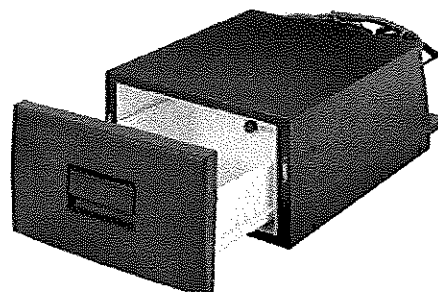
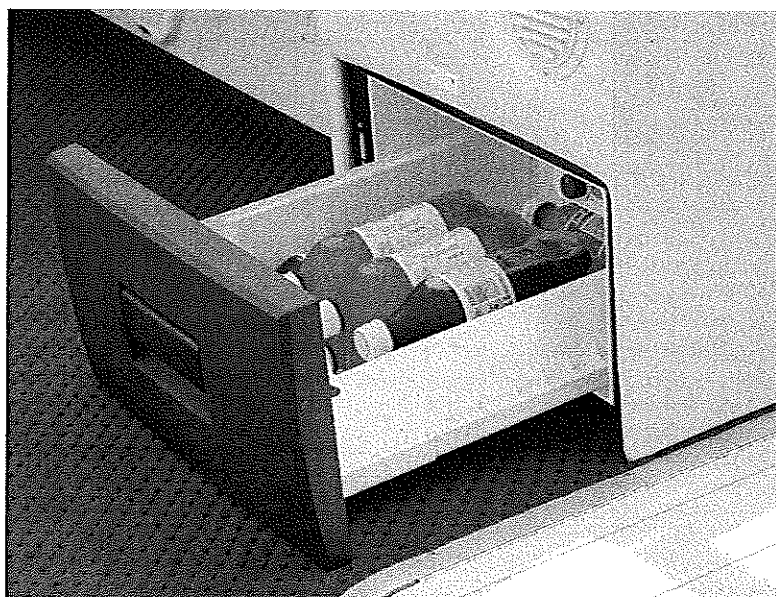


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CD-030DC  
31 Quart Drawer Refrigerator

**The compressor is running but the refrigerator is not cold.**

If the top of the drawer fridge feels hot, the compressor may be out of gas. This unit needs to be returned to WAECO USA's headquarters for repair.

Contact WAECO USA's Technical Assistance Department for complete instructions.

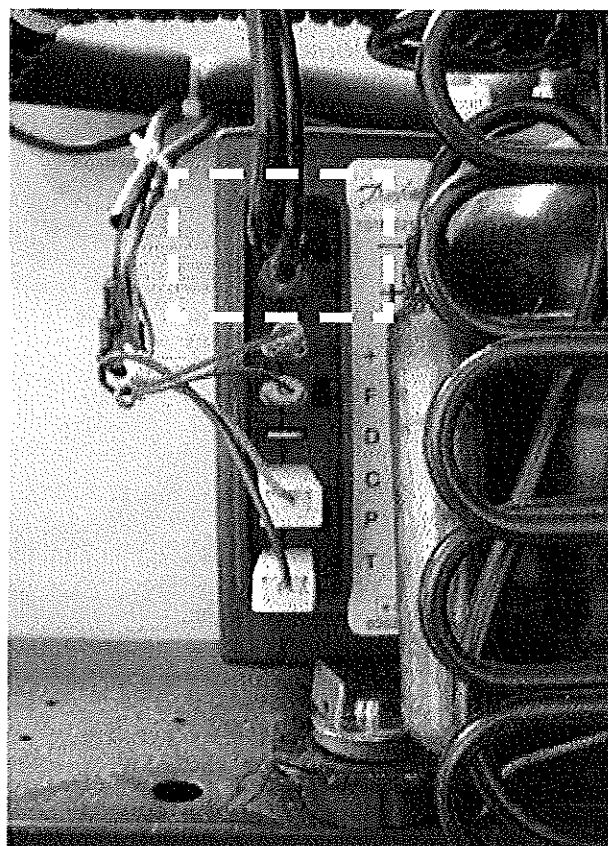
Office hours are Monday thru Friday, 8am—5pm, EST. Tel. (860) 664-4911

**The compressor is running but then shuts off after a limited time.**

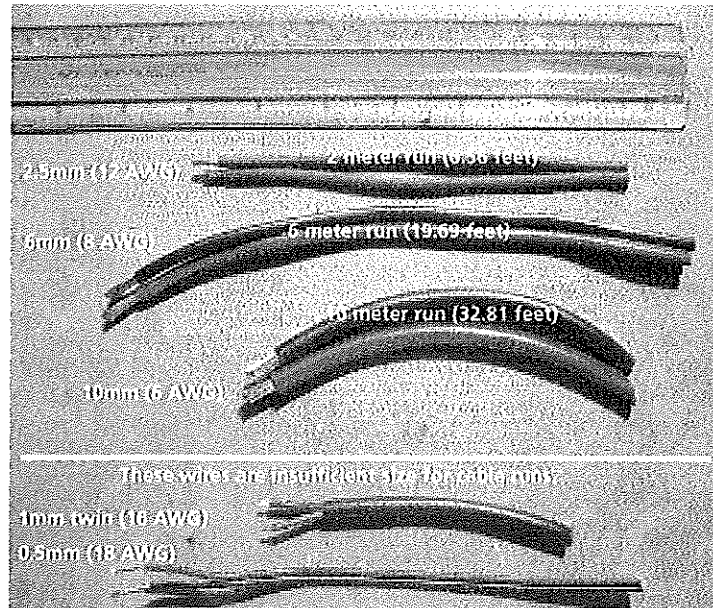
**VOLTAGE:** Check the voltage at the electronic module terminals. The terminals to check are shown outlined in photo. The voltage must be above 10.4V for a 12V supply and 22.8V for a 24V supply.

- ! Voltage measurements at the battery are meaningless.
- ! Any reading is useless unless the fridge is running because a voltage drop cannot be seen without a load. Voltage drops in vehicle wiring creates 90% of our service calls. If a decent car cigarette lighter wiring is installed or a dedicated socket is provided for the fridge you will have many years of trouble-free operation.

(continued)



**CABLE SIZE:** After confirming that the supply voltage is above the cut-off, it is possible the wiring is too thin and is causing a voltage drop. The next step is to review the wire from the batteries to the female cigar plug (see instruction booklet for cable sizes for wiring length). In general, the wiring in a compressor refrigerator is 2.5mm CSA (12AWG) for 2 meters (6.56 feet), 4mm CSA (10AWG) for 4 meters (13.12 feet) and 6mm CSA (8AWG) for 6 meters (19.69 feet). For every meter add an extra millimeter (for example: 10 meter run (32.81 feet) you will a cable with a cross-sectional area of 10mm (6AWG). If the compressor is starting and stopping, it is testing the voltage in the battery. The compressor will continue to operate this way until you switch it off, or the supply correct voltage.



## The compressor is not starting.

After confirming that the wiring is not at fault and there are no loose terminals, disconnect the C and T female terminal from the electronic module (shown with arrows). Then bridge the two male terminals on the electronic module—not the female terminals which you have removed. To bridge the terminal, use a link wire (see figure 1) with 1 female terminal on each end.

If the compressor has started, then the module is not at fault. The thermostat could be faulty and will need to be replaced. The thermostat must be replaced at an authorized WAECO USA repair center. Contact WAECO USA headquarters for a location within your area.

If the compressor does not start but shudders, it appears that the module is at fault and needs to be replaced. Please see your Serving and Repair Guide.

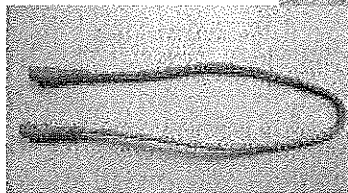
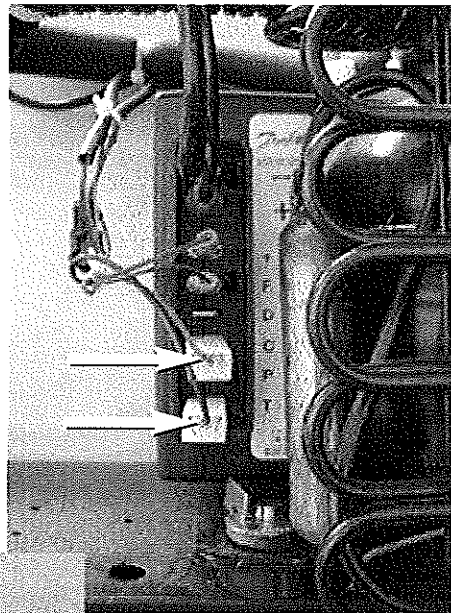
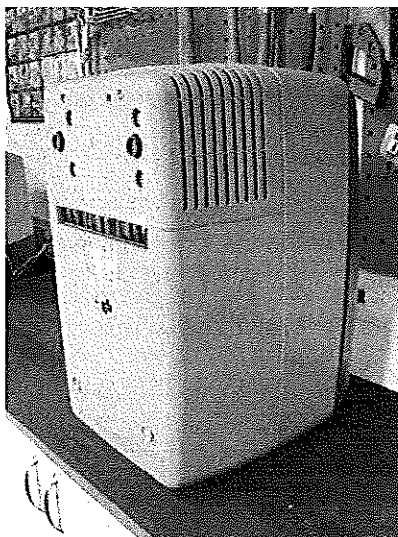


Figure 1

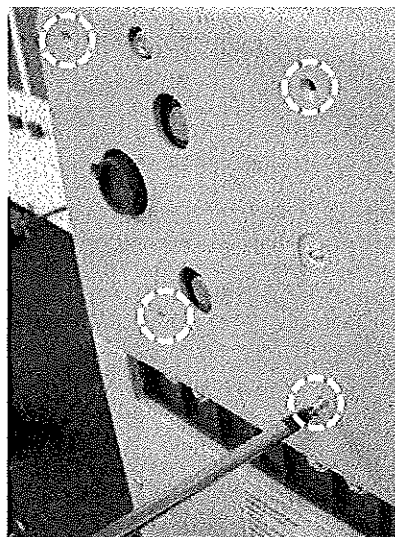


**CDF-040DC**  
39 Quart Portable  
Refrigerator/Freezer

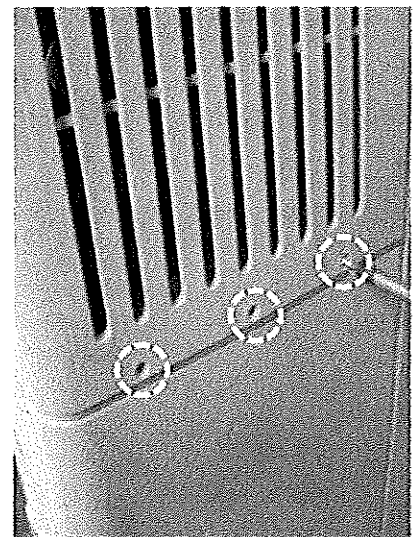
### Disassembly of the CDF-040DC



- 1.** Place the appliance on a countertop as shown.

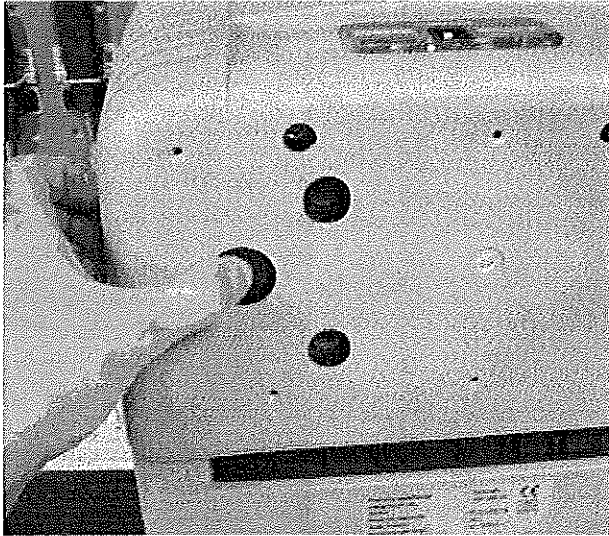


- 2.** Remove the 6 silver screws.  
NOTE: Position of 4 screws shown above, 2 more screws can be found on the underside of the unit.

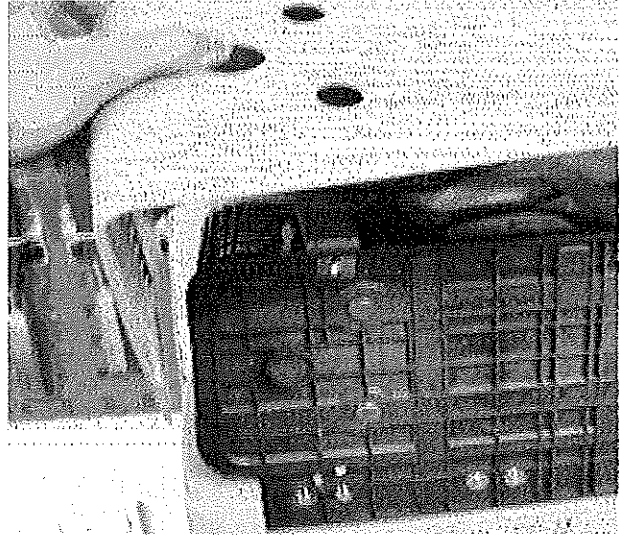


- 3.** Remove the 3 silver screws from each side of the unit.





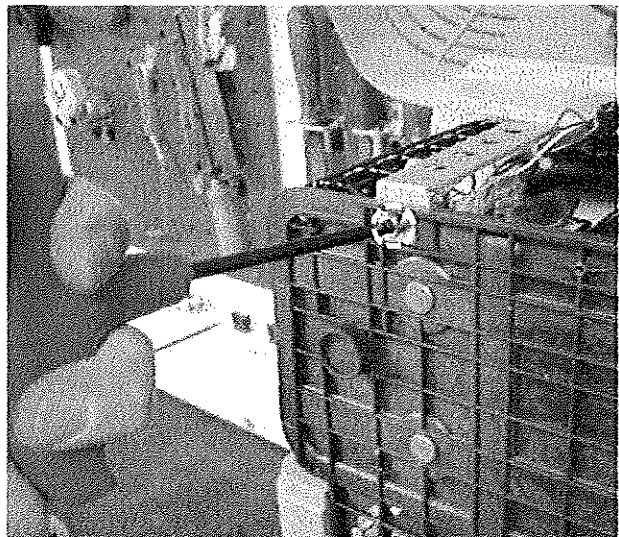
- 4.** To gain access to the compressor area, pull the cover away from the main body of the unit. The cover is still attached with wire so do not pull harshly.



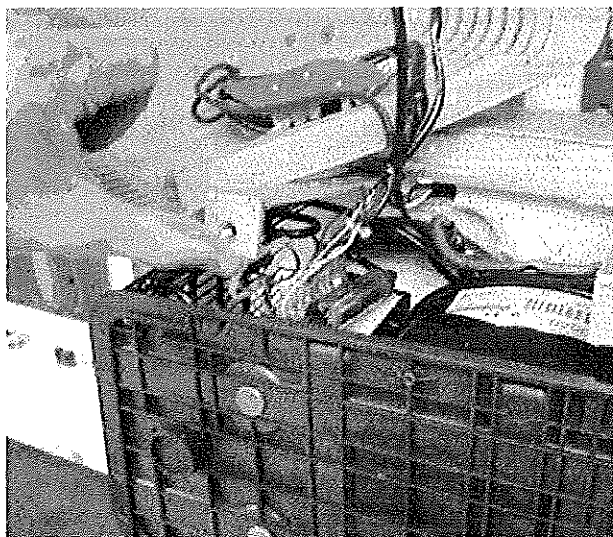
- 5.** Lift up the cover using the hinge.



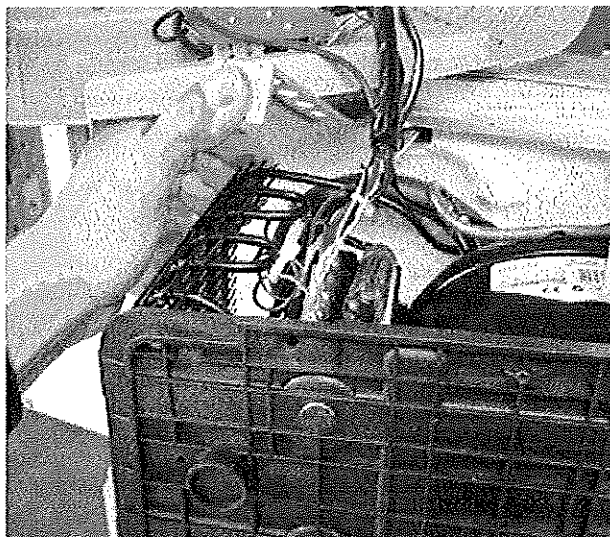
- 6.** Remove the 6 silver screws.



- 7.** Remove the Alan Key bolts. There are 2 total—one on either side.



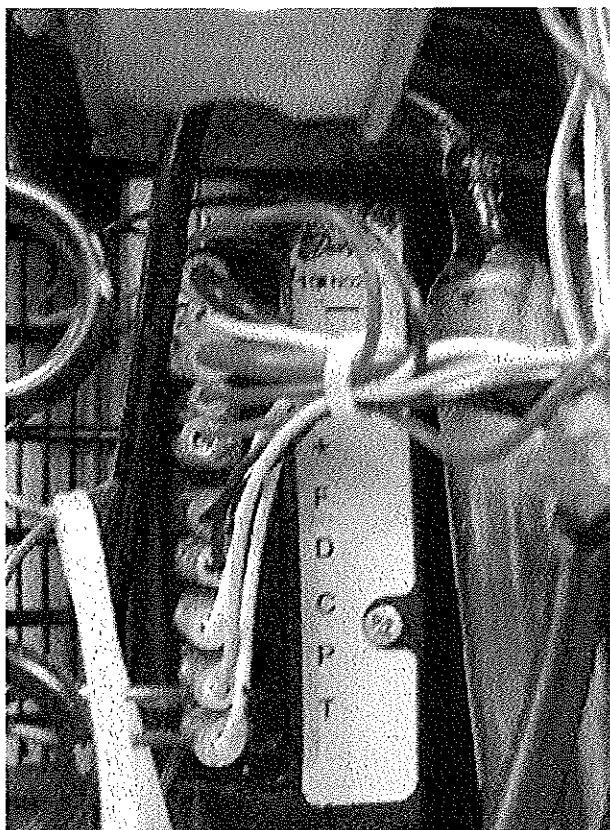
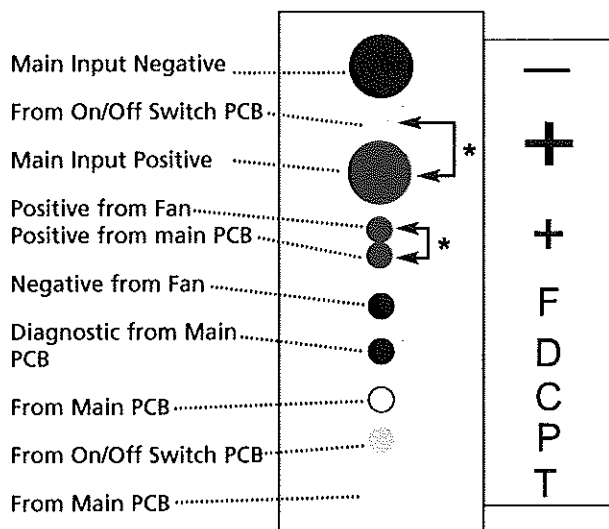
**8.** Raise the left-hand side of the bracket.



**9.** The electronic module is now exposed.

**10.** This photo features the electronic wiring for the CDF-040DC.

### Wiring for the CDF-40 Electronic Module



## Troubleshooting the CDF-040DC

### The compressor is running but the refrigerator is not cold.

If the top of the CDF-040DC feels hot, the compressor may be out of gas. This unit needs to be returned to WAECO USA's headquarters for repair.

Contact WAECO USA's Technical Assistance Department for complete instructions.

Office hours are Monday thru Friday, 8am—5pm, EST. Tel. (860) 664-4911



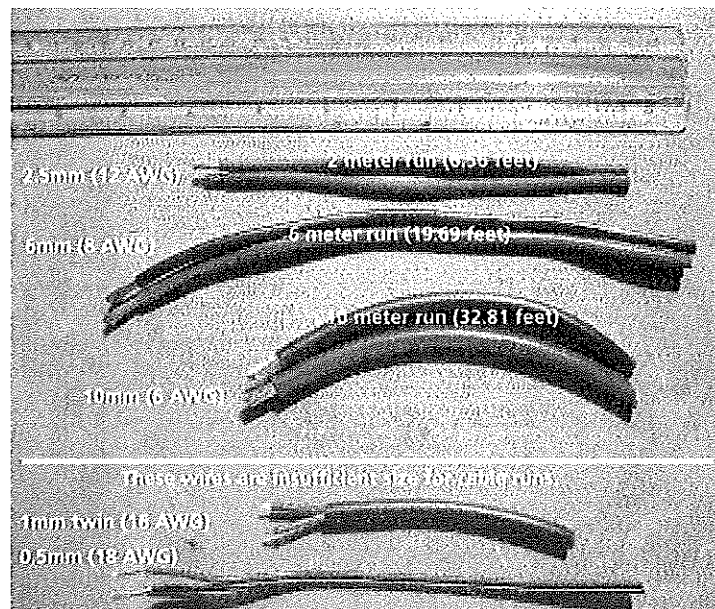
### The compressor is running but then shuts off after a limited time.

**VOLTAGE:** Check the voltage at the electronic module terminals. The terminals to check are shown outlined in photo. The voltage must be above 10.4V for a 12V supply and 22.8V for a 24V supply.

! Voltage measurements at the battery are meaningless.

! Any reading is useless unless the fridge is running because a voltage drop cannot be seen without a load. Voltage drops in vehicle wiring creates 90% of our service calls. If a decent car cigarette lighter wiring is installed or a dedicated socket is provided for the fridge you will have many years of trouble-free operation.

**CABLE SIZE:** After confirming that the supply voltage is above the cut-off, it is possible the wiring is too thin and is causing a voltage drop. The next step is to review the wire from the batteries to the female cigar plug (see instruction booklet for cable sizes for wiring length). In general, the wiring in a compressor refrigerator is 2.5mm CSA (12AWG) for 2 meters (6.56 feet), 4mm CSA (10AWG) for 4 meters (13.12 feet) and 6mm CSA (8AWG) for 6 meters (19.69 feet). For every meter add an extra millimeter (for example: 10 meter run (32.81 feet) you will a cable with a cross-sectional area of 10mm (6AWG). If the compressor is starting and stopping, it is testing the voltage in the battery. The compressor will continue to operate this way until you switch it off, or the supply correct voltage.



### The compressor is not starting but the light is on inside.

Locate the electronic module (see steps 1—10 of the disassembly guide). After confirming that the wiring is not at fault and there are no loose terminals, disconnect the C and T female terminal from the electronic module (shown with arrows). Then bridge the two male terminals on the electronic module—not the female terminals which you have removed. To bridge the terminal, use a link wire (see figure 1) with 1 female terminal on each end.

If the compressor has started, then the module is not a fault. The thermostat could be faulty and will need to be replaced. The thermostat must be replaced at an Authorized WAECO USA Repair Center. Contact WAECO USA headquarters for a location within your area.

If the compressor does not start but shudders, it appears that the module is at fault and needs to be replaced. Please see your Serving and Repair Guide.

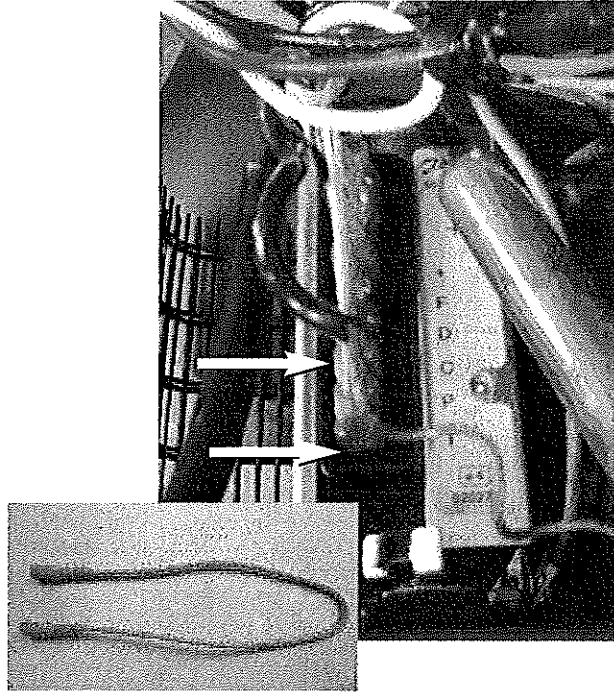
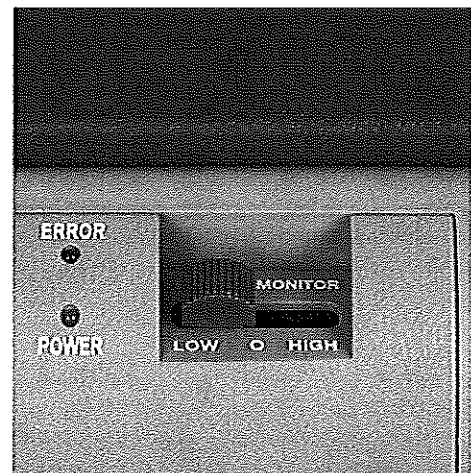


Figure 1

### Using the Low/High Switch

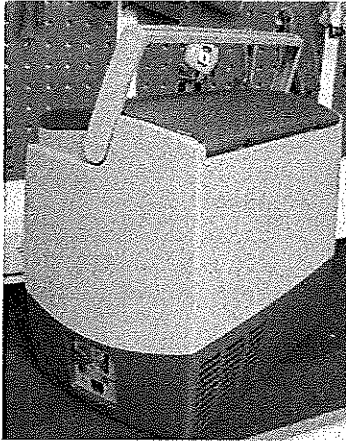
The Low/High slide switch is the low voltage/battery protector. Battery protection is built into most WAECO portable refrigerators/freezers. The unit is not permitted to run lower than 10.4 volts because most common lead acid batteries in cars can be seriously damaged or destroyed by allowing them to become completely flat or completely discharged. In addition, if the supply voltage from the battery becomes too low, electronics and motors tend to overheat. Overheating can occur with all electronics and all motors regardless of the manufacturer.

In most situations, you should operate your CDF-040DC on the LOW setting to allow your battery to run down to 10.4 volts. The CDF-040DC will run for a longer period of time on the LOW setting. On the HIGH setting, the unit will drain your battery to 11.7 volts and then shut off.

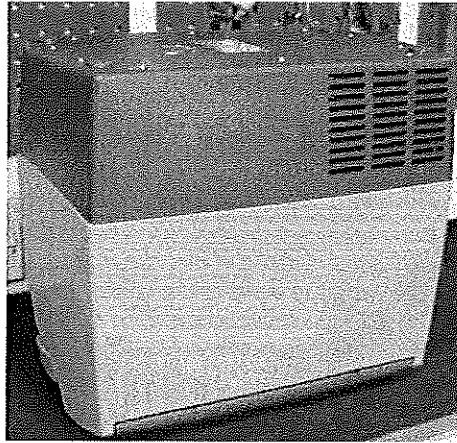




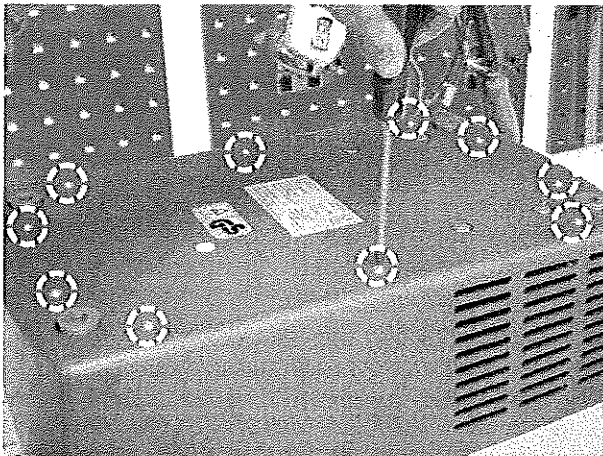
### Disassembly of the CF-018DC



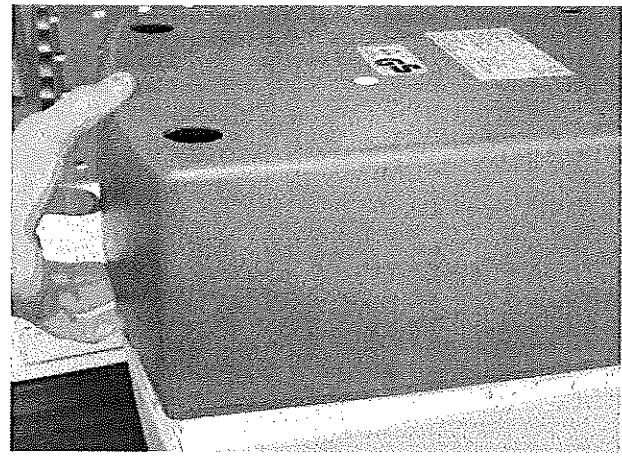
- 1.** Place the CF-018DC on a countertop.



- 2.** Turn the unit upside-down.



- 3.** Unfasten the Phillips head screws.  
10 screws total.



- 4.** Lift cover up and off by gently pulling from the opposite end of where the power-lead inserts.

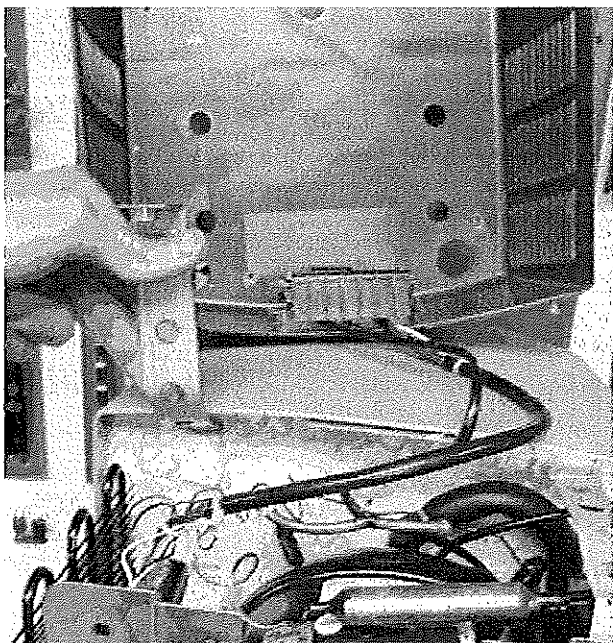




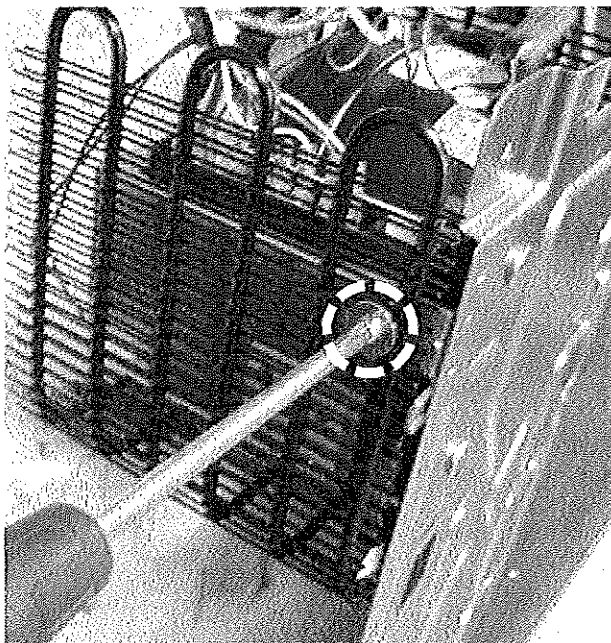
- 5.** Place the unit on its side, with the compressor at the top.



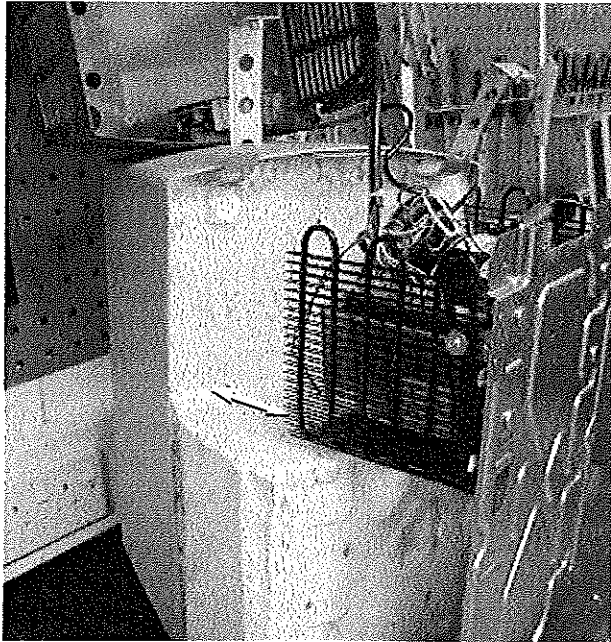
- 6.** Remove the Allen-head screws from each of the four corners on the base-plate.



- 7.** Lift the left-hand side of the bracket up.

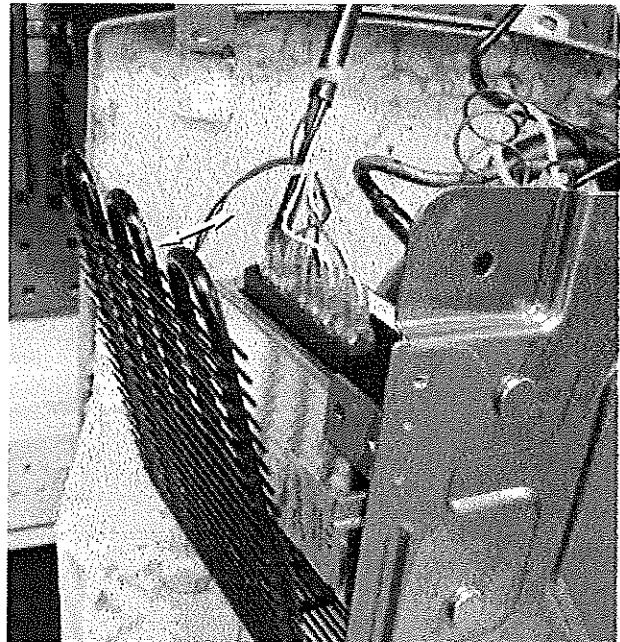


- 8.** Remove the screw from the left-side of the electronic module.



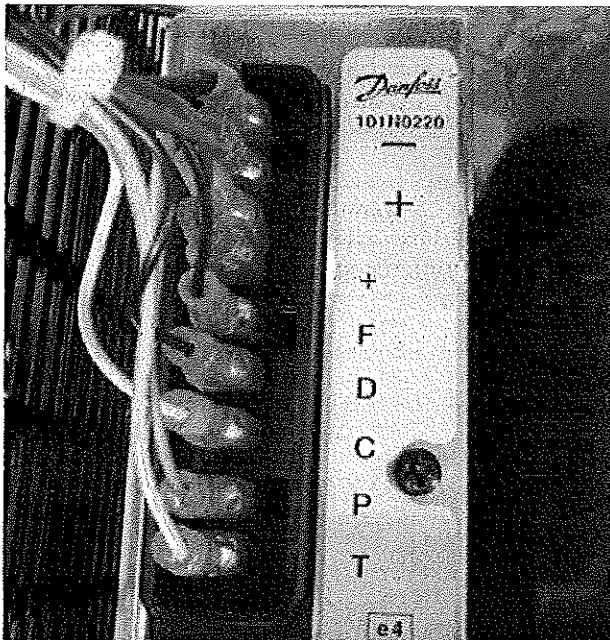
**9.** Pull the compressor and bottom-plate away from the insulation of the main body.

**! NOTE:** Do not pull any further than 3-4". If pulled too far, the copper pipe may be damaged.



**10.** Tilt the black condenser away from the electronic module.

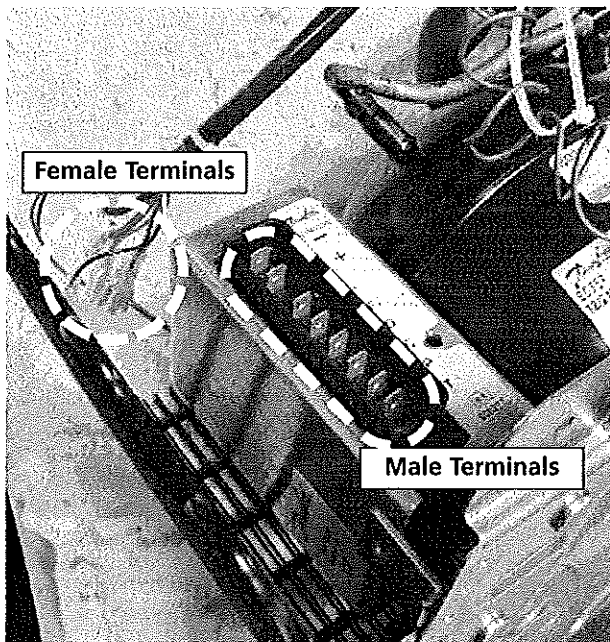
**! NOTE:** Tilt only 2-3" as to not damage the condenser.



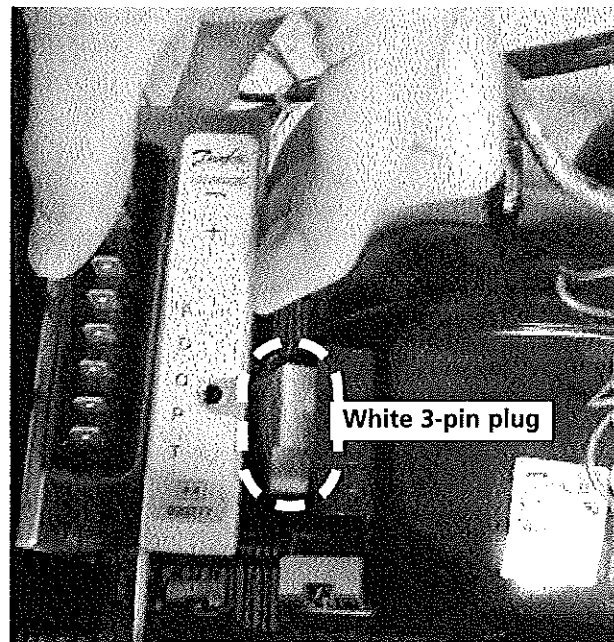
**11.** Locate the electronic module. It is located on the side of the compressor.



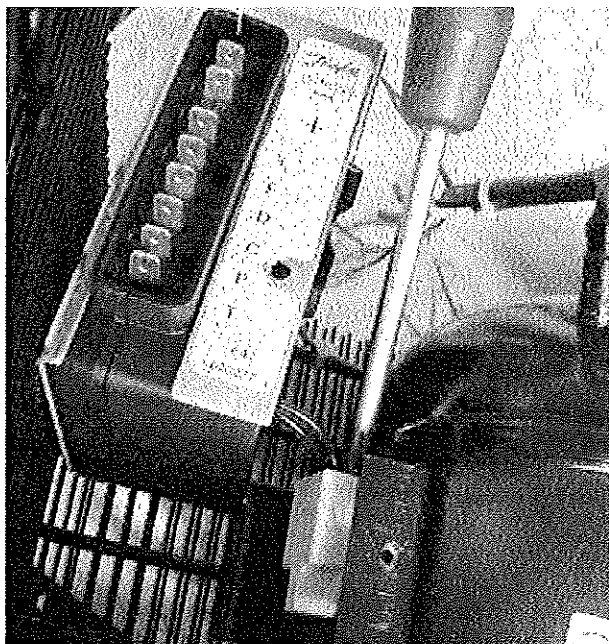
**12.** Locate the center screw (screw may be Black, Silver or Gold). This screw holds the module to the compressor housing. Remove screw.



- 13.** Remove all **Female Terminals** from the electronic module's male terminals.

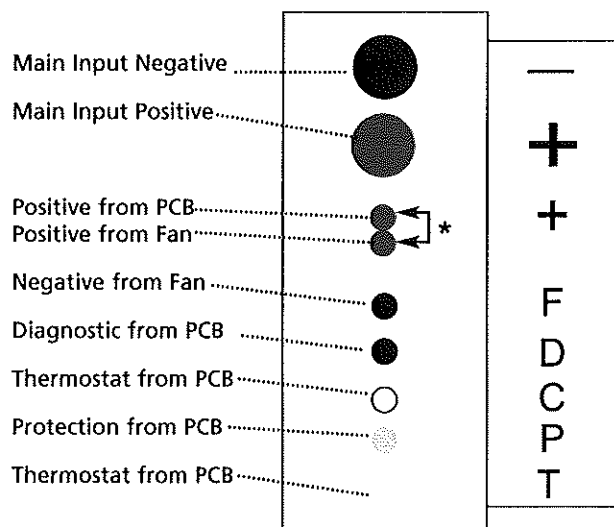


- 14.** Lift the module away from the compressor. Now exposed is the White (or may be Black) 3-pin plug. It is located on the side of the compressor.



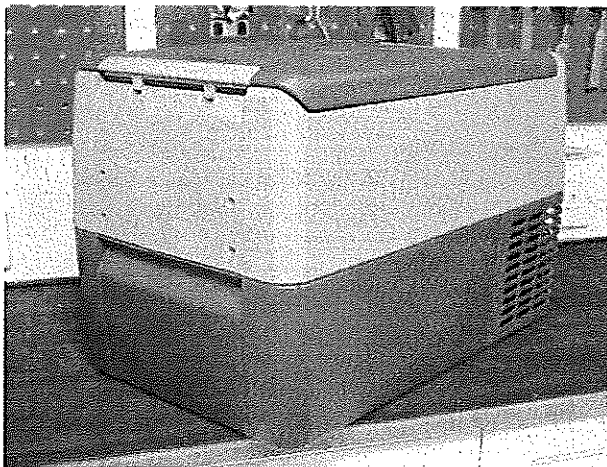
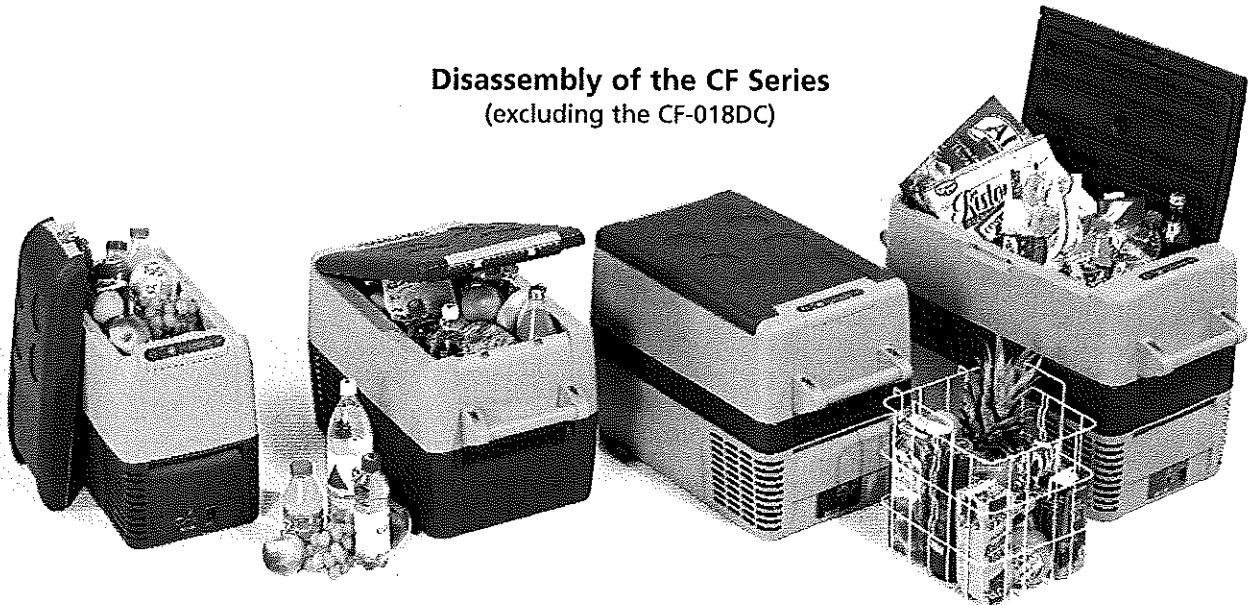
- 15.** Push a screwdriver under the White 3-pin plug. Lift the plug away from the compressor. Now the 3-pins of the compressor are exposed.

### Wiring for the CF-18 Electronic Module

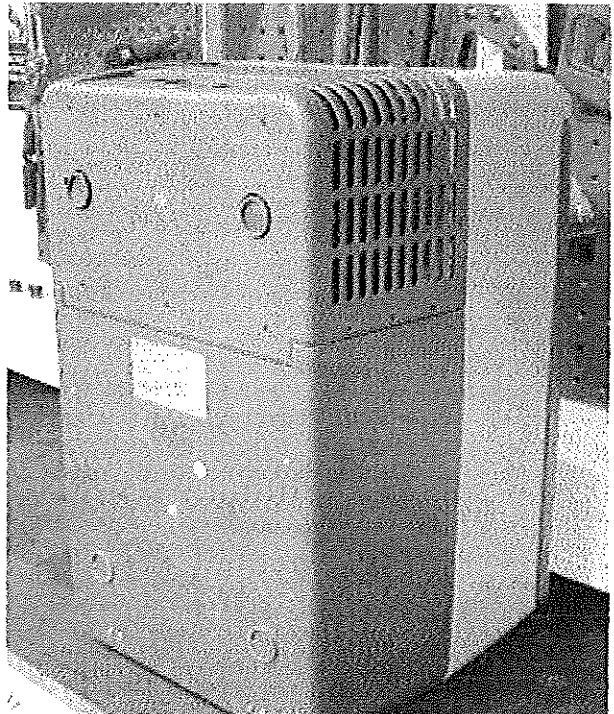




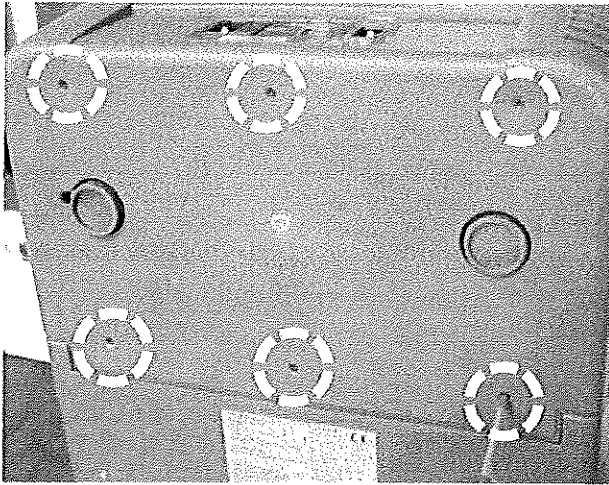
### Disassembly of the CF Series (excluding the CF-018DC)



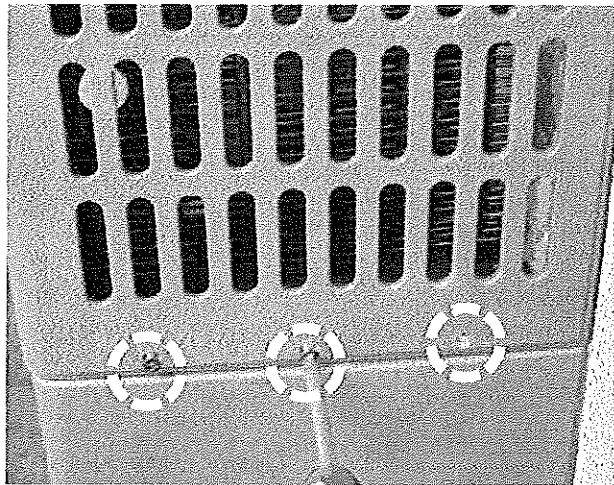
1. Place CF unit on a countertop.



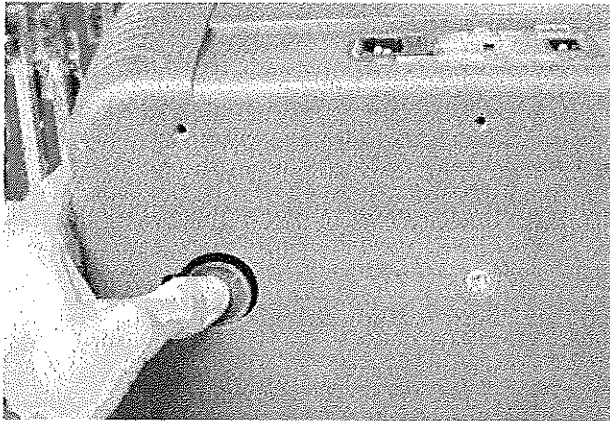
2. Place unit on its side with the vents at top.



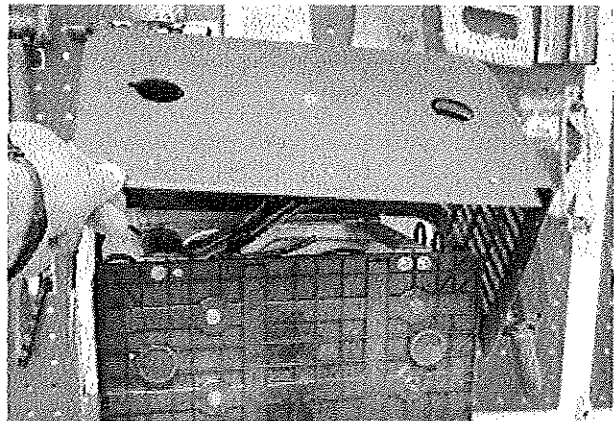
**3.** Remove the six black screws from the base of the CF unit.



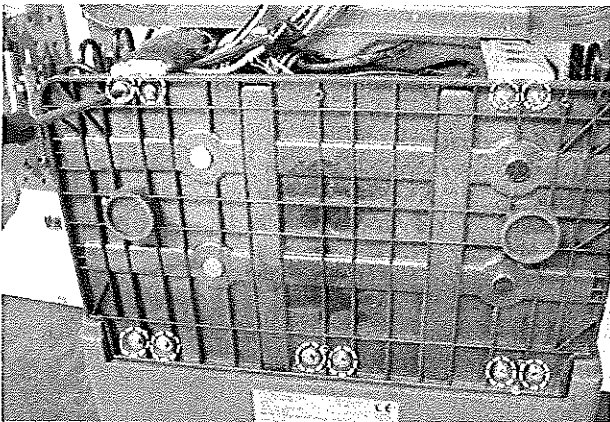
**4.** Remove all screws from each side of the unit. There are 3 screws on each side.



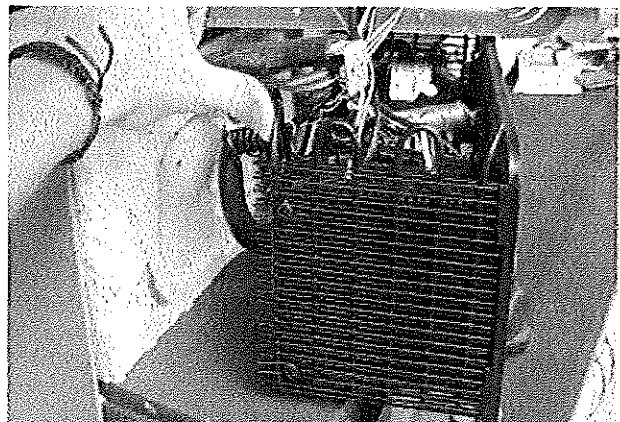
**5.** Lift up cover from unit.



**6.** Lift cover by back hinge. Cover will sit on top.

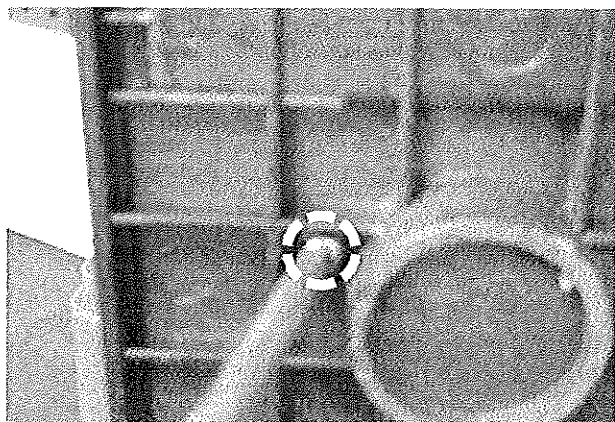


**7.** Remove all 10 screws from the Black base.

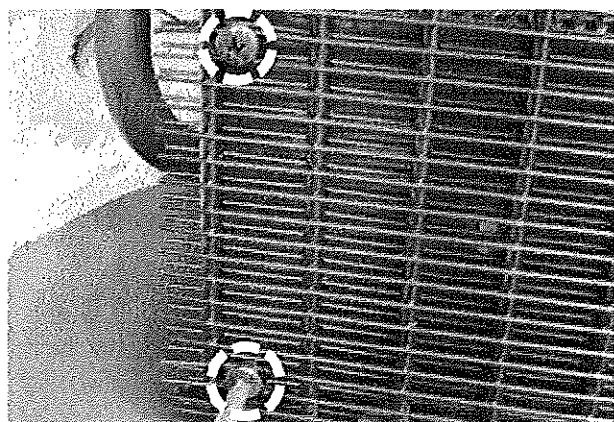


**8.** Push compressor and base-plate away from the unit. **NOTE:** Be sure to not push any further than 3-4", too much distance could damage the refrigeration pipes.

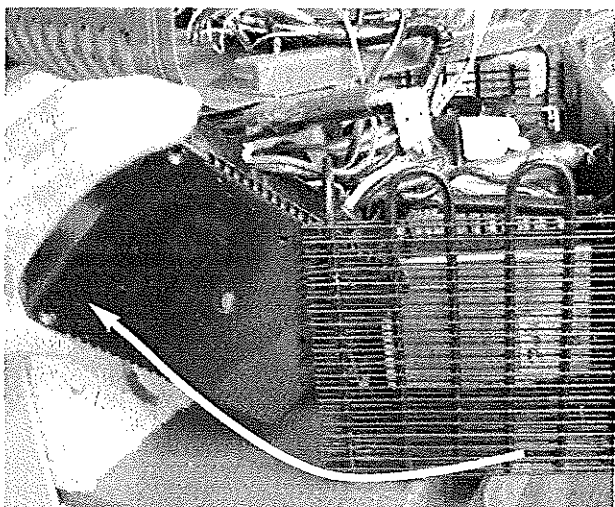




**9.** Remove the small screw located on the left-hand side of the base plate. This screw holds the AC/DC converter to the Black base.



**10.** Locate, then remove 2 screws.



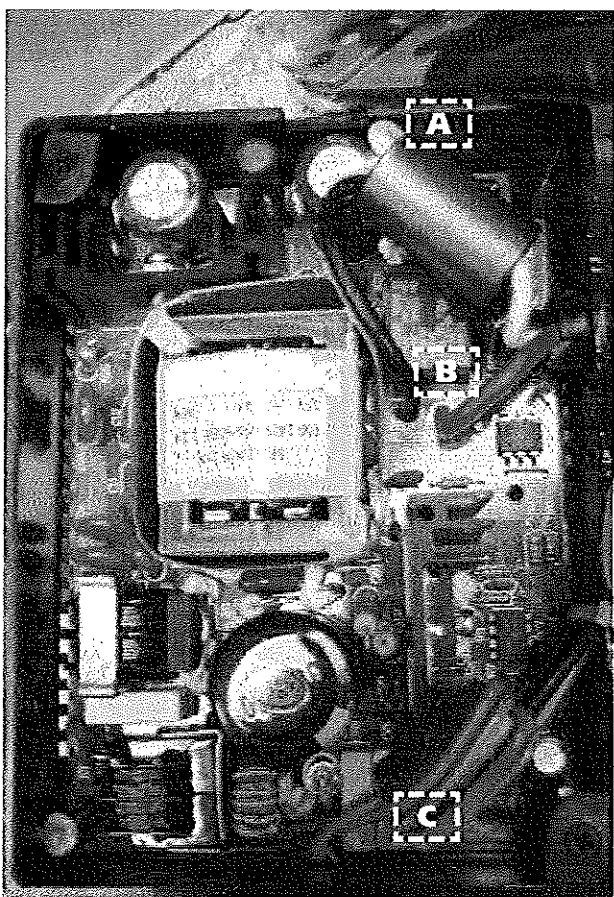
**11.** Pull the AC/DC converter from within the Black condenser.

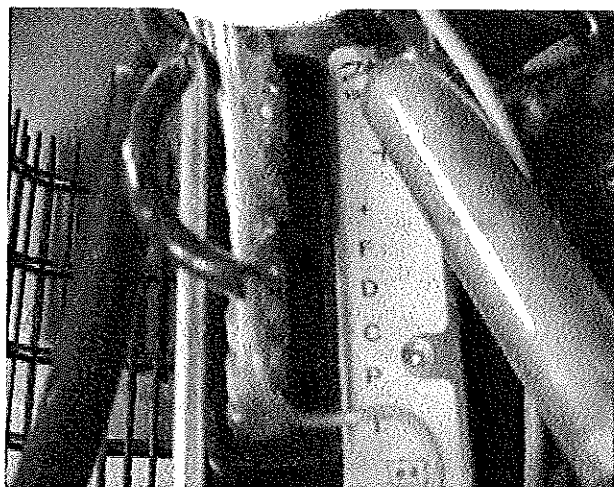
**12.** (photo right) **Identifying Wires**

**A.) White wire** that returns to the electronic module.

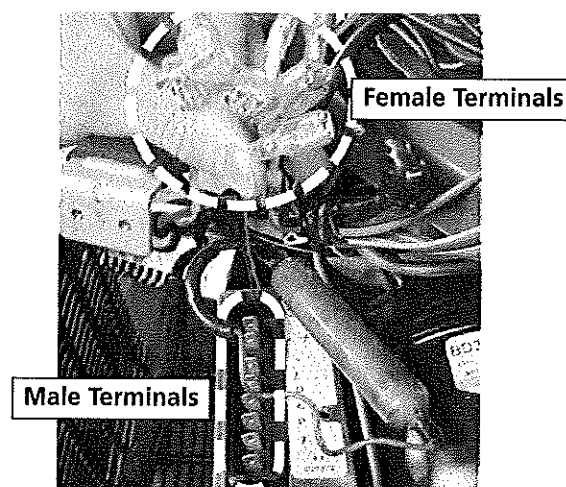
**B.) Output positive wire** that goes to the main PCB.

**C.) Live and neutral wires** coming from the Mains / AC supply socket.

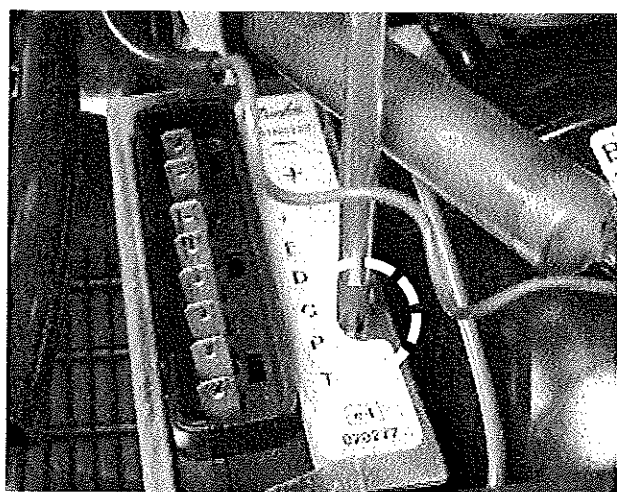




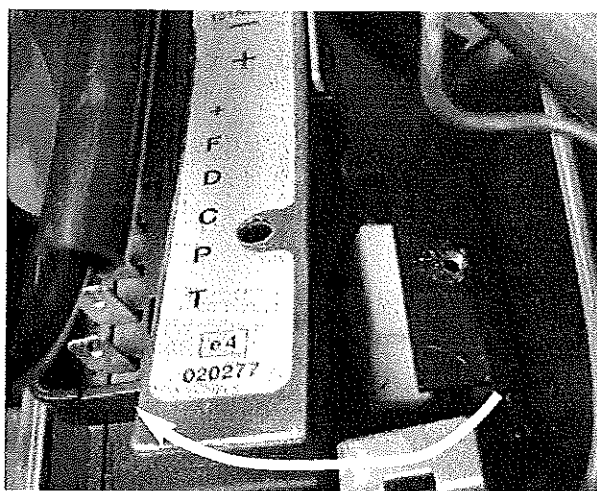
**13.** Locate the electronic module.



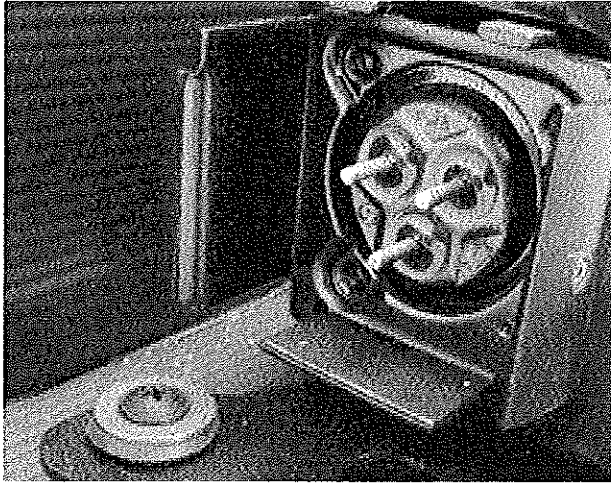
**14.** Remove all Female Terminals from the Male Terminals on the electronic module.



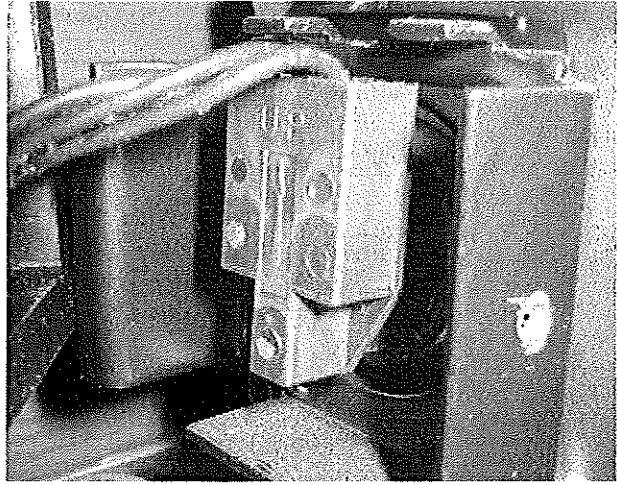
**15.** Remove the screw that holds the electronic module to the body of the compressor.



**16.** Lift the electronic module away from the compressor.

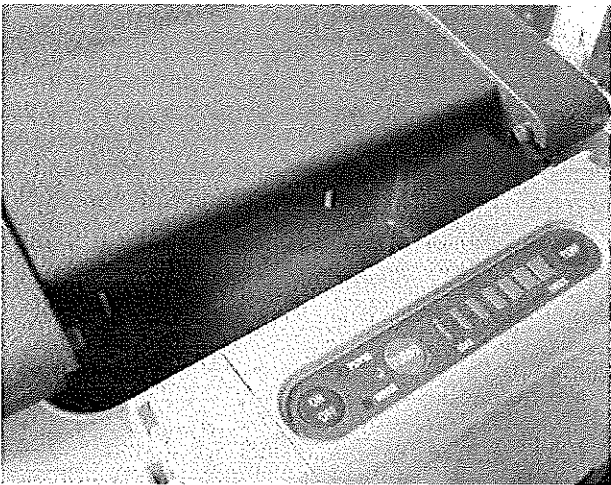


**17.** The 3 pins of the compressor are now exposed.

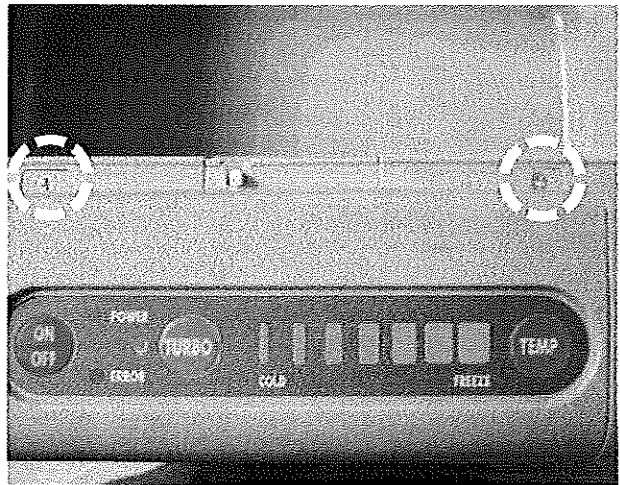


**18.** When replacing the electronic module, be sure it is replaced as shown above.

### Disassembly of the CF Series (excluding the CF-018DC)



**1.** Lift up and remove lid from main body of unit.

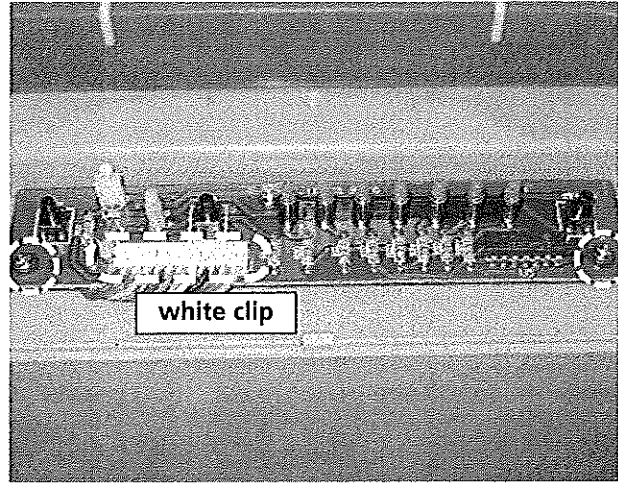


**2.** Once the lid is removed from the body, 2 screws will be visible. Remove these 2 screws.



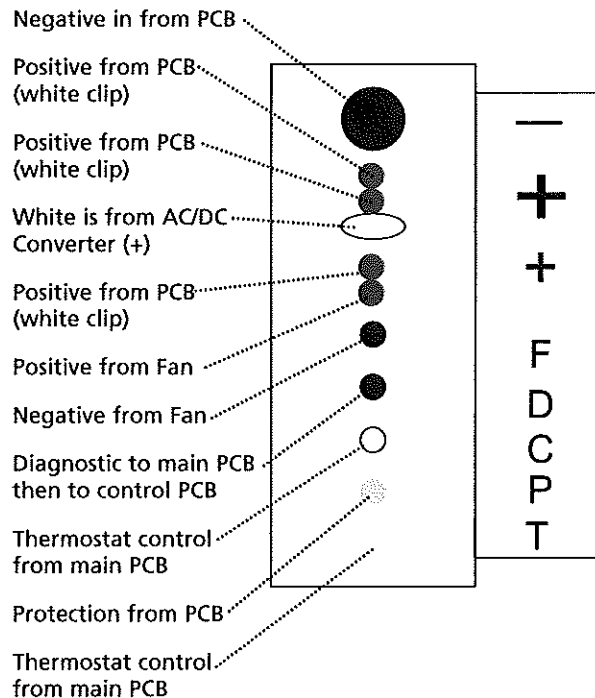
**3. Lift cover off by resting on hinge.**

In some instances, liquids have been spilled onto the membrane buttons. Liquid then covers the PCB and shorts out the main PCB. This occurrence puts the unit into Emergency Mode, causing the unit to freeze with no temperature control. Switching the Emergency switch off and on will not help. You will need to replace the PCB.



**4. Remove the 2 screws. De-solder the white clip and replace with a new PCB.**

**Wiring for the CF Series Electronic Module**





## Troubleshooting the CF Series

### The compressor is running but the refrigerator is not cold.

If the top of your CF Series unit feels hot, the compressor may be out of gas. This unit needs to be returned to WAECO USA's headquarters for repair.

Contact WAECO USA's Technical Assistance Department for complete instructions.

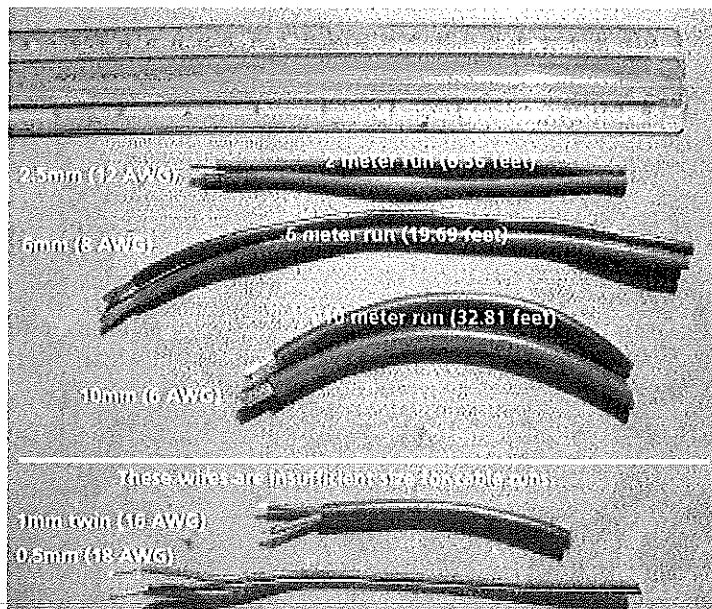
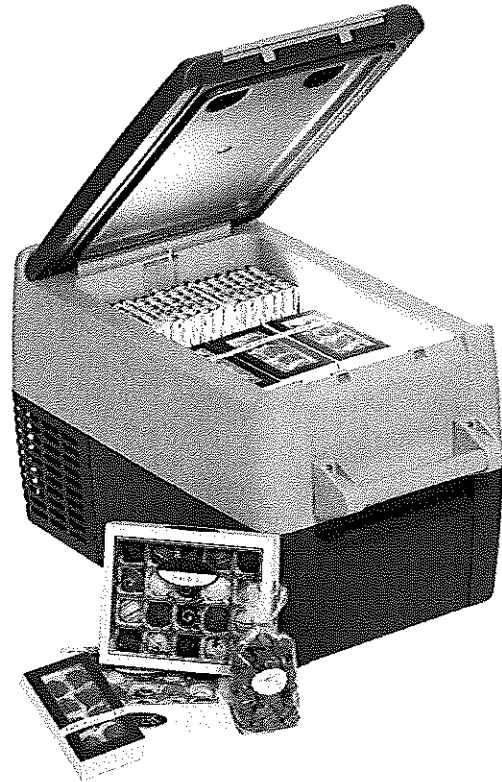
Office hours are Monday thru Friday, 8am—5pm, EST. Tel. (860) 664-4911

### The compressor is running but then shuts off after a limited time.

**VOLTAGE:** Check the voltage at the electronic module terminals. The terminals to check are shown outlined in photo. The voltage must be above 10.4V for a 12V supply and 22.8V for a 24V supply.

- ! Voltage measurements at the battery are meaningless.
- ! Any reading is useless unless the fridge is running because a voltage drop cannot be seen without a load. Voltage drops in vehicle wiring creates 90% of our service calls. If a decent car cigarette lighter wiring is installed or a dedicated socket is provided for the fridge you will have many years of trouble-free operation.

**CABLE SIZE:** After confirming that the supply voltage is above the cut-off, it is possible the wiring is too thin and is causing a voltage drop. The next step is to review the wire from the batteries to the female cigar plug (see instruction booklet for cable sizes for wiring length). In general, the wiring in a compressor refrigerator is 2.5mm CSA (12AWG) for 2 meters (6.56 feet), 4mm CSA (10AWG) for 4 meters (13.12 feet) and 6mm CSA (8AWG) for 6 meters (19.69 feet). For every meter add an extra millimeter (for example: 10 meter run (32.81 feet) you will a cable with a cross-sectional area of 10mm (6AWG). If the compressor is starting and stopping, it is testing the voltage in the battery. The compressor will continue to operate this way until you switch it off, or the supply correct voltage.





### The compressor is not starting but the light is on inside.

Locate the electronic module (see steps 1—10 of the disassembly guide). After confirming that the wiring is not at fault and there are no loose terminals, disconnect the C and T female terminal from the electronic module (shown with arrows). Then bridge the two male terminals on the electronic module—not the female terminals which you have removed. To bridge the terminal, use a link wire (see figure 1) with 2 female terminals on each end.

If the compressor has started, then the module is not a fault. The thermostat could be faulty and will need to be replaced. The thermostat must be replaced at an Authorized WAECO USA Repair Center. Contact WAECO USA headquarters for a location within your area.

If the compressor does not start but shudders, it appears that the module is at fault and needs to be replaced. Please see your Serving and Repair Guide

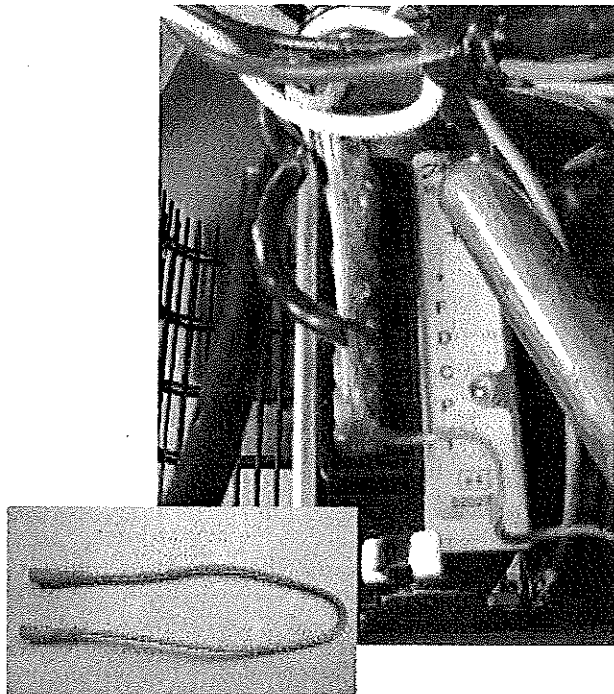


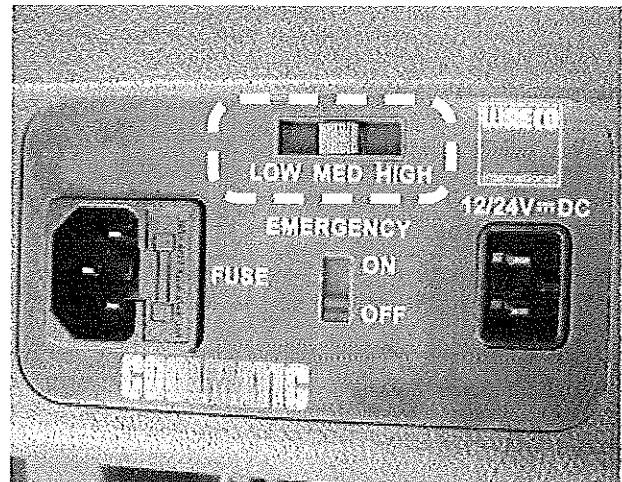
Figure 1

### Using the Low/High Switch

The Low/High switch is the low voltage/battery protector. Battery protection is built into WAECO's CF Series portable refrigerators/freezers.

The unit is not permitted to run lower than 10.4 volts because most common lead acid batteries in cars can be seriously damaged or destroyed by allowing them to become completely flat or completely discharged. In addition, if the supply voltage from the battery becomes too low, electronics and motors tend to overheat. Overheating can occur with all electronics and all motors regardless of the manufacturer.

In most situations, you should operate your CF Series unit on the LOW setting to allow your battery to run down to 10.4 volts. The CF Series unit will run for a longer period of time on the LOW setting. On the HIGH setting, the unit will drain your battery to 11.7 volts and then shut off.



## Using the Emergency Switch

The emergency switch on the CF Series unit is a safety device that is unique to WAECO portable refrigerators/freezers. This feature allows the unit to operate if the electronics fail for any reason.

For normal operation, the emergency switch should always be in the OFF position. When the switch is in the ON position, it will bypass all the electronics and the compressor will continuously run, therefore, freezing all its contents.

You can modify the temperature by periodically unplugging the fridge.



## Identifying the Flashes on the Error Light

WAECO USA has detailed the Danfoss compressor quick guide below. The number of flashes depends on what type of operational error was recorded. After the actual number of flashes, there will be a delay with no flashes. Once you have counted the red flashes, use the guide below to diagnosis the problem.

**One Flash** may be caused by:

Insufficient cable size

Too many connections

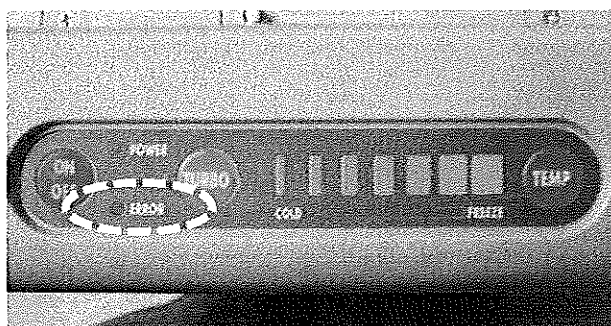
Poor connections

Unit is not receiving direct circuit from battery

**Battery protection cut-out:** If the light on your CF Series unit flashes once every 5 seconds, it is indicating that you have a voltage drop problem. One reason is that the wiring in your car may be inadequate to carry the needed amount of volts to the unit. To test, plug the unit into a suitable AC adapter. If the fridge operates properly, you can eliminate the problem with the CF Series unit. Next check the car wiring configuration or plug connections.

WAECO USA recommends car, rv, truck wiring to be a minimum of 6-8mm cross section wire for up to 4 meters. Above this length, the wiring would need an extra millimeter for every meter.

If the unit does not work on the proper WAECO USA AC adapter, additional troubleshooting is required. Contact WAECO USA if this occurs.



**Two Flashes** may be caused by:

**Fan over the current cutout:** If the fan circuit in the control module has a load in excess of 0.5 amps, the system will fail.

Fan may be jammed or burnt-out, will need to be replaced.

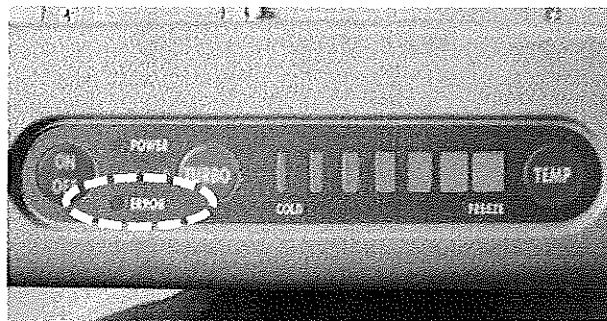
**Three Flashes** may be caused by:

**Motor start error:** If the error light is flashing 3 times every 5 seconds, the motor may be blocked or the differential pressure in the refrigeration system is too high. Turn the unit off at the supply, let rest for 15 minutes to reset the electronic module. After 15 minutes, turn the unit back on. If the unit is still flashing with the same error, it is possible that the electronic module is at fault and will need to be replaced.

## Identifying the Flashes on the Error Light (continued)

### **Four Flashes** may be caused by:

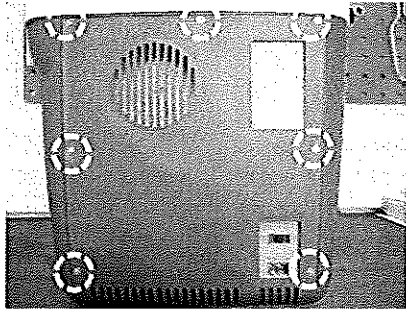
**Minimum Motor Speed:** This failure occurs if the compressor is running slower than 1850 rpm. Please contact WAECO USA's Technical Assistance department, for a location of an Authorized Repair Center. The unit will need to be repaired at one of these locations.



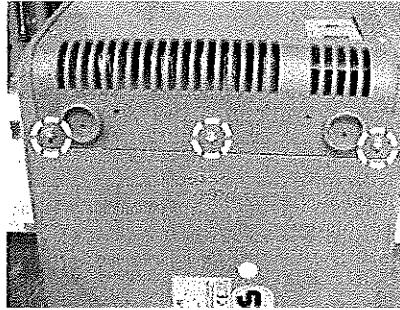
### **Five Flashes** may be caused by:

**Thermal cutout of electronic unit:** If the error light is flashing every 5 seconds, the refrigeration system has been too heavily loaded, or if the surrounding temperature is high—it is forcing the electronics to run too hot. This overheating is typically caused by not allowing enough ventilation around the side vents of the unit.

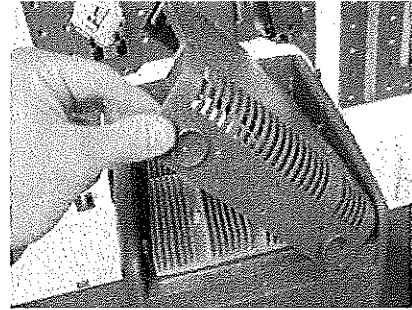
## Disassembly of the CR-20-12



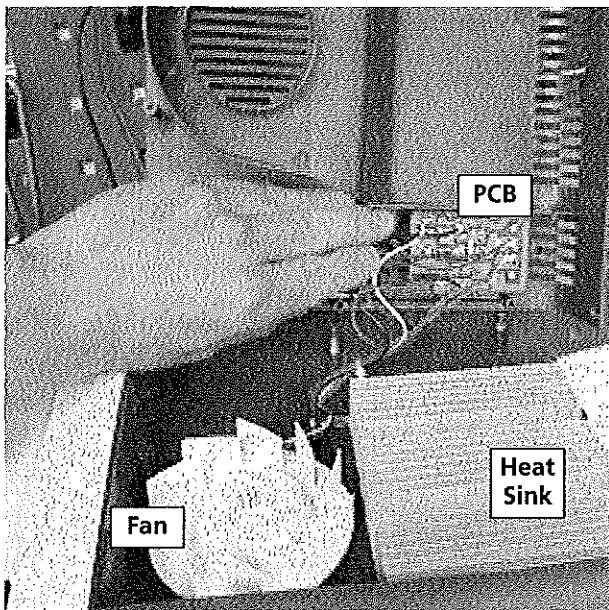
- 1.** Place CR unit on a countertop. Remove 7 silver screws.



- 2.** Rotate unit and place it on its side. Remove 3 silver screws.



- 3.** Lift the fan housing cover away from the unit. The cover will remain connected with wires.



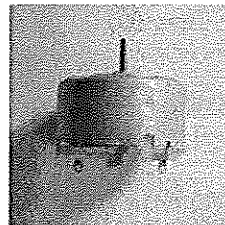
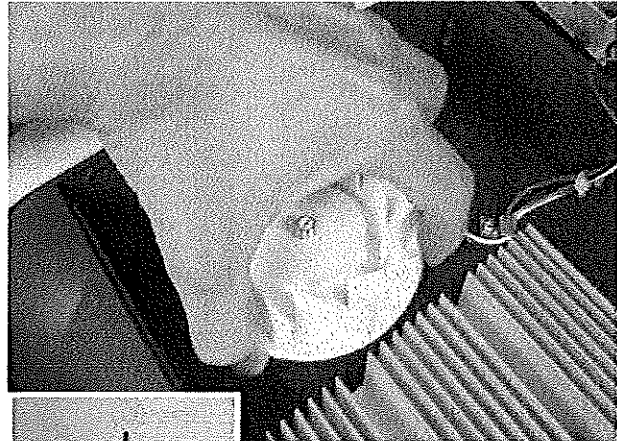
- 4.** Now exposed is the fan, heat sink, and PCB (printed circuit board).



### Removing and replacing a faulty fan in a CR-20-12.

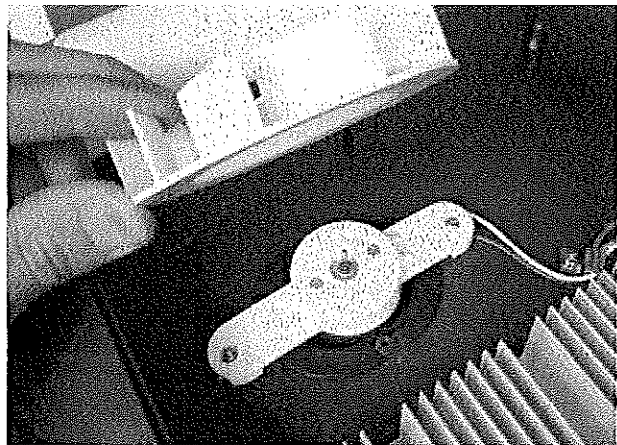
If the fan is not turning all of the time, or only if the fan blades are pushed—the inside motor may have burned-out.

1. To replace or remove the fan, you must first remove the fan blades. To remove fan blades, pull hard on the fan blade base.

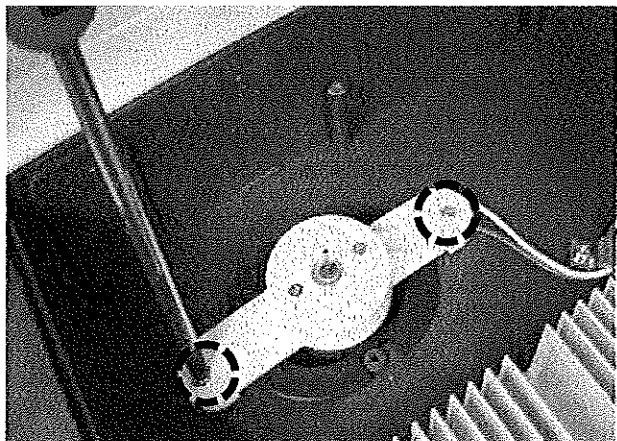


This is the fan of the CR-20-12.

2. Once you have removed the fan blades, you will have access to the fan screws.



3. Remove the 2 outer screws from the white bracket.



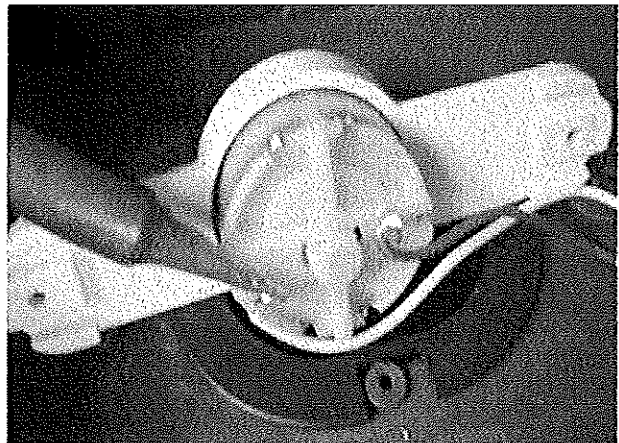


- 4.** Remove the two inside screws. These screws hold the fan motor to the white bracket.



- 5.** De-solder wires from the fan motor terminals and replace faulty motor with a new motor. Then re-solder wires back onto the terminals.

**!** Be sure to place wires in the same initial positioning.

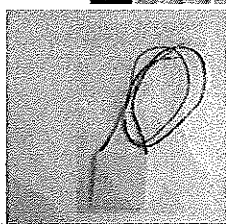
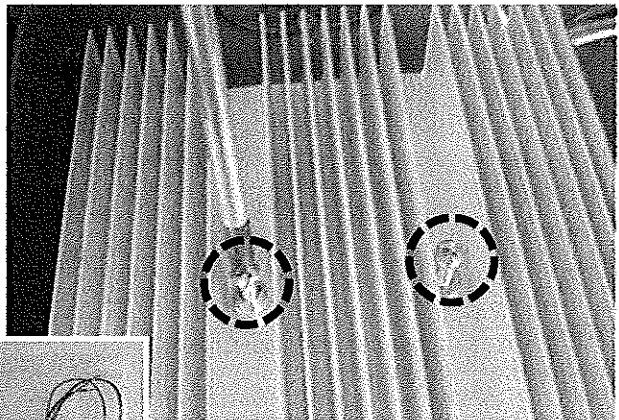


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### Removing and replacing a faulty Peltier in a CR-20-12.

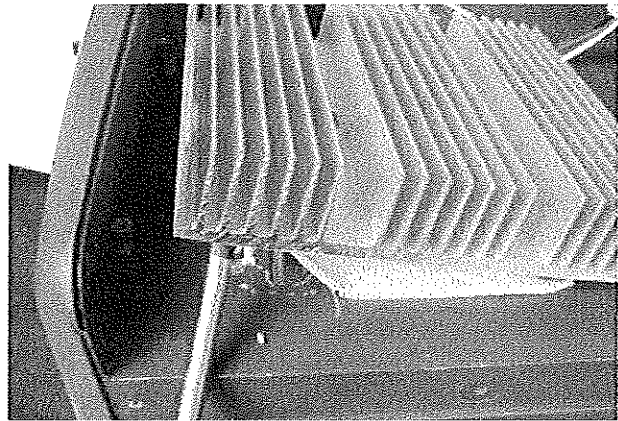
If the unit's fan is turning yet the unit is not cooling inside then the Peltier could be at fault.

- 1.** Remove the 2 silver screws from the heat sink.

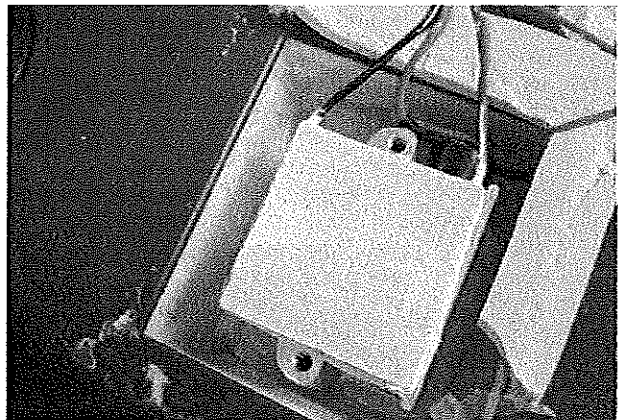


This is the Peltier of the CR-20-12.

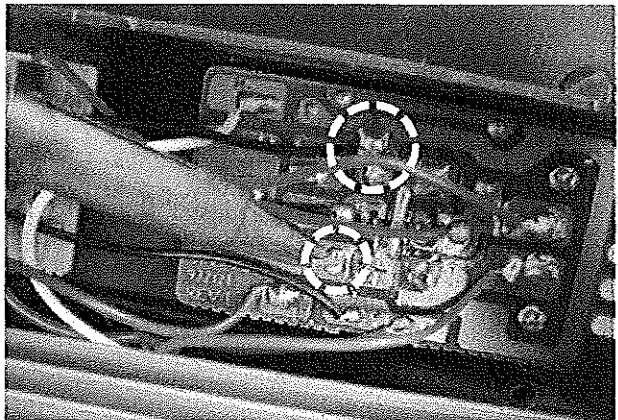
- 2.** Push a screwdriver under the heat sink and prop up. You may find the Peltier is stuck to the heat sink or the metal block.



- 3.** Once the heat sink is raised, the Peltier will be exposed. When replacing the Peltier, cover both sides in a heat sink compound to prevent damage to the Peltier. It is best to test the Peltier before you replace the heat sink, as you will have to find which side gets hot and which side gets cold.

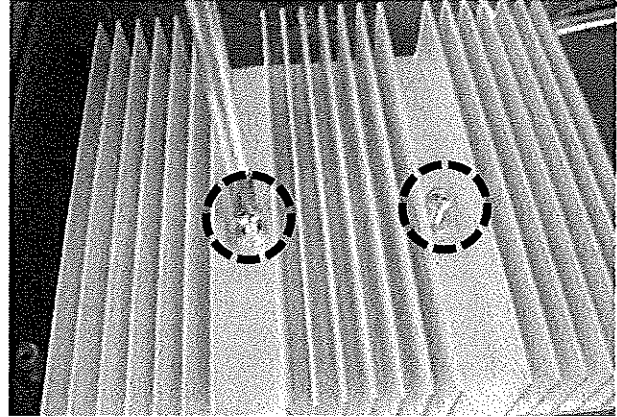


- 4.** Trace the positive and negative wires from the Peltier to the PCB (printed circuit board). De-solder and replace the older wire with the new wire from the new Peltier.



5. Once the Peltier is replaced and tested, you can replace the heat sink cover by re-fastening the 2 screws.

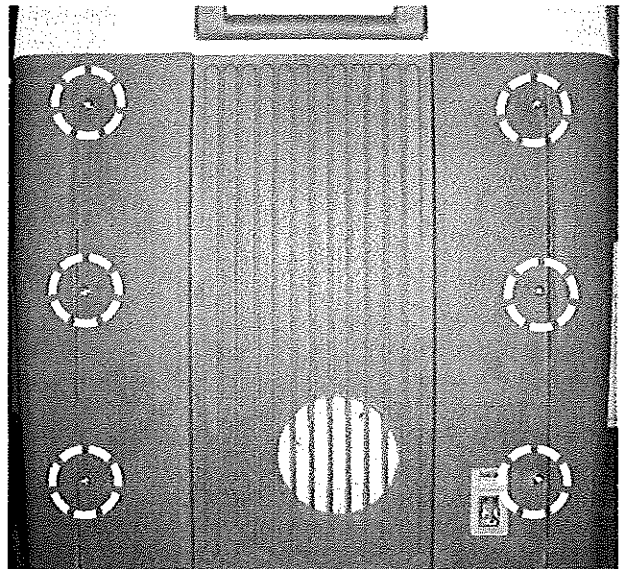
! **NOTE:** Be sure not to over-tighten the screws. Over-tightened screws may damage the Peltier.



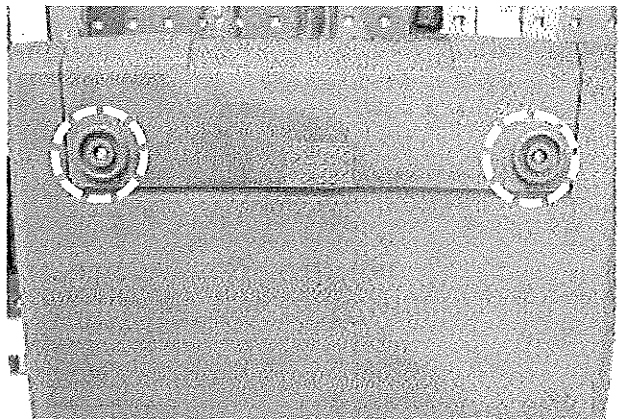
**Disassembly of the CR-32-12**



- 1.** Place CR unit on a countertop. Remove 6 silver screws.

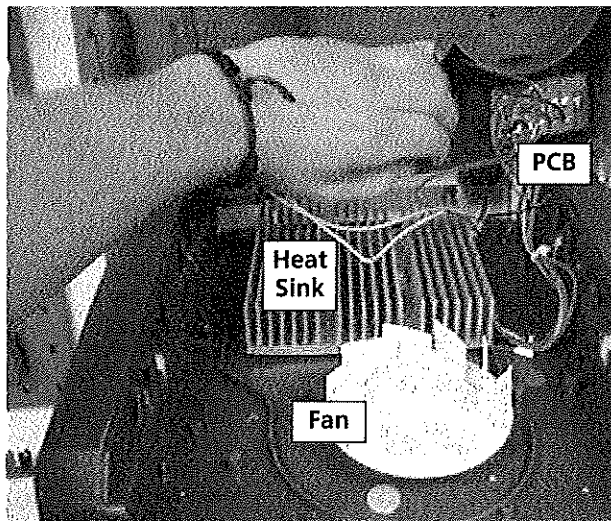


- 2.** Rotate unit. Remove the 2 silver screws from the base of the CR-32-12.





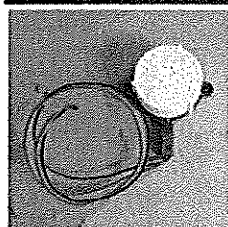
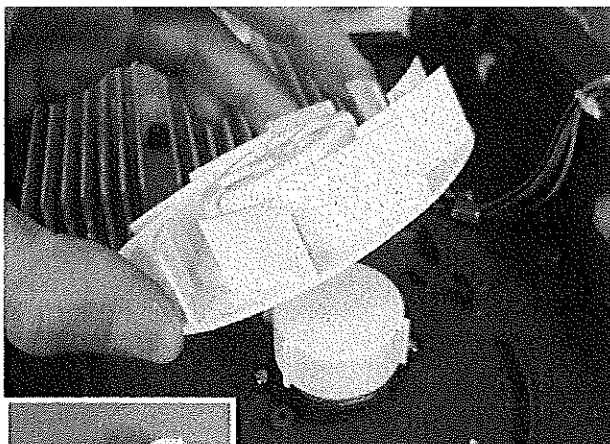
3. Lift housing from the main body of unit. Now exposed is the fan, heat sink, and PCB (printed circuit board).



### Removing and replacing a faulty fan in a CR-32-12.

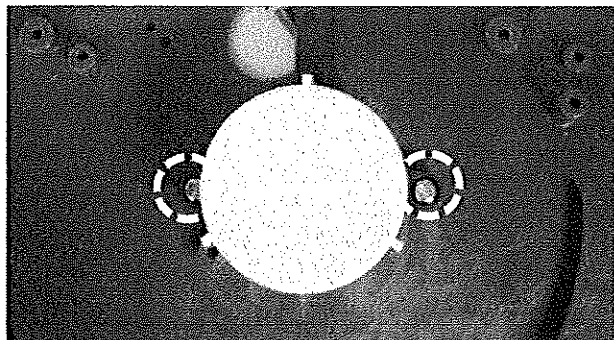
If the fan is not turning all of the time, or only if the fan blades are pushed—the inside motor may have burned-out.

1. To replace or remove the fan, you must first remove the fan blades. To remove fan blades, pull hard on the fan blade base.

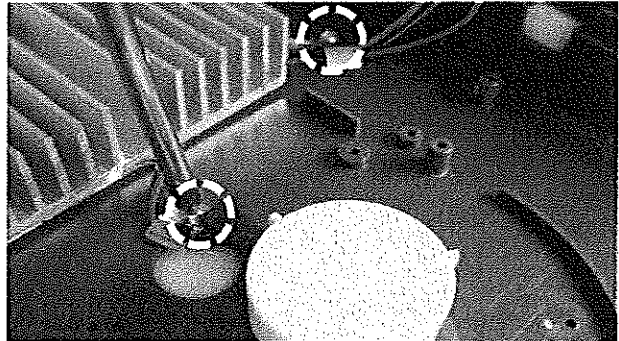


This is the fan of the CR-32-12.

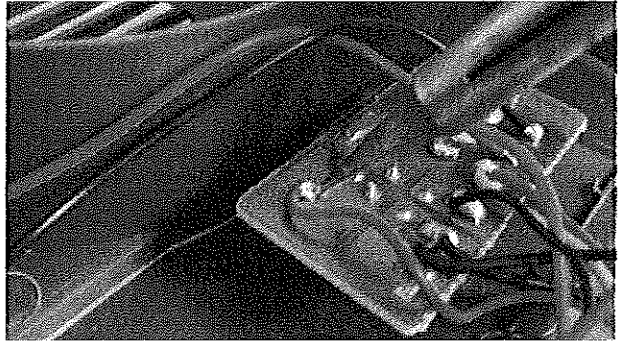
2. Now exposed is the 2 screws that hold the fan in place. Remove these 2 screws.



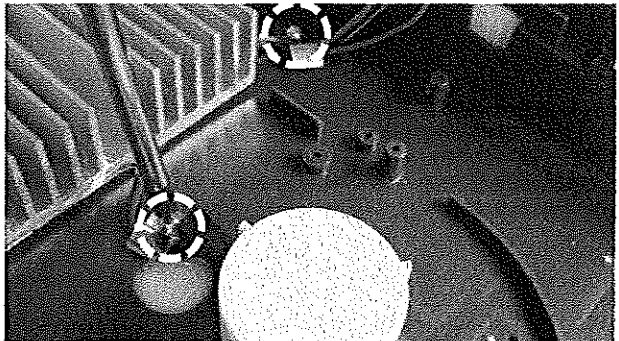
- 3.** Remove the 2 brake screws that secure the wire from the fan.



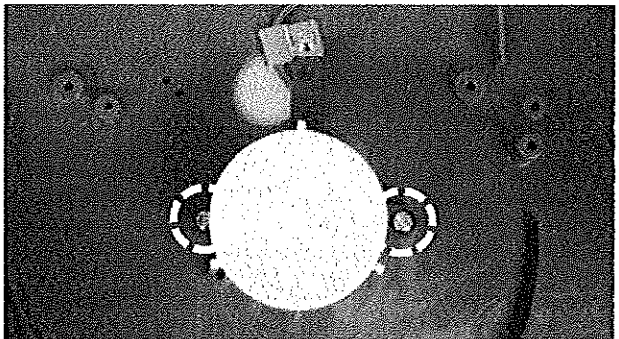
- 4.** Trace the positive and negative wires to the PCB and de-solder. Once you have de-soldered the wires, replace with new fan motor wires.



- 5.** Trace the positive and negative wires under the 2 brackets and replace screws.

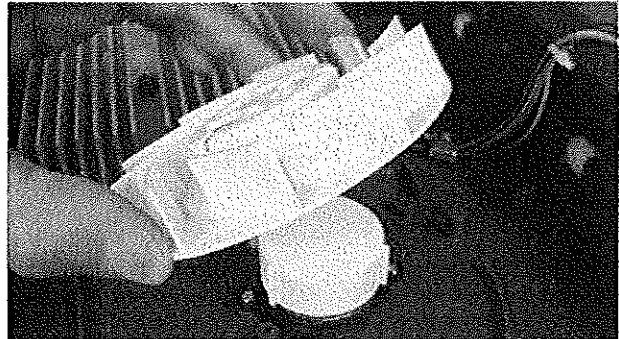


- 6.** Re-align the fan motor and refasten screws to hold the bracket in place.



7. Next, replace the fan blades on top of the fan motor.

**! NOTE:** With older units, the fan blade may not be a perfect fit. Apply a small amount of super glue to the motor top to secure the fan blade.

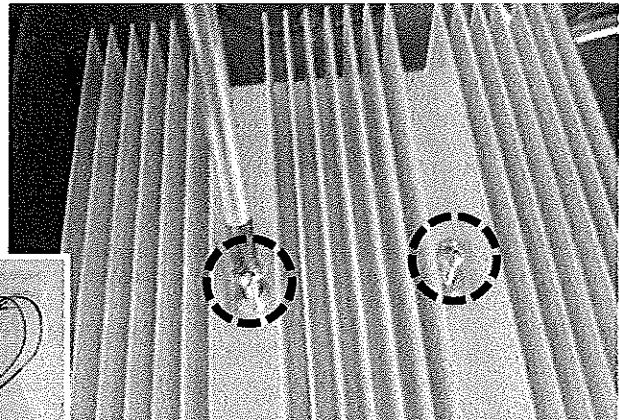
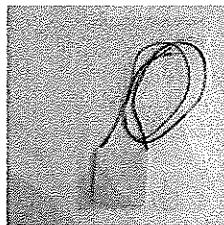


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### Removing and replacing a faulty Peltier in a CR-32-12.

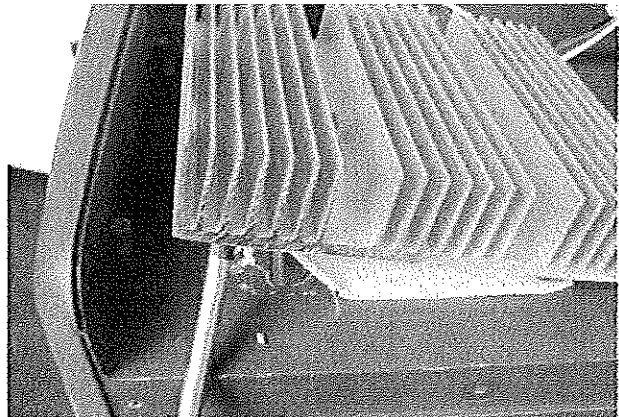
If the unit's fan is turning yet the unit is not cooling inside then the Peltier could be at fault.

1. Remove the 2 silver screws from the heat sink.

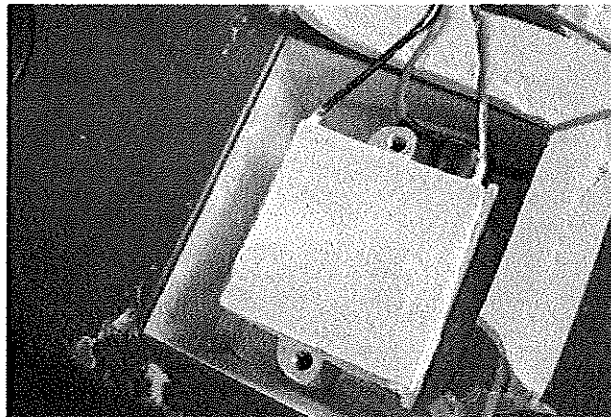


This is the Peltier of the CR-32-12.

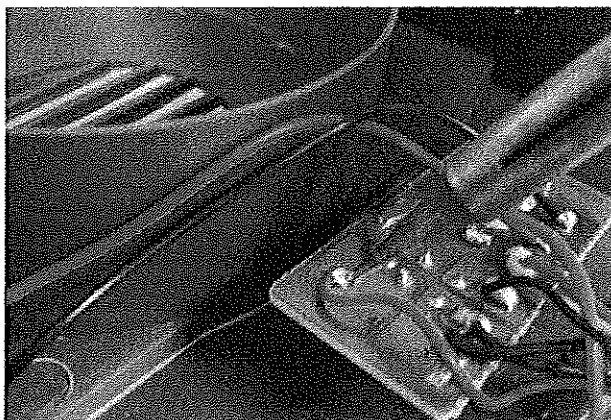
2. Push a screwdriver under the heat sink and prop up. You may find the Peltier is stuck to the heat sink or the metal block.



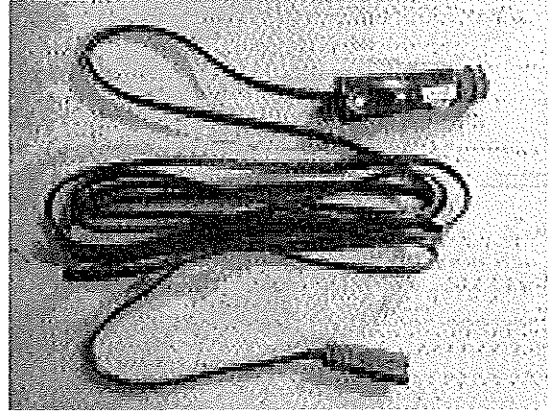
3. Once the heat sink is raised, the Peltier will be exposed. When replacing the Peltier, cover both sides in a heat sink compound to prevent damage to the Peltier. It is best to test the Peltier before you replace the heat sink, as you will have to find which side gets hot and which side gets cold.



4. Trace the positive and negative wires from the Peltier to the PCB (printed circuit board). De-solder and replace the older wire with the new wire from the new Peltier.

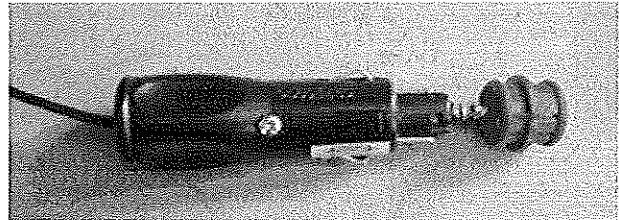




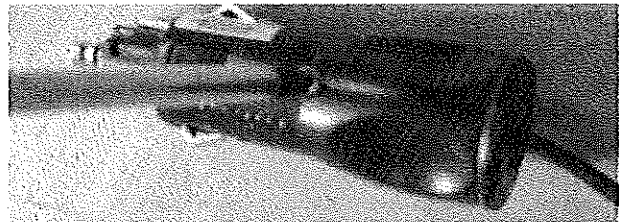


**Checking and Replacing the fuse in a cigarette lighter plug.**

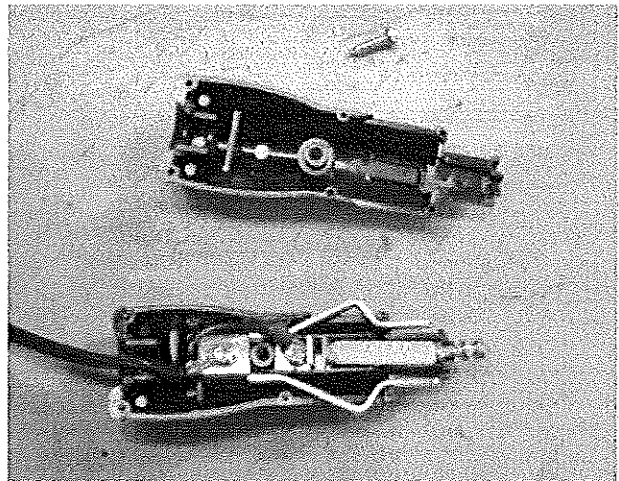
**1.** Twist red end cap and remove.



**2.** Remove silver screw.



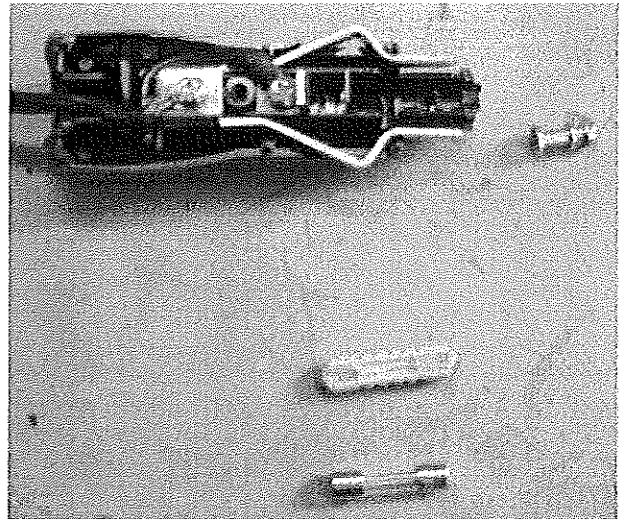
**3.** Separate the cigarette plug in halves.  
It will divide down the center.



## DC Plug

**WAECO**

4. Remove and test fuse from cigarette plug. Fuse will be a *wire fuse* or a *glass fuse*. The rating can be found on the fuse or on the silver label on the plug. REPLACE with a fuse with the same rating.



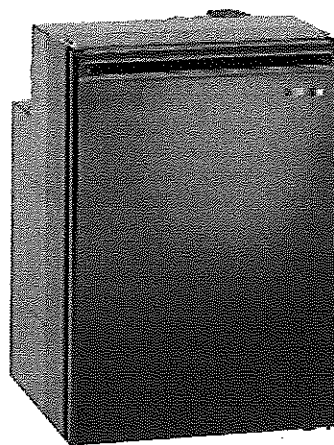
## Troubleshooting the RPD / RSA Series

### The compressor is running but the refrigerator is not cold.

If the top of your CF Series unit feels hot, the compressor may be out of gas. This unit needs to be returned to WAECO USA's headquarters for repair.

Contact WAECO USA's Technical Assistance Department for complete instructions.

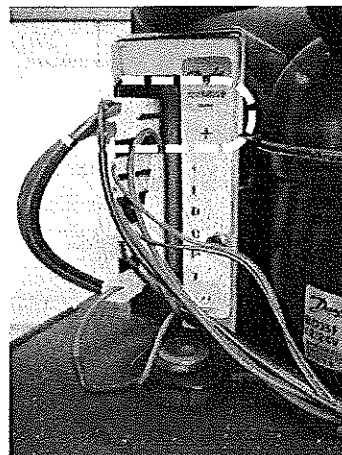
Office hours are Monday thru Friday, 8am—5pm, EST. Tel. (860) 664-4911



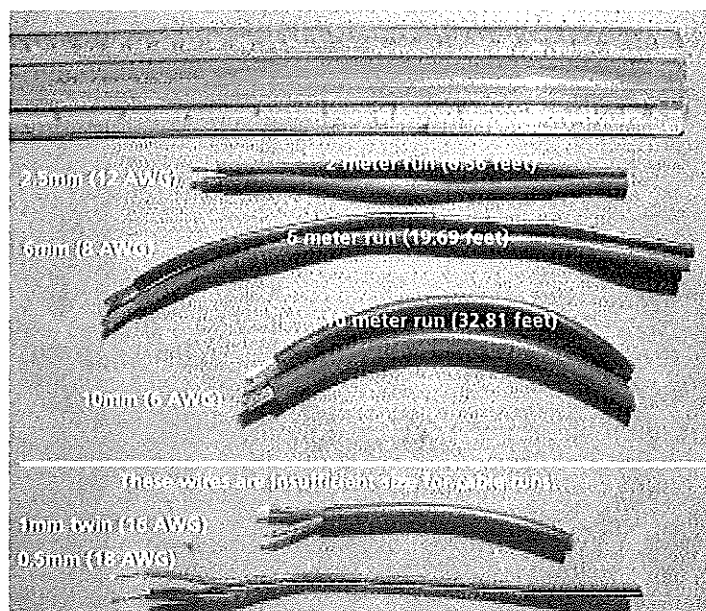
### The compressor is running but then shuts off after a limited time.

**VOLTAGE:** Check the voltage at the electronic module terminals. The terminals to check are shown outlined in photo. The voltage must be above 10.4V for a 12V supply and 22.8V for a 24V supply.

- ! Voltage measurements at the battery are meaningless.
- ! Any reading is useless unless the fridge is running because a voltage drop cannot be seen without a load. Voltage drops in vehicle wiring creates 90% of our service calls. If a decent car cigarette lighter wiring is installed or a dedicated socket is provided for the fridge you will have many years of trouble-free operation.



**CABLE SIZE:** After confirming that the supply voltage is above the cut-off, it is possible the wiring is too thin and is causing a voltage drop. The next step is to review the wire from the batteries to the female cigar plug (see instruction booklet for cable sizes for wiring length). In general, the wiring in a compressor refrigerator is 2.5mm CSA (12AWG) for 2 meters (6.56 feet), 4mm CSA (10AWG) for 4 meters (13.12 feet) and 6mm CSA (8AWG) for 6 meters (19.69 feet). For every meter add an extra millimeter (for example: 10 meter run (32.81 feet) you will a cable with a cross-sectional area of 10mm (6AWG). If the compressor is starting and stopping, it is testing the voltage in the battery. The compressor will continue to operate this way until you switch it off, or the supply correct voltage.



**The compressor is not starting but the light in on inside.**

After confirming that the wiring is not at fault and there are no loose terminals, disconnect the C and T female terminal from the electronic module (shown with arrows). Then bridge the two male terminals on the electronic module—not the female terminals which you have removed. To bridge the terminal, use a link wire (see figure 1) with 2 female terminals on each end.

If the compressor has started, then the module is not a fault. The thermostat could be faulty and will need to be replaced. The thermostat must be replaced at an Authorized WAECO USA Repair Center. Contact WAECO USA headquarters for a location within your area.

If the compressor does not start but shudders, it appears that the module is at fault and needs to be replaced. Please see your Serving and Repair Guide.

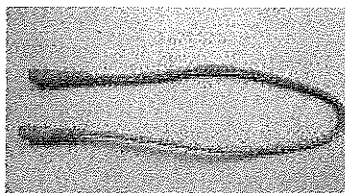
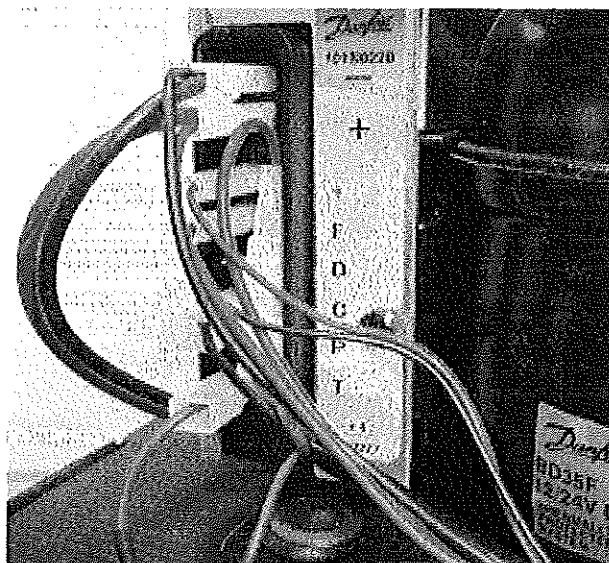
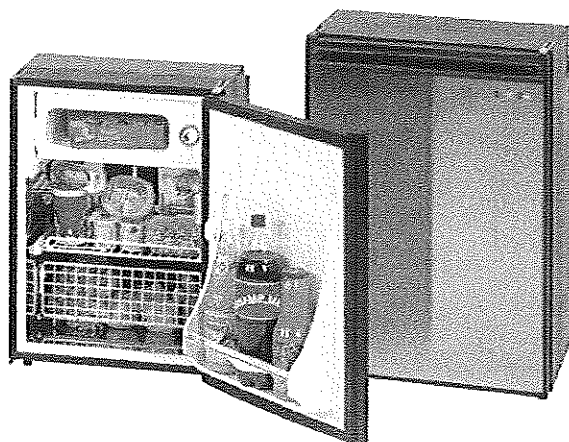


Figure 1

**Operation of the RSA models**

An indication that the compressor has not been running long enough to store energy is when the energy accumulator is activated and the compressor turns back on. To correct, run the compressor for a longer period of time before employing the energy accumulator.

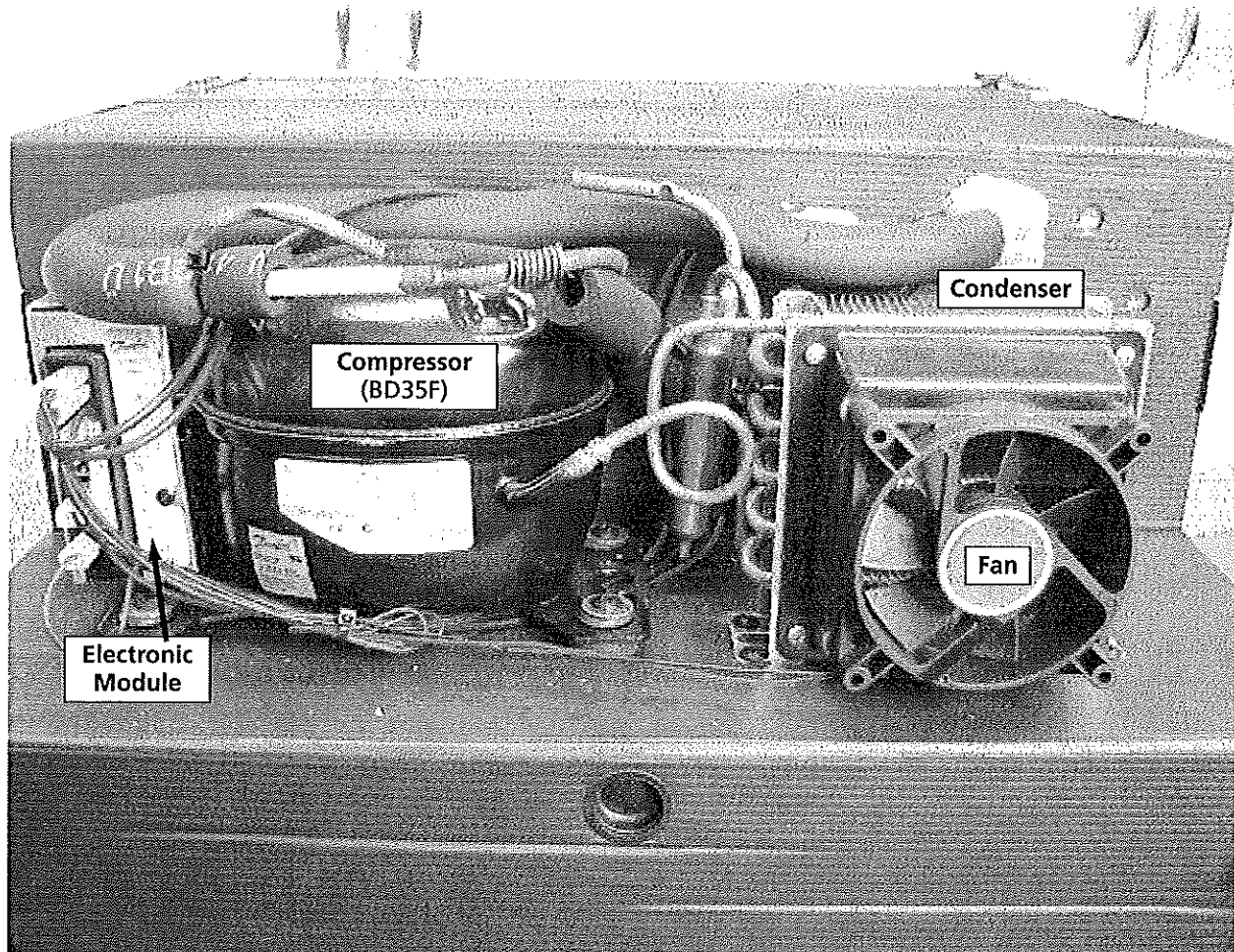
The RSA Series operates as a typical WAECO front-loading refrigerator until the red button is pressed to activate the hold-over plate. (The hold-over plate is the large gel bag that surrounds the evaporator plate.) The gel bag progresses to a solid frozen mass. Once the gel bag is frozen solid, you will need to activate the hold button, by depressing it. The unit will switch the compressor off. The compressor will use the cold air produced from the gel bag to keep the unit at a low temperature. Once the bag has defrosted, the red button on the thermostat will release, and the refrigerator will revert to the normal refrigerating mode.



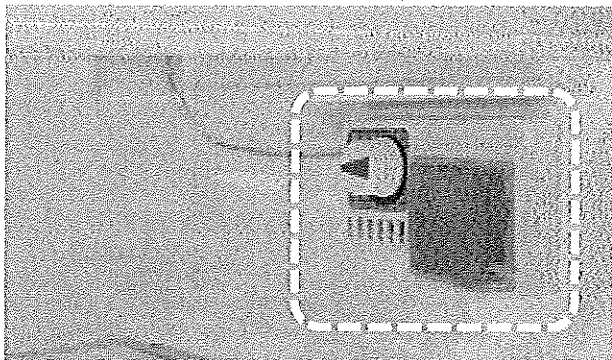


### Identifying the components of the RPD / RSA refrigerator

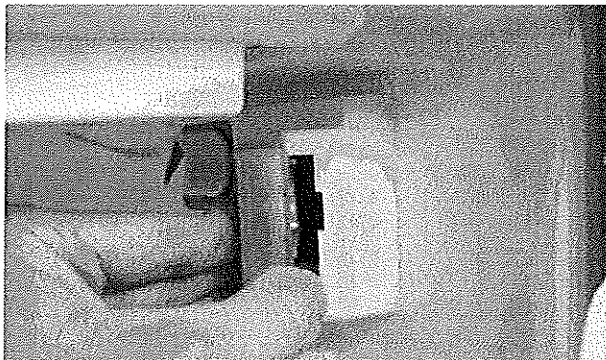
This is the back-side of the refrigerator.



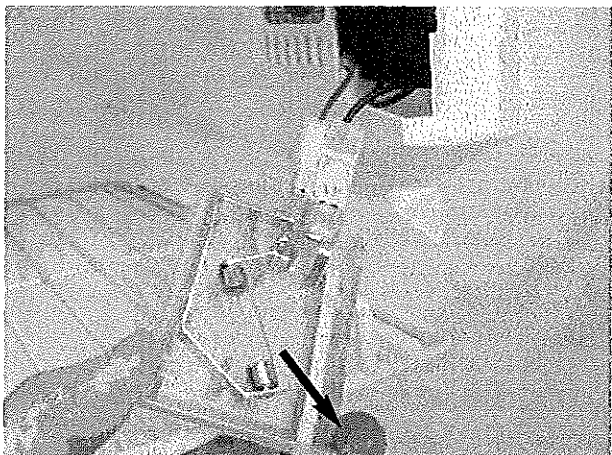
## Guide to Replacing the Thermostat



**1.** Locate the thermostat control.

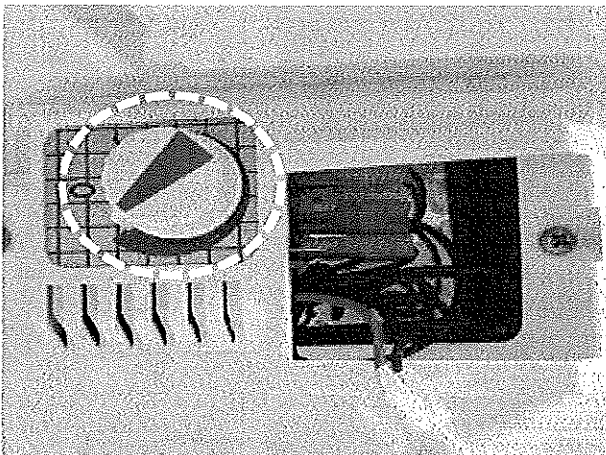


**2.** Remove cover from housing.



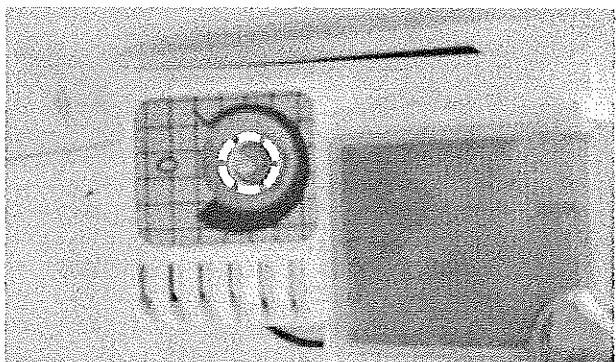
**3.** Once the cover is removed, the lightbulb is now exposed. If necessary, replace the lightbulb by pulling the metal contact South.

The **blue wire** connects to the light voltage converter. The **black wire** connects to terminal 6 on the thermostat.

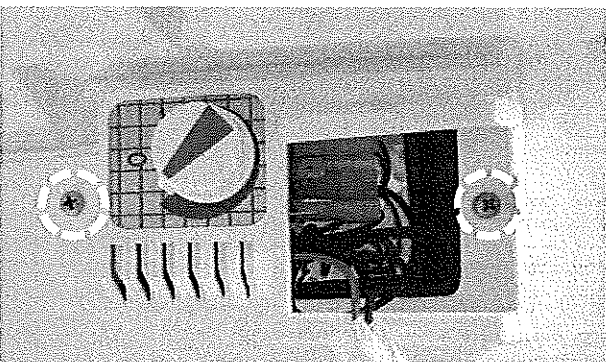


**4.** Remove the thermostat knob.

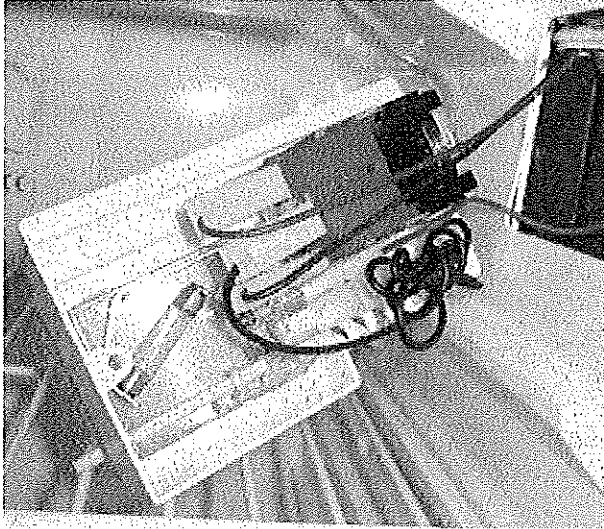
**! NOTE:** On the RSA models, a red button is in the center of the thermostat. Remove the thermostat knob and the red button.



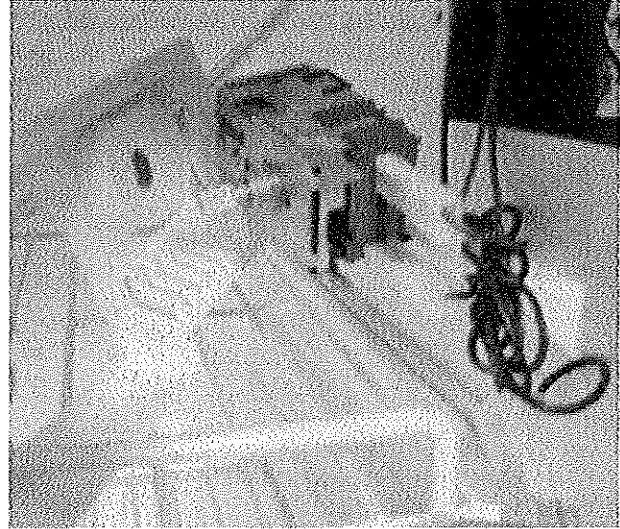
**5.** Remove the nut that holds the thermostat in place.



**6.** To remove cover, remove 2 screws.

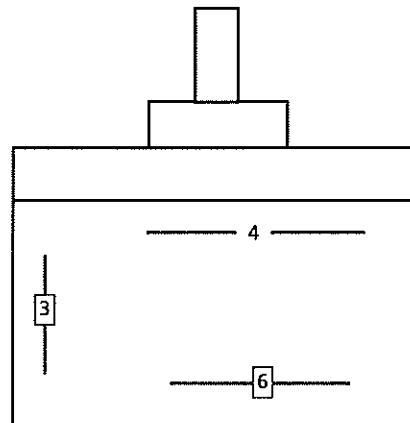


- 7.** Once both screws have been removed the back of the thermostat is exposed.



- 8.** Lift cover from thermostat. Remove all terminals from the thermostat.

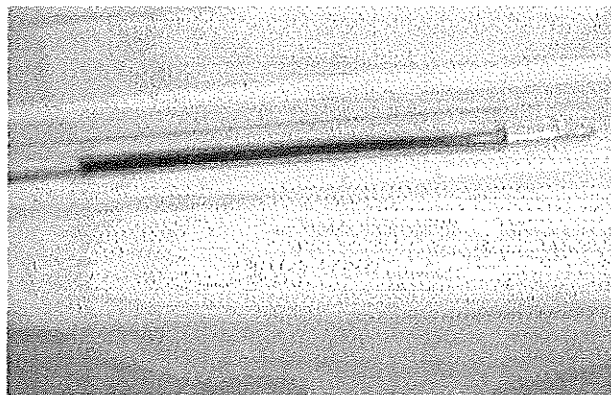
**! NOTE:** It is recommended that you document position of the wire and terminals.



- 3** This terminal is connected to the C terminal of the electronic module. **Black wire.**
- 6** This terminal is connected to the light circuit. **Black wire.**
- 4** These terminals are as one. They are connected to the T terminal on the thermostat. **Brown wire.**



- 9.** To completely remove the thermostat, you will need to remove the capillary line. Remove the drip tray from beneath the evaporator plate.

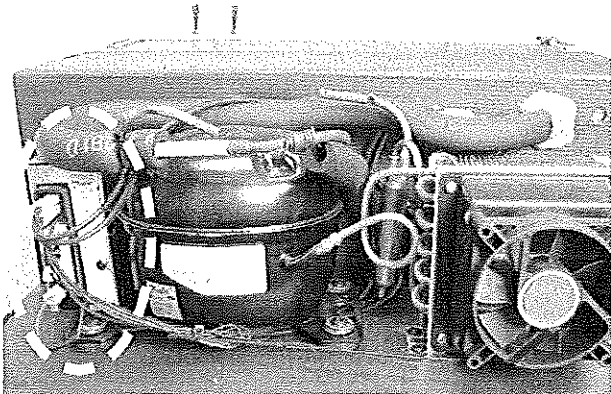


- 10.** Locate the end of the capillary line. The capillary line is attached to the plate with a metal clip. Separate line from the metal clip and trace the capillary line back to the main body of the thermostat. The tip of the capillary line is where the reading for the thermostat is read. This tip must always touch the plate.

When replacing the capillary line, trace the line around the evaporator plate to the metal clip.

**NOTE:** Confirm that the capillary plate is touching the metal plate.

### Guide to Replacing the Electronic Module

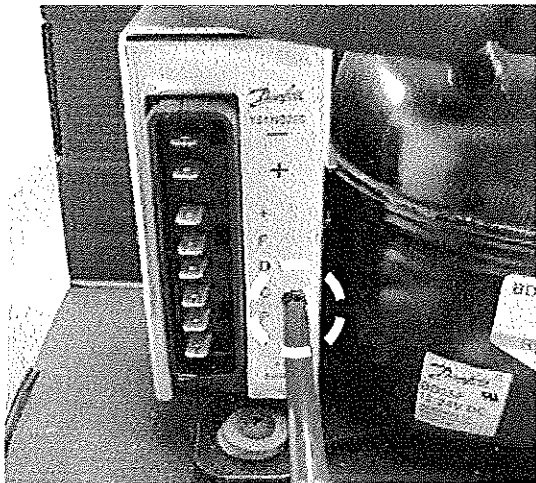


- 1.** Locate the electronic module.



- 2.** Remove all Female Terminals from the Male Terminals of the electronic module.

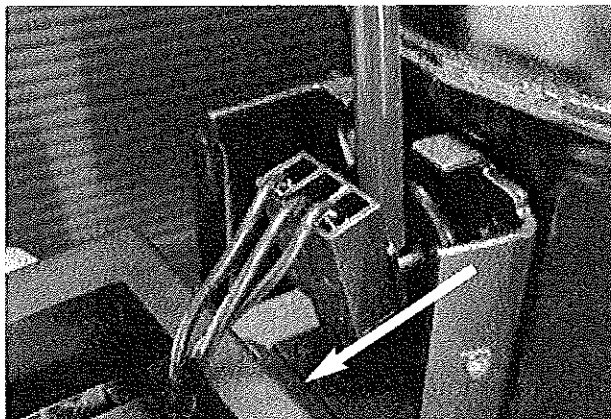




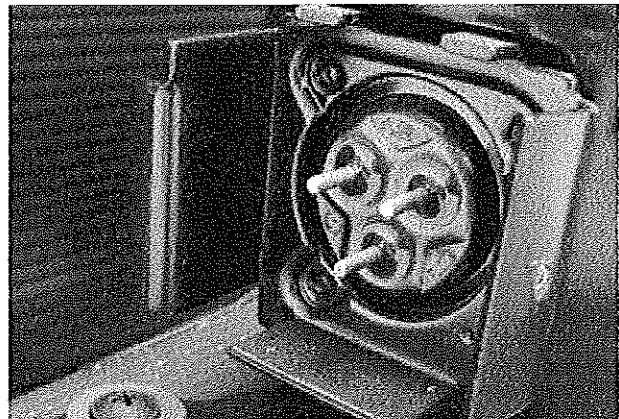
- 3.** Remove the screw that is located between the compressor and the electronic module terminals.



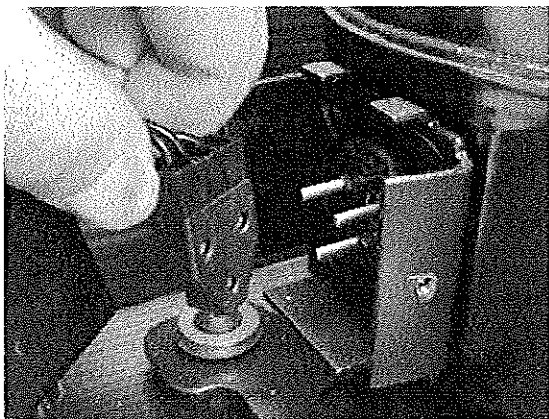
- 4.** Remove the electronic module from the compressor. Once removed, the three-pin plug is exposed.



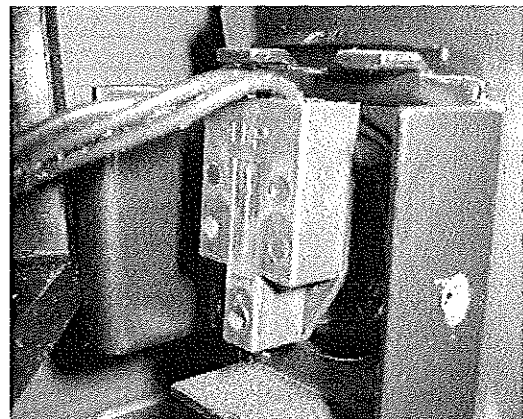
- 5.** To remove the three-pin plug from the compressor, wedge a screwdriver between the plug and compressor.



- 6.** The three-pins of the compressor are now exposed.

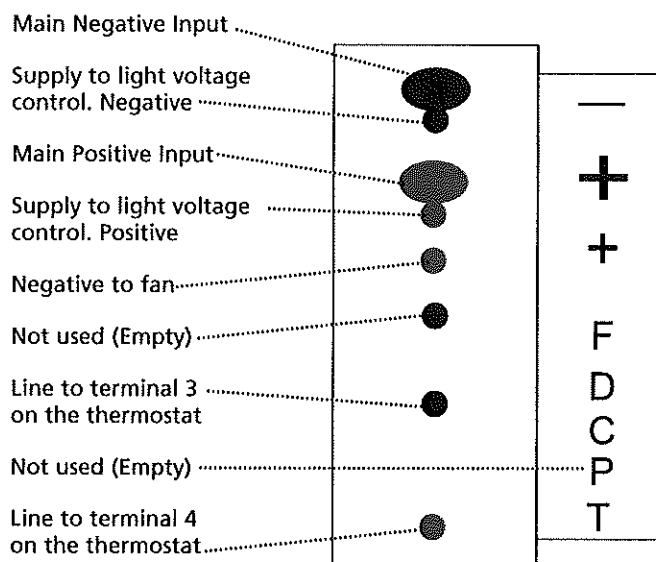


- 7.** If the plug is not placed as shown in photo above, the unit will not function properly.

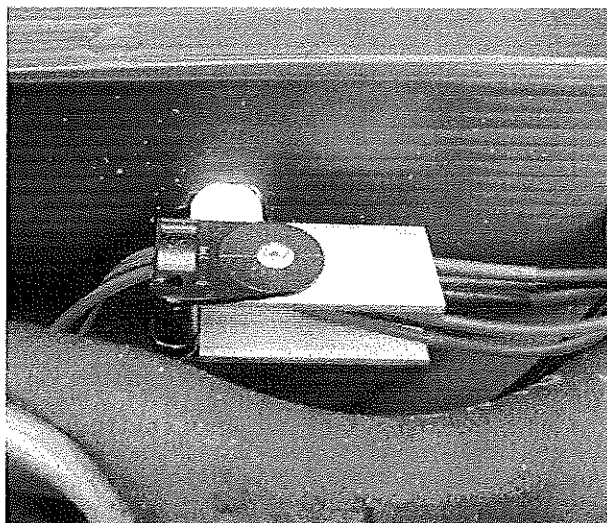


- 8.** Photo above shows correct placement of plug.

**Wiring for the  
RPD / RSA Series  
Electronic Module**

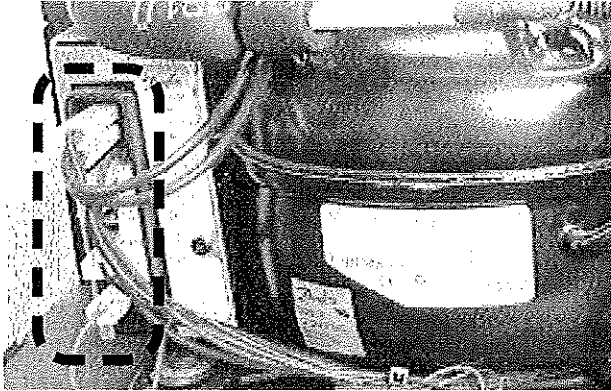


**Light Voltage Controller**

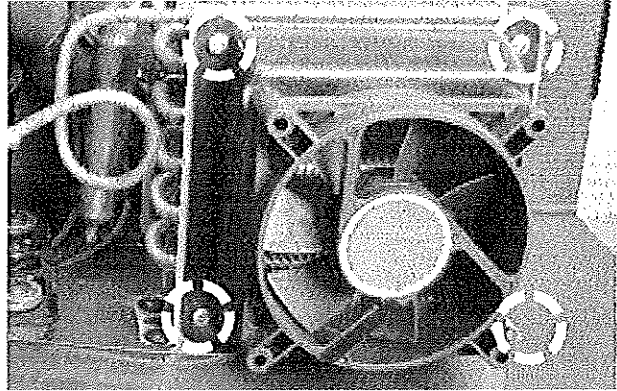


The light voltage controller is a small dropper designed to lower the voltage from 24v to 12v, if 24v is the supply voltage. If the supply voltage is 12v, then twelve volts will flow unaffected.

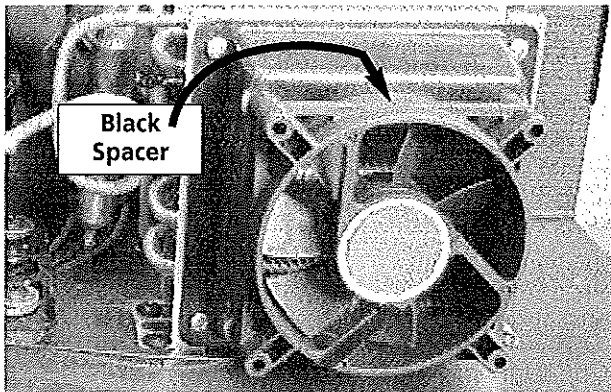
### Replacing the Fan



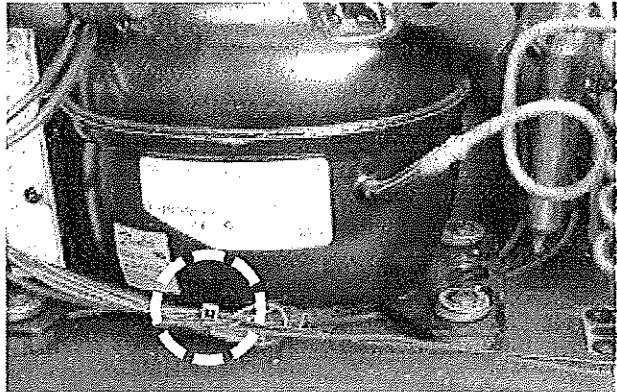
- 1.** To replace the fan, remove the small positive and F negative terminals on the electronic module.



- 2.** Remove the four screws from the condenser cover.

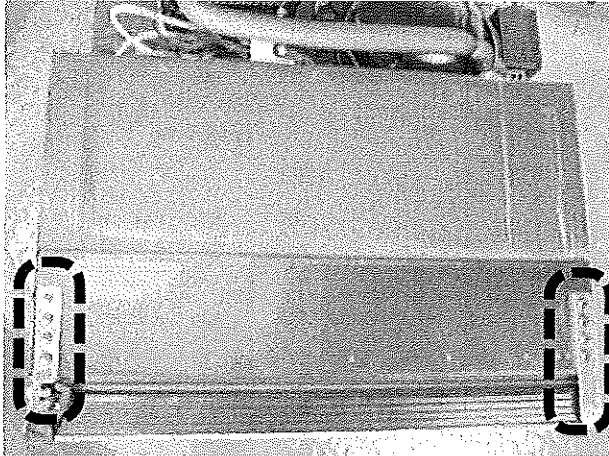


- 3.** Remove the screws that are located on the inside of the black spacer. Once removed, the fan will easily lift away.

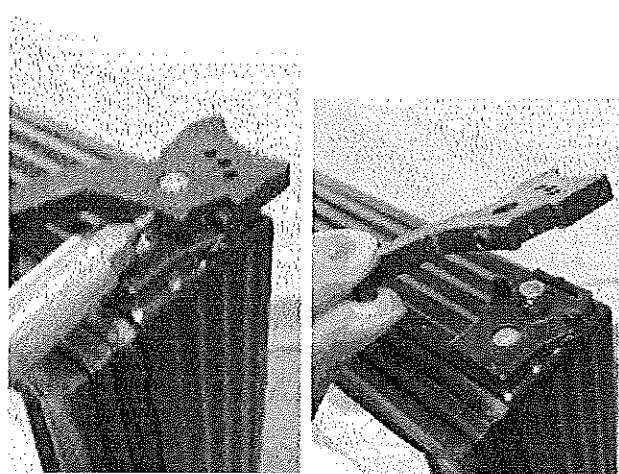


- 4.** Cut the cable tie. Insert new fan. Reverse steps to reinstall new fan.

### Replacing the Face Panel on Door



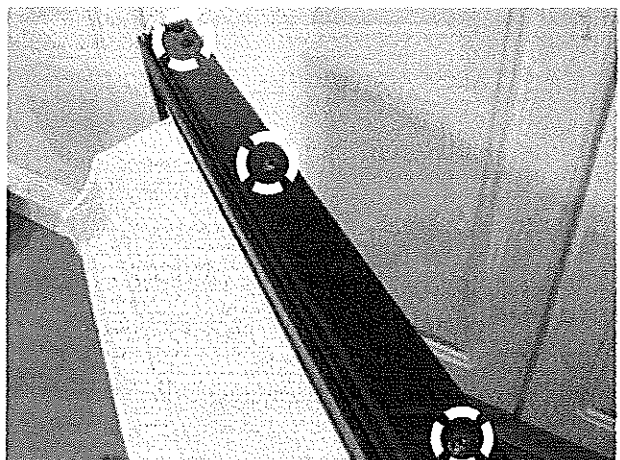
- 1.** Remove the 4 black screws for the locking-hinge and 4 black screws for the swinging-hinge of the unit. These are the 8 screws that support the door.



- 2.** Locate locking joint and small security screw that retains the locking joint. Unfasten the security screw and remove black locking joint.

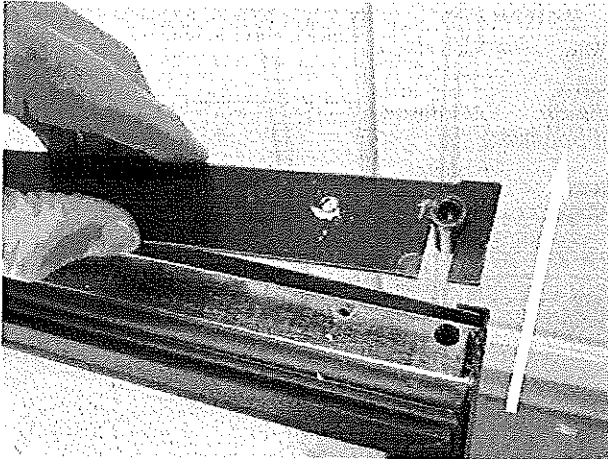


- 3.** Remove rod from opposite end and rotate door upside-down.

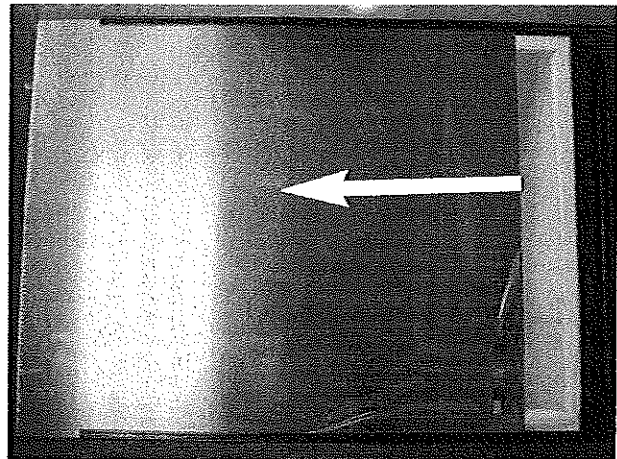


- 4.** Locate and remove the three black screws on the bottom of the door.





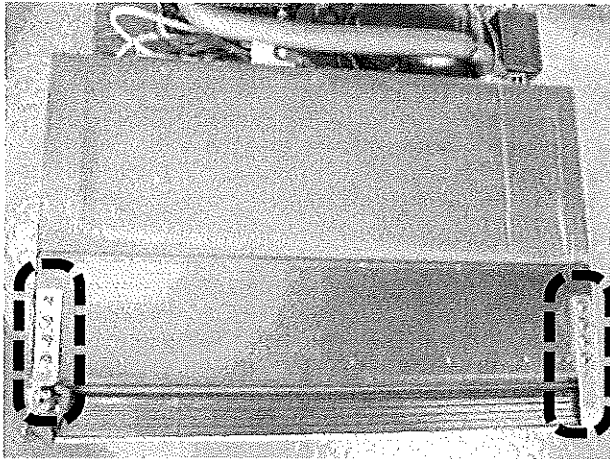
**5.** Separate black frame from bottom of door.



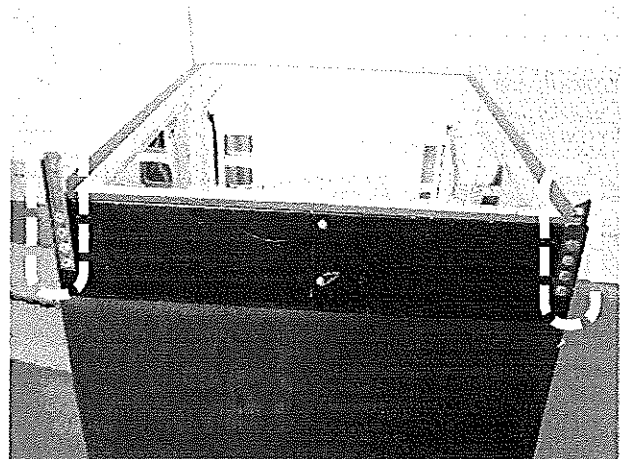
**6.** Slide out old face panel. Replace by sliding in new face panel.

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### Reversing Door Opening

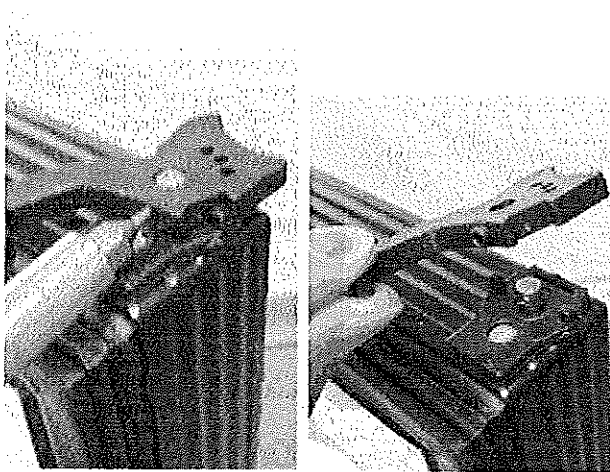


**1.** Remove the 4 black screws for the locking-hinge and 4 black screws for the swinging-hinge of the unit. These are the 8 screws that support the door.

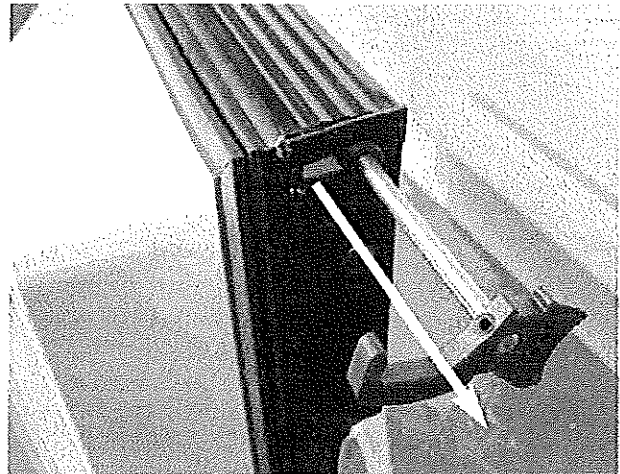


**2.** Place unit on its back. Remove locking hinge and swinging hinge from the bottom.

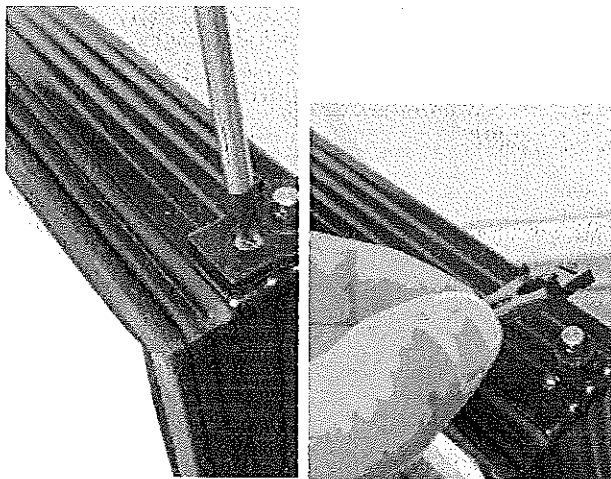




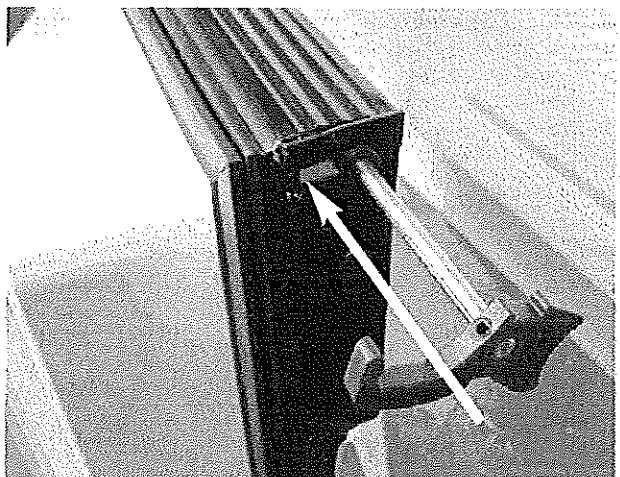
- 3.** Locate locking joint and a small security screw, which retains the locking joint. This security screw secures the locking joint. Unfasten security screw and remove black lock.



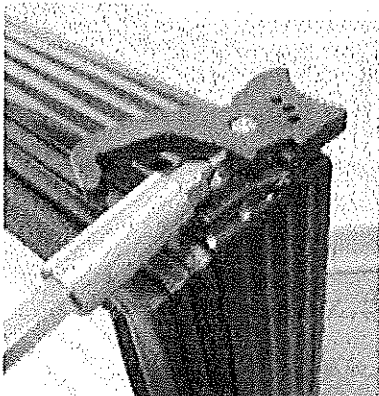
- 4.** Remove rod with locking joint.



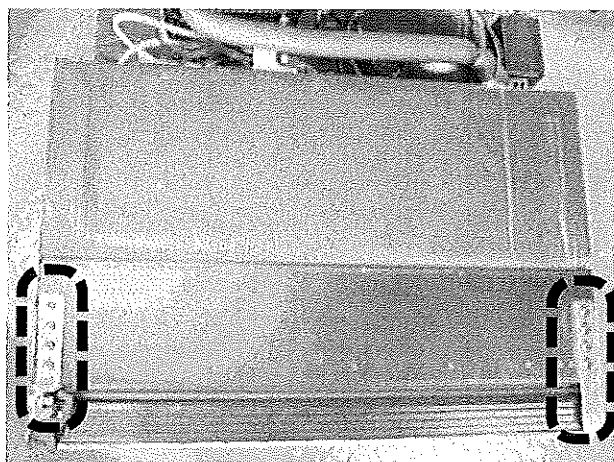
- 5.** Remove black plastic plate from top of door by unfastening silver screw. Place black plastic plate on opposite side and refasten with silver screw.



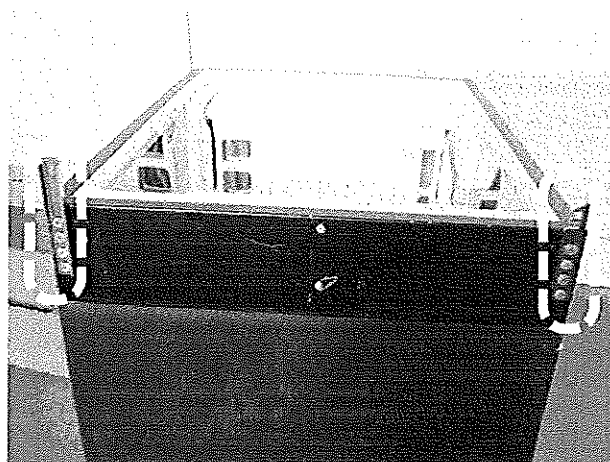
- 6.** Replace locking rod—be sure the black hook is facing out.



- 7.** Place black locking joint on bottom and replace black retaining screw in joint.



- 8.** Replace hinges and locking hinge with black screws. **NOTE:** Be sure all locking hinges point inward.



- 9.** Replace door on face of refrigerator.