinet. It shows KIAA approval #, model #, total volume, fresh food volume, freezer volume, motor input watts, defrost heater watts and manufacture date (year/month).

## ISO RATING PLATE

The ISO rating plate is located to the right of the traditional rating plate on the upper side of the fresh food liner. Besides the model #, voltage, amperage, input watts, installation clearances, and refrigerant charge, it contains unique information such as gross volume, freezing capacity, fresh food net volume, freezer net volume, and frozen food storage area net volume. There is also a class designator which identifies the ambient test condition range for its given ISO rating. On Korean models, the logos, symbols or numbers for the international regulatory agencies/code boards that have approved the model are shown.

## KOREAN ENERGY LABEL (K-Line only)

The Korean energy label is located near the top of the outer fresh food door. It contains information necessitated by two laws-- the Energy Consumption Control Law (upper half of label) and the Electric Appliance Safety Control Law (lower half of label). The upper area has numbers ranging from 5 to 1, where the lower the number, the better the energy rating. The lower half of the label specifies model number, approval number, volume capacity, and monthly energy consumption.

## MINI-MANUAL™

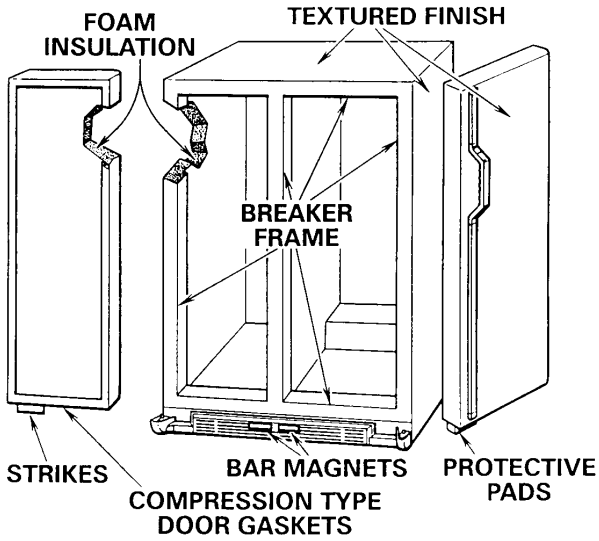
The Mini-Manual is located behind the base grille, at the left side, near the front of the machine compartment. A plastic pin fastener is used to secure the Mini-Manual during shipping. Accordingly,

after the refrigerator has been installed in the consumer's home, it is not necessary to reinstall the fastener. After using the Mini-Manual, it should be returned to its original location for future use.

**CABINET STRUCTURE**

The outer case (top and sides) is made of prepainted steel with a textured finish. The fresh food and freezer liners are made of prepainted steel with a smooth finish. The outer case and doors are insulated with urethane foam.

A plastic breaker frame, fitted to the front of the outer case and over the edges of the freezer and fresh food liners, is foamed-in-place. This reduces the transfer of heat from the room into the freezer and fresh food compartments. The breaker frame is not removable and not replaceable.




The fresh food and freezer door gaskets are compression type with fiberglass inserts (rather than magnetic) because the breaker frame, at the front flanges of the cabinet, is non-magnetic.

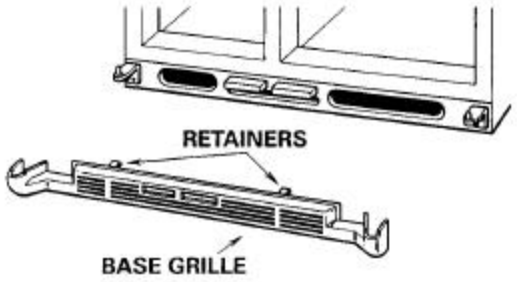
Bar magnets mounted to the base channel and steel strikes mounted to the bottom of the doors hold the doors in a closed position. Soft pads positioned over the strikes prevent damage to shoes or injury to feet when the doors are opened.

Externally, the most noticeable difference from previous models is the rounded edges of the freezer and fresh food doors – at the left and right sides.

Internal features are similar to other 1994 side-by-side Profile™ models. Cantilever glass shelves are provided in the fresh food compartment. The freezer compartment is equipped with cantilever wire shelves and baskets.

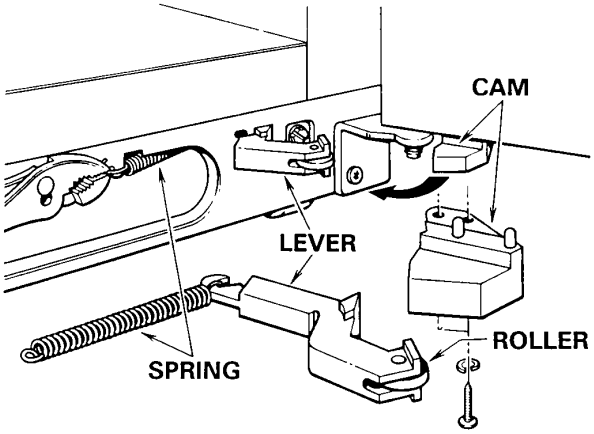
Base Grille

The base grille is attached to the cabinet with two spring steel retainers that grip into elongated openings of the base channel. To remove the grille, pull it straight forward.

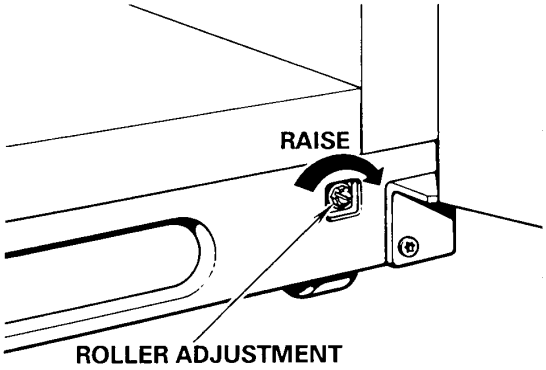



Door Closure Mechanism

Door closure mechanisms assist in closing the fresh food and freezer doors. The closure mechanism consists of a lever, mounted with a spring to the base channel, which interacts with a cam mounted to the bottom of each door with two screws. When the door is closed to about the 45° position, the lever contacts the cam with a slight amount of resistance. As the door is closed further, a small roller in the end of the lever glides over the lobe of the cam and pulls the door closed. The levers and cams are specifically left-hand and right-hand, but the springs are the same for both sides.




To remove the levers and springs, first remove the base grille. Then, grip the end of the spring firmly with pliers and unhook it from the notch in the base channel. (Slip-joint or locking type pliers are recommended.) Grasp the spring and hold onto it while pulling the lever and the spring through the opening in the base channel. Unhook the spring from the notch in the lever. Upon reinstallation, grasp the spring and hold onto it while inserting the spring and lever through the opening in the base channel.

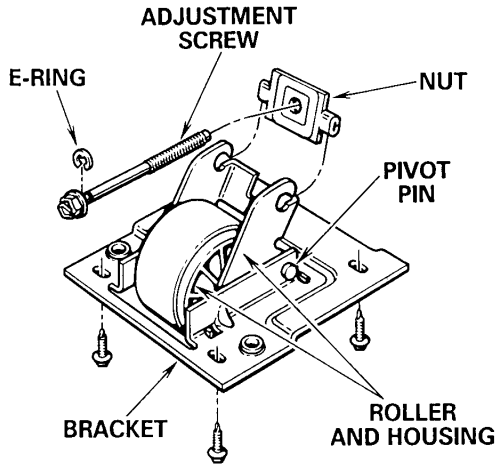


Rollers

Rollers at the base of the cabinet enable the consumer to easily move the refrigerator. The front rollers are adjustable to permit leveling the cabinet. The adjustment screws, located behind the base grille, have 3/8-inch hex-heads that are also slotted (for use of a large blade screwdriver). The rear rollers are not adjustable.

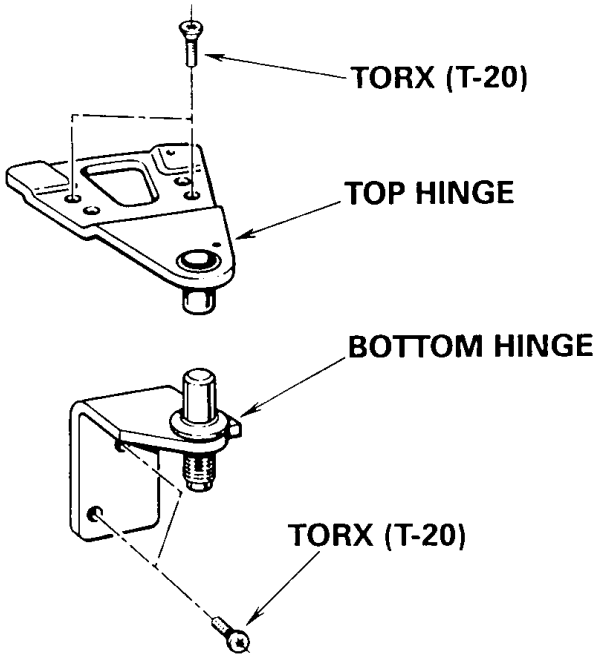
To remove a front roller assembly from the base of the cabinet, tilt the cabinet and place 3-inch blocks under the side of the outer case. Remove the three 1/4-inch hex-head screws to dismount the bracket. Then, loosen the adjustment screw to disengage the nut and withdraw the roller assembly from the cabinet.

Remove the E-Ring to disassemble the adjustment screw from the base channel. Upon reinstallation of the roller assembly, to facilitate installing the adjustment screw, position the nut so that the flared thread is toward the rear.



Door Hinges

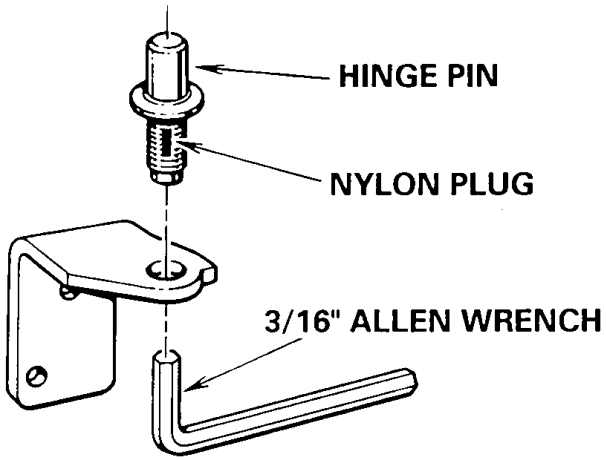
Torx head (T-20) screws are used to mount the top and bottom hinges for both doors. Mounting holes in all four hinges are not elongated. Accordingly, the hinges are not adjustable. When reinstalling the hinges, tighten the screws to 60 in-lbs. (6.8 newton-meters). Avoid over-tightening to prevent stripping.




The top hinges for the fresh food and freezer doors are identical. However, the bottom hinges are specifically left-hand and right-hand.

The bottom hinge pin for the fresh food door is adjustable, up or down, to permit aligning the fresh food door height evenly with the freezer door. A hexagonal impression in the lower end of the hinge pin allows use of a 3/16-inch Allen wrench to adjust the pin. A nylon plug, imbedded in the threads of the pin, prevents the pin from rotating (tightening or loosening) as the door is opened and closed.

The hinge pin at the bottom of the freezer door is not adjustable.

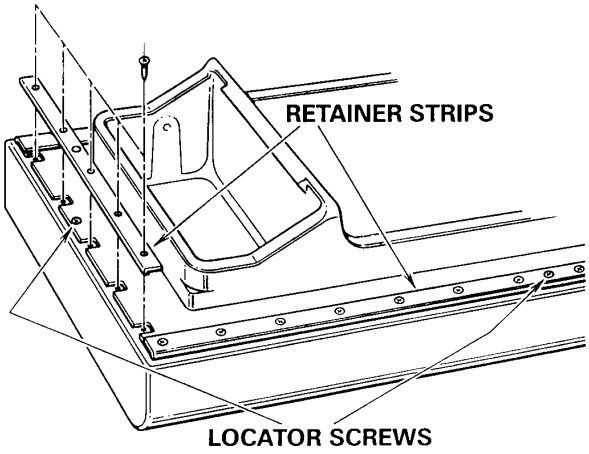



Door Gaskets

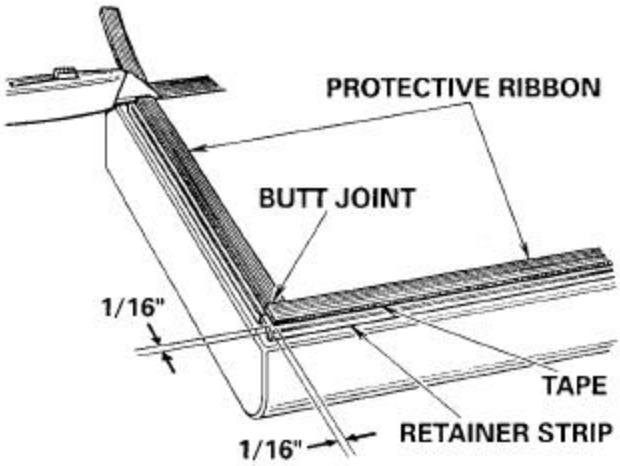
The compression type gaskets are secured to the fresh food and freezer doors with 2-sided tape. Once the gasket has been removed, it cannot be reattached successfully. Accordingly, a new gasket will be required. When handling the replacement gasket, avoid bending it to prevent creasing the sealing surface, which would result in an appearance blemish.

To replace the gasket, first remove the door from the refrigerator and place it horizontally on a protected surface. Then, beginning at one corner, peel the gasket from the door (a putty knife may be helpful in releasing the gasket).

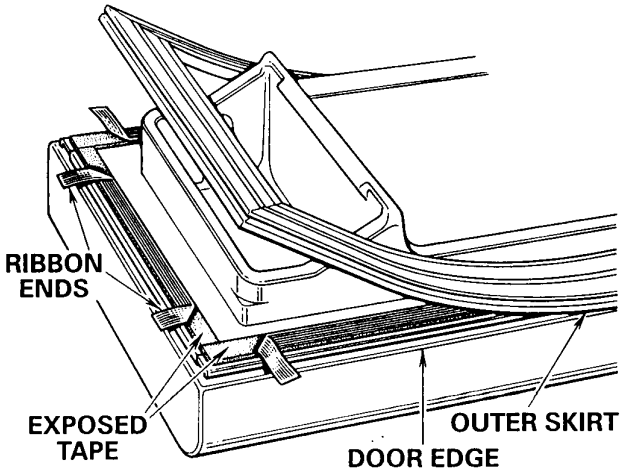
Tape residue on the retainer strips and screws is difficult to remove and will prevent new tape from adhering satisfactorily. Thus, new retainer strips and screws are required when replacing a gasket. Replace the retainer strips one-at-a-time. When removing the retainer strips, do not remove the inner door locator screws near the center of all 4 strips. The locator screws do not secure the strips but, rather, maintain the position of the inner door on the outer door. When installing each retainer strip, first drive one screw next to the locator screw (either at the left or right). Then, continue driving the remaining screws (without skipping) from the center toward the ends of the strip (to ensure the strips will be flat against the inner door). After all screws are driven, make sure all screw heads are below the surface of the strips and that the surfaces of the strips are clean.



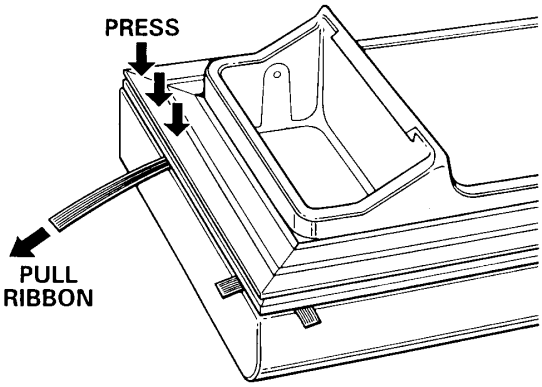

Apply the 2-sided tape first to the side retainer strips, then to the top and bottom strips. Keep the tape back from the outer edges of the strips about 1/16-inch to ensure the outer skirt of the gasket will contact the outer door. Use a sharp knife to cut the ends of the tape squarely. Butt adjoining pieces of the tape at the corners; do not overlap the tape (to prevent high spots). Leave the protective ribbon on the surface of the tape until after the gasket is positioned on the door.




Place the gasket on the door so that the wide dimension is at the hinge side (the gasket is not symmetrical). Position the gasket so that the outer skirt is evenly aligned on all sides. Beginning at the top of the door, lift the gasket and peel the protective ribbon back from both corners about 1-inch and position the 4 ends of the ribbon beyond the edge of the door.



Carefully position the gasket back on the door, aligning the outer skirt with the edges of the door, and press the corners to tack them to the exposed tape. Then, pull the ribbon slowly from between the tacked corners, pausing to press (not rub) the gasket into the exposed tape at about 2-inch intervals. Continue the process next at the handle side of the door, then at the hinge side, and last at the bottom of the door, making sure the outer skirt is evenly aligned with the edge of the door. Before reinstalling the door, again press the gasket at 2-inch intervals to ensure it is sealed to the tape along the top, sides, and bottom.

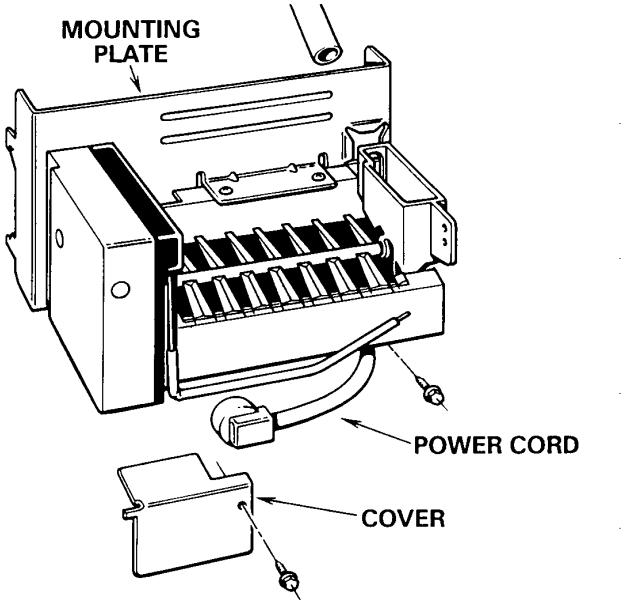



**ICEMAKER**

The icemaker, located in the upper rear of the freezer compartment, is mounted transversely to the shelf tracks. It has a thermal cutoff and produces ice cubes with rounded edges.

To remove the icemaker, first remove the ice bin from the ice shelf. Then, remove the power cord cover (on the back of the ice shelf, below the icemaker) and disconnect the power cord. Remove the screw that secures the icemaker to the ice shelf and lift the icemaker off the shelf tracks.

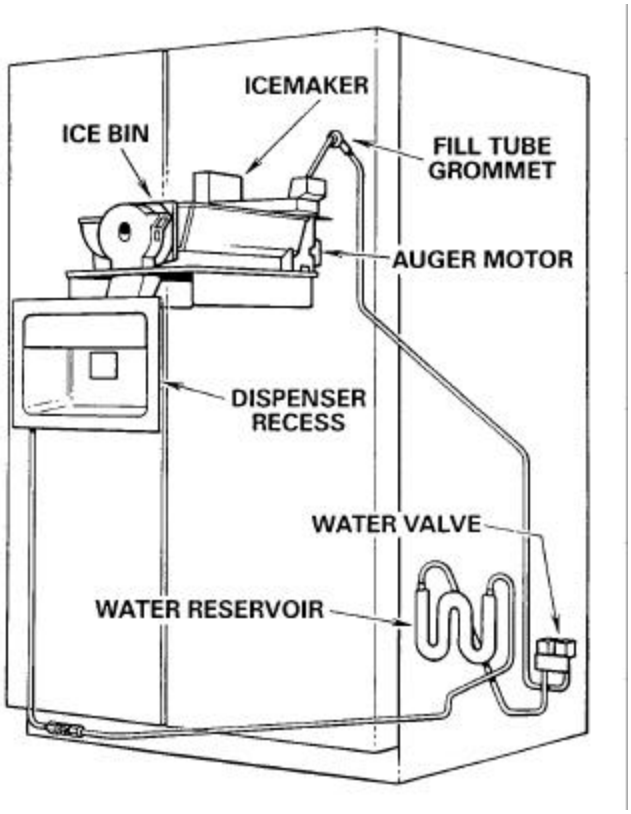
When reinstalling the icemaker, make sure the fill tube extension is inserted into the fill cup 1/2”-3/4” (1.3 cm-1.9 cm) before engaging the mounting plate on the shelf tracks.




<u>Water Valve</u>
The dual water valve is mounted to a bracket that is secured to the cabinet, inside the machine compartment, at the right rear corner. A short length of copper tubing, connected to the valve inlet and extending out of the machine compartment, has a compression type union to facilitate connecting the water line without removal of the rear access cover.

## DISPENSER

In 1993, a completely new recess assembly in the freezer door was introduced in all side-by-side dispenser model refrigerators. These models have a single pad (rather than cradles) for dispensing water, crushed ice, or cubes. The selection of water, crushed ice, or cubes is made at the control console.




The major components of the water and ice dispenser are:

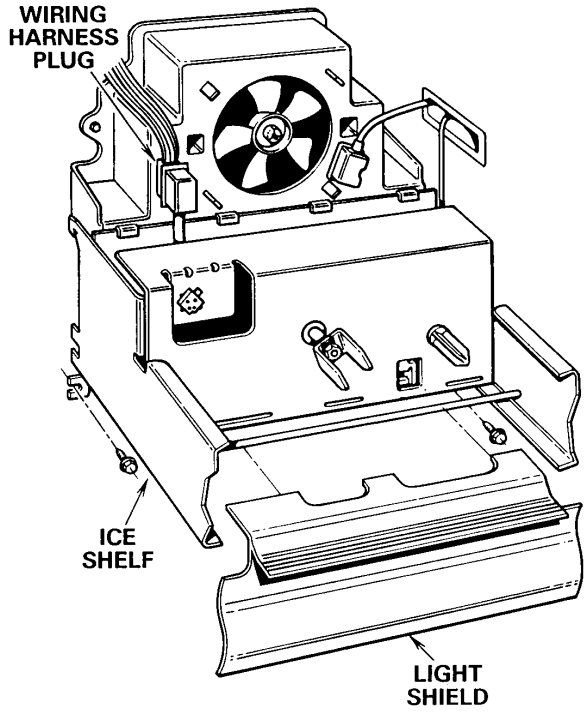
- an ice bin assembly – on a shelf below the icemaker.
- an auger motor assembly – at the rear of the ice shelf.
- a water reservoir – in the fresh food compartment. (Capacity- 32 oz, 950 ml.)
- a water valve – in the machine compartment.
- a recess assembly – on the freezer door.

Ice Bin Capacities

| Model | Style | Capacity |
|---|---|---|
| 20’ | Bucket | 8.1 lbs (3.7 kg) |
| 24’-27’ | Bucket | 10.8 lbs (4.9 kg) |
| 30’ | Bucket | 12.9 lbs (5.6 kg) |
| 24’ | Single helix | 8.4 lbs (3.8 kg) |

Ice Shelf Assembly

To remove the ice shelf, first remove the ice bin and the icemaker. Next, disconnect the ice shelf wiring harness plug from the receptacle at the left of the evaporator fan. Remove the light shield by pulling it forward to disengage it from the shelf rod. Remove the lamp (light bulb) at the bottom of the ice shelf. Then, remove the two screws at the bottom (that secure the ice shelf to the shelf tracks) and lift the ice shelf off the shelf tracks.




The auger motor and cube solenoid are mounted to the rear of the ice shelf. The lamp socket for the freezer light is mounted to the bottom of the ice shelf.

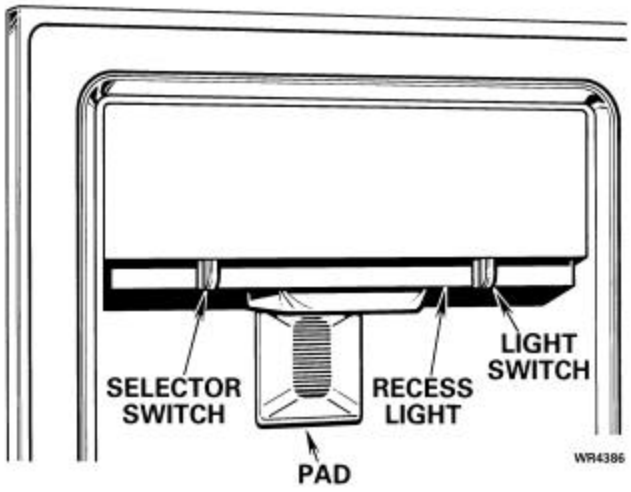
Dispenser User Operation

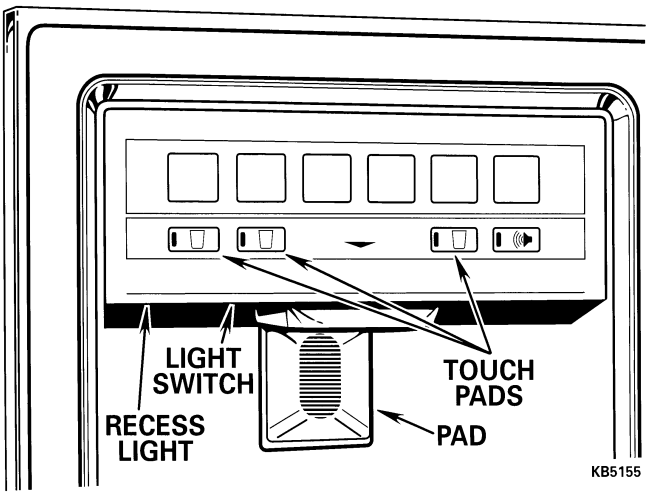
On non-electronic models, water and ice selections are made by positioning the selector switch knob which is located at the lower left side of the console. The switch has a detent at each selection to ensure positive positioning.

On electronic models, water and ice selections are made by touching pads which are located along the lower front of the console. Indicator lights, adjacent to the touch pads, verify the selection that is made.

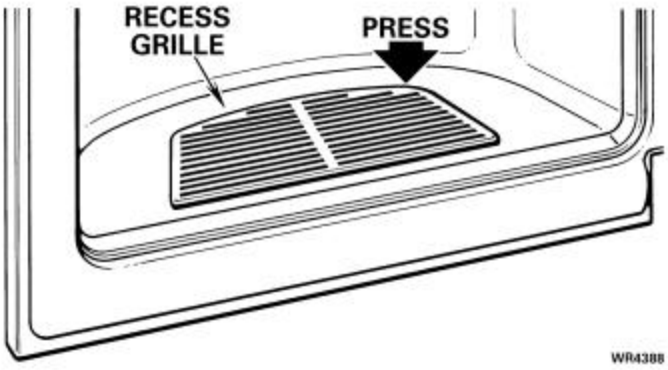
When dispensing ice, either crushed or cubes, the duct door is opened by an electrical solenoid as a glass is gently pressed against the dispenser pad. After the glass is withdrawn from the pad, the duct door will remain open for 5 to 10 seconds to prevent the entrapment of ice in the duct and chute. An audible “snap” can be heard when the solenoid is energized. Then, when the duct door closes, a soft “pop” may also be heard.

On models that have a light in the recess, the light will automatically be illuminated when the dispenser pad is pressed. The light can also be turned on and off manually. On non-electronic models, the light switch is located at the lower right side of the console. On electronic models, the light switch is located below the console at the left side.



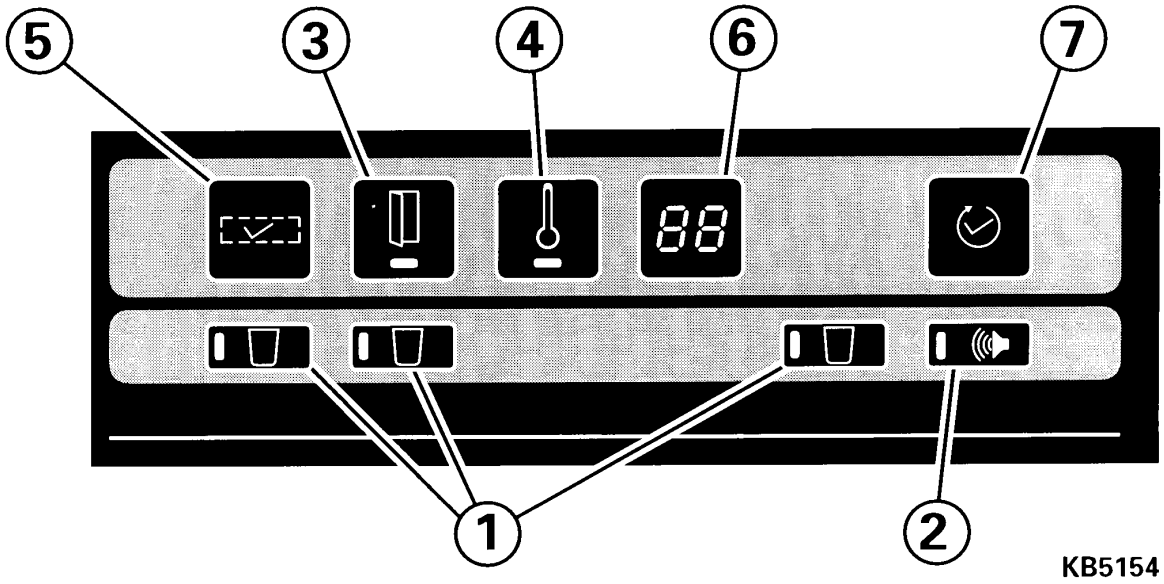




The grille at the bottom of the recess housing can be easily removed by pressing downward at the right rear corner.



Dispenser User Operation - Electronic System

A new control console was introduced on all 1993 models that had the electronic system. However, the electronic monitor and diagnostic feature was similar to previous models.




1. Touch pads provide for the selection of “chilled water”, “crushed ice”, or “cubed ice”. A beep will sound each time either pad is touched. A green indicator light verifies which selection has been made.

2. The door alarm can be enabled by touching the “door alarm on/off” pad. A beep will sound each time the pad is touched. A green indicator light verifies the alarm is enabled. A beep will sound after the fresh food or freezer door has been open for thirty seconds. The beep will continue until both doors are closed or the alarm is disabled.

3. A red signal light will flash any time either the fresh food or freezer door is open or ajar more than 1/4-inch. The signal light will be extinguished when both doors are closed.

| MONITOR/ DIAGNOSTIC CODE | | CONDITIONS/SPECIFICATIONS | CANCELLATION |
|---|---|---|---|
| DOOR OPEN<br>ALARM BEEPER | ▮ | FRESH FOOD OR FREEZER DOOR OPEN OR AJAR >1/4-INCH<br>EITHER DOOR OPEN> 30 SEC. | BOTH DOORS CLOSED<br>BOTH DOORS CLOSED OR ALARM SET OFF |
| WARM TEMPERATURE | ▮ | TEMPERATURE>35°F.>4 HRS., OR TEMPERATURE>55°F.>1 HR., OR TEMPERATURE>55°F. & PF | TEMPERATURE< 35°F. |
| CHECK FROZEN FOODS | FF | TEMPERATURE>35°F.>6 HRS., OR TEMPERATURE>55°F.>2 HRS. | SYSTEM CHECK - RESET AND TEMPERATURE<35°F. |
| DEFROST FAULT | dE | NO DEFROST CURRENT>64 HRS. | DEFROST CURRENT DETECTED |
| CHECK ICEMAKER | CI | ICEMAKER CURRENT>5 HRS. | SYSTEM CHECK - RESET OR ICEMAKER CURRENT NO LONGER DETECTED |
| POWER FAILURE | PF | POWER HAS BEEN OFF>2 SEC., THEN REAPPLIED | SYSTEM CHECK - RESET |

WR4322

4. A red signal light will appear when the freezer temperature is above normal. The signal light will turn off when the temperature returns to normal.

   NOTE: The freezer temperature sensor, located on the inner door, quickly responds to changes in air temperature within the freezer compartment. Accordingly, threshold temperatures of 1ºC (35ºF) and 13ºC (55ºF) are monitored by the electronic system at various time intervals to alert the consumer before frozen foods begin to thaw.

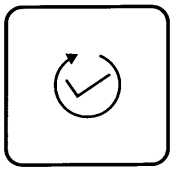
5. The green lighted word “normal” indicates that no failure has been detected by the electronic system monitor.

6. A flashing green diagnostic code will be displayed when a failure has been detected by the electronic system. The first six flashes will be accompanied by a beep. If more than one coded function requires attention at the same time, the highest priority code will be displayed until erased. The codes, in order of priority, are:

   ***FF*** - Freezer - check for thawing of frozen foods
   ***PF*** - Power - power has been off for more than 2 seconds
   ***CI*** - Icemaker - check ice bin for blockage
   ***dE*** - Defrost - defrost system has failed

7. The “ system check/reset” provides a review of all diagnostic codes in order of priority. Touching the reset pad will initiate the review. If no failure is detected, the review sequence will continue until the system is reset. Touching the “system check/reset” pad will erase the *PF* and *CI* codes. However, the electronic system is programmed to prevent the *FF* and *dE* codes from being erased unless the condition has been corrected. The *FF* code can be erased only when the freezer temperature is reduced to normal. The *dE* code will automatically be erased when defrost current is detected by the electronic system.

**SYSTEM CHECK/RESET**
**TOUCH:**



**SYSTEM CHECK**

**OBSERVE:**

**DIAGNOSTIC CODE SEQUENCE *FF, PF, CI, dE* & SIMULTANEOUS “NORMAL”**
- **“NORMAL” REMAINS LIT**
  **- IF NO FAULT DETECTED**
- **DIAGNOSTIC CODE DISPLAYED**
  **- IF FAULT DETECTED**

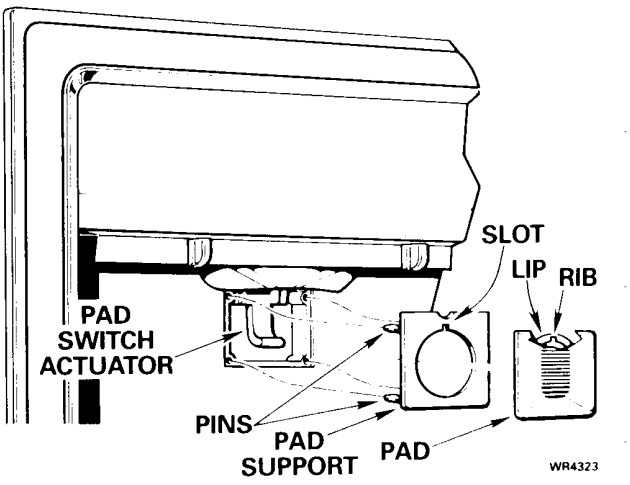
## DISPENSER SERVICE

All electrical components (except the recess heater) are easily accessible from the front of the door. Accordingly, there is no service opening provided in the freezer inner door. Caution: disconnect the power source to prevent an electrical shock hazard and/or inadvertent dispensing of water or ice while servicing the dispenser.

Pad

To remove the pad, grasp it at one edge and pull it forward to disengage the inner lip (grommet) from the opening in the pad support.

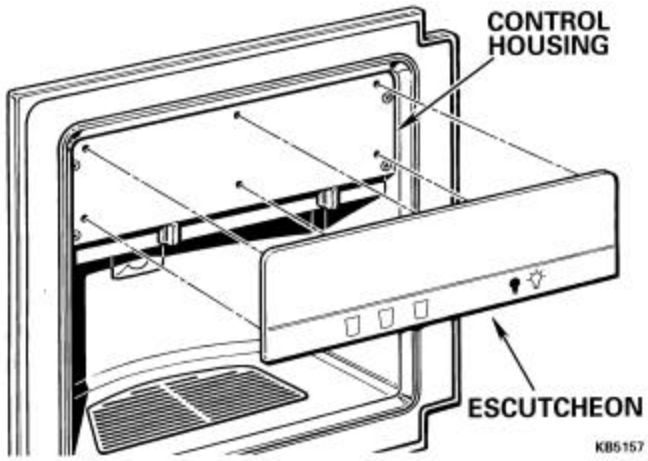
To reinstall the pad, position the inner lip into the opening in the pad support, engaging the rib at the top into the slot. Press the pad firmly at the top, sides and bottom to seat the lip.




Pad Support

To remove the pad support, first remove the pad. Reach through the opening with fingertips and gradually pull the support forward at each corner to disengage the molded pins from the recess housing. Caution: excessive force applied at one corner may result in breaking a molded pin from the support.

To reinstall the pad support, first reinstall the pad on the pad support. Position the support so the slot is at the top of the opening. Engage the molded pins into the mounting holes and gradually press the support at each corner until it is firmly seated.




Escutcheon

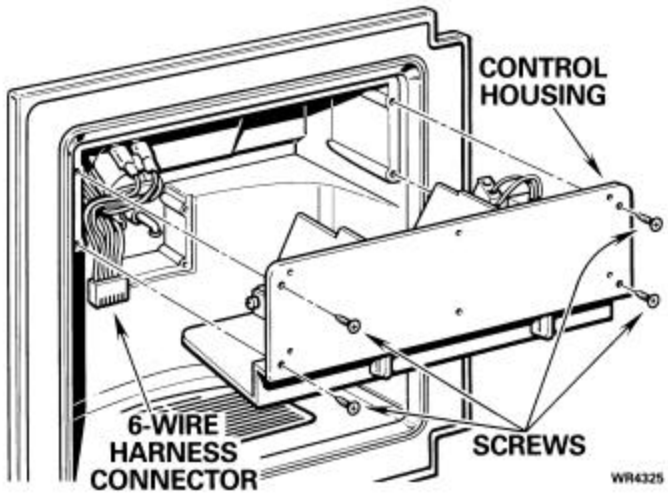
To remove the escutcheon, insert the blade of a putty knife behind the escutcheon at the bottom. Twist the putty knife to disengage the molded pins from the front of the control housing.

To reinstall the escutcheon, position the molded pins into the holes in thefront of the control housing and press the escutcheon firmly to seat the pins.

Control Housing

To remove the control housing -- first remove the pad, the pad support and the escutcheon. Then, remove the screws at the front of the housing. Pull the housing forward about 1-inch and disconnect the 6-wire harness connector from the left end of the control module (printed circuit board).

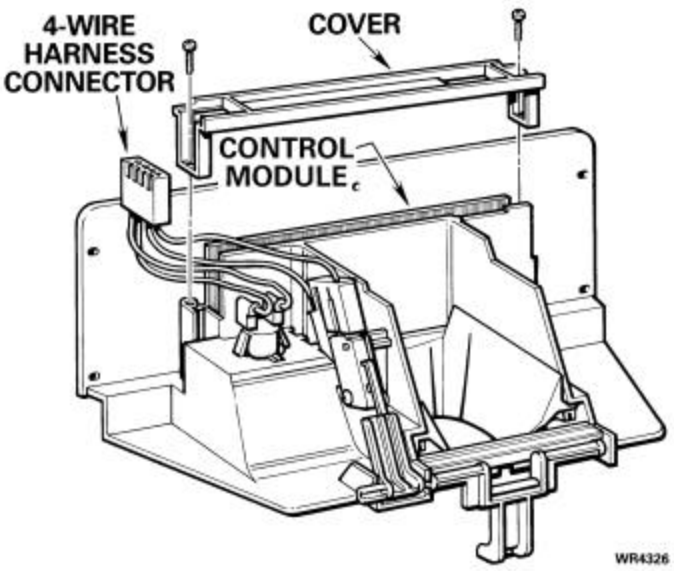
To reinstall the control housing -- reconnect the 6-wire harness connector to the control module. Push the control housing firmly into position and reinstall the screws. Then, reinstall the escutcheon, pad support and pad.




Control Module

To remove the control module -- first remove the control housing. Then, remove the knobs from the selector switch and light switch by pulling them straight downward. Disconnect the 4-wire harness connector from the control module. Remove the screws at the ends of the cover and lift the cover from the control housing. Grasp the edges of the control module and lift it out of the slots in the control housing.

To reinstall the control module -- position it into the slots in the control housing so that the 4-pin connector is at the end nearest the 4-wire harness connector. Then, reinstall the cover. Reconnect the 4-wire harness connector to the control module and dress the harness downward to prevent pinched wires when the control housing is reinstalled. Reinstall the switch knobs, control housing, escutcheon, pad support, and pad.

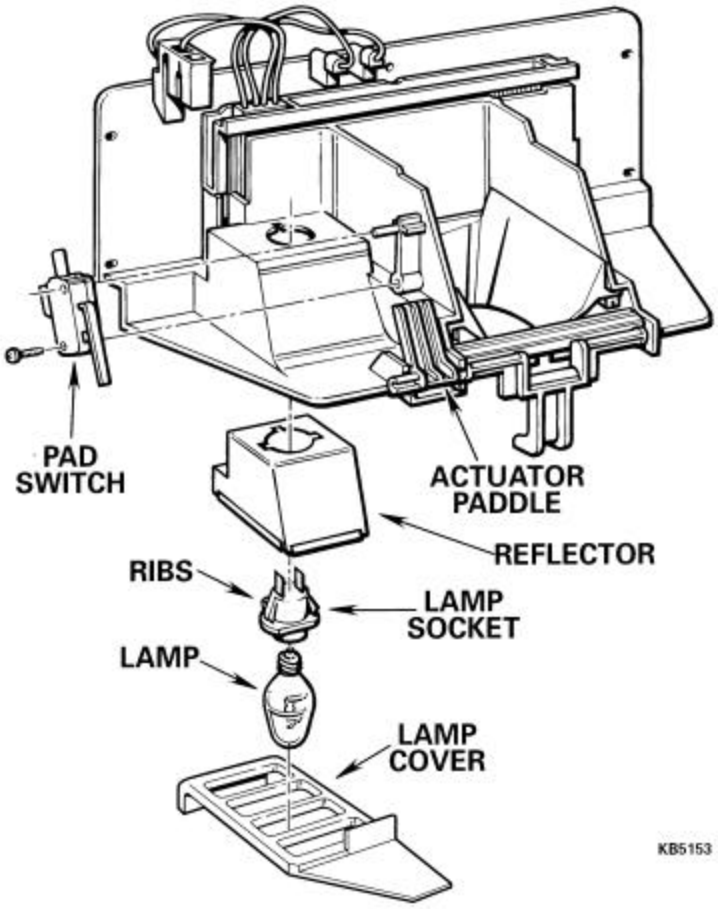


Lamp Socket
To remove the lamp socket -- first remove the control housing. Then, disconnect the wiring harness from the lamp socket. Compress the tabs at the sides of the socket and withdraw the socket and lamp reflector from the bottom of the control housing.

To reinstall the lamp socket -- position it inside the reflector, aligning the ribs and tabs with the slots in the reflector. Then, position the socket and reflector into the cavity in the control housing and press the socket firmly to lock the tabs. Reinstall the wiring harness, control housing, escutcheon, pad support and pad.

Pad Switch
To remove the pad switch -- first remove the control housing. Then, disconnect the wiring harness from the switch. Remove the screw at the bottom of the switch and slide the switch off of the the mounting pin.

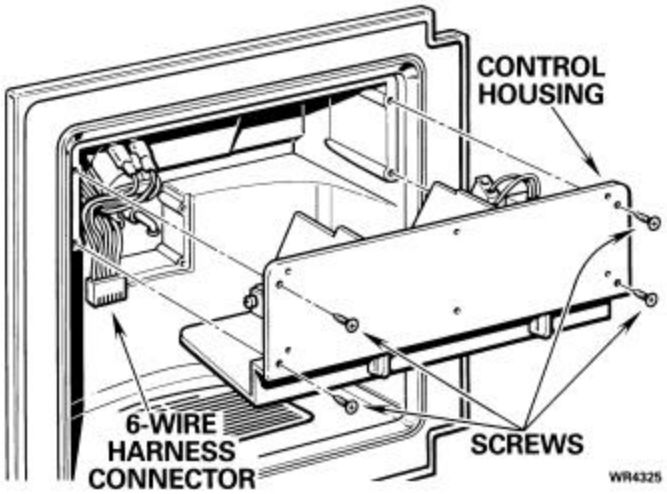
To reinstall the pad switch -- position it on the mounting pin so that the terminals are at the top and the switch lever is toward the rear, but in front of the actuator paddle. Then, reinstall the screw at the bottom of the switch and reconnect the wiring harness. Caution: check the position of the switch lever to verify that it is in front of the actuator paddle by rotating the actuator and observing the operation of the switch. Reinstall the control housing, escutcheon, pad support and pad.



Pad Switch Actuator

To remove the pad switch actuator-- first remove the control housing. Then, press the actuator out of the notch and hole at the rear of the control housing.

To reinstall the pad switch actuator-- position it into the hole and notch at the rear of the control housing so that the actuator paddle is behind the switch lever. Firmly press the actuator to seat it into the notch. Caution: verify operation of the switch by rotating the actuator. Reinstall the control housing, escutcheon, pad support, and pad.




Ice Deflector

To remove the ice deflector-- remove the control housing and the pad switch actuator. Grasp the rear edge of the ice deflector and pull it from the control housing.

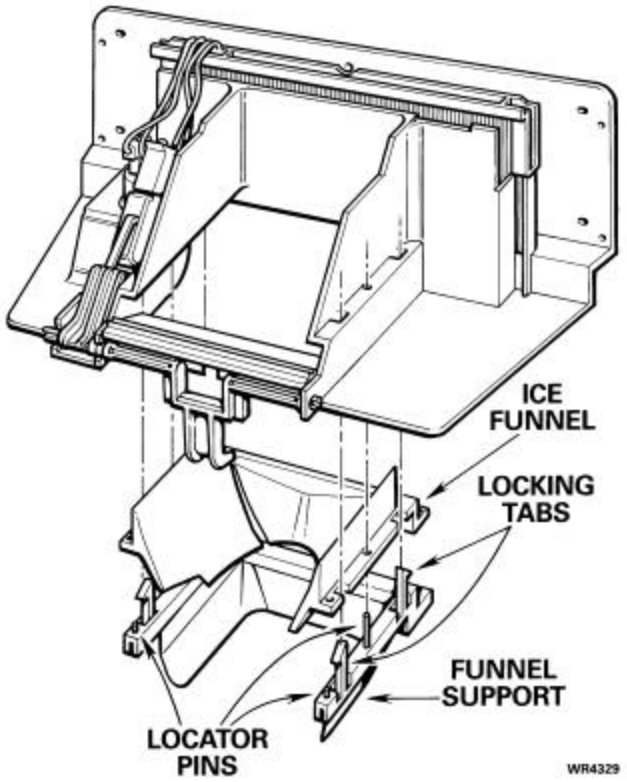
To reinstall the ice deflector-- position the flap below the rear edge of the ice funnel and engage the channel over the rear edge of the control housing. Press

the deflector until it is firmly seated. Reinstall the pad switch actuator, control housing, escutcheon, pad support and pad.

Ice Funnel

To remove the ice funnel-- first remove the control housing. Using a small blade screwdriver, release the funnel support locking tabs that engage the control housing. With all four tabs released, withdraw the funnel and support from the bottom of the control housing. Pull the funnel off the support.

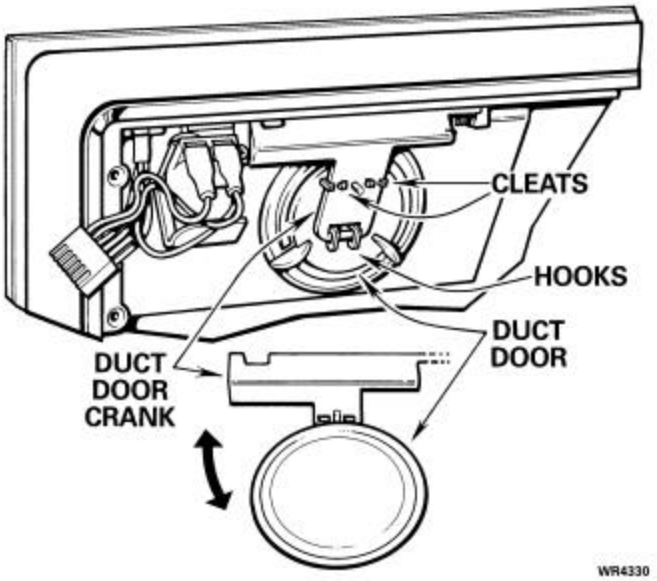
To reinstall the ice funne -- position it on the funnel support, engaging all of the locator pins into corresponding holes at the edges of the funnel. Position the funnel and support into control housing cavity and press the support firmly to lock the tabs. Dress the ice deflector flap below the rear edge of the funnel. Reinstall the control housing, escutcheon, pad support and pad.




Duct Door

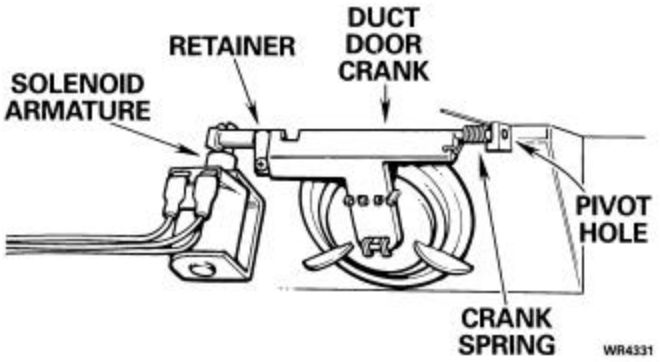
To remove the duct door -- first remove the control housing. Then, open the duct door and disengage the cleats from the duct door toward the rear. Swing the top of the door down and pull it downward to release the hooks from the end of the crank.

To reinstall the duct door -- position it in front of the crank with the hooks at the top and the gasket surface toward the front. Then, pull the duct door crank forward and engage the hooks over the end of the crank. Swing the door up and engage the cleats onto the crank. Reinstall the control housing, escutcheon, pad support and pad.




Duct Door Crank

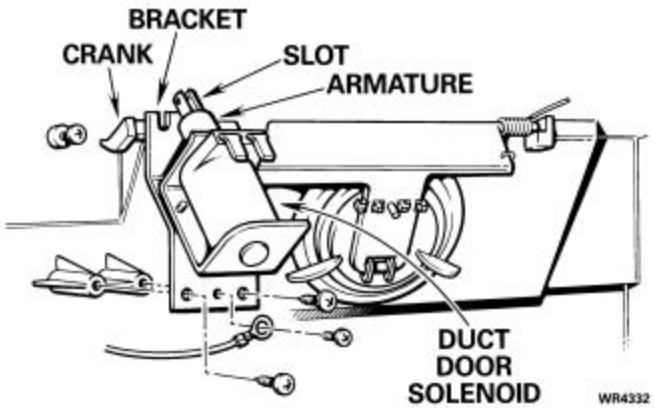
To remove the duct door crank -- first remove the control housing. Then, remove the screw and retainer at the left end of the crank. Grasp the right end of the crank, at the lower end of the crank spring, and disengage the crank from the solenoid armature at the left and from the pivot hole at the right. Withdraw the crank, spring and door. Remove the spring and door.




To reinstall the duct door crank -- position the crank spring over the end of the crank, engaging the hook into the hole in the crank. Grasp the right end of the crank, at the lower end of the crank spring, and engage the crank into the pivot hole at the right. Then, engage the left end into the slot in the solenoid armature and position the crank into the notch at the left. While holding the crank, reinstall the retainer and screw at the left end. Caution: verify that the crank is engaged into the slot of the armature by pushing the armature into the solenoid and observing the operation of the duct door. Reinstall the duct door, control housing, escutcheon, pad support and pad.

Duct Door Solenoid

To remove the duct door solenoid -- first remove the control housing. Disconnect the wiring harness from the solenoid terminals. Remove the ground screw and two mounting screws at the bottom of the solenoid bracket. While holding the solenoid, loosen the mounting screw at the top of the bracket. Open the duct door and withdraw the solenoid, armature, and bracket. Remove two screws at the back of the bracket to dismount the solenoid.

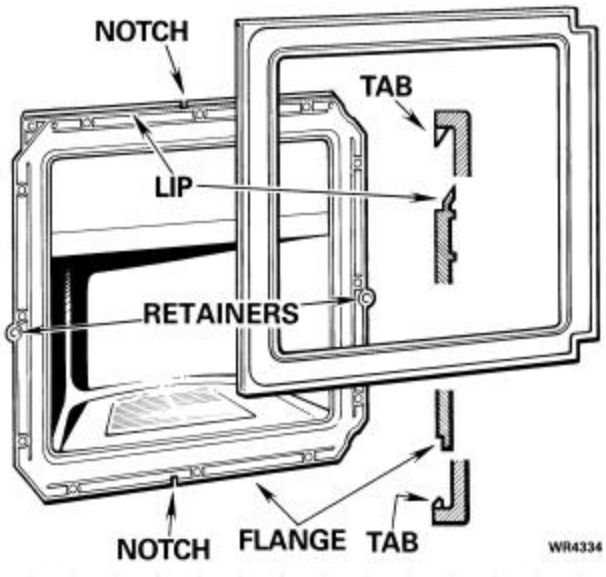



To reinstall the duct door solenoid -- first mount the solenoid to the bracket and position the armature in the solenoid so the slot is aligned front-to-rear. Engage the upper mounting screw into the slot at the top of the bracket. Close the door and engage the left end of the crank into the slot in the armature. While holding the

solenoid, reinstall the lower mounting screws and tighten the upper mounting screw. Reattach the ground wire and the wiring harness. Caution: ensure the crank is engaged into the slot of the armature. Reinstall the control housing, escutcheon, pad support and pad.

Recess Trim

To remove the recess trim -- insert the blade of a putty knife behind the trim at the bottom left corner and pry it from the recess housing along the bottom. With fingertips, pull the trim at the sides to disengage the pins from the retainers and lift off the trim.




To reinstall the recess trim -- twist the retainers at the sides of the recess housing so that the retainer barbs will grip the pins of the trim in new (unscored) locations. Position the tabs along the top edge of the trim over the lip of the recess housing and engage the locator guide into the lip notch. While holding the trim in position, engage the pins into the retainers and press the trim firmly to seat the pins and tabs along the bottom. Make sure the locator guide engages the notch at the bottom of the housing.

Door Handle

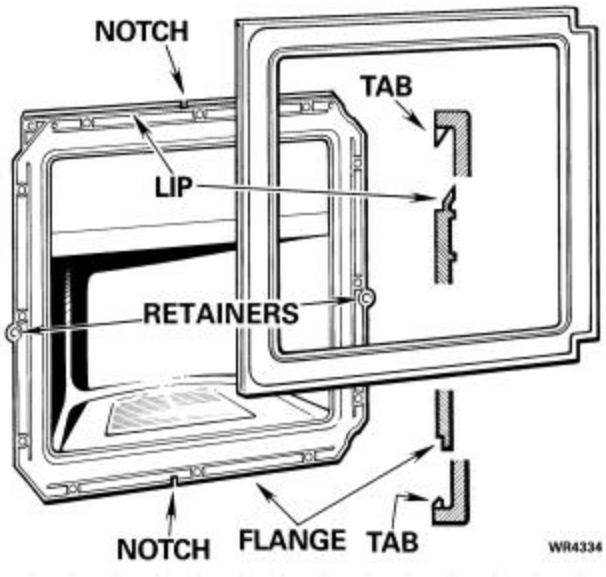
To remove the door handle -- use a small blade screwdriver and, beginning at the bottom, carefully pry one side of the handle insert from the channels. If the handle insert is to be replaced, rather than reinstalled, use slip-joint pliers to crush the insert and thereby avoid possible damage to the channels. Then, remove the screws at the top and bottom of the handle.

To reinstall the door handle -- position it on the door and drive the screws at the top and bottom of the handle. Then, position the handle insert into the channels and gently tap it into the

solenoid, reinstall the lower mounting screws and tighten the upper mounting screw. Reattach the ground wire and the wiring harness. Caution: ensure the crank is engaged into the slot of the armature. Reinstall the control housing, escutcheon, pad support and pad.

Recess Trim

To remove the recess trim -- insert the blade of a putty knife behind the trim at the bottom left corner and pry it from the recess housing along the bottom. With fingertips, pull the trim at the sides to disengage the pins from the retainers and lift off the trim.




To reinstall the recess trim -- twist the retainers at the sides of the recess housing so that the retainer barbs will grip the pins of the trim in new (unscored) locations. Position the tabs along the top edge of the trim over the lip of the recess housing and engage the locator guide into the lip notch. While holding the trim in position, engage the pins into the retainers and press the trim firmly to seat the pins and tabs along the bottom. Make sure the locator guide engages the notch at the bottom of the housing.

Door Handle

To remove the door handle -- use a small blade screwdriver and, beginning at the bottom, carefully pry one side of the handle insert from the channels. If the handle insert is to be replaced, rather than reinstalled, use slip-joint pliers to crush the insert and thereby avoid possible damage to the channels. Then, remove the screws at the top and bottom of the handle.

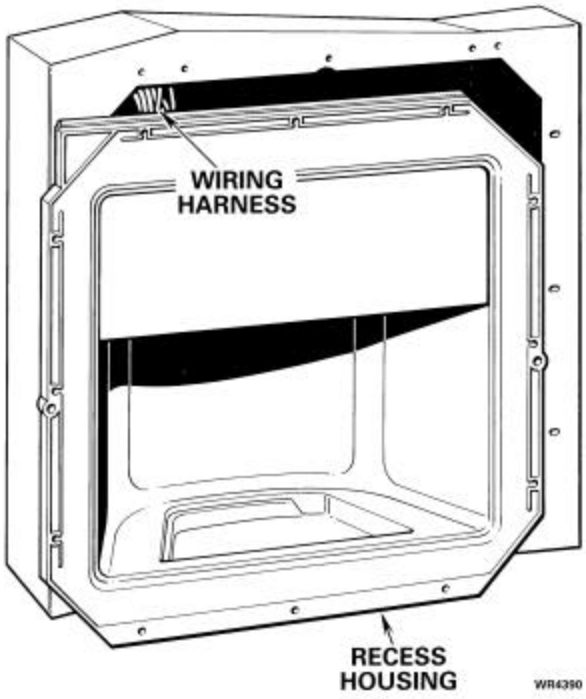
To reinstall the door handle -- position it on the door and drive the screws at the top and bottom of the handle. Then, position the handle insert into the channels and gently tap it into the

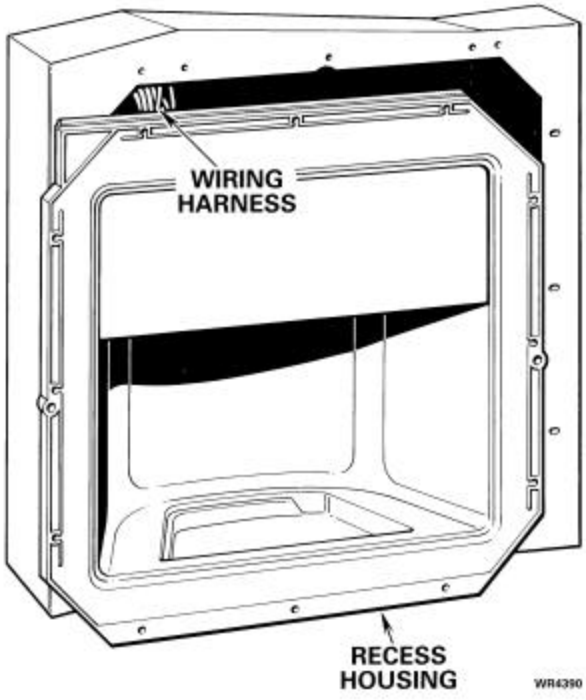
channels with a soft rubber mallet.

Recess Assembly

To dismount the recess assembly -- first, remove the recess trim. Then, remove the screws at the perimeter of the recess housing. Gently pull the recess assembly at the left side until it is out of the opening in the freezer door. (The wiring harness, extending above the recess, and the water tubing, extending below the recess, will prevent complete removal of the recess assembly.)

To remount the recess assembly -- position it into the opening in the freezer door, beginning at the top and right side. Position the water tubing behind the recess housing and into the groove in the foam insulation. Caution: unless the tubing is in the groove, it may become pinched and interfere with the installation of the recess assembly. Dress the wiring harness at the upper left side to prevent pinching of wires. Engage the ice chute into the duct opening at the top of the recess housing. Then, push the recess assembly to firmly seat it in the opening in the freezer door. Reinstall the screws at the perimeter of the recess housing. Reinstall the recess trim.



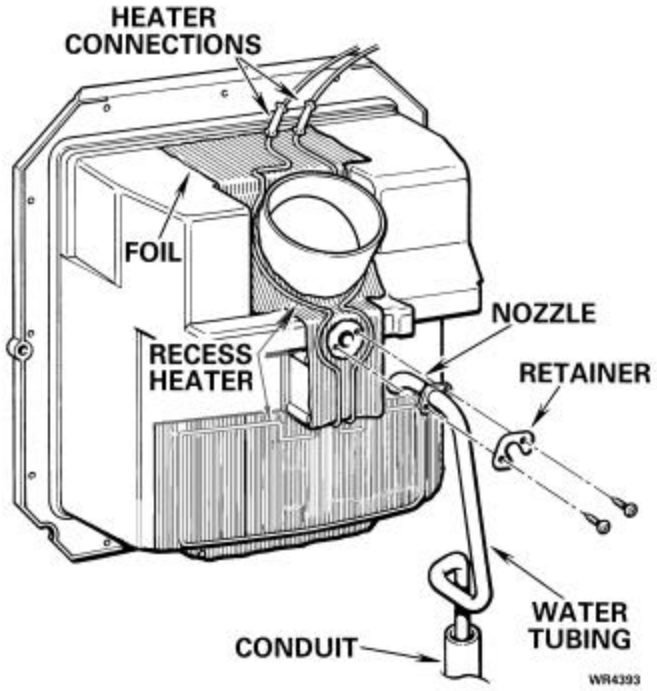




Water Tubing

To remove the water tubing -- first, dismount the freezer door from the cabinet and place it on a protected surface so that the outer door is facing upward. Then, dismount the recess assembly. Remove the screws and retainer

that secure the water tubing nozzle to the rear of the recess housing and pull the nozzle out of the housing. Pull the tubing out of the freezer door.

To reinstall the water tubing -- first, insert the lower end of the tubing into the conduit and feed it through the door until it exits at the lower hinge thimble. Then, insert the tubing nozzle through rear of the recess assembly. Remount the freezer door and reconnect the tubing at the bottom of the door.



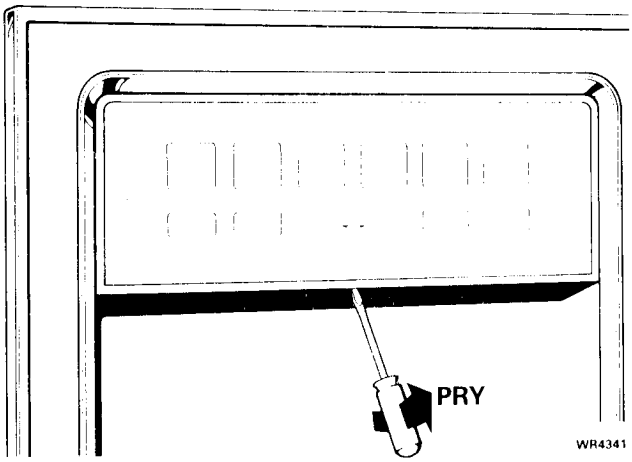

Recess Heater

To remove the recess heater -- first, dismount the recess assembly. Then, dismount the water tubing nozzle from the rear of the recess housing. Cut the orange and brown wires close to the heater connections and peel the heater foil from the top and rear of the recess housing.

To install a new recess heater -- first, peel the paper backing from the heater foil. Then, carefully, position the foil on the rear of the recess housing, beginning at the hole for the water tubing nozzle. Continue to press the foil onto the rear and top of the recess housing so that it makes good contact along the entire length of the heater wire. Reconnect the brown and orange wires to the heater leads, using closed-end connectors for the splices. Remount the water tubing to the rear of the recess housing. Remount the recess assembly.

Control Console - electronic models

To remove the control console -- insert a small blade screwdriver behind the console at the bottom, near the center, and pry forward to disengage the tabs from the control housing. Then, pull the console downward and disconnect the wiring harness connectors from the rear of the control board.



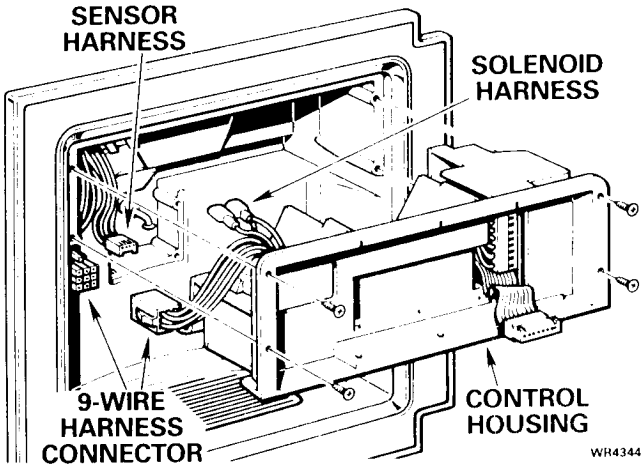

To reinstall the control console -- reconnect the wiring harness connectors to the control board and engage the channel at the top of the control housing. Then, gently press the lower edge of the console to engage the mounting tabs into the holes in the control housing.

Caution: when handling the control console, care must be taken to prevent damage from electrostatic discharge. Grasp the console by the edges and do not touch the connector pins or circuit paths on the control board. Leave the conductive pad on the replacement board until just before connecting the wiring harness connectors.


Control Housing - electronic models

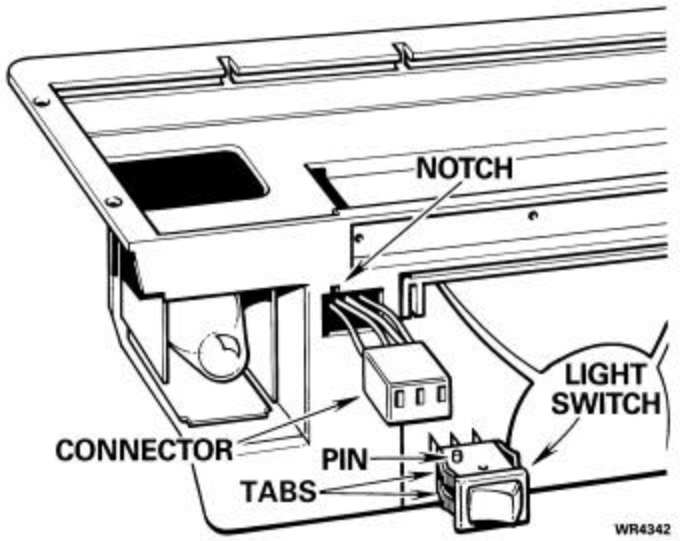
To remove the control housing -- first remove the pad, the pad support, and the control console. Remove the screws at the front of the control housing. Pull the housing forward and disconnect the 9-wire harness connector and the wiring harness from the solenoid terminals.

To reinstall the control housing -- reconnect the 9-wire harness connector and the wiring harness to the solenoid terminals. Position the sensor harness through the opening at the left side of the housing. Dress the wiring harness to prevent pinching of wires. Then, push the control housing firmly into position and reinstall the screws. Reinstall the control console, pad support, and pad.



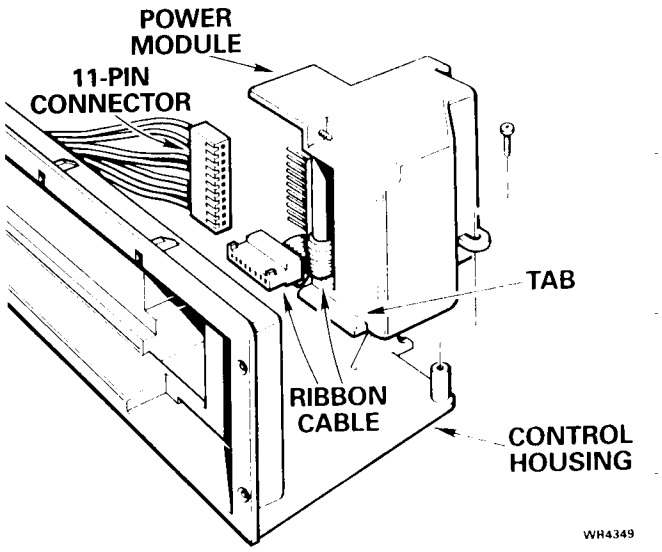
Light Switch - electronic models
To remove the light switch -- first remove the control console and dismount the control housing. Then, disconnect the wiring harness from the switch. Compress the tabs at the end of the switch and press it out of the control housing.

To reinstall the light switch -- press the switch terminals firmly into the wiring harness connector. Align the pin on the front of the switch with the notch in the switch opening and press the switch firmly to lock the tabs. Then, remount the control housing and reinstall the control console.



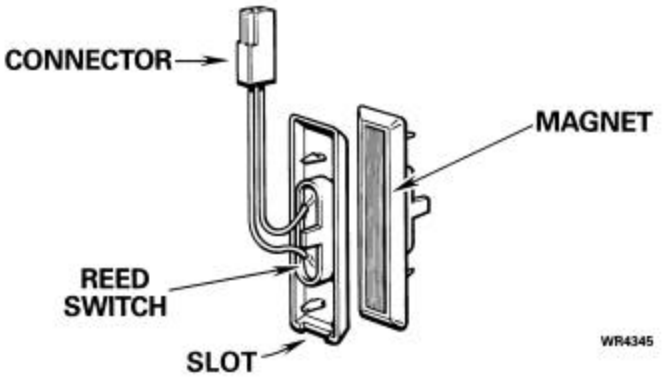

Power Module - electronic models
To remove the power module -- first remove the control housing. Then, remove the screw at the rear of the power module. Pull the power module to the rear to disengage the tab from the slot in the control housing. Disconnect the 11-pin connector from the power module board.

To reinstall the power module -- dress the ribbon cable through the opening in the front of the control housing and reconnect the 11-pin connector to the power module board. Engage the tab on the module housing and reinstall the screw. Then, reinstall the control housing, control console, pad support and pad.



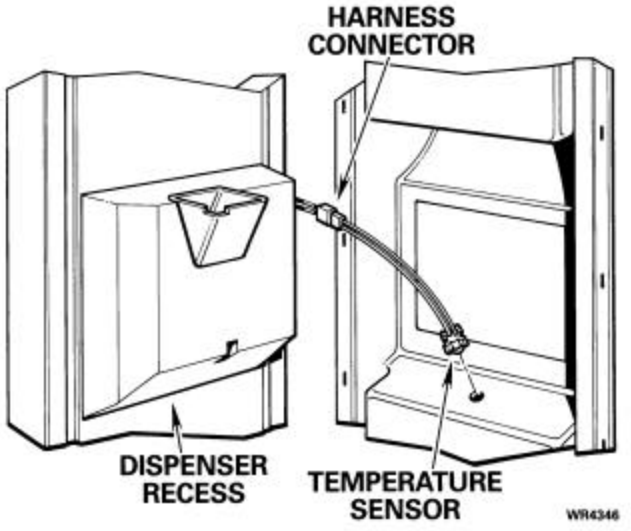
Door Alarm Sensor - electronic models
The door alarm sensor consists of a reed switch mounted on the right edge of the freezer door and a magnet mounted on the left edge of the fresh food door, (opposite the reed switch). The normally-open contacts of the reed switch are held closed by the magnet when both doors are closed.

The reed switch and the magnet are both replaceable separately from the outside of the doors. To remove either the reed switch or the magnet, insert the tip of a small blade screwdriver into the slot at the base of the plastic housing and gently pry outward. The reed switch has a 2-wire harness connector to facilitate replacement.




Temperature Sensor - electronic models
The freezer temperature sensor consists of a thermistor, mounted to the inner door below the dispenser recess. The thermistor has a negative temperature coefficient which results in a high resistance at a low temperature and a low resistance at a high temperature.

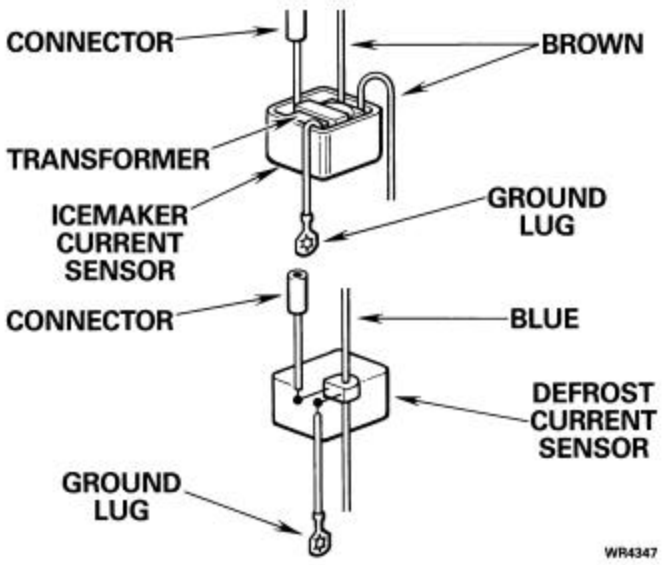
To remove the temperature sensor, first remove the freezer inner door. Then, disconnect the 2-wire sensor harness connector at the rear of the dispenser recess. Grip the plastic sensor housing with pliers and firmly pull it out of the mounting hole in the inner door.



Current Sensors - electronic models
The icemaker and defrost current sensors are integral components of the cabinet wiring harness. Both sensors are located above the evaporator at the rear of the freezer liner.

The icemaker current sensor consists of a small transformer that has primary and secondary windings. The primary winding is connected to brown wires, in series with the icemaker.

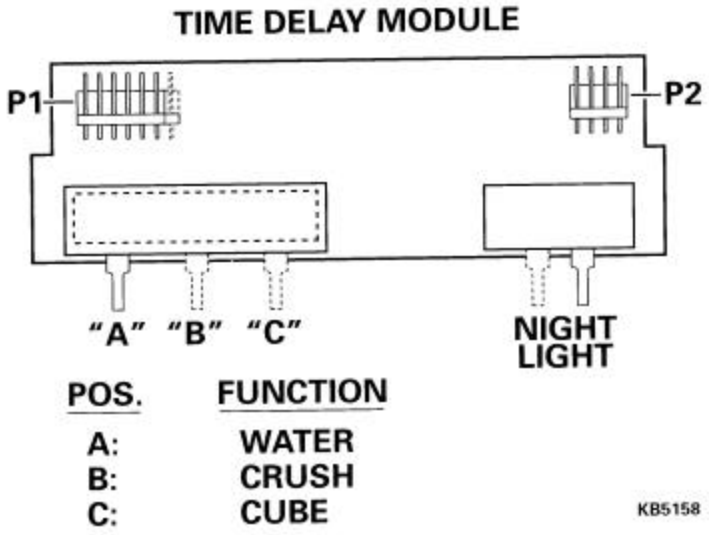
The defrost current sensor consists of a small bobbin (coil of wire) placed over the blue wire to the defrost heaters.




**ELECTRONIC SYSTEM DIAGNOSIS**

Any visual or audible response from the control console is an indication that the transformer and a major portion of the power module are functioning. If the power module relays can be heard opening and closing, as the water and ice pads are touched, this indicates the relay coils are being energized.

Resistance/Voltage Measurements
Resistance and voltage measurements can be conveniently made at the control console by removing the control console and disconnecting the wiring harness connectors. Resistance measurements can be made of all of the sensors from the P1 (4-wire) connector. Also, voltage measurements can be made from the P2 (8-wire) connector to verify the power supply and relay drive voltages from the power module assembly. Use meter lead probes that have a needle point. Refer to the Mini-Manual for the proper voltage and resistance measurements of a particular model.




**SYSTEM CHECK/RESET**

System Check/Reset

**TOUCH:**

Observe diagnostic code sequence ***FF***,

***PF***, ***CI***, ***dE*** and simultaneous **NORMAL**

- **"NORMAL"** remains lit- if no fault detected
- Diagnostic code displayed- if fault detected

**SYSTEM CHECK**

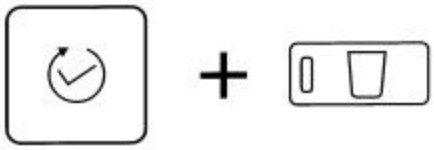

| MONITOR/ DIAGNOSTIC CODE | | CONDITIONS/SPECIFICATIONS | CANCELLATION |
|---|---|---|---|
| DOOR OPEN | 0 | FRESH FOOD OR FREEZER DOOR OPEN OR AJAR >1/4-INCH | BOTH DOORS CLOSED |
| ALARM BEEPER | | EITHER DOOR OPEN> 30 SEC. | BOTH DOORS CLOSED OR ALARM SET OFF |
| WARM TEMPERATURE | 0 | TEMPERATURE>35°F.>4 HRS., OR TEMPERATURE>55°F.>1 HR., OR TEMPERATURE>55°F. & PF | TEMPERATURE< 35°F. |
| CHECK FROZEN FOODS | FF | TEMPERATURE>35°F.>6 HRS., OR TEMPERATURE>55°F.>2 HRS. | SYSTEM CHECK - RESET AND TEMPERATURE<35°F. |
| DEFROST FAULT | dE | NO DEFROST CURRENT>64 HRS. | DEFROST CURRENT DETECTED |
| CHECK ICEMAKER | CI | ICEMAKER CURRENT>5 HRS. | SYSTEM CHECK - RESET OR ICEMAKER CURRENT NO LONGER DETECTED |
| POWER FAILURE | PF | POWER HAS BEEN OFF>2 SEC., THEN REAPPLIED | SYSTEM CHECK - RESET |

WR4322

Icemaker/Defrost Current Check

The electronic system also provides a means for checking icemaker and defrost current flow by touching and holding the “system check/reset” and “cubed ice” pads simultaneously. If current is detected in either the icemaker or defrost circuits, the corresponding diagnostic code can be observed on the display. If icemaker current is detected, the C code will be displayed. If defrost current is detected, the d code will be displayed. The dC code will be displayed when current is flowing in both the icemaker and defrost circuits.

**ICEMAKER/DEFROST CURRENT CHECK**
**TOUCH & HOLD SIMULTANEOUSLY:**




**SYSTEM CHECK** **CUBED ICE**

**OBSERVE:**
***d*** **= DEFROST CURRENT**
**C = ICEMAKER CURRENT**
***dC*** **= DEFROST & ICEMAKER CURRENT**

Power Up Reset

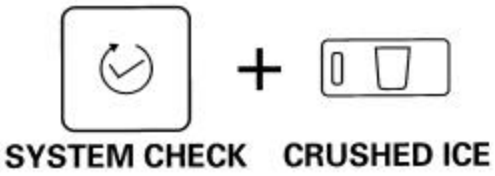
The electronic system also provides a means for simulating a power up routing without disconnecting the power cord. The power up routine demonstrates that the power module, microprocessor and the timing functions (on the control board) are operative by providing a visual check of the display, the five indicator lights and the “normal” light, plus an audible check of the beeper.

**NOTE: A power up reset will erase all diagnostic codes and reset the timing function of the electronic system.**

**POWER UP RESET**

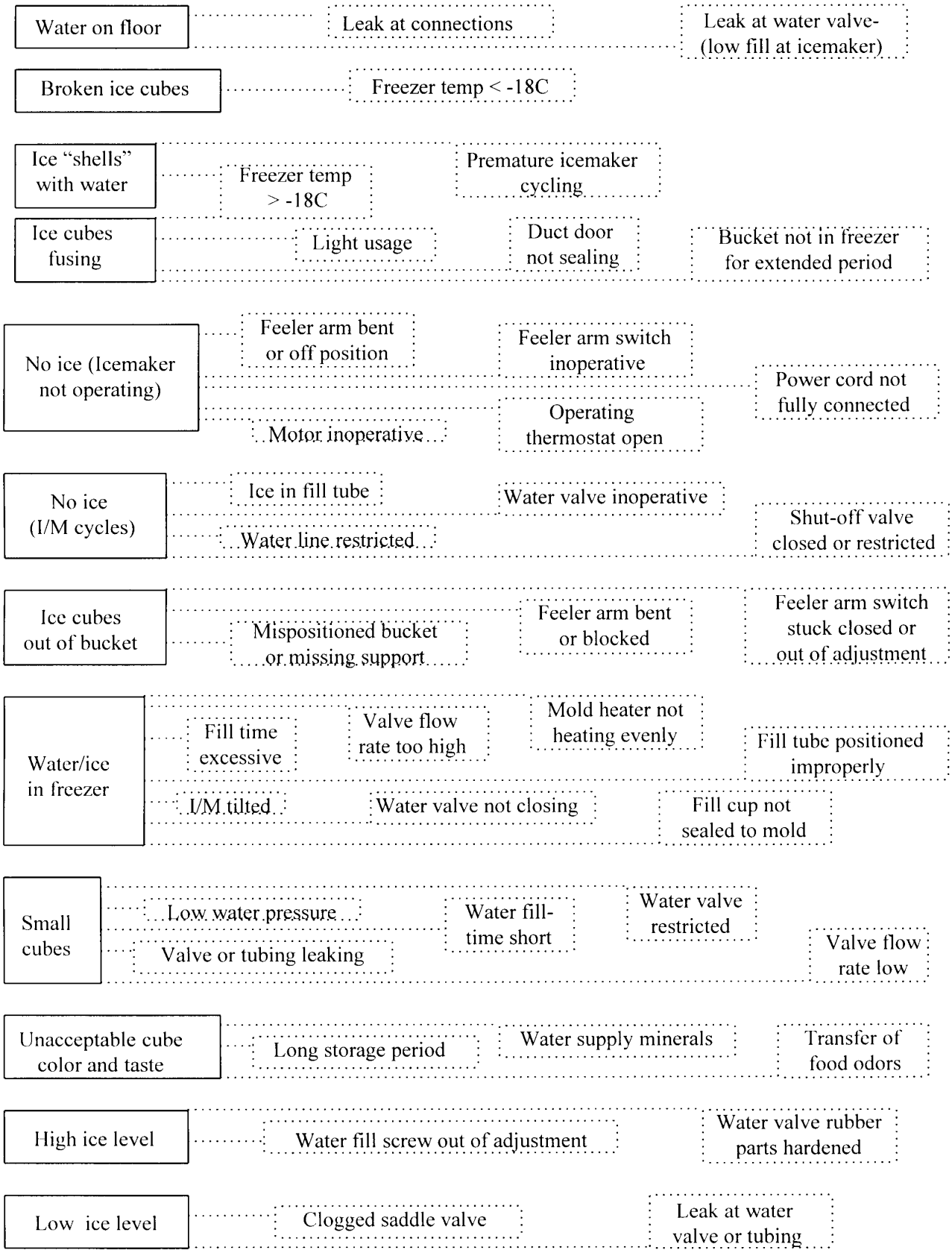
To initiate the power up reset, touch the **TOUCH SIMULTANEOUSLY**:

"system check/reset" and "crushed ice" pads simultaneously. Then, observe: One beep will be sounded then, for five seconds, the "normal" indicator and all other red and green indicators will be illuminated and the display will show 8E. After five seconds, the display will show a flashing PF, the "normal", crushed ice" and "door alarm" indicators will remain illuminated. The "door open" indicator will remain illuminated if either door is open. The "warm temperature" indicator will remain illuminated if the freezer temperature is above 13ºC (55ºF). The recess light will not be illuminated.

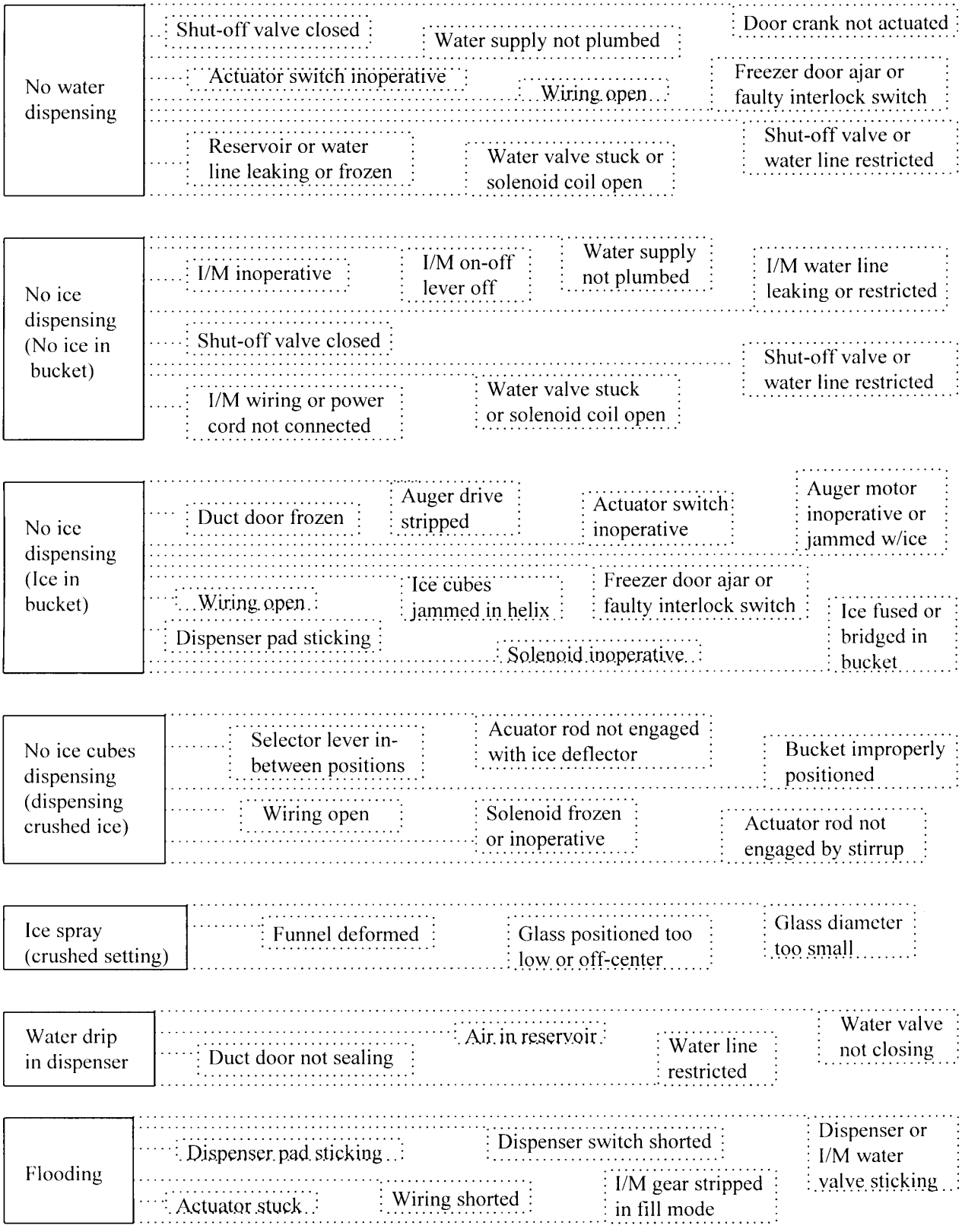



**OBSERVE:**
**ONE BEEP,**
**ALL LED INDICATORS LIT 5 SECONDS,**
***BE* DISPLAYED, THEN**
**FLASHING *PF* DISPLAYED**
**"NORMAL " LIT**
**"CRUSHED ICE" LIT**
"**DOOR ALARM" LIT**
**"DOOR OPEN" LIT & BEEPER BEEPS**
**- IF DOOR OPEN**
**"WARM TEMP" LIT**
**- IF TEMPERATURE ABOVE 55ºF**

## COMMON COMPLAINTS / DIAGNOSIS FOR ICEMAKER



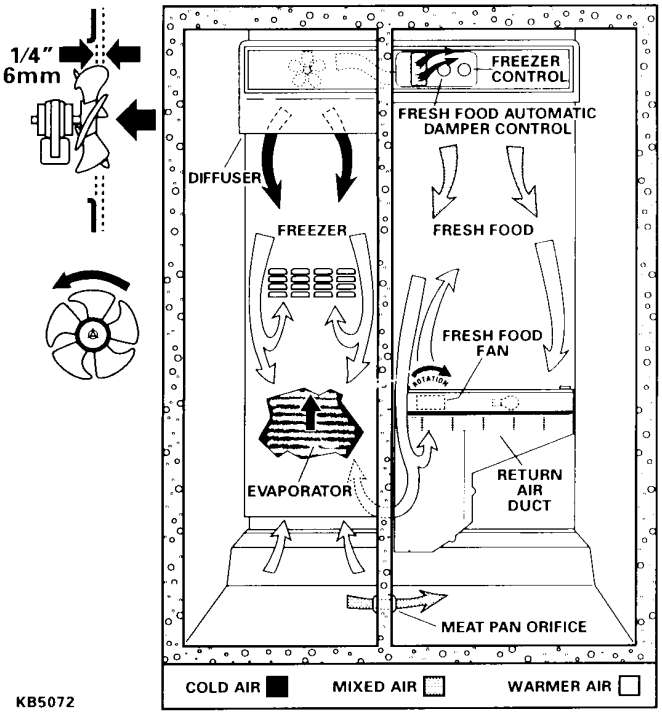
## COMMON COMPLAINTS / DIAGNOSIS FOR DISPENSER



## AIR FLOW SYSTEM

Freezer Compartment
Cold air from the evaporator, forced against the back of the icemaker mounting plate by the evaporator fan, is discharged into the freezer compartment through slots along the top of the mounting plate and through openings below the ice shelf.

Air circulating throughout the freezer compartment, picking up heat and moisture, enters slots in the return air grille at the bottom of the evaporator cover. The evaporator fan draws the warmer moisture-laden air up through the evaporator where heat is removed and moisture is deposited as frost.

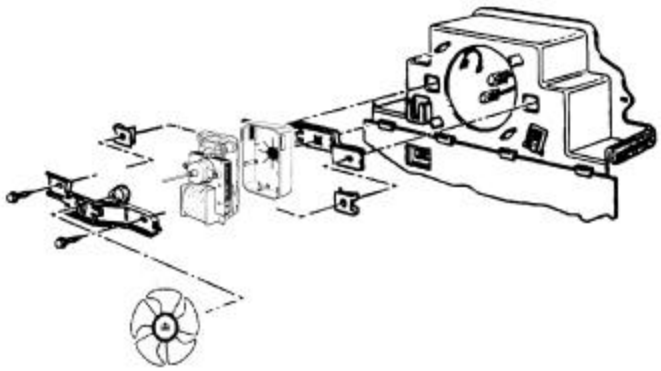



Fresh Food Compartment
Some of the cold air being forced against the back of the icemaker mounting plate is diverted to the right, passes through the air damper control, and is discharged downward into the fresh food compartment from the left end of the control console. Accordingly, food packages placed in the left rear corner of the top shelf, if too close to the air discharge, could either freeze or block the air flow into the fresh food compartment.

Air circulating throughout the fresh food compartment picks up heat and moisture and is returned to the evaporator through the return air duct located above the upper storage drawer.

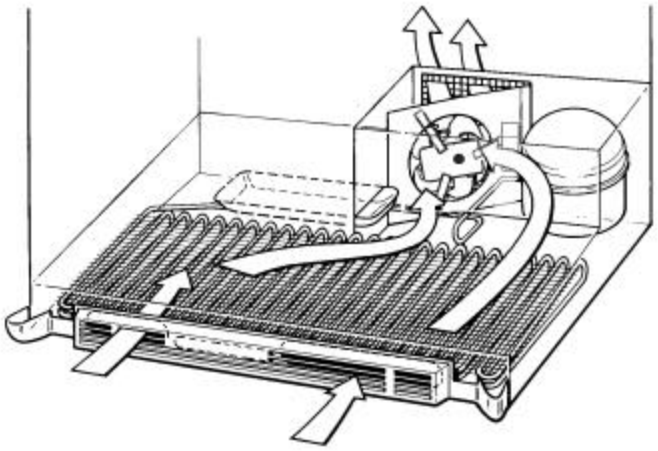
Evaporator Fan
The position of the evaporator fan blade in relation to the orifice is critical. Refer to the Mini-Manual for the correct specifications.

The evaporator fan motor is mounted between two brackets that are secured to the fan housing with two screws. Grommets, positioned over the front and rear end caps of the motor, serve as cushions to dampen the sound of the motor. To remove the fan motor, first remove the screws that secure the brackets to the housing. Withdraw the motor assembly through the orifice in the fan housing and disconnect the wiring harness and ground wires. Remove the fan blade – exercising care to avoid bending the brackets. Remove the clips at the ends of the brackets to release the motor.



Machine Compartment

The condenser fan, located at the rear of the machine compartment, draws room air through the base grille at the front of the cabinet. Ambient air entering the grille passes through openings in the base channel and then through the condenser, picking up heat. A baffle, positioned under the condenser, prevents air from bypassing the condenser. The warm air is drawn through the condenser fan and expelled at the rear of the cabinet through openings in the rear access cover.

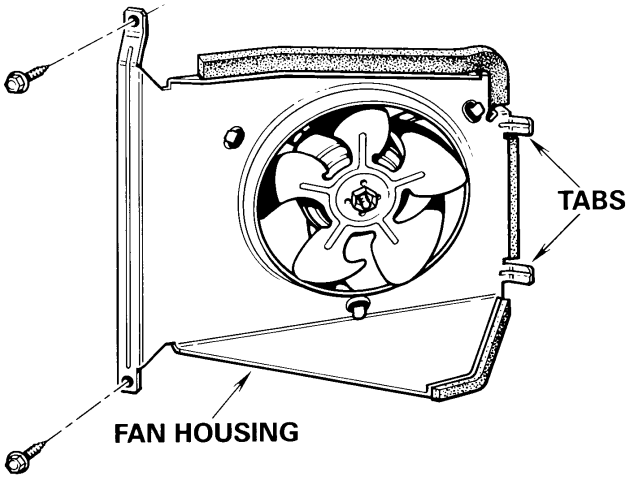


The rear access cover must be tightly fitted to prevent air from entering at the rear of the cabinet and by-passing the condenser.

Because the machine compartment air is discharged at the rear; clearance must be provided at the top, sides, and rear of the cabinet for air circulation back into the room. The minimum requirements at the top, sides, and rear are stated in the Mini-Manual.

Condenser Fan

Although the condenser fan motor operates at a slower speed (RPM) than previous models, the 5-blade fan moves about the same amount of air (CFM) and is quieter overall.




The condenser fan is mounted with screws to three brackets that, in turn, are mounted to the fan housing. The fan housing is mounted inside the machine compartment toward the rear.

To remove the fan motor, first remove the rear access cover. Remove the two screws securing the fan housing to the outer case back and pull the fan housing to the left to disengage the mounting tabs (at the right) from the slots in the side of the machine compartment. Next, disconnect the wiring harness, remove the fan blade, and remove the screws from the mounting brackets.

On K-line only, a start capacitor is mounted to the rear of the fan housing.

## REFRIGERATION SYSTEM

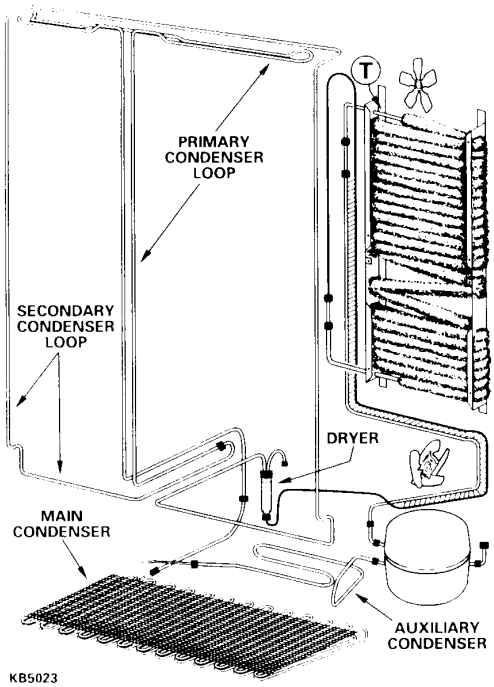
The major components of the refrigeration system are a reciprocating type compressor, an auxiliary condenser, a main condenser, a condenser loop, and a spine-fin evaporator. These components, except for the condenser loop, are all replaceable separately.

Compressor

The compressor is a reciprocating type. Refer to the Mini-Manual for the BTU/hour rating and the compressor capacity test specification. A 1/4-inch O.D. copper process tube is provided for access to the low pressure side of the refrigeration system.

Auxiliary Condenser

The auxiliary condenser, made of 1/4-inch O.D. copper tubing, is connected to the compressor discharge tube. The condenser tubing is bonded to the defrost water pan to aid water evaporation. The outlet of the auxiliary condenser is connected to the inlet of the main condenser.




Main Condenser

The main condenser is made of 3/16-inch O.D. steel tubing formed into two banks, with the tubing passes arranged front-to-back, rather than side-to-side. The outlet of the main condenser is connected to a copper jumper tube that, in turn, is connected to the inlet of the condenser loop.

Condenser Loop

The condenser loop, made of 5/32-inch O.D. copper tubing, is foamed-in-place behind the breaker frame; thus, not accessible for replacement. The tubing is routed from the rear of the machine compartment forward to the mullion, up the left side of the mullion, across the top of the freezer compartment, across the top of the fresh food compartment, down the right side of the mullion, and back to the rear of the machine compartment. The outlet of the condenser loop is connected to the dryer inlet.

Dryer

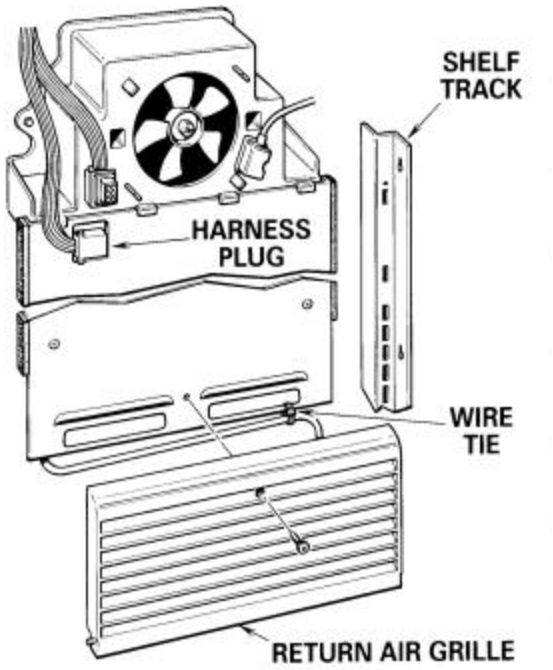
The dryer is positioned vertically at the rear of the machine compartment. A 1/4-inch O.D. copper process tube, connected to the inlet of the dryer, provides access to the high pressure side of the refrigeration system. The capillary is connected to the outlet of the dryer.

Evaporator

The spine-fin evaporator, made of aluminum tubing and formed into hairpin spirals, is located below the evaporator fan housing at the back of the freezer liner. Flanges at the top of the evaporator end-frames are engaged into slots in the base of the fan housing that is secured to the back of the liner. To dismount the evaporator, the fan housing must be dismounted from the liner and disengaged from the

evaporator end-frames. The replacement evaporator is furnished as a complete Lo-Side™, which includes the heat-exchanger (capillary/suction tube assembly).

To remove the evaporator cover, first remove the ice bin, icemaker, ice shelf, and all freezer shelves. Disconnect the wiring harness plug at the upper left corner of the evaporator cover. Next, remove the return air grille at the bottom of the evaporator cover and the shelf tracks at the left and right sides. Cut and discard the wire-tie at the lower right corner of the evaporator cover (the wire-tie is used during factory assembly and is not needed thereafter). Remove the two mounting screws near the bottom of the evaporator cover. Pull the cover downward slightly and disconnect the ground wire at the upper left corner.

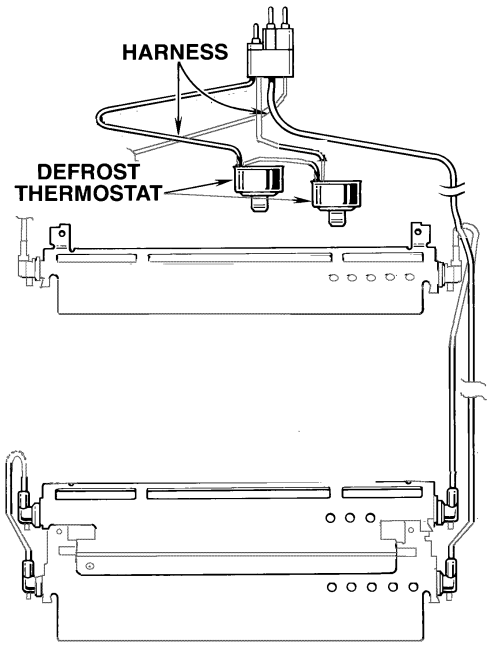



The heat-exchanger, routed below the evaporator, must be positioned above the drain trough and elevated slightly at the right side to ensure any defrost water collecting on the tubing will drain into the trough and not drip onto the freezer floor.

Refrigerant Charge
The refrigerant used in this model is type R134a. Refer to the Mini-Manual for the exact refrigerant charge quantity.

## DEFROST SYSTEM

Defrost Heaters & Thermostat
Replacement heaters are furnished as a complete set. The heater set consists of three heaters (which are mounted into reflector shields) and have the wiring harness connected (which includes two defrost thermostat).



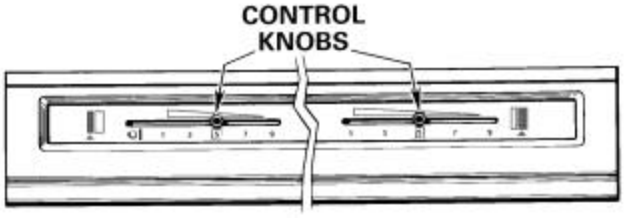

The defrost thermostats can also be replaced separately. Refer to the Mini-Manual for correct defrost heater assembly and thermostats.

Drain Trough & Drain Tube
The drain trough is riveted to the back of the freezer liner and secured with screws. A gasket, positioned behind the drain trough, seals the trough to the liner. A nipple at the back of the trough connects to the drain tube. The drain tube, formed into an “S” shape to provide a built-in trap, is foamed-in-place and cannot be replaced.

## CONTROL SYSTEM

Control Console

The control console is located at the upper rear of the fresh food compartment. Sliding knobs at the front of the console permit the consumer to regulate the temperature of both compartments. The freezer control knob is located at the left and the fresh food control knob is at the right. Settings for both controls are numbered 1 through 9, and both should initially be set to middle (#5) positions.




Freezer temperature is regulated by an electrical temperature control that senses air temperature inside the freezer compartment to cycle the compressor off and on. The freezer control also has an "off" setting.

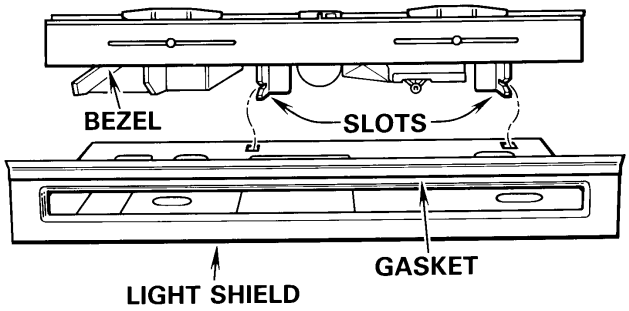
Fresh food temperature is regulated by an automatic air damper control that provides better response to ambient and usage conditions. The damper is opened and closed by a capillary and bellows assembly that reacts to changes in air temperature within the fresh food compartment. Upon temperature rise, the damper will gradually open. If the temperature continues to rise, the damper will continue to open – thus providing a supply of cold air upon demand. At the middle (#5) setting, the damper will close when the temperature drops to -1ºC (30°F).

To test the operation of the air damper, position the fresh food temperature control to the warmest (#1) setting and hold an ice cube in contact with the air damper capillary. The damper should slowly close in response to the cold temperature of the ice cube. Then, remove the ice cube and grasp the capillary with your hand. The damper should quickly open in response to the warm body temperature.

Light Shield

To dismount the light shield, pull it forward along the top to disengage it from the bezel. Then pull the bottom edge of the light shield from the slots in the mounting supports.

To reinstall the light shield, first position the gasket at the top so that the flap is toward the front. Position the lower edge of the light shield firmly into the slots in the mounting supports. Lift the top edge of the light shield and engage it over the top of the bezel.



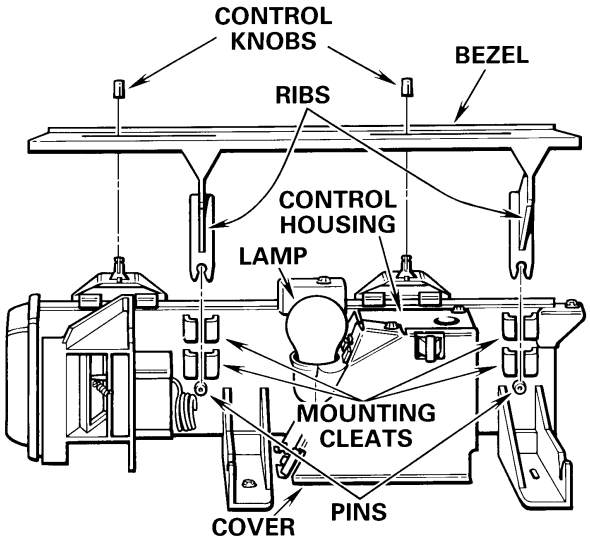

Lamp

The lamp is a 40 watt clear appliance bulb that is commonly used for ceiling fan lights. The lamp can be replaced without removing the light shield by reaching through the opening at the bottom.

Bezel

To dismount the bezel, first position both control knobs to the extreme left positions; then pull the knobs from the shafts. Grasp the two ribs of the bezel and pull the bezel out of the mounting cleats.

To reinstall the bezel, first position the knob shafts to the extreme left positions. Engage the ribs into the mounting cleats and press each rib firmly to seat the slots on the pins.

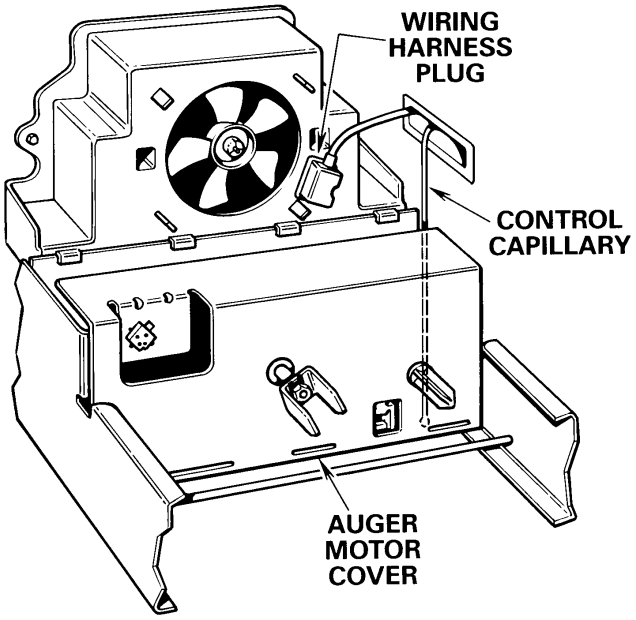



Control Module

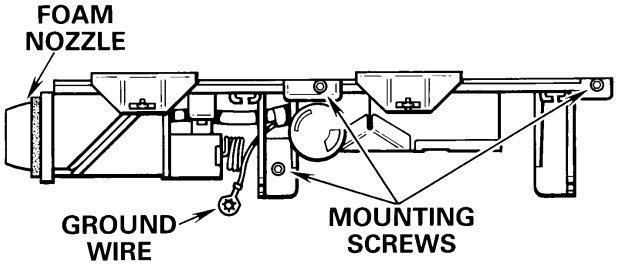
The lamp socket, defrost control, and temperature control are mounted to the metal control housing at the right end of the control module. The lamp socket can be replaced after removing the lamp and releasing the locking tab. The defrost control can be replaced after removing the cover at the bottom of the control housing. However, the control module must be removed and disassembled to replace either the temperature control or the air damper.

Module Removal

To remove the control module, first remove the ice bin and dismount the icemaker. Disconnect the wiring harness plug at the right side of the evaporator fan housing, and pull the control capillary (covered with a vinyl sleeve) from behind the auger motor cover at the rear of the ice shelf.

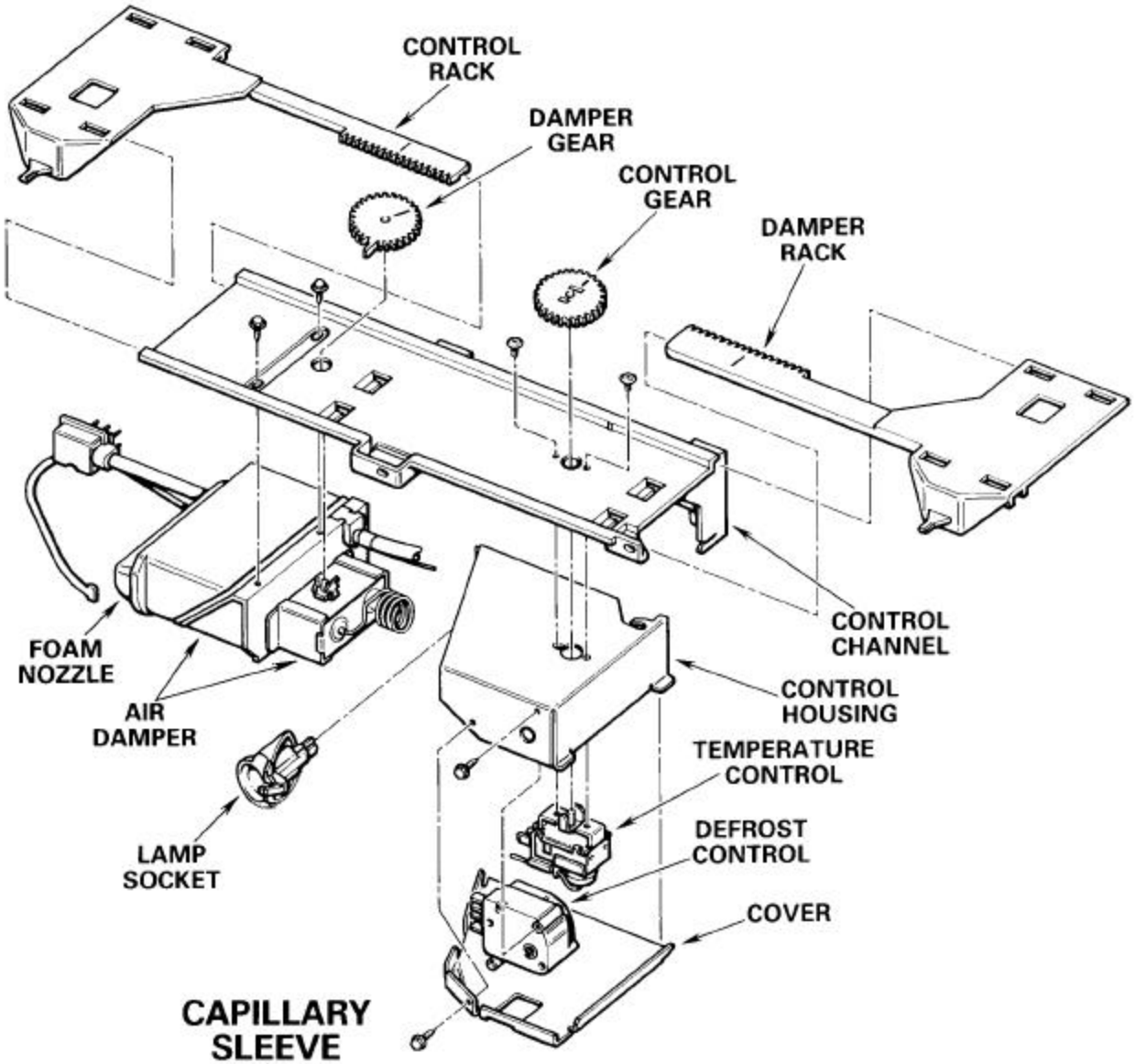



Next, remove the light shield, control knobs, and bezel from the control console. Remove the three mounting screws that secure the module to the fresh food liner and disconnect the ground wire at the back of the liner. Tip the module downward at the top center support and pull it from the liner at the right side. Withdraw the foam nozzle, wiring harness, and control capillary carefully to prevent damaging either the foam nozzle or the foam insert in the compartment divider.



Module Disassembly

The freezer temperature control and the fresh food air damper are operated by rack and pinion gears. To disassemble the control module, the two gear racks must be removed from the control channel. First, slide the damper rack off at the right end. Then, lift the serrated arm of the control rack (to disengage the control gear) and slide the control rack off at the left end. Pull the gears from the air damper and the temperature control. (The gears are fitted onto shafts in the same manner as standard temperature control knobs.) The damper is mounted to the left end of the control channel with two screws. The temperature control is mounted to the right end of the control channel with two screws that also secure the control housing.

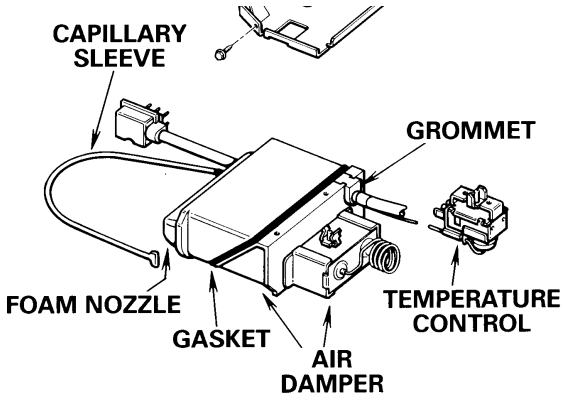


Air Damper Control

To remove the air damper, remove both gear racks, the damper gear, and the two mounting screws. Using a putty knife, carefully pry the foam nozzle and gasket from the air damper. Press the wiring harness and temperature control capillary from the slot in the air damper housing. A gasket will be supplied with the replacement air damper control and foam nozzle.

Freezer Temperature Control

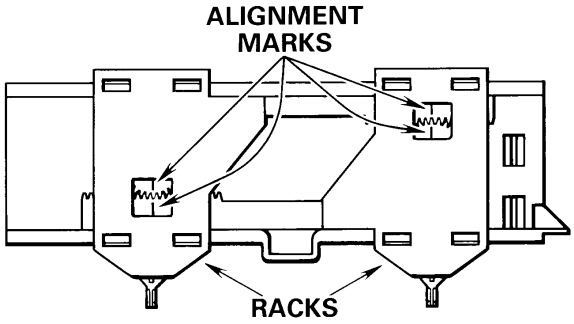
To remove the temperature control, remove both gear racks, both gears, and the control housing cover (bottom); pull the vinyl sleeve from the control capillary. Remove the screws that mount the temperature control and the air damper (but do not remove the foam nozzle from the air damper). Press the wiring harness grommet partially out of the slot in the air damper housing, and pull the control capillary from the slot.




When installing the temperature control, exercise care to prevent the tip of the capillary from damaging the foam nozzle. Insert the capillary fully into the sleeve and adjust the length of the capillary (extending through the foam nozzle) so that it is fully covered by the sleeve inside the foam nozzle. Then press the wiring harness grommet back into the slot in the air damper housing.

Module Reassembly

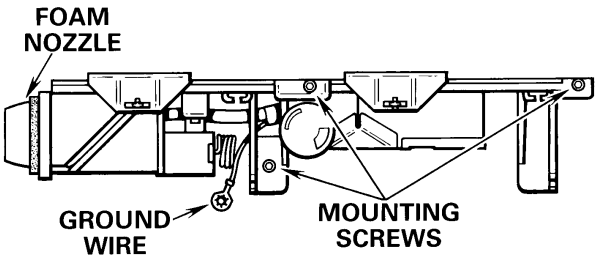
When reassembling the control module, the gears for the air damper and temperature control must be firmly pressed onto the respective control shafts and correctly positioned before installing the racks. (Although both gears are the same diameter, they are not interchangeable.) Rotate the damper gear fully counter-clockwise so that the finger is pointing forward. Rotate the temperature control gear so that the alignment mark is toward the rear. Then slide the control rack onto the left end of the control channel and lift the serrated arm to engage the control gear so that the marks on the arm and gear are aligned. Next, slide the damper rack onto the right end of the control channel until the serrated arm engages the damper gear.



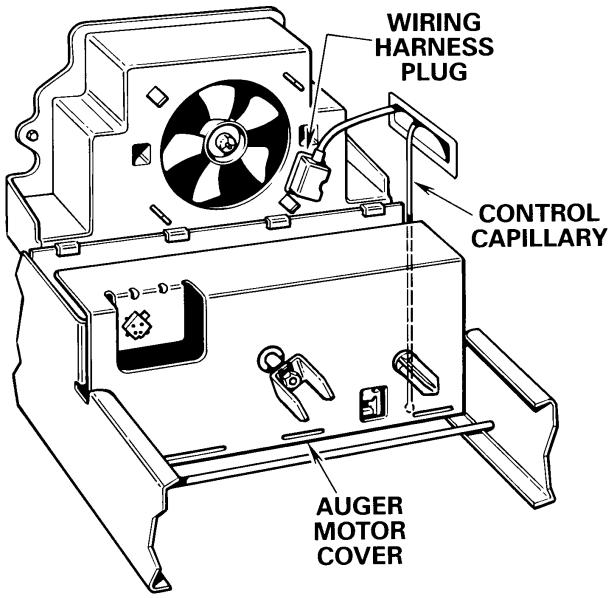

Check the meshing of the damper rack with the damper gear to be sure engagement is neither too tight nor too loose. If adjustment is needed, loosen the air damper mounting screws and move the damper gear in or out as required. Position both racks so that the alignment marks can be observed through the windows in the racks. Verify proper alignment of the marks at both sets of gears before installing the control module in the fresh food compartment.

Module Reinstallation

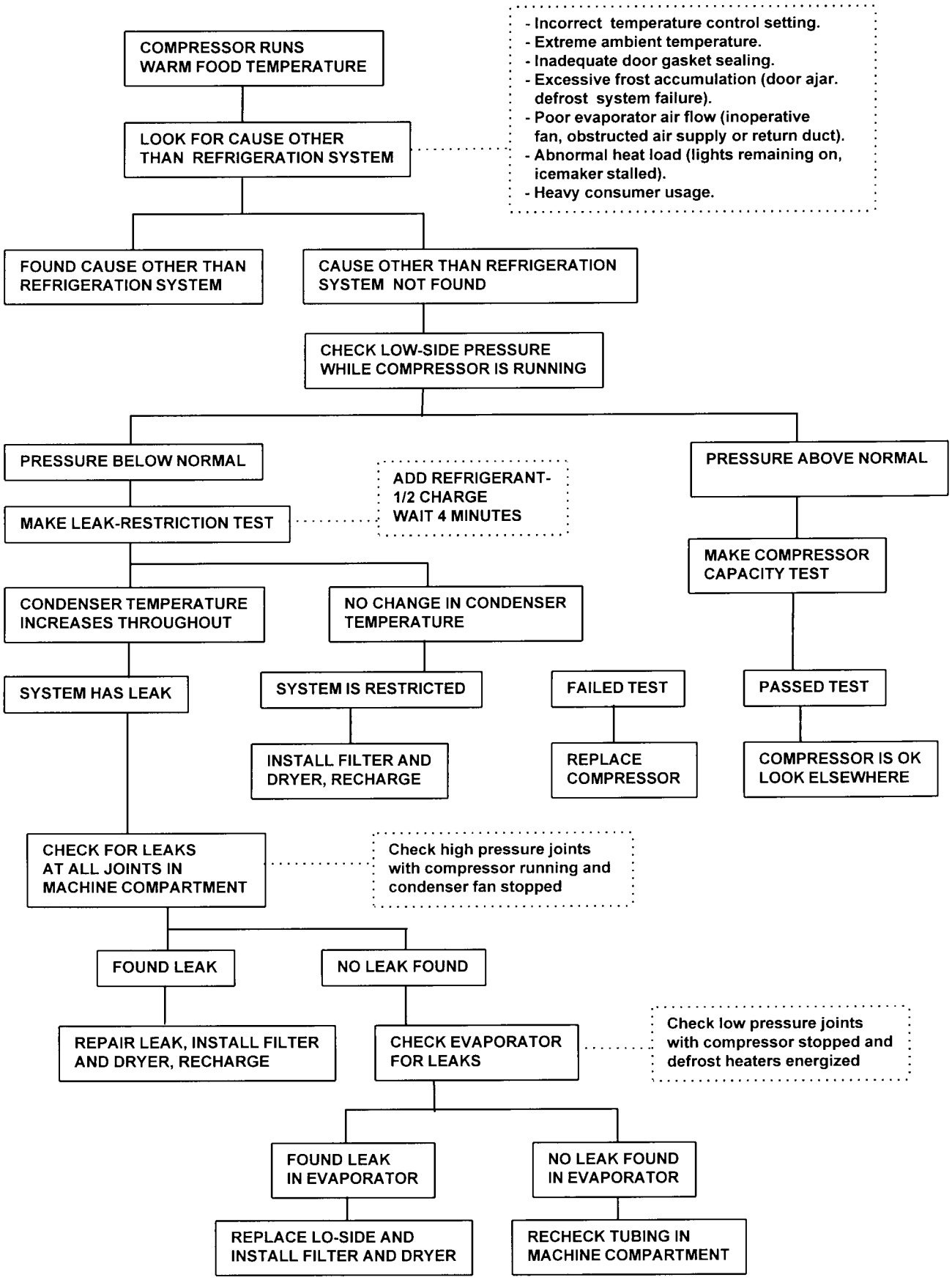
When reinstalling the control module, make sure the vinyl sleeve is fully positioned over the temperature control capillary and the foam gasket is positioned over the end of the foam nozzle. Carefully insert the capillary and wiring harness through the foam insert in the compartment divider. Then position the foam nozzle into the foam insert and engage the pin at the lower right mounting support into the locator hole in the back of the liner. Engage the module onto the top center support. Drive all three mounting screws and reattach the ground wire to the back of the liner.




Connect the wiring harness plug at the right side of the evaporator fan housing. Position the temperature control capillary behind the auger motor cover, in front of the fan housing and against the liner. Dress the capillary so that it does not restrict air movement through the foam nozzle.



## INADEQUATE COOLING DIAGNOSIS FLOW CHART -- R134a



**SCHEMATIC WIRING DIAGRAM**

(This schematic wiring diagram is a typical example of a SxS dispenser model.)