Electrolux

ELECTROLUX HOME PRODUCTS PTY LTD
ABN 51 004 762 341

Technical Publication Nº RESI193

Issue: 1
Date: 11/09

WEB SITE ADDRESS: www.partnship.com.au

SIMPSON

TOP MOUNT

NO FROST

REFRIGERATORS

MODELS:

STB2300WA-XAU (WHITE)
(PNC 934000071)
STB2800WA-XAU (WHITE)
(PNC 934000072)

INDEX

SECTION	PAGE Nº
Index	2
Specifications	3
The Parts of The Refrigerator	4 - 5
Electronic Control	6 - 8
Diagnostics	9 - 10
Temperature Controlling System	11
Right Hand to Left Hand Conversion	12 - 14
Removal and Replacement of Gaskets	15
To Access the Freezer Compartment Deodoriser	16
To Access the Wiring Connectors	16
Removal of the F-Louver	17
To Release the Wiring Connections	17
Removal & Replacement of the F-Temperature Control Knob	18
To Access the Fan Motor, Evaporator & Defrost Heater	18
To Access the Fuse Assembly & Defrost Thermistor	19
Removal of the R-Cbox Cover	20
To Access the Refrigerator Compartment Deodoriser	21
Removal of the Lamp Cover & Lamp	21
Removal of the R-Louver	21
To Access the Wiring Connections in the Junction Box	22
Air Flow Diagram	23
Refrigeration Diagram	24
Circuit Diagram PWB	25
Circuit Diagram	26
Wiring Diagram	27

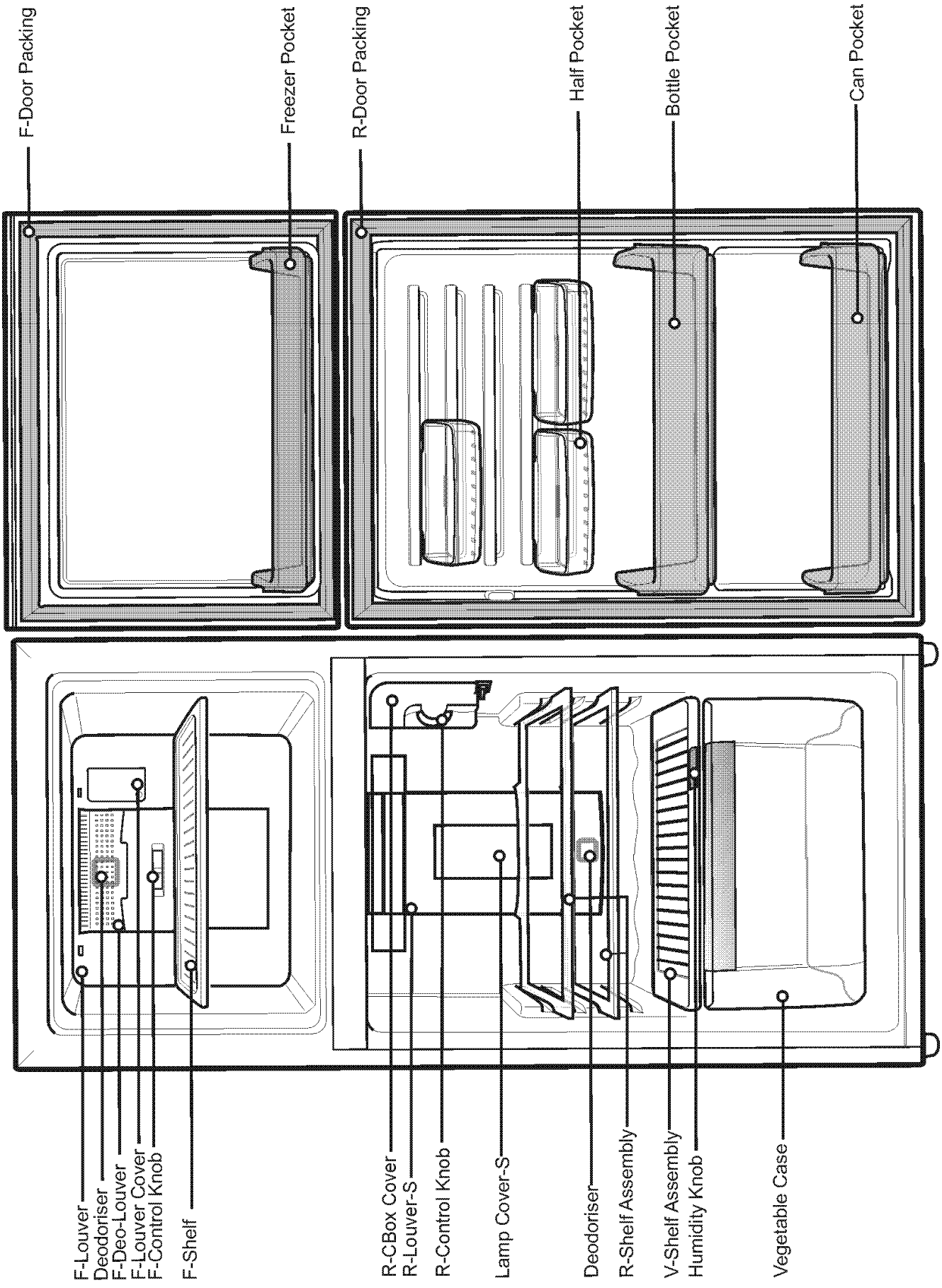
SPECIFICATIONS

DESCRIPTION	STB2300WA-XAU	STB2800WA-XAU
DIMENSIONS		
Height (With Legs)(mm)	1389	1627
Width (mm)	542	542
Depth (mm)	616	616
Total Capacity (Litres)	230	230
COMPRESSOR	**Embraco**	**Embraco**
PART Nº	**FCMPLA300CBKZ**	**FCMPLA300CBKZ**
Type	EMY55HLC	EMY55HLC
Run Winding (ohms)	22.17	22.17
Start Winding (ohms)	26.79	26.79
Run Amps	0.69	0.69
Starting Amps	4.0	4.0
Oil Charge (cc)	150	280
CONTROL (ELECTRONIC)	**Sharp**	**Sharp**
PART Nº	**FPWB-A464CBKZ**	**FPWB-A464CBKZ**
MANUAL BAFFLE		
PART Nº	**JKNB-A075CBFA**	**JKNB-A075CBFA**
Def-THERMISTOR PART Nº	**RH-HXA098CBZZ**	**RH-HXA098CBZZ**
	At 0ºC (6.4kΩ)	At 0ºC (6.4kΩ)
R THERMISTOR PART Nº	**RH-HXA097CBZZ**	**RH-HXA097CBZZ**
	At 0ºC (6.4kΩ)	At 0ºC (6.4kΩ)
THERMAL FUSE PART Nº	**FFS-TA093CBKZ**	**FFS-TA094CBKZ**
Cut Out Temperature	70ºC	70ºC
HEATER DEFROST PART Nº	**FHETBA199CBZZ**	**FHETBA200CBZZ**
(watts)	128-152W / 220-240V	128-152W / 220-240V
(ohms)	378	378
FAN MOTOR		
PART Nº	**RMOTRA057CBEO**	**RMOTRA057CBEO**
FAN BLADE PART Nº	**NFANPA012CBFO**	**NFANPA012CBFO**
INTERIOR LAMP FC PART Nº	**RLMP-A039CBZZ**	**RLMP-A041CBZZ**
Type	15W E14SES Blue	15W E14SES Blue
CAPACITOR RUN PART Nº	**RC-EZA249CBZZ**	**RC-EZA250CBZZ**
Rating	4uf – 400V	4uf – 400V
REFRIGERANT		
Type	R134a	R134a
Charge (grams)	90	95

PARTS OF THE REFRIGERATOR

Parts may vary depending on model.

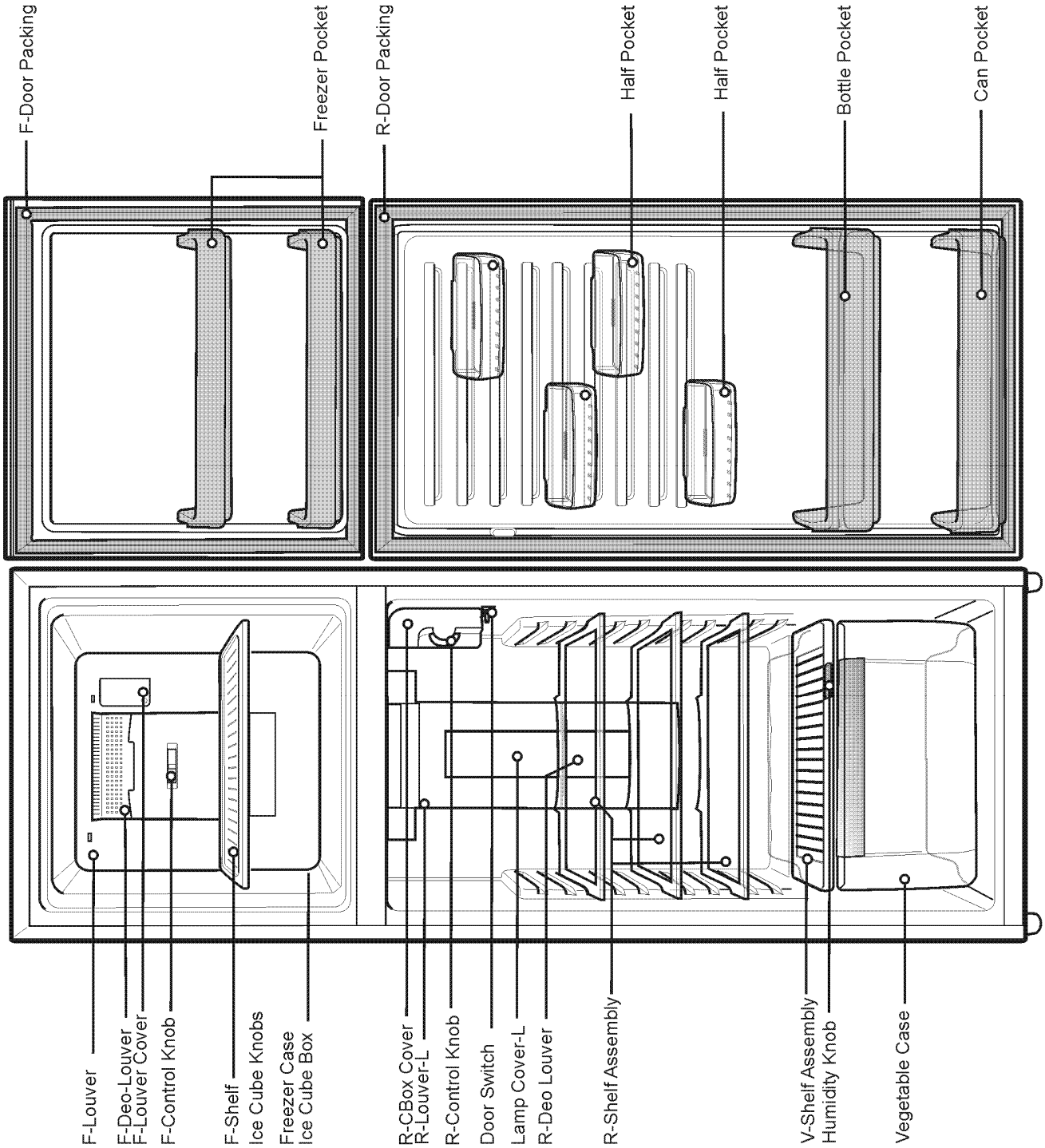
Models shown –2000/2300



PARTS OF THE REFRIGERATOR

Parts may vary depending on model.

Models shown –2500/2800



ELECTRONIC CONTROL

These refrigerators are fitted with an Electronic Control. This consists of a **PWB**, a **R-thermistor** and a **Def-thermistor**.

Controlling the Compressor

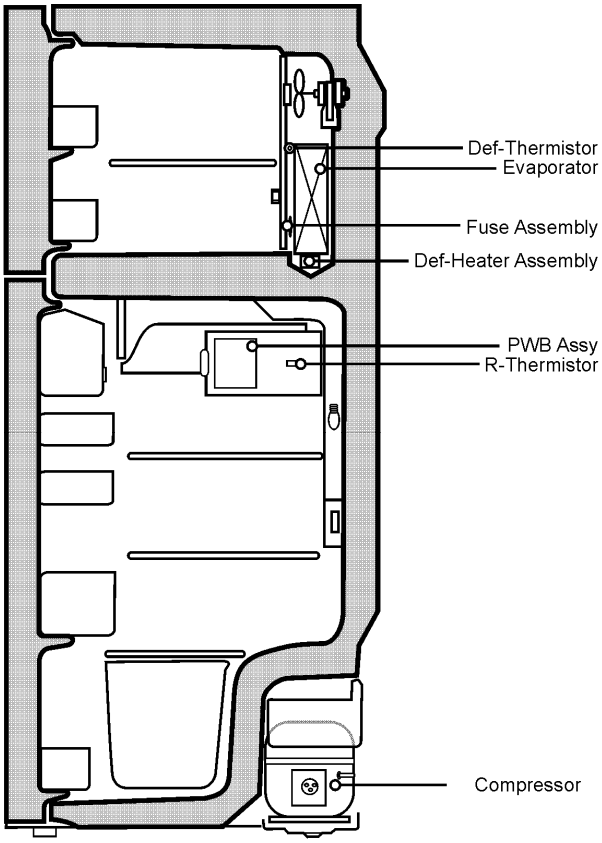
When the refrigerator is connected to the power and first switched on (or after a power failure), the compressor will start automatically and run for approximately 5 minutes. After this initial period the compressor running time is controlled by the R-thermistor which senses the temperature in the refrigerator compartment. The temperature is set by adjusting the control knob in the food compartment, which in turn adjusts a Potentiometer on the PWB.

System Equalisation

The compressor off cycle will never be less than 6 minutes duration even if the food compartment sensor is warmed up manually or the wiring short circuited. This is to allow the system pressures to equalise so the compressor starts under no load.

Thermistors

There are two thermistors, (R-thermistor and Def-thermistor) one in the refrigerator compartment and one in the freezer compartment.
The **R-thermistor** is positioned in the refrigerator compartment at the rear of the R-CBox. It senses the temperature in the refrigerator compartment and controls the running of the compressor.
The **Def-Thermistor** is placed close to the evaporator in the freezer compartment and senses the temperature during defrost, on reaching 10ºC it cuts off the power to the defrost heater.



Defrosting

The length and frequency of defrosts is calculated by the microcomputer. This data is based on the usage conditions of the refrigerator. (The number of refrigerator compartment door openings activating the door switch). The time between defrosts varies from 3 hours of compressor run time to 50 hours of elapsed time.
After a defrost is completed there is a 7 minute drip time before the compressor and fan motor are switched back on.

Time Between Defrosts

If there has been a power failure, the time to the first defrost depends on the temperature sensed by the R-thermistor. If the temperature is less than 10ºC the first defrost will be after 3 hours, if the temperature is greater than 10ºC it will be after 10 hours.

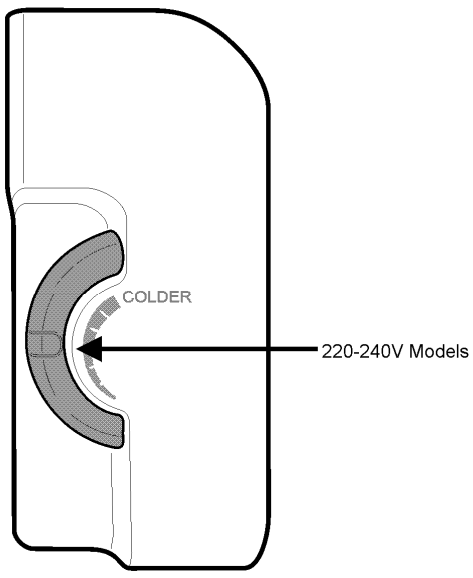
After initial switch on, 10 hours between defrosts.
Refrigerator door opening more than 10 times in 24 hours, 9 hours between defrosts.
Refrigerator door opening more than 20 times in 24 hours, 8 hours between defrosts.

The maximum defrost time is 90 minutes.

Checking the Defrost Heater

If there appears to be a defrost problem and the defrost heater is suspected, then the following steps can be carried out to check it.

Switch the power off to the refrigerator.
Connect a wattmeter or current measuring device to the refrigerator.
Open the refrigerator compartment door.
Set the temperature control knob in the refrigerator compartment to the centre position for 220-240 Volt models.



With the refrigerator compartment door still open, switch on the power.

After approximately 3 seconds the defrost heater relay on the PWB will be energised and power will be supplied to the defrost heater for 5 seconds.
Check the measuring meter to see if the defrost heater wattage/current is registering.

If after the 5 seconds the temperature of the Def-thermistor reaches its cut off point of 10ºC, the power to the defrost heater will be cut off. The compressor will run for 5 minutes, after which the refrigerator will return to normal operational conditions.

If after the 5 seconds the temperature of the Def-thermistor does not reach its cut off point of 10ºC, then the power to the defrost heater will remain on until it does. After which the compressor will run for 5 minutes, then the refrigerator will return to normal operational conditions.

If the Door Switch, R-thermistor, Potentiometer on the PWB or Def-thermistor are faulty, or the control knob is set in the wrong position for the supply voltage then this test mode cannot be entered and the defrost heater will not be energised.

Fuse Assy. (Thermal Fuse) (Located on the rear of the Ev-Cover)

The defrost heater on time is determined by the Def-Thermistor. On reaching 10ºC the Def-Thermistor sends a signal to the PWB which de-energises the Heater Relay cutting power to the defrost heater. If the Heater Relay or the Def-Thermistor fails the circuitry relies on the Thermal Fuse to safeguard the refrigerator, therefore it is **ESSENTIAL** that the Thermal Fuse is always replaced if it fails.

Re-Setting Of The Microcomputer After A Power Failure.

If the power failure is longer than 0.1 seconds the Microcomputer will reset.
The R-thermistor will sense the temperature of the refrigerator compartment and if not cold enough switch on the compressor and the refrigerator will resume normal operation.
If the power failure is less than 0.1 seconds the compressor protector may cut out due to the compressor trying to start under load conditions. Once the system has equalised the compressor will start up and the refrigerator resume normal operation.

If the refrigerator is in a defrost mode at the time of the power failure the refrigerator will return to the refrigeration mode at switch on. The time to the next defrost depends on the temperature sensed by the R-thermistor. If the temperature is less than 10ºC the first defrost will be after 3 hours, if the temperature is greater than 10ºC it will be after 10 hours.

Vacation Mode

If the refrigerator door has not been opened for 12 hours of compressor running time or the defrost heater on time is less than 70 minutes the Microcomputer will move to the vacation mode (50 hours of elapsed time). If during this mode the microcomputer senses the compressor is running excessively (due to poor sealing of the door gaskets etc.) then the refrigerator will revert back to normal operation. At the same time the microcomputer will count back to the last defrost and carry out a defrost after 10 hours of compressor running time. Depending on the length of this defrost will govern the time between further defrosts.

Door Alarm

If the refrigerator compartment door is left open for more than 2 minutes a door alarm will beep. It can be reset by pressing the door switch or closing the refrigerator compartment door.

DIAGNOSTICS

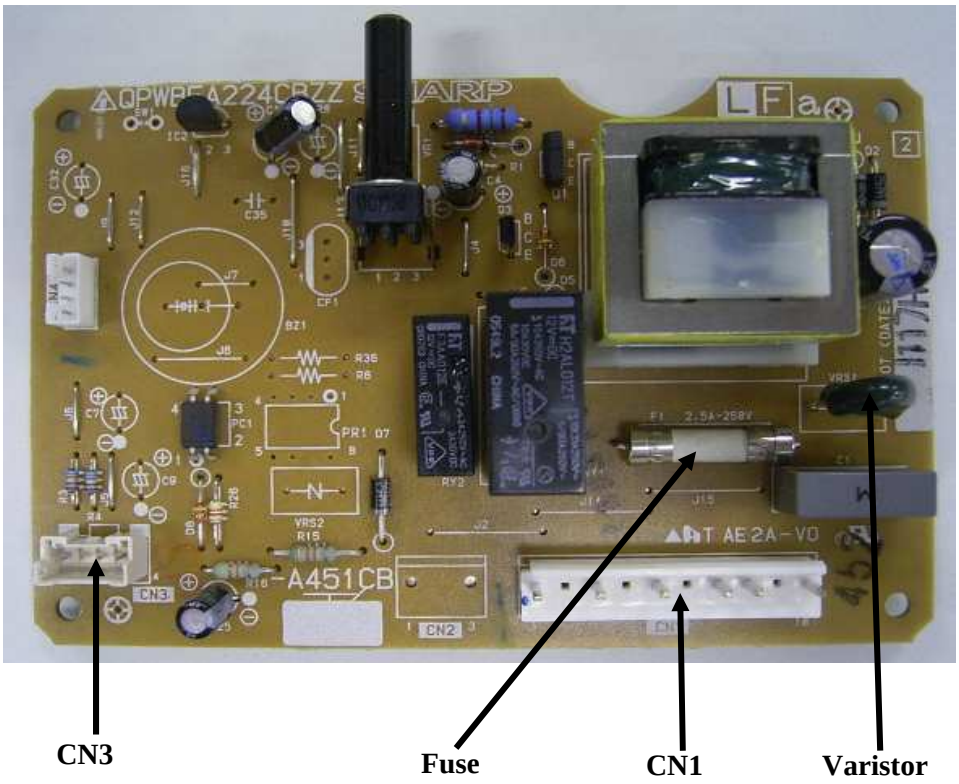
During normal operation electronic parts can be damaged by thunder storms or external machinery producing voltage spikes. These spikes can produce excessive currents that damage the electronics.

Check the following.

Disconnect the power supply and check that there are no wiring problems with the harness connectors.

Remove the PWB and check for burning or damage to the components.

Check the condition of the fuse and varistor (see picture for location)



Because the fuse is not of the glass cylinder type you will have to measure the resistance across the ends with a test meter.
Remove “CN1” connector before taking the measurement.

To check the resistance of the varistor, remove the “CN1” harness connector and measure the resistance between pins 7 and 10 on the PWB. The reading should be between 2 and 5KΩ. If it has been damaged by a voltage spike it will read a short circuit.

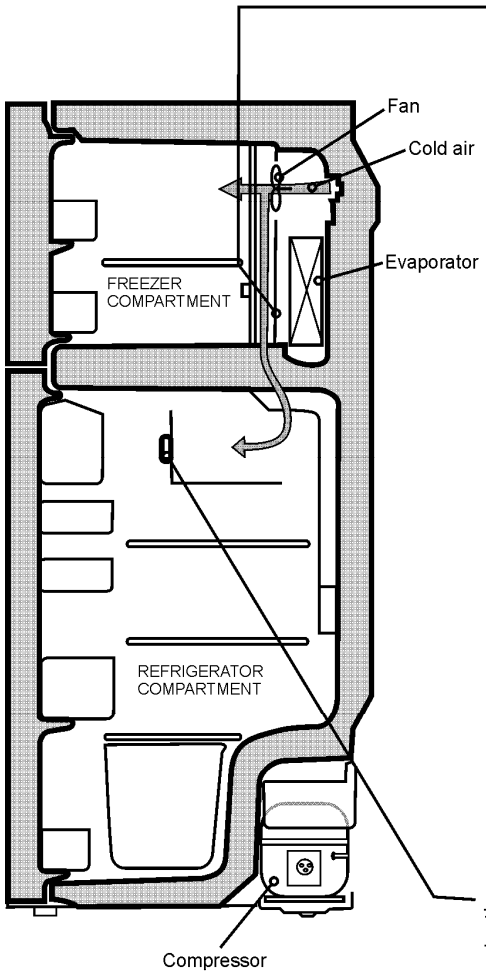
To check the temperature (resistance value) of the R-thermistor, remove the “CN3” connector, place the R-thermistor sensing bulb in a cup of ice water and measure between pins 1 and 2 on the disconnected harness..
(Refer to the following table for a resistance reading equating to a temperature reading of approximately 0ºC).

To check the temperature (resistance value) of the Def-thermistor, remove the “CN3” connector, place the Def-thermistor sensing bulb in a cup of ice water and measure between pins 3 and 4 on the disconnected harness..
(Refer to the following table for a resistance reading equating to a temperature reading of approximately 0ºC).

Conversion Table between R-thermistor and Def-thermistor Temperature and Resistance Value

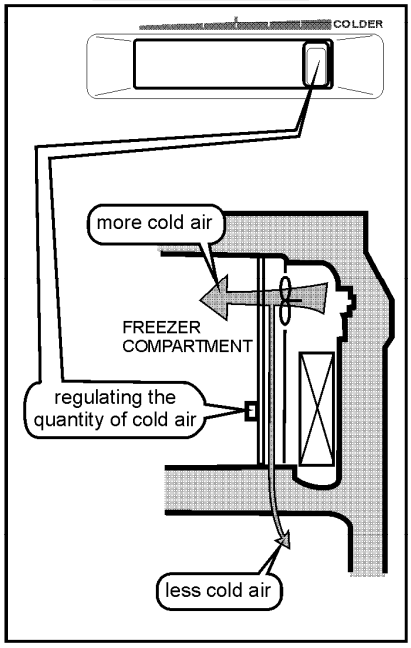
Temperature (ºC)	Resistance Value (kΩ)	Temperature (ºC)	Resistance Value (kΩ)	Temperature (ºC)	Resistance Value (kΩ)
-25	26.10	-11	11.49	3	5.50
-24	24.54	-10	10.88	4	5.23
-23	23.08	-9	10.30	5	4.98
-22	21.72	-8	9.75	6	4.74
-21	20.46	-7	9.24	7	4.52
-20	19.27	-6	8.76	8	4.30
-19	18.16	-5	8.30	9	4.10
-18	17.13	-4	7.87	10	3.91
-17	16.16	-3	7.47	11	3.73
-16	15.25	-2	7.09	12	3.56
-15	14.40	-1	6.74	13	3.40
-14	13.60	0	6.40	14	3.24
-13	12.85	1	6.08	15	3.10
-12	12.15	2	5.78		

TEMPERATURE CONTROL SYSTEM:

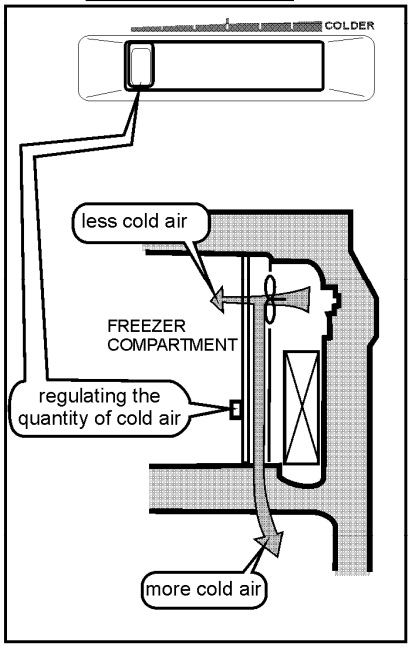


Freezer Temp. Control Knob:
The FREEZER TEMP. CONTROL regulates the quantity of cold air to the freezer.
MAX setting directs **more** cold air to the freezer compartment
(making the freezer compartment colder).
MIN setting directs **less** cold air to the freezer compartment
(making the freezer compartment less cold).

MAXIMUM SETTING:

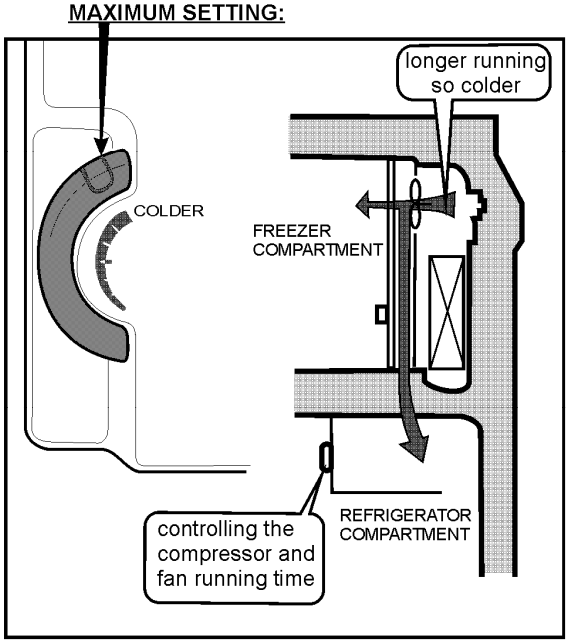


MINIMUM SETTING:

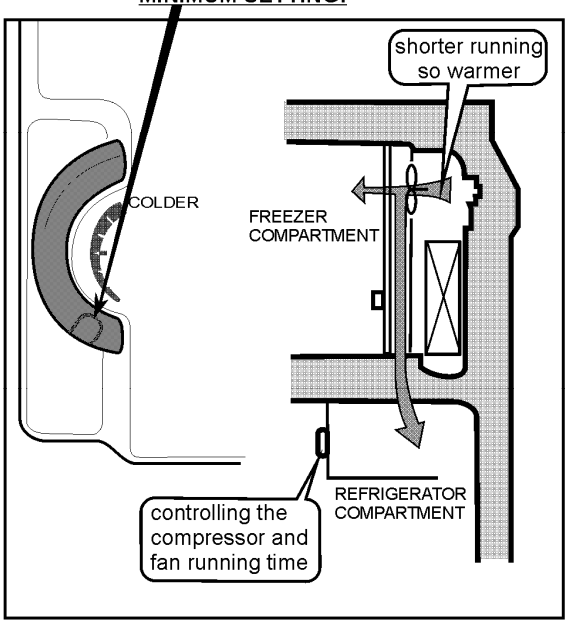


Refrigerator Temp. Control Knob:
The REFRIGERATOR TEMP. CONTROL controls the compressor and the fan running time of the refrigerator system.
MAX setting will result in colder temperatures in the both (refrigerator and freezer) compartments.
MIN control setting will result in warmer temperatures in both (refrigerator and freezer) compartments.

MAXIMUM SETTING:



MINIMUM SETTING:



Refrigerator Door Reversal Procedure:

KIT CONTENTS x 10 pieces

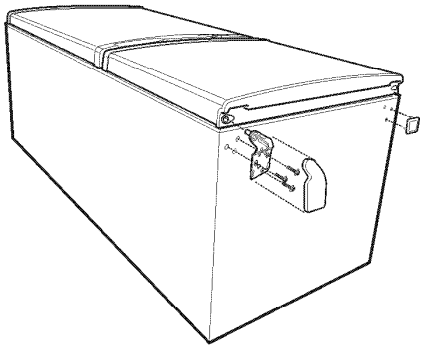
x1	x2(1 white, 1 grey)	x2(1 white, 1 grey)	x1	x1	x1	x2
Top hinge LH	Top hinge cover LH	Top hinge cap RH	Centre hinge LH	Bottom hinge LH	Base Support RH	Door stopper LH

NOTE: Keep kit parts separate from other parts as you disassemble them to avoid mix-ups.

WARNING: Simpson takes no responsibility for incorrectly assembled doors leading to injury or malfunction.

CAUTION: Refrigerator must stand for 30 minutes prior to connecting to power supply to ensure system functions correctly.

IMPORTANT: All screws must be tightened to a torque setting of 5-10Nm.



- Ensure refrigerator is empty of all loose items and unplugged from power source.
- Store power cord next to motor to prevent damage.
- Check for water in drain pan and remove any water with a cloth or sponge.

WARNING: Refrigerator is heavy - you may need assistance.

1. Remove the top hinge cover with a plastic lever.
   Unscrew 3 x 8mm top hinge screws and remove RH top hinge.
   Do not discard screws.

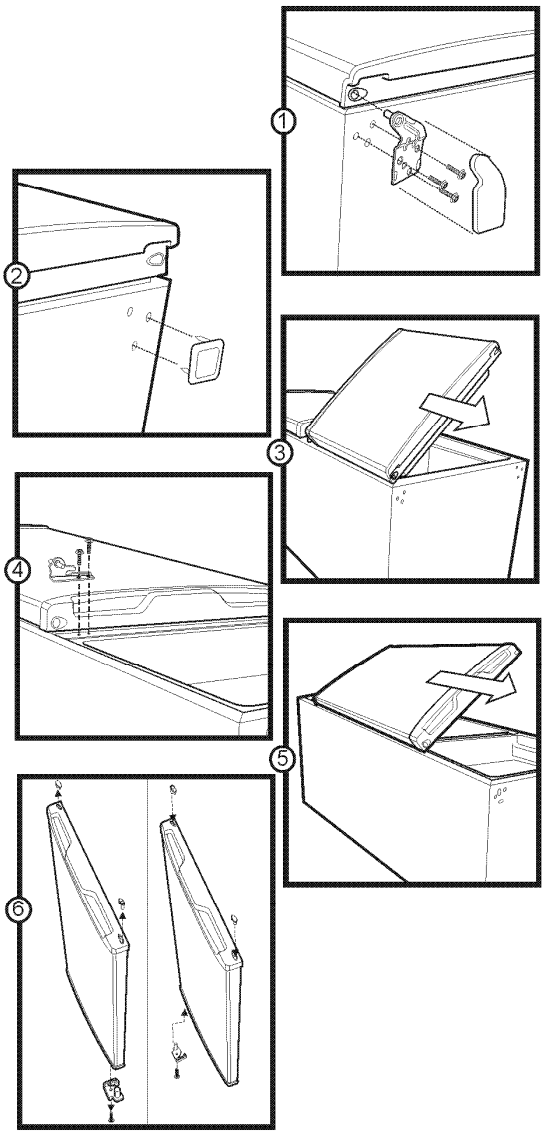
2. Remove the LH cap with a plastic lever.

3. Remove the freezer door by opening 45° and gently slide the door off the centre hinge.
   Set door aside to prevent damage.

4. Unscrew 2 x 8mm centre hinge screws.
   Do not discard screws.
   Remove RH centre hinge by lifting the door slightly and sliding the hinge out of the door.

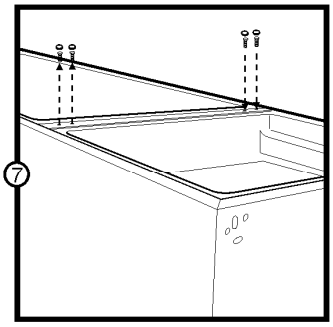
5. Remove the food compartment door by opening 45° and gently slide the door off the bottom hinge.

6. Remove both the nylon bearing and the nylon bearing cap from the top of the door and swap positions.
   Repeat with the freezer door.
   Remove the RH door stopper from the bottom of the door.
   Screw the LH door stopper (from the kit) into the LH bottom of the door.
   Repeat with the freezer door.

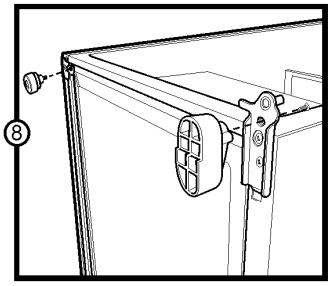


Refrigerator Door Reversal Procedure (cont.):

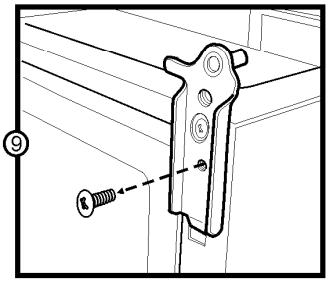
7. Remove the centre hinge caps with a plastic lever and unscrew both 5 x 16mm screws. Replace the screws and caps in the centre hinge holes on the opposite side.



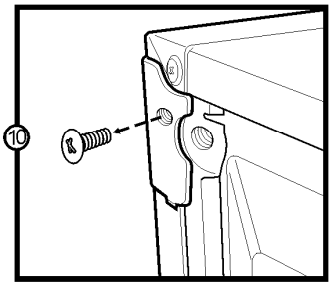
8. Unscrew the hinge foot using a phillips-head screwdriver. Unscrew the opposite side foot. Do not discard.

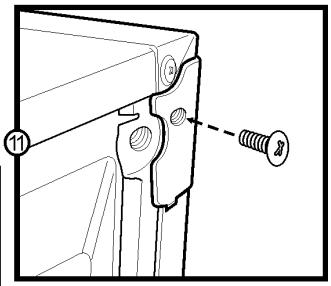


9. Unscrew the bottom hinge screw. Pull the hinge away from cabinet, then up to remove.

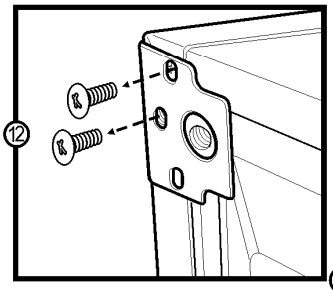


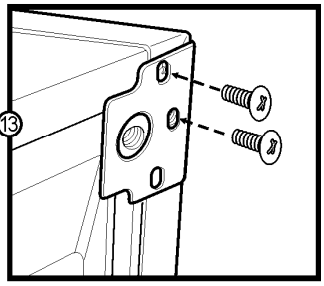
10. There are several different kinds of base support. The base support pictured in the adjacent drawing has a right and a left hand version. <u>If your refrigerator has this version</u> of base support, you will need to remove it and use the base support supplied in the kit to install on the RH side (see diag.11).
After unscrewing the LH base support screw, pull the base support away and then up to remove.



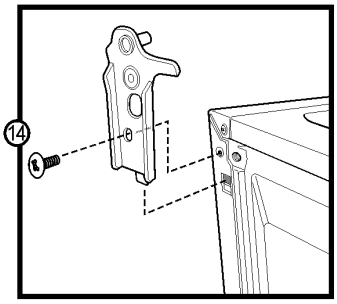


12. The base support pictured in the adjacent drawing is a common part whether it is used on the left or right side.
<u>If your refrigerator has this version</u> of base support, you will need to remove it, rotate it 180º and install it on the RH side (as in diag.13).

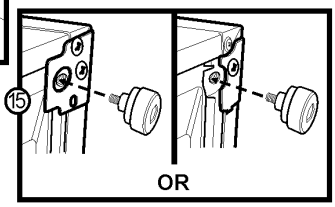




14. From the door reversal kit, install the bottom LH hinge. First insert the tab at the back-end of the hinge into the square hole in the underside of the fridge chassis. Insert screw as illustrated.

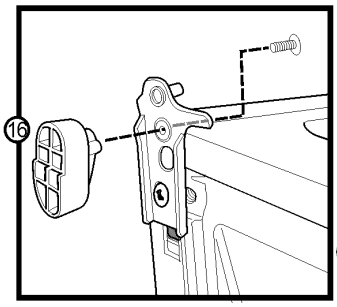


15. Install the non-hinge foot by screwing it into the corresponding hole on the RH side.

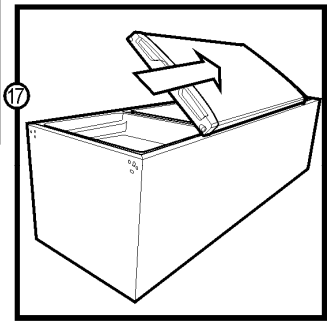


Refrigerator Door Reversal Procedure (cont.):

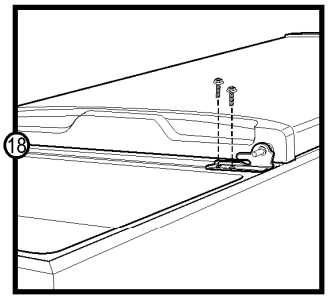
16.Install the hinge foot by holding it against the underside of the hinge plate and insert the screw from the top side of the hinge plate as in diag.16.



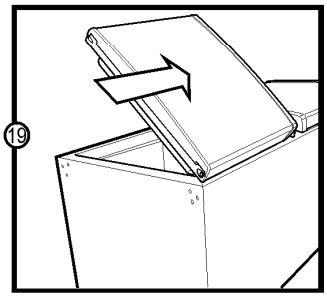
17.Holding the food compartment door at an angle of 45º, slide it onto the bottom hinge shaft then close the door.



18.From the kit, install the LH centre hinge. Raise the top LH corner of the door slightly and slide the lower hinge shaft into the nylon bearing in the top corner of the door.
Lower the door onto the cabinet and insert 2x8mm screws (previously used on the RH side) into the hinge, securing it to the cabinet.

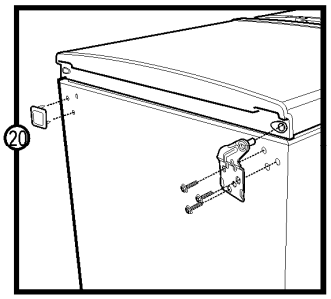


19.Holding the freezer door at an angle of 45º, slide it onto the centre hinge shaft then close the door.

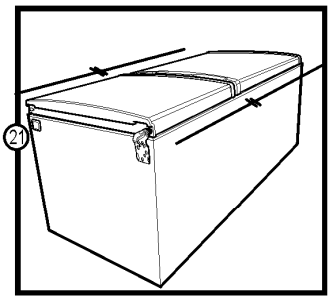


20.Slide the LH top hinge(from the kit) into the bearing in the top of the freezer door. Loosely screw the 3x8mm screws(previously used on the RH side), into the LH top hinge, loosely securing it to the top of the cabinet.

Insert the RH cap(from the kit) to conceal the holes exposed where the RH top hinge used to be.

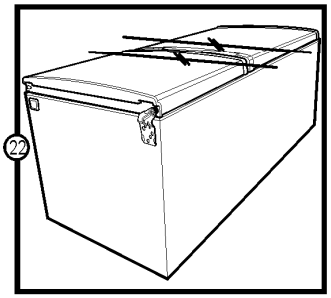


21.Ensure the edges of the doors are parallel with the sides of the cabinet.



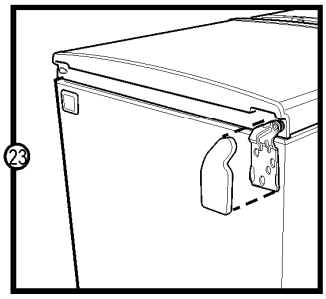
22.Ensure that the food door and the freezer door have a parallel gap.

Fully tighten the 3 screws into the top hinge.



23.Clip the LH top hinge cover(from the kit) onto the top hinge.

Stand the refrigerator upright



⚠ **WARNING**: Refrigerator is heavy - you may need assistance.

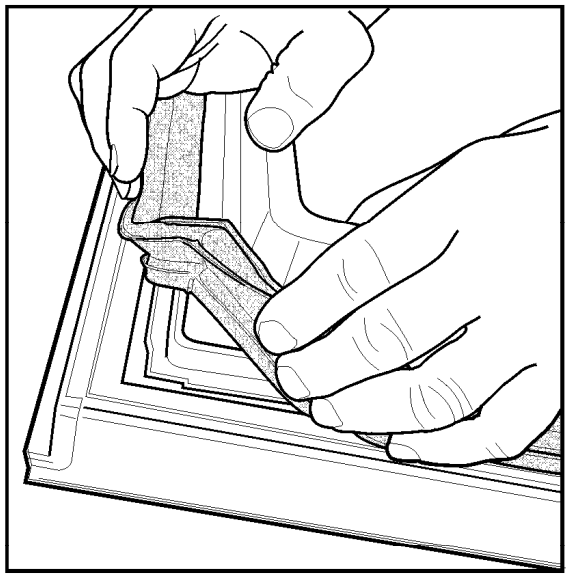
Level the cabinet by rotating the adjustable foot -the foot opposite the hinge.

⚠ **CAUTION**: Refrigerator must stand for 30 minutes prior to connecting to power supply to ensure system functions correctly.

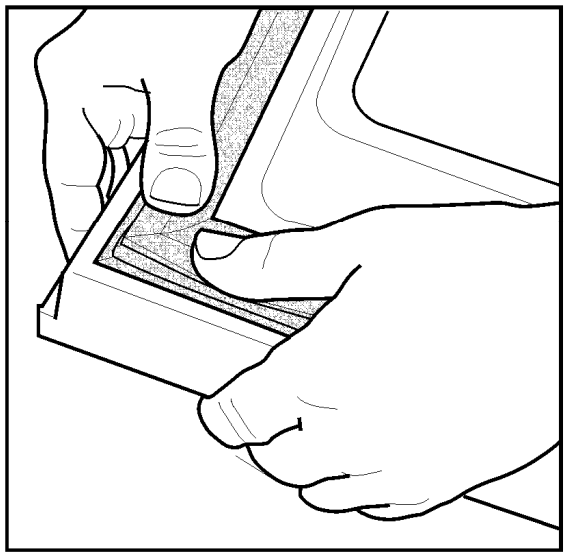
Right Hand to Left Hand Conversion Kit Part Number AREX01WA

REMOVAL AND REPLACEMENT OF DOOR GASKETS

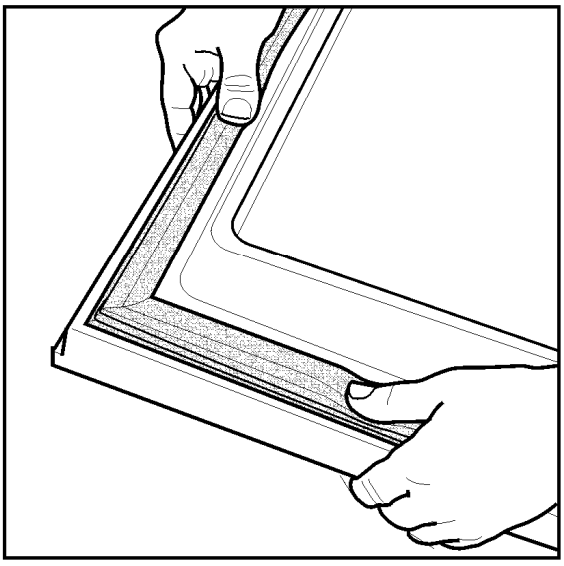
To remove the door gasket, start in one of the corners and pull perpendicular to the inner door panel.
When it is released from the corner it can then be peeled off the remainder of the door.



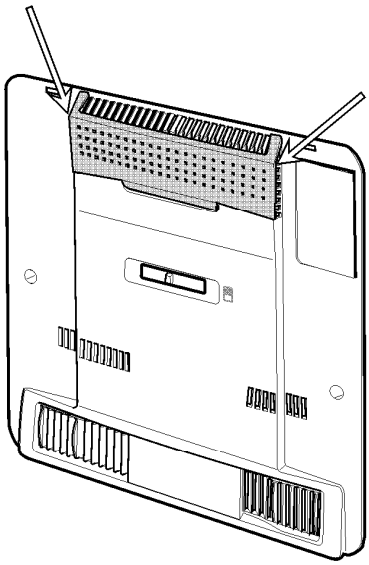
To fit a gasket, start by pressing it into the corners first.



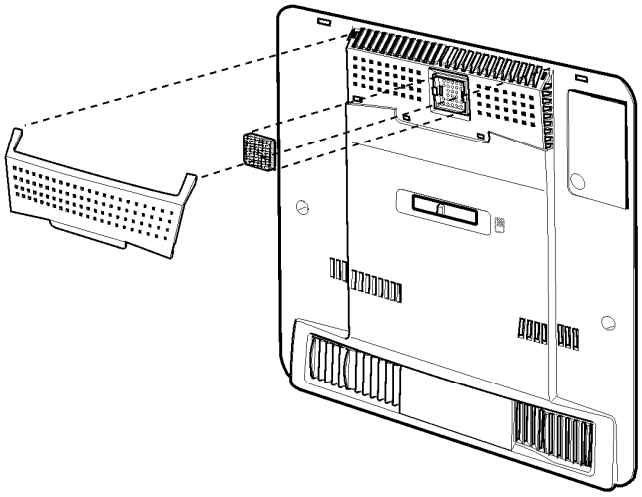
With the gasket fitted into the corners, move around the door pressing the gasket into the inner panel groove using your thumbs.



TO ACCESS FREEZER COMPARTMENT DEODORISER:

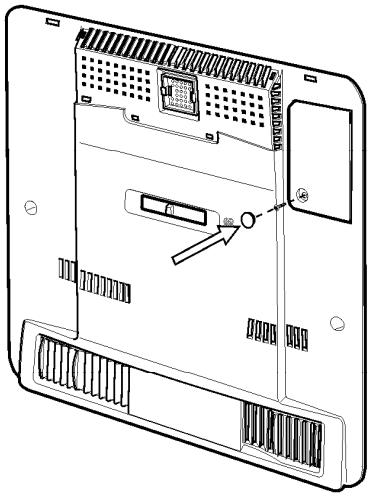


Release the 'F-Deo-Louver' that conceals the deodoriser by pulling it forward at the points arrowed to disengage the top tabs, then pull the 'F-Deo-Louver' up to release the 4 tabs securing the bottom edges.

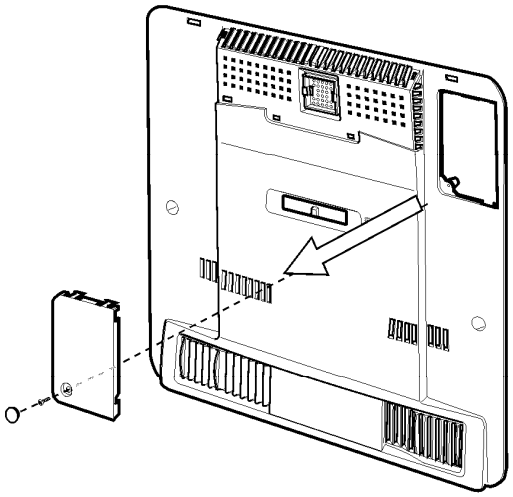


Pull apart the two tabs on either side of the deodoriser to release it.

TO ACCESS THE WIRING CONNECTORS:



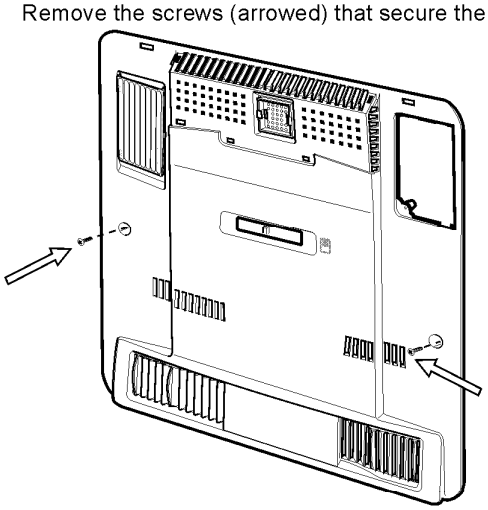
Prise off the 'Cap-F-Louver' and remove the screw that secures the F-Louver-Cover'l.

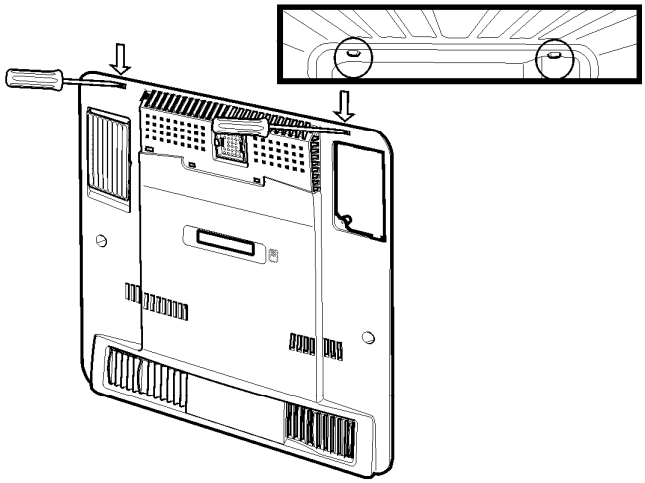


Flick the 'F-Louver-Cover' out using a finger nail or a small screwdriver in the screw hole.

REMOVING THE 'F-LOUVER':

Remove the screws (arrowed) that secure the 'F-Louver'.





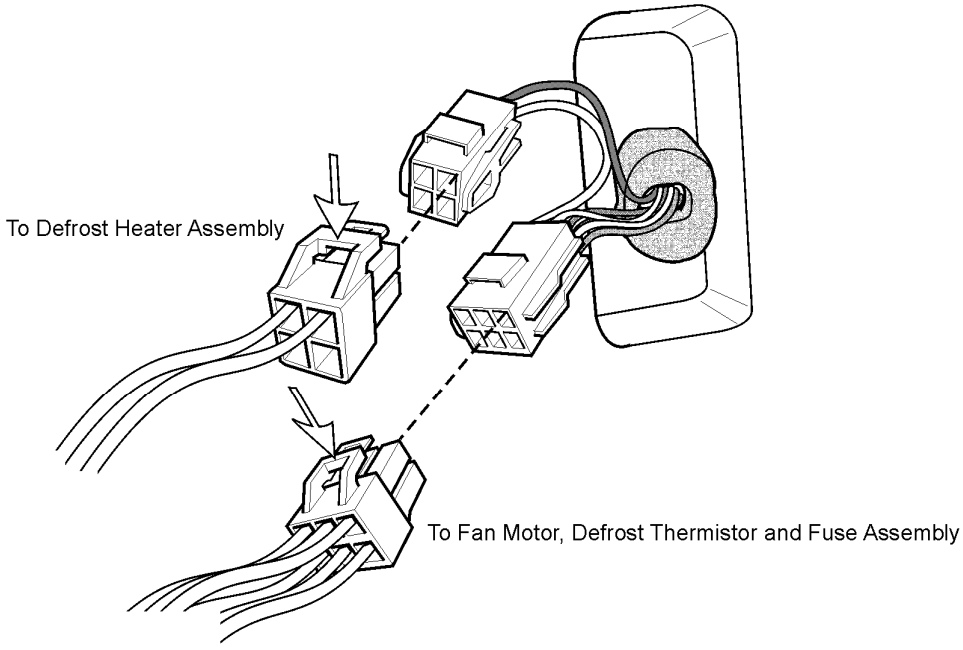
Two hooked tabs protrude from the back of the F-Louver-Cover from the underside of the holes arrowed in the drawing above.

Insert screwdrivers into these holes, as shown in the drawing, and push the tips of the screwdrivers down while pulling the panel forward.
This will push down the hooked tabs so that they no longer secure the top of the cover to moulded nodes protruding from the ceiling of the freezer liner, (see inset drawing), thereby releasing the 'F-Louver-cover'.

TO RELEASE WIRING CONNECTIONS:

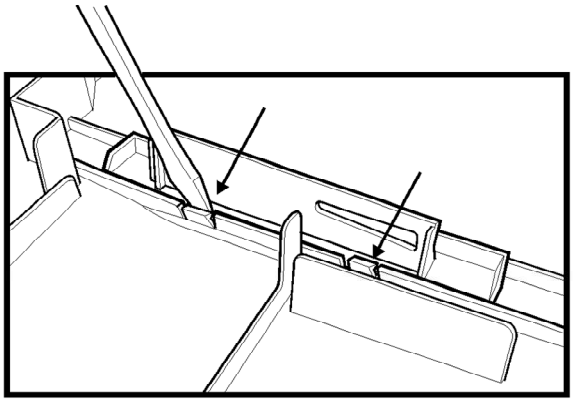
Wiring connections for the Fan Motor, Defrost Thermistor, Fuse Assembly, and the Defrost Heater are located in the top back right corner of the freezer compartment, behind the F-Louver-Cover.

Both connections are released by applying pressure at the points, arrowed in the drawing below, while pulling the male connection out and holding the female connection steady.



REMOVAL AND REPLACEMENT OF THE 'F TEMP CONTROL KNOB'

Two barbed tabs secure the bottom of the 'F-Control knob' to the back of the 'F-Louver'.
Use a flat bladed screwdriver to prise the tabs down while pushing the 'F-Control knob' up.

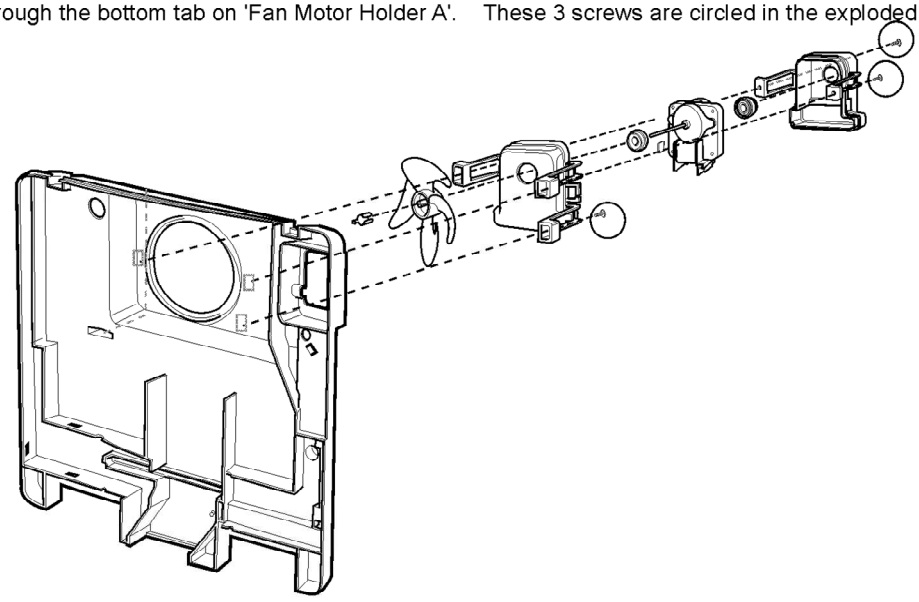


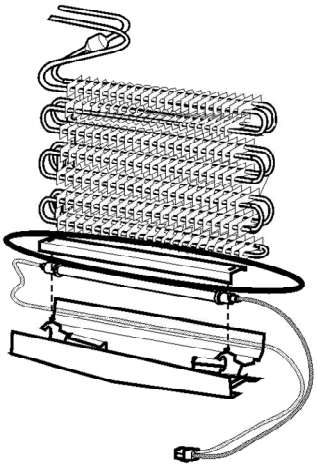
When replacing the 'F-Control knob', insert the underside edge under the tabs before clicking the top edge under the top tabs.

TO ACCESS THE FAN MOTOR, EVAPORATOR AND DEFROST HEATER

Refer to the previous page for removal of the F-Louver. Now...

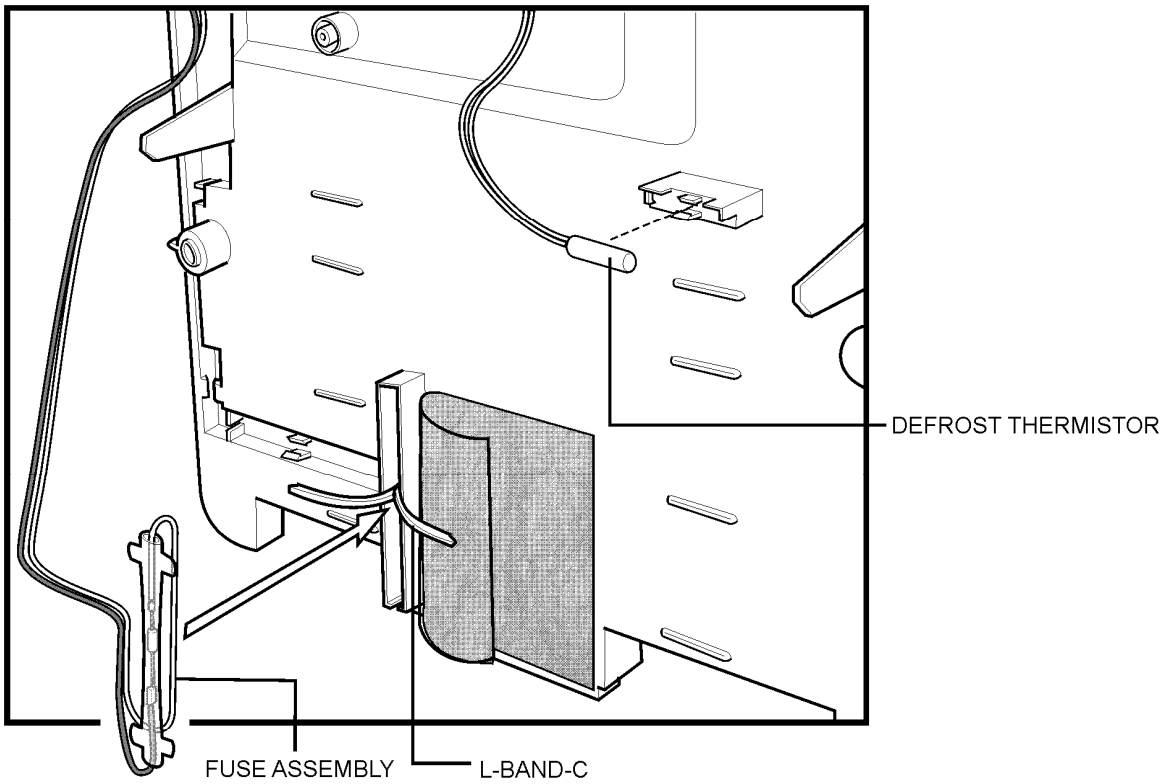
The 'Ev-Cover' can now be pulled from the freezer compartment. The fan motor is attached to the Ev-Cover by two screws that connect through the top two tabs on 'Fan Motor Holder B' and 'Fan Motor Holder A', and a third screw that connects through the bottom tab on 'Fan Motor Holder A'. These 3 screws are circled in the exploded view below.





Following removal of the 'Ev-Cover', the Evaporator and Defrost Heater Assy can be accessed.
The Heater Cover, (eclipsed in exploded view on right), can be removed by peeling back the adhesive foil to reveal the two metal tabs that secure each end of the Cover to the Heater Support.
Straighten these tabs into upright position and the Heater Cover can be lifted off, giving access to the Defrost Heater Assembly.

TO ACCESS FUSE ASSEMBLY AND DEFROST THERMISTOR:

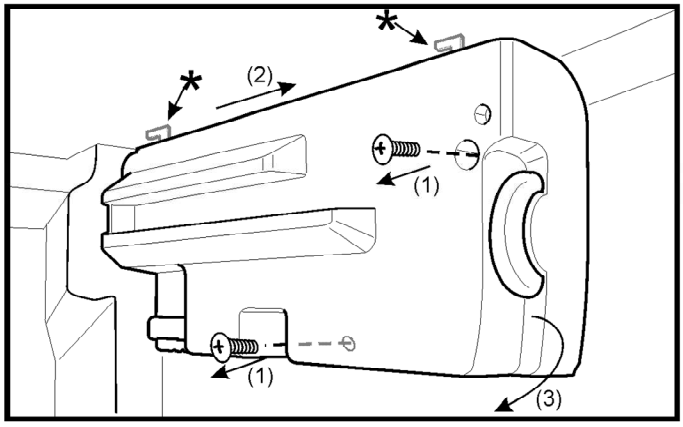


The above view is the rear face of the Ev-Cover.

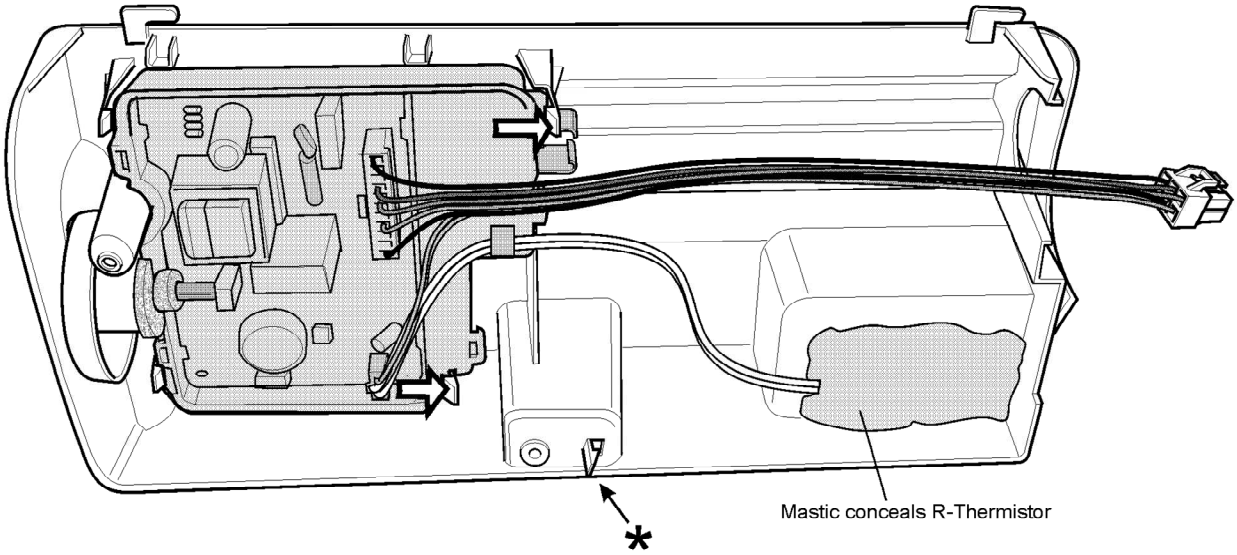
The Defrost Thermistor is secured to the Ev-Cover by means of two hooked tabs projecting from a pedestal, and a hook to hold the wires.

To release the Fuse Assembly, the L-Band-C, arrowed in the drawing above, can be cut.

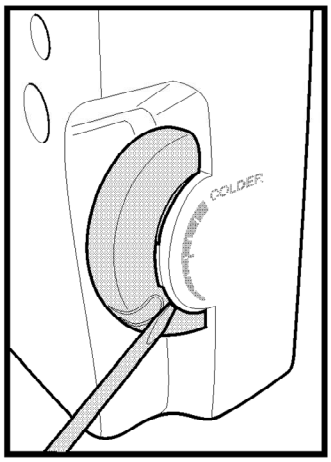
REMOVAL OF THE R-CBOX COVER:



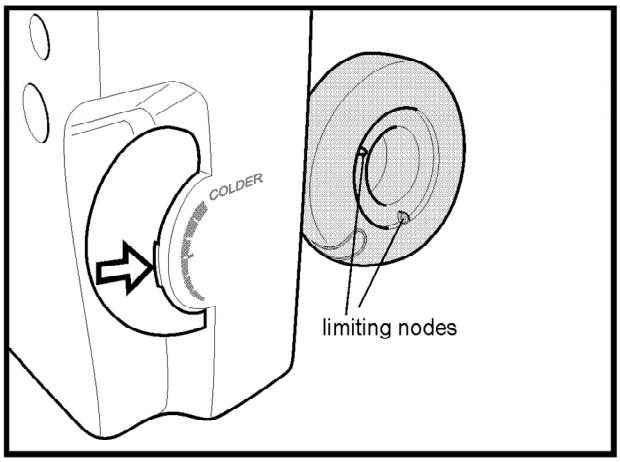
Remove the 2 screws as illustrated (1) in the drawing above.
Pull the R-Cbox Cover forward (2) then down to release the top tabs, arrowed in drawing above (*), that slot into the freezer liner.
Finally, pull the cover to the left (3) to disconnect a barbed tab that protrudes from the back of the cover into a slot in the freezer liner. This tab is arrowed in the drawing below(*).



To release the PWB Assembly, pull the two tabs out to the right (see bold arrows above) and pull the board up and to the right. When replacing the board, first align the end of the boss with the D shaped shaft locator in the Control knob assembly.



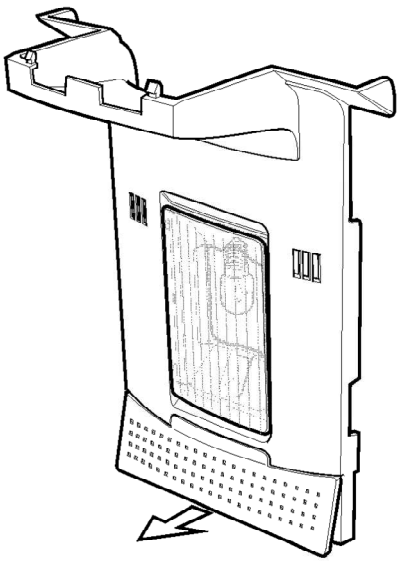
When the PWB Assembly has been removed, the Control Knob assembly can be released by lifting the edge of the facia in front of the knob about 2mm and sliding the knob assembly to the right.

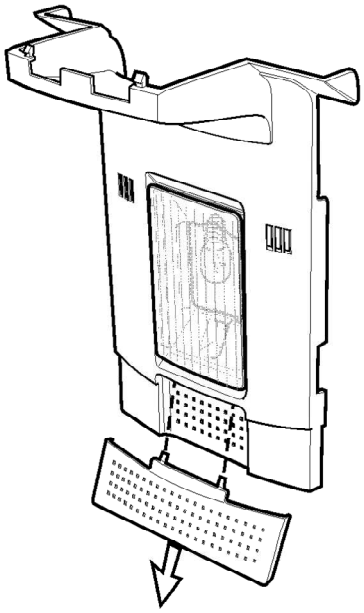


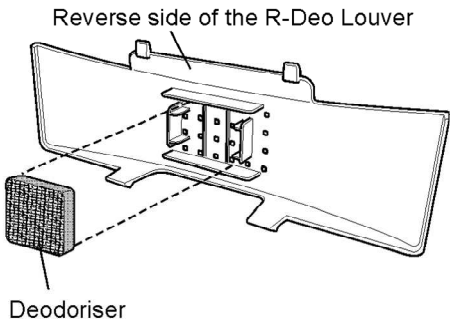
The tab arrowed in the drawing above serves two purposes. It limits the travel of the knob between the range of settings and holds the knob assembly secure between the PWB Assembly and the front of the R-Cbox Cover.
When the Control Knob assembly is replaced, the arrowed tab must rest in the shortest space between the 2 nodes on the knob.

TO ACCESS THE DEODORISER IN THE REFRIGERATOR COMPARTMENT:

The deodoriser is contained in an enclosure on the back of the R-Deo Louver.
Remove the R-Deo Louver by gripping the underside and pulling out to release the bottom tabs and then down, releasing the top 2 tabs.

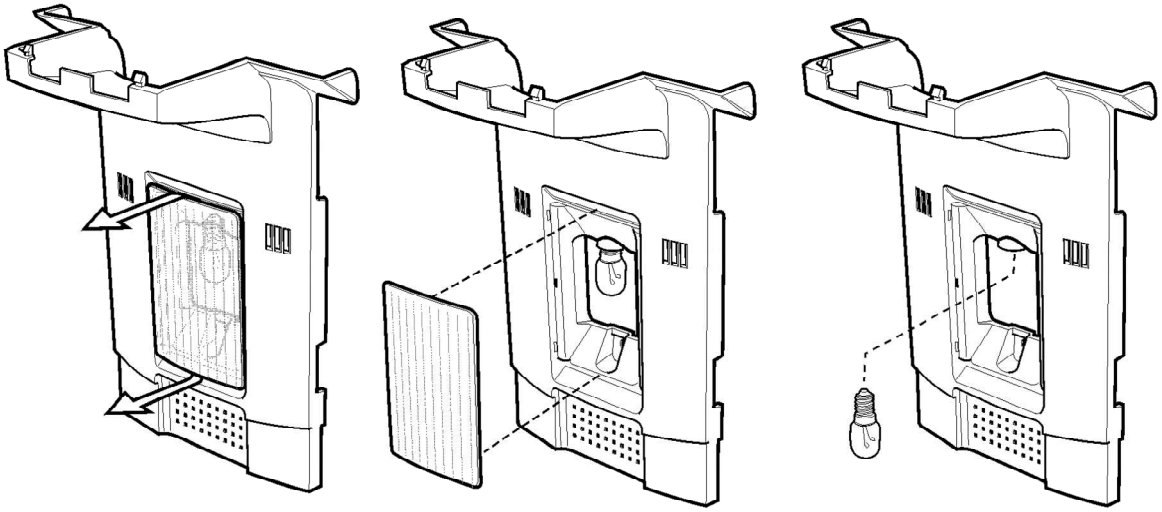




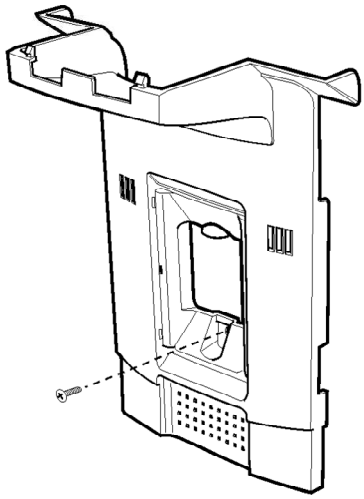


REMOVAL OF THE LAMP COVER AND LAMP:

Use the index finger of each hand to remove the Lamp Cover by pulling it at top and bottom from the centre.
The screw-in lamp can now be accessed.

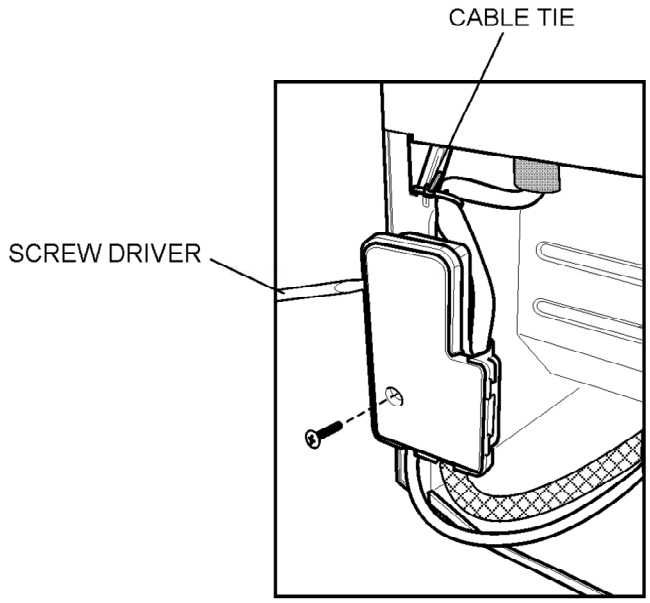


REMOVAL OF THE R-LOUVER:



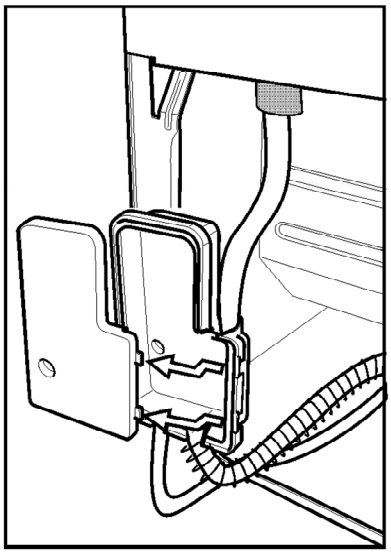
After removing the screw, rotate the R-Louver out from the bottom edge, then pull down.

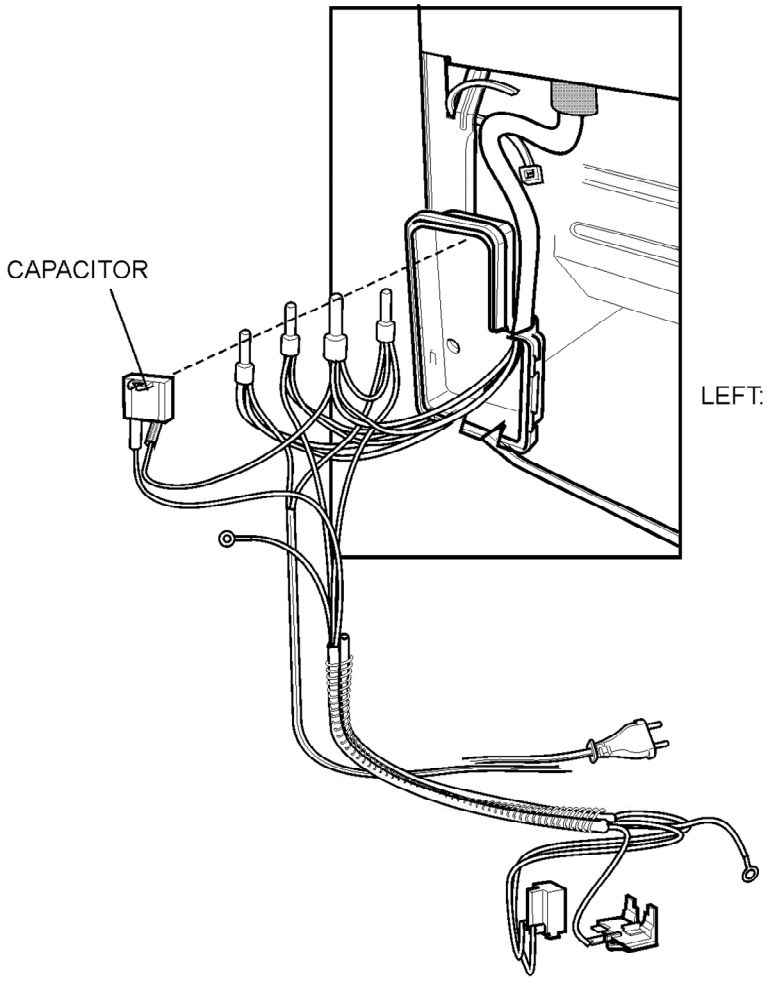
TO ACCESS THE WIRING CONNECTIONS IN THE JUNCTION BOX:



To remove the Terminal Cover, remove the screw that holds the Cover to the Terminal Box.

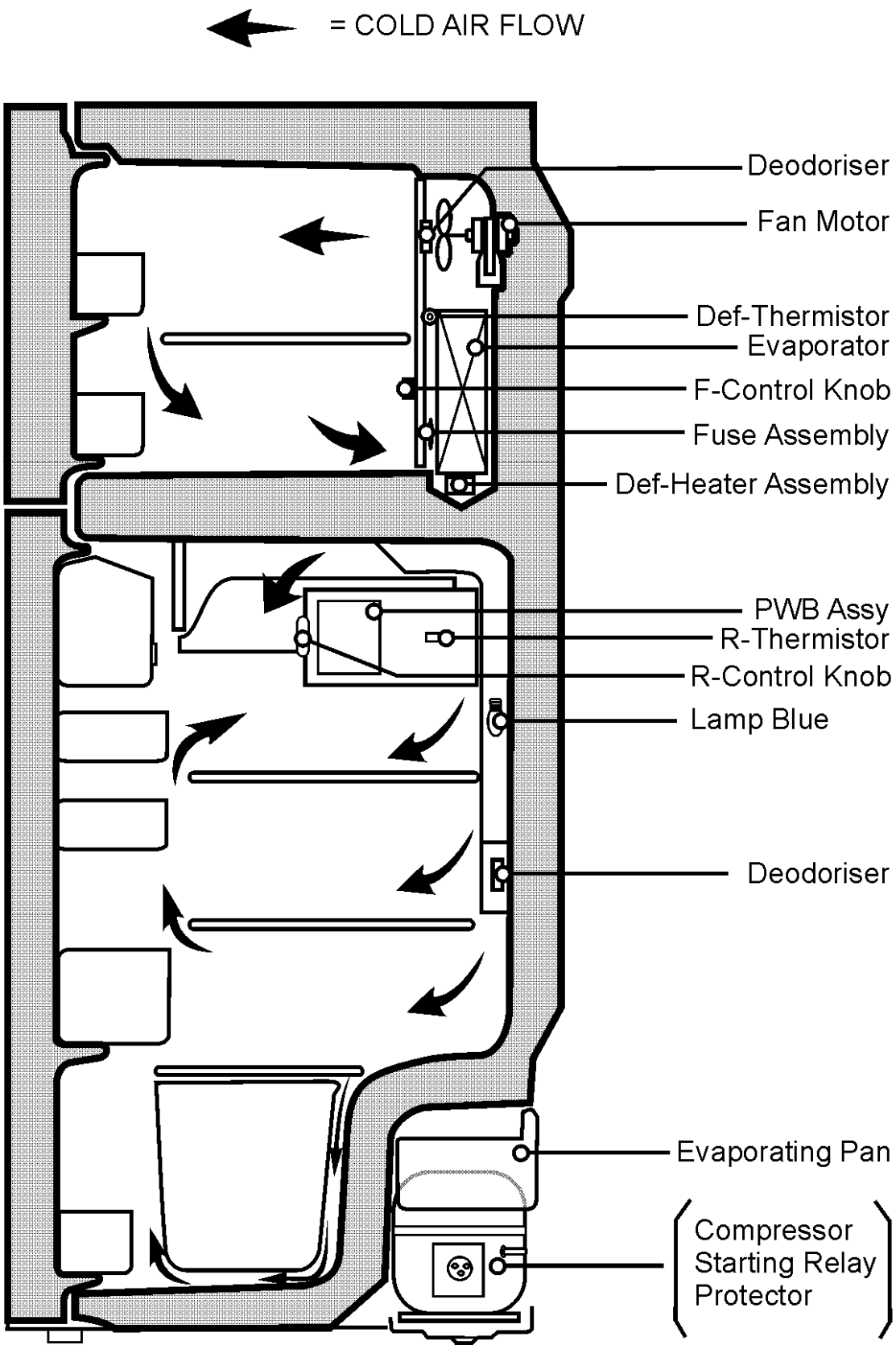
Use a flat blade screwdriver to lever out the left side of the Terminal box.
Lift the left side of the Terminal cover, then pull to the left to release the tabs inserted in to the right side of the Terminal Box.





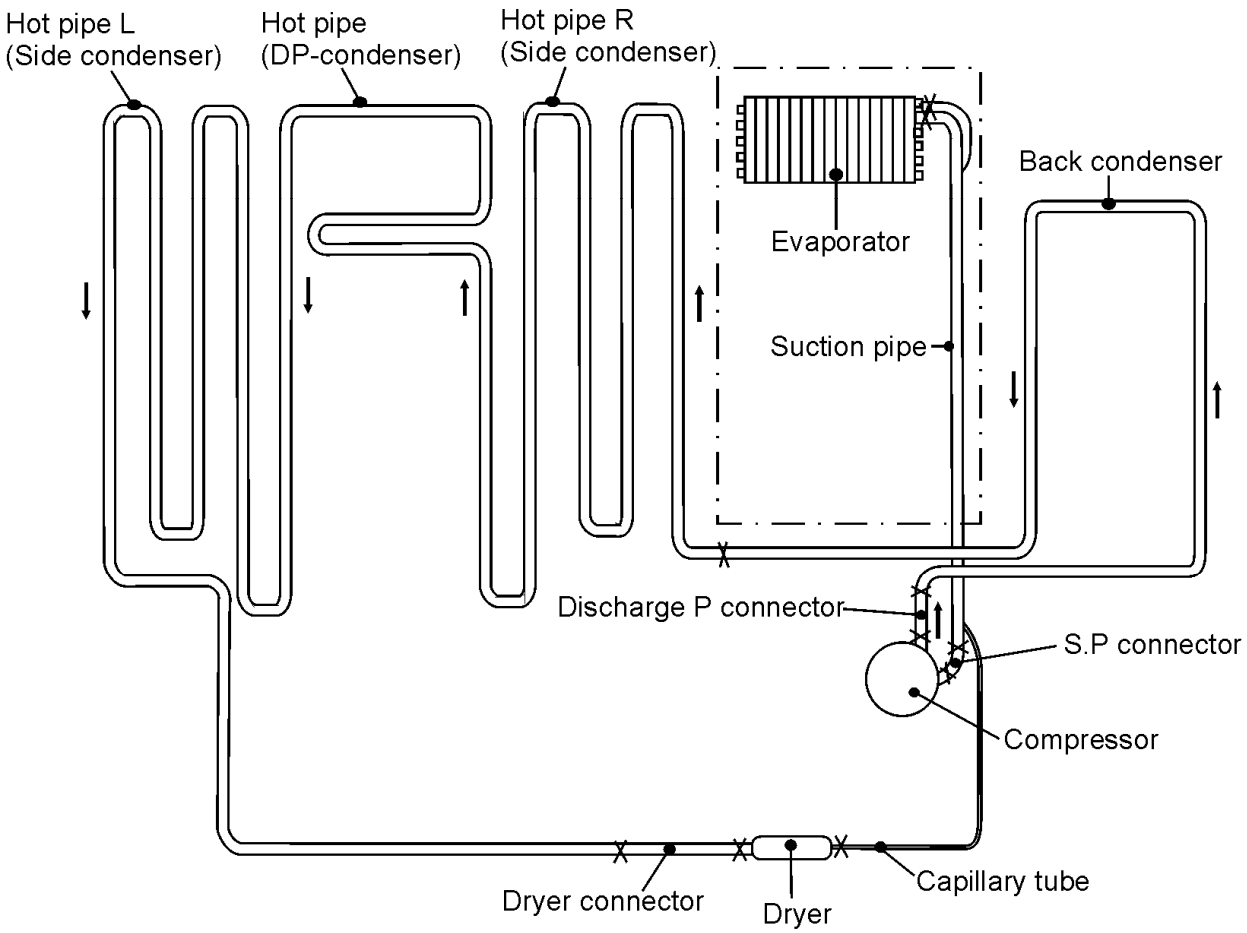
LEFT: Exploded view of Terminal Box assembly

AIR FLOW


= COLD AIR FLOW
Deodoriser
Fan Motor
Def-Thermistor
Evaporator
F-Control Knob
Fuse Assembly
Def-Heater Assembly
PWB Assy
R-Thermistor
R-Control Knob
Lamp Blue
Deodoriser
Evaporating Pan
Compressor
Starting Relay
Protector

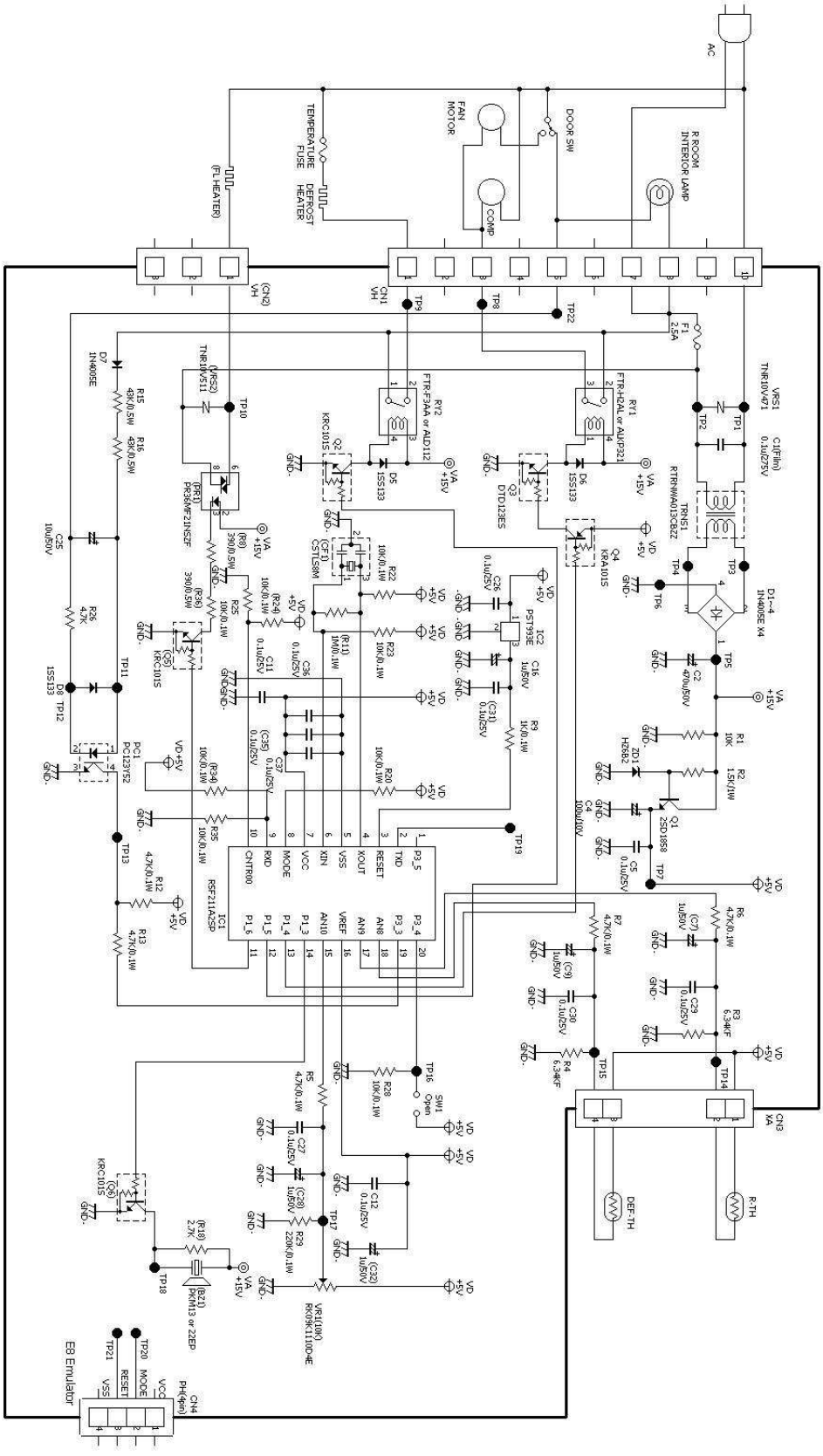
REFRIGERATION DIAGRAM

= Refrigerant flow



MODELS: **STB2300WA-XAU**
STB2800WA-XAU

CIRCUIT DIAGRAM
PWB



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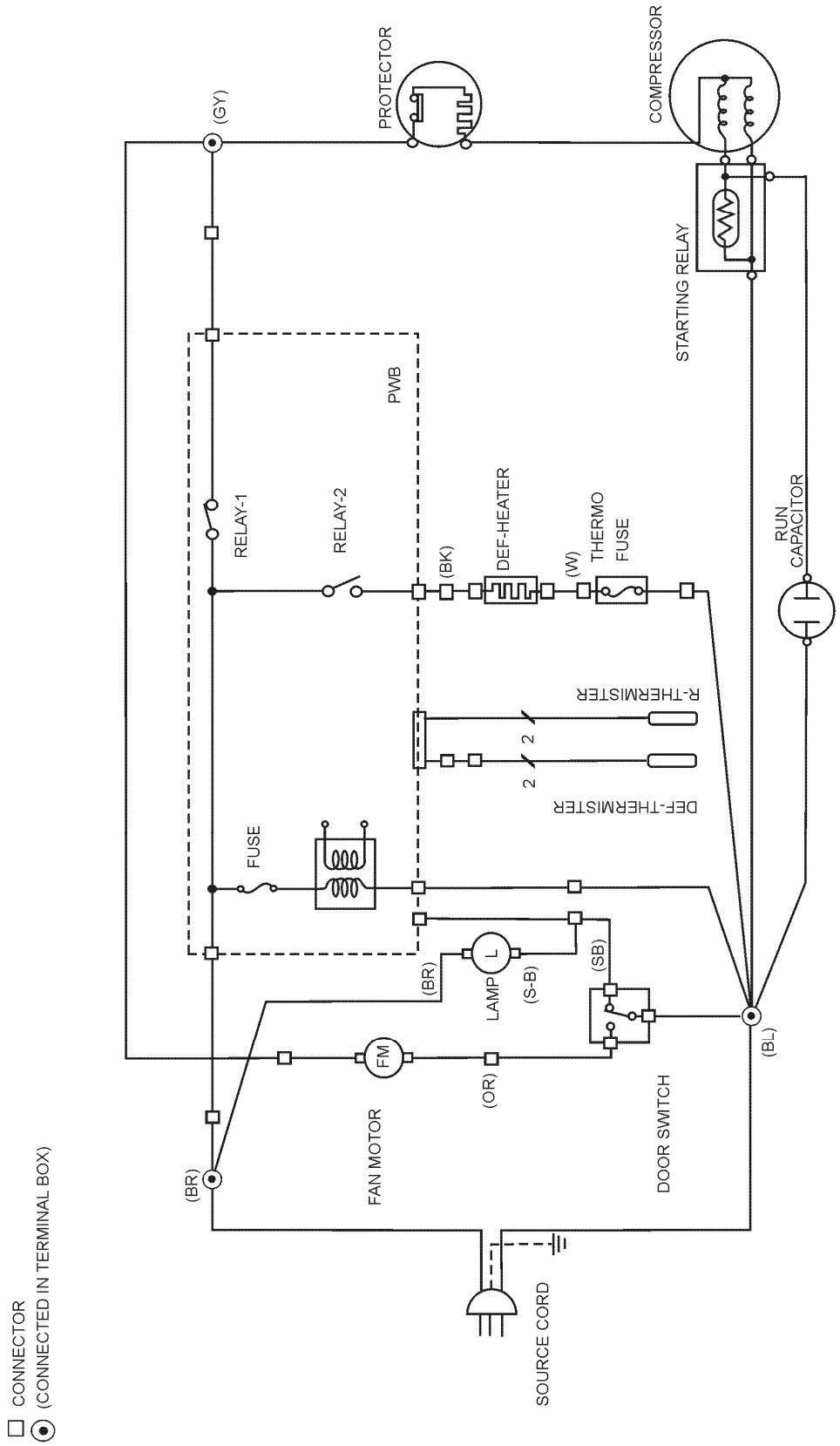
MODELS: **STB2300WA-XAU**
STB2800WA-XAU

CIRCUIT DIAGRAM
R937-E



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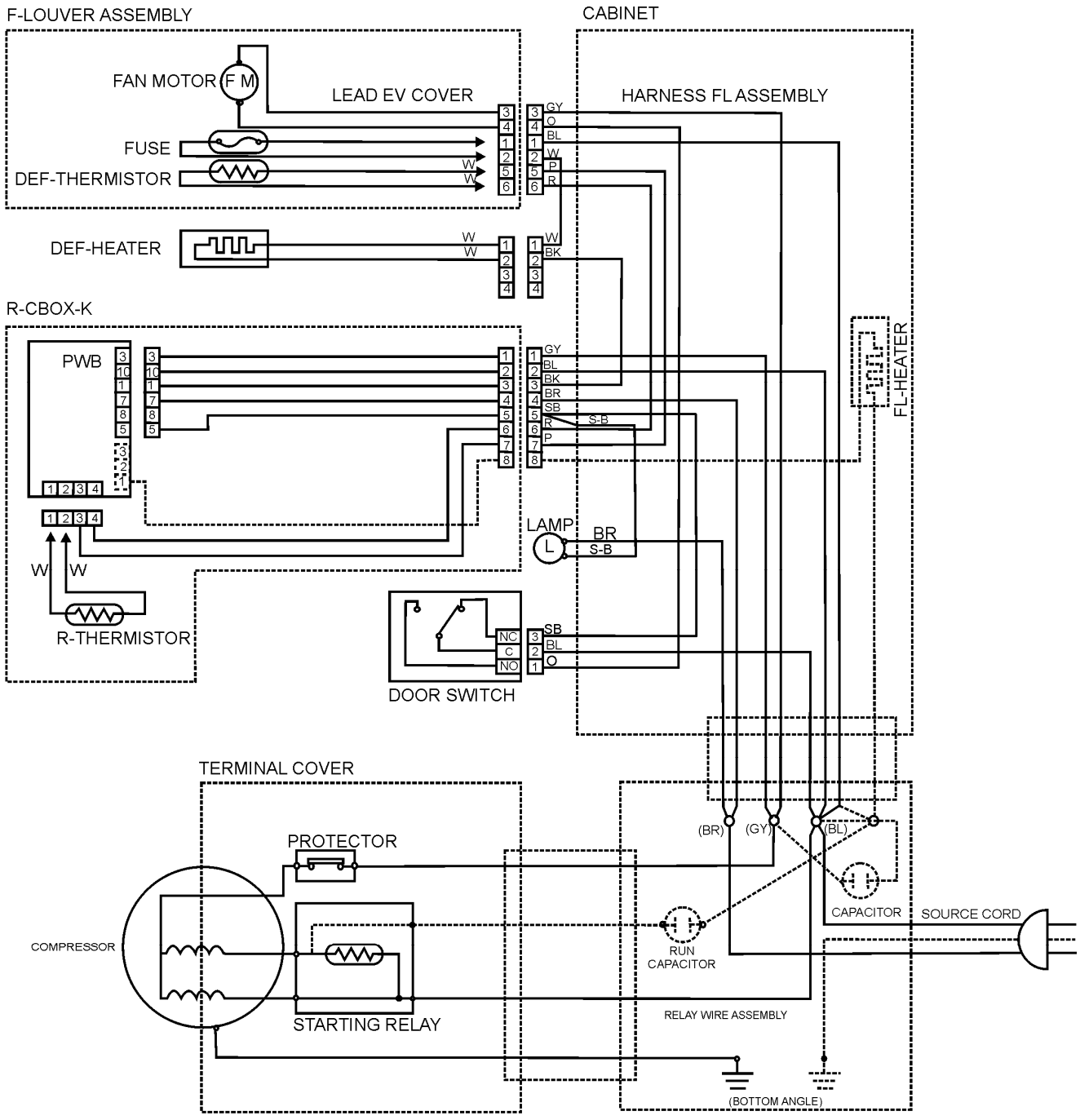
MODELS: **STB2300WA-XAU**
STB2800WA-XAU

WIRING DIAGRAM
R962



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Release Dates:

STB2300WA-XAU	**01/03/2008**
STB2800WA-XAU	**01/10/2007**