

E-1315

REV A 09/01/18



The Signature of Quality[®]

FCCR-4, FCCR-5, FCCR-6 Self-Contained & Remote Models

INSTALLATION & OPERATION INSTRUCTIONS



KEEP THIS MANUAL FOR FUTURE REFERENCE

Engineering and technical data are subject to change without notice.

FEDERAL INDUSTRIES
Toll Free 1(800) 356-4206

215 Federal Avenue
WI Phone (608) 424-3331

Belleville, WI 53508
Fax: (608) 424-3234

Contents

INTRODUCTION	1
WARNING LABELS & SAFETY INSTRUCTIONS	2
PRE-INSTALLATION PROCEDURES	3
INSPECTION FOR SHIPPING DAMAGE	3
INSTALLATION INSTRUCTIONS	3
LOCATING THE DISPLAY CASE	3
REMOVING CASE FROM SHIPPING SKID	3
REMOVING THE PACKAGING MATERIAL	3
LEVELING THE CASE	4
GRILL REMOVAL	4
FRONT PANEL	4
CONDENSATE EVAPORATOR	4
SHELVING	5
CLEANING	5
ELECTRICAL INFORMATION & GROUNDING	6
OPERATING INSTRUCTIONS	7
INITIAL START-UP	7
CHOCOLATE/CONFECTIONERY DISPLAY CONDITIONS	7
CONTROLS	7
SHELVES	7
LIGHT REPLACEMENT	8
TILT-OUT FRONT GLASS	8
DOORS	8
PLACING PRODUCT INTO CASE	8
REFRIGERATED STORAGE AREA	8
REFRIGERATION ASSEMBLY	8
PERIODIC MAINTENANCE	8
CLEANING INSTRUCTIONS	9
DAILY CLEANING	9
WEEKLY CLEANING	9
INTERIOR CLEANING	10
EXTERIOR CLEANING	10
SERVICE INFORMATION	11
PRE-SERVICE CHECKLIST	11
PRE-SERVICE CHECKLIST (CONT'D)	12
SPECIAL SERVICE SITUATIONS	13
SALE & DISPOSAL	13
OWNER RESPONSIBILITY	13
REFRIGERATION & ELECTRICAL DATA	14
REPLACEMENT PARTS	15
REPLACEMENT PARTS	16
WIRING DIAGRAM - FCCR-4 & FCCR-5	17
WIRING DIAGRAM - FCCR-6	18
WIRING DIAGRAM - FCCR-4 & FCCR-5 REMOTE	19
WIRING DIAGRAM - FCCR-6 REMOTE	20

INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Climate Controlled Chocolate & Confectionery Display Cases. A repair parts list and wiring diagram are also included in the manual. Read all of these documents carefully before installing or servicing your case.



NOTICE

Read this manual before installing your case. Keep this manual and refer to it before doing any service on the equipment. Failure to do so could result in personal injury or damage to the case.



NOTICE

Installation and service of the electrical components in the case must be performed by a licensed electrician.

The portions of this manual covering electrical components contain technical instructions intended only for persons qualified to perform electrical work.



DANGER

Improper or faulty hookup of electrical components in the case can result in severe injury or death.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

Serial Number

Record the model and serial numbers of the case for easy reference. Always refer to both model and serial numbers in your correspondence regarding the case.

Case Model _____ Serial Number _____
Condensing Unit Model _____ Serial Number _____

This manual cannot cover every installation, use, or service situation. If you need additional information, call or write us:

Warranty/Technical Service Department

Federal Industries

Toll Free (800) 356-4206

WI Phone (608) 424-3331

geninfo@federalind.com

WARNING LABELS & SAFETY INSTRUCTIONS



This is the safety-alert symbol. When you see this symbol on your case or in the manual, be alert to the potential for personal injury or damage to your equipment.

Be sure you understand all safety messages and always follow recommended precautions and safe operating practices.



Notice to Employers

You must make sure that everyone who installs, uses, or services your case is thoroughly familiar with all safety information and procedures.

Important safety information is presented in this section and throughout the manual. The following signal words are used in the warnings and safety messages:

- DANGER:** Severe injury or death **will** occur if you ignore the message.
- WARNING:** Severe injury or death **can** occur if you ignore the message.
- CAUTION:** Minor injury or damage to your case **can** occur if you ignore the message.
- NOTICE:** This is important installation, operation, or service information. If you ignore the message, you may damage your case.

The warning and safety labels shown throughout this manual are placed on your Federal Industries case at the factory. Follow all warning label instructions. If any warning or safety labels become lost or damaged, call our customer service department at 1(800)356-4206 for replacements.



This label is located on the back of the display case.

PRE-INSTALLATION PROCEDURES

Inspection for Shipping Damage

You are responsible for filing all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage is noted to shipping crates or cartons or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is discovered when the case is uncrated, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Crating material must be retained to show the inspector from the truck line.


INSTALLATION INSTRUCTIONS

Locating the Display Case

The case should be located where it is not subjected to the direct rays of the sun, heating ducts, grills, radiator, or ceiling fans, nor should it be located near open doors or main door entrances. Also, avoid locations where there is excessive air movement or air disturbances.

The condenser air inlet is located at the rear of the case. Do not block this inlet and do not locate the air inlet near a source of heat.

Removing Case from Shipping Skid

 **CAUTION: Do not push against the curved glass, ends, doors, or door frames when removing the case from the skid or moving the case. Case damage or glass breakage could result.**

Move the case as near as possible to the final location before removing it from the shipping skid.

Remove the eight (8) bolts that secure the case to the skid.

Removing the Packaging Material

Remove the shipping tags that secure the doors and tilt-out front glass. If it is necessary to remove tape residue from plastic materials, use cleaning compounds recommended in the Cleaning Section of this manual.

Leveling the Case

The case must be level for proper drainage of defrost condensate to the condensate evaporator reservoir.

The case must be level for the front glass to seal properly. The leveled case can be sealed to the floor using an NSF Listed sealant.

Grill Removal



DANGER: Electrical shock hazard. Do not operate unit with panels removed.

There is a removable slotted panel at the rear of the case. The panel allows access to the condensing unit, the light ballast, the condensate pan, and the field wiring connection box. Remove this panel to make field wiring connections.

To remove the air grill, open the rear storage door and remove the two (2) screws along the right edge of the grill. The left end is supported by two (2) pins attached to the case end. Pick up the grill on either end and move it to the right to lift it off of the locating pins.

Front Panel

The flat front panel attaches to the case using screws and brackets that fit into pockets on the base front. To remove the panel, slide it upward to get the mounting brackets and screws out of the pockets.

Removal of this panel allows access to the compressor service ports.

Condensate Evaporator

This case is furnished with an electric condensate evaporator. Plumbing connections are not required.

The condensate evaporator is located toward the front of the machine compartment and is accessible from the rear of the case.

Make sure that the drain line has not been dislodged during shipment and that the drain trap terminates properly over the water reservoir.

Shelving

The case is equipped with three tiers of adjustable glass shelves. The deepest shelf is at the bottom and the shallowest at the top. Each tier is supported by three (3) shelf brackets.

Turn the shelf light switch "off".

Remove both rear doors from the track by lifting them upward until the bottom edge clears the lower door track and then outward.

To install the bottom shelf, put a 14" shelf bracket in the end shelf standard even with or above the bottom light socket and tighten the locking cam.

Then install a center shelf bracket in the center shelf standard and tighten the locking cam. The center shelf bracket has no end hook and is shorter than the end brackets in order to clear the shelf light housing.

Hang the shelf light assembly with the longest cord on the end shelf brackets.

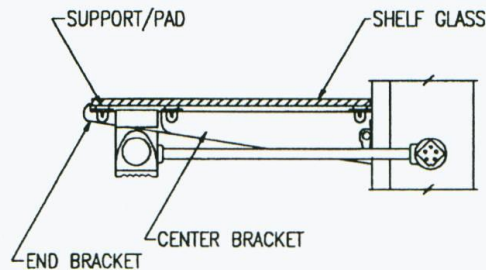
Plug the shelf light cord in the light socket. Make certain the light cord is completely inserted into the socket or arcing may result causing damage to the plug and socket.

Each shelf bracket gets two plastic supports with rubber pads. Put two single width supports on each end shelf bracket. Put two double width supports on the center shelf bracket.

Repeat the steps for the middle and top shelves.

Put the glass shelves on the support pads as shown for each tier. If the shelf is not in the proper position, it may disrupt the air flow in the case and cause product loss.

Reinstall both rear doors.



Lights

Make certain that the light cord plugs are completely inserted into the sockets or arcing may result causing damage to the plugs and sockets.

Cleaning

For initial setup, clean the case as outlined in the Weekly Cleaning Section.

ELECTRICAL INFORMATION & GROUNDING

THIS CASE MUST BE GROUNDED



DANGER: Improper or faulty hookup of electrical components in the display case can result in severe injury or death.

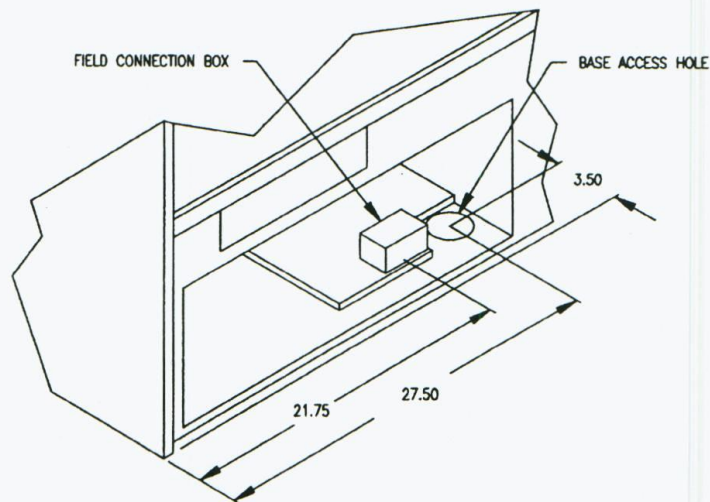
All of the case electrical connections must be performed only by a licensed electrician.

All electrical wiring hookups must be done in accordance with all applicable local, regional, or national standards.

A separate circuit for each case is recommended to avoid the possibility of other appliances on the same circuit from overloading the circuit and causing malfunction.

The electrical service must be grounded upon installation.

This unit is designed for permanent connection to power source. See the electrical data plate located at next to the temperature control for proper circuit size and wire ampacity.



OPERATING INSTRUCTIONS

Initial Start-Up

After all the checks outlined in the installation section of this manual have been made, the case is ready to be put into service. The service valves on the refrigeration system are backseated when the unit leaves the factory.

Chocolate/Confectionery Display Conditions

Chocolate and confectionery display cases are designed to operate between 60° F and 70° F and between 50% to 60% relative humidity. These display cases are not storage refrigerators capable of holding product below these levels.

Controls

Light Switch

This switch controls the power to the lighting circuit. The switch rocker is red in the "on" position, black in the "off" position.

Humidity Control

This controls the case humidity by cycling a tubular heater. It has an off position and numbered positions indicating 40% through 80% relative humidity. Set this control at the highest number while maintaining desired case humidity levels.

Note: Ambient humidity levels can affect the interior humidity levels of the display case. The case is designed to operate in maximum ambient of 75° F and 55% relative humidity conditions.

Temperature Control

This controls the case temperature by cycling the compressor/condensing unit. It has an "off" position and numbered positions 1 through 9. The coldest setting is 9. Set this control at the smallest number while maintaining desired case temperature.

High Pressure Safety Control

This is a safety device. It is nonadjustable and will shut off the compressor if system pressure exceeds 385# psig.

Shelves

The case is furnished with three (3) tiers of glass shelves which are adjustable up and down.

To reposition the shelves:

1. Turn the shelf lights off.
2. Unplug the shelf light cord.
3. Remove the glass shelves and shelf light housing from the shelf brackets.
4. Grasp the shelf bracket and remove from existing slots in pilaster.
5. Reposition the shelf bracket to the desired slots.
6. Reinstall shelf light housing and glass shelves.
7. Plug the shelf light cord in the light socket.

Light Replacement

The light fixtures use a spring loaded socket on one end. To remove a light, push the bulb toward the spring-loaded socket until the opposite end drops out of the socket.

The bulbs are furnished with plastic safety light shields. Make certain the light shields are always in place to safeguard against bulb breakage.

When replacing lights, use direct equivalents to the original bulbs.

Tilt-Out Front Glass

The front glass tilts out for easy cleaning of the case interior and inner glass pane. Two cables at the top corners hold the glass in the open position.



CAUTION: Do not push the front glass to close it. Always hold onto the top edge when closing the front glass.

Doors

The doors can be removed by lifting the door up until the bottom clears the bottom track.

Clean the door track frequently for easy door operation. A very light film of lubricant, such as PAM, will help the doors slide easily.

Placing Product into Case

Do not overhang glass shelves with product or display trays. Overhanging the shelves will block the refrigerated air flow and could cause product loss.

Do not block the slots along the front air grill or along the display deck backs.

Refrigerated Storage Area

Looking at the back of the case, there is a lockable refrigerated storage compartment in the lower right corner. The door swings down when opened. The storage door should always be closed tightly to ensure proper operation of the display case.

Periodic Maintenance

Cleaning Condenser Coil

Disconnect power to the unit.

Remove the rear grill and vacuum the front surface of the condenser coil. This should be done every one to two months as necessary.

CLEANING INSTRUCTIONS

Daily Cleaning

The case should be cleaned thoroughly, as described in the weekly cleaning section, before it is used for the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut off lights and temperature control and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Note: For major spills or foreign material buildup use complete weekly cleaning instruction.

1. Clean all foreign materials from the door opening.
2. Wipe complete interior of case using a damp cloth.
3. The glass can be cleaned with common window cleaners. The remaining exterior surface should be wiped down using any ammoniated cleansers or soapy warm water.

Note: Detergents are **not** recommended.



CAUTION: Do not use alcohol based or solvent cleaners on the front or side glass.

Weekly Cleaning

This procedure is recommended on a weekly basis. It may need to be performed more often if necessary to maintain a clean, sanitary case. The case should be cleaned to this procedure before using the first time.



NOTICE: Avoid splashing or soaking any electrical components with water to prevent electrical damage to the case.



NOTICE: Shut off light and temperature control and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.

Interior Cleaning

1. Remove rear doors from track by lifting door upward until the bottom of the door clears the lower door track and then outward. Remove the inner door in the same manner.
2. Remove all shelves from the case by sliding them rearward and through the door opening.
3. Unplug the shelf lights and lift one end then the other off the shelf brackets then through the door opening.
4. Remove the shelf brackets from the shelf standards.
5. Open the tilt-out front glass.
6. Open the door for the rear storage area.
7. Clean the entire interior of the case using warm soapy water. Wipe off all soapy water with a damp cloth and allow to dry.

Note: Depending on the amount of usage and spillage of foreign material, some fasteners may have to be removed and parts disassembled to allow proper cleaning of the unit.

8. Clean all shelves, shelf brackets, and shelf light housings using warm soapy water and a brush. Rinse thoroughly and allow to dry.
9. Clean all foreign material from inner and outer rear door tracks using warm soapy water and a brush. Apply a light film of lubricant, such as PAM, to make the doors operate smoother.
10. Clean both sides of the doors and interior of the front glass using any common window cleaner.



CAUTION: Do not use alcohol based or solvent cleaners on the front glass.

Exterior Cleaning

1. Clean the front glass using any common window cleaner.



CAUTION: Do not use alcohol based or solvent cleaners on the front glass.

2. The exterior surfaces should be wiped down using any ammoniated cleansers or warm soapy water.

SERVICE INFORMATION




Before any service work is performed on the case, make sure all power is disconnected to the case.

Service problems or request for repair parts from authorized service agencies, trained service personnel, or owners should be referred to:

Warranty/Technical Service Department
Federal Industries
Toll Free (800) 356-4206
WI Phone (608) 424-3331
geninfo@federalind.com

Pre-Service Checklist

You may avoid the cost and inconvenience of an unnecessary service call by first reviewing this checklist of frequently encountered situations that can cause unsatisfactory case performance.

 **CAUTION:** Before servicing case turn off power at the main breaker of fuse box.

Pre-Service Checklist (cont'd)

Case Does Not Operate

Check for disconnected power supply.

Check for tripped breaker or blown fuse.

Check that the thermostat is not "off".

Lights Do Not Operate

Check that light switch is on.

Be sure light is properly seated in sockets.

Case Temperature Too Warm

Check that cold air inlet and outlet slots are not blocked.

Be sure front glass is closed tightly and back doors are closed.

Check for blocked or dirty condenser coil.

Check interior air flow. Lack of adequate air flow could be the result of a defective evaporator fan or blocked evaporator coil. Check that paper or foreign material is not blocking evaporator. If the evaporator coil is blocked due to excessive frost, turn the thermostat knob to the "off" position for approximately one hour to defrost. Excessive frost will build up if the case is operated with the rear doors open or the storage door ajar.

Glass Fogging

Check ambient - Case is designed to operate in an environment of 75° F and 55% relative humidity.

Check case temperature - Case is designed to operate between 60° F and 70° F.

Special Service Situations

There are rare occasions when the refrigerant charge must be evacuated from a case in order to perform service work. In those situations, Federal Industries recommends that the refrigerant charge be evacuated into a recovery system in order to reduce the possibility of hydrochlorofluorocarbons (HCFC's) from being released into the atmosphere. The release of HCFC's into the atmosphere is a potential source of ozone depletion.

If moisture or liquid is observed around or under a Federal Industries case an immediate investigation should be made by qualified personnel to determine the source of the moisture or liquid. The investigation made should determine if the case is malfunctioning or if there is a simple housekeeping problem.

Moisture or liquid around or under a case is a potential slip/fall hazard for persons walking by or working in the general area of the case. Any case malfunction or housekeeping problem that creates a slip/fall hazard around or under a case should be corrected immediately.

SALE & DISPOSAL

Owner Responsibility

If you sell or give away your Federal Industries case you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the Customer Service Department at Federal Industries at (800) 356-4206.

The customer service department at Federal Industries should be contacted at the time of sale or disposal of your case so records may be kept of its new location.

If you sell or give away your Federal Industries case and you evacuate the refrigerant charge before shipment, Federal Industries recommends that the charge be evacuated into a recovery system to reduce the possibility of HCFC's being released into the atmosphere. The release of HCFC's into the atmosphere is a potential source of ozone depletion.

REFRIGERATION & ELECTRICAL DATA

	FCCR-4	FCCR-5	FCCR-6
Refrigerant Charge (R-22)	18 oz.	18 oz.	20 oz.

ALL MODELS ARE 115 VOLTS, 1 PHASE, 60 HERTZ

	AMPS	AMPS	AMPS
Compressor			
RLA	6.1	6.1	6.1
LRA	40.0	40.0	40.0
Condenser Fan Motor	0.4	0.4	0.4
Evaporator Fan Motor	0.4	0.4	0.4
Humidity Air Heater	1.6	1.6	1.6
Lamp Circuit	1.0	1.0	1.0
Condensate Evaporator	1.6	1.6	1.6

Refer to the data plate attached to the rear of the case for Maximum Fuse Size and Minimum Circuit Ampacity.

REPLACEMENT PARTS

MODEL FCCR-4, FCCR-5, FCCR-6

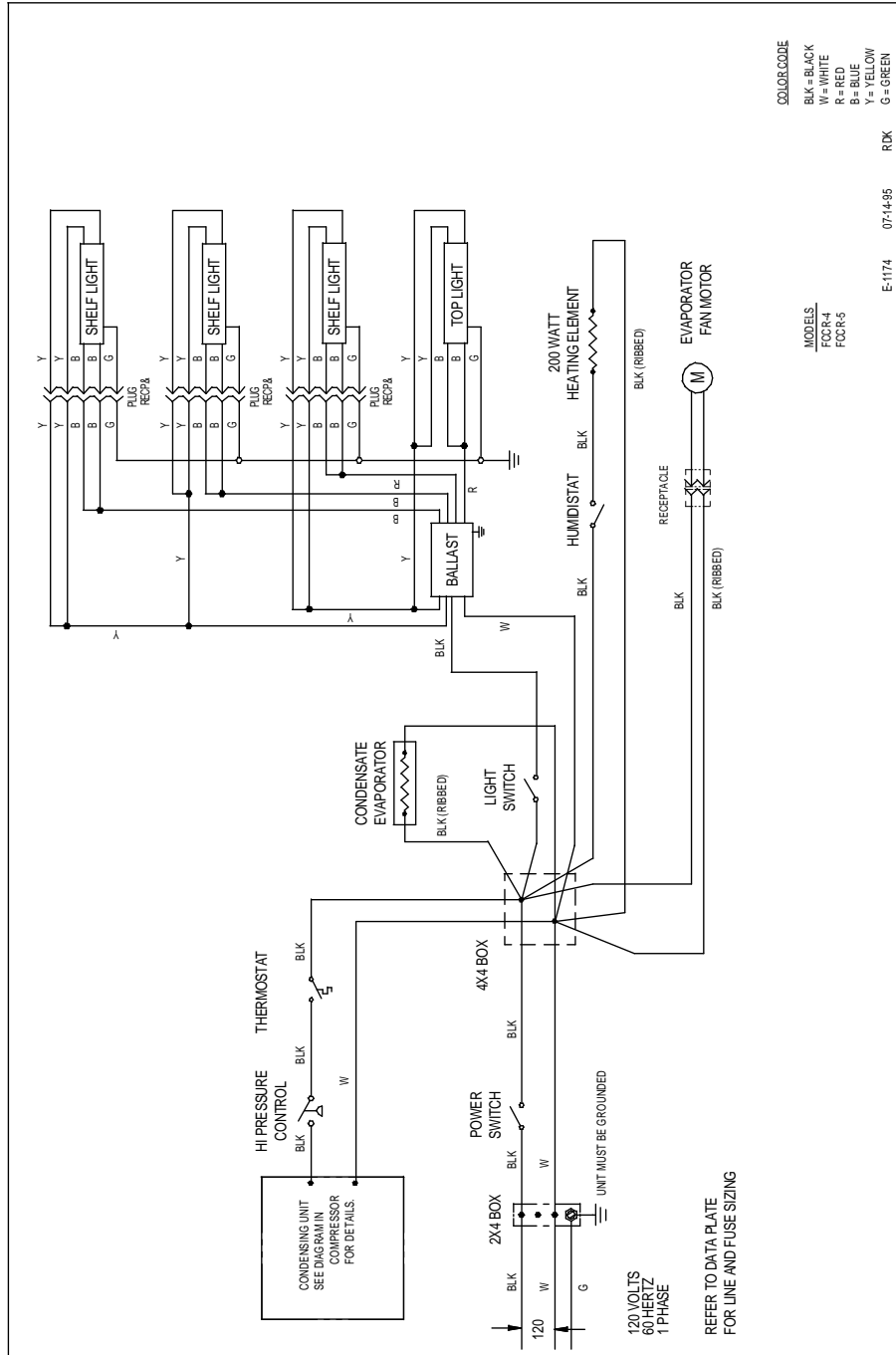
Part Description	Part Number		
<u>Refrigeration System</u>	FCCR-4	FCCR-5	FCCR-6
Condensing Unit	30-11640	30-11640	30-11640
Compressor (Replacement Only)	30-11858	30-11858	30-11858
Evaporator Coil	33-12247	33-12247	33-12248
Expansion Valve	32-11517	32-11517	32-11517
Evaporator Fan Motor	41-11628	41-11628	41-11628
Evaporator Fan Blade	72-32507	72-32507	72-32507
Filter Drier	32-11451	32-11451	32-11451
Thermostat	32-12537	32-12537	32-12537
Humidstat	32-19100	32-19100	32-19100
Pressure Switch	32-11670	32-11670	32-11670
Condensate Evaporator	40-32903	40-32903	40-32903
Thermostat/Humidistat Knob	72-12618	72-12618	72-12618
Humidistat Knob White	furnished with humidistat does not have number		
Crankcase Pressure Valve	32-11481	32-11481	32-11481
<u>Electrical Components</u>			
Power or Light Switch	41-11066	41-11066	41-11066
Ballast	39-12904	39-12904	39-12904
Light Bulb	42-11069	42-11070	42-11071
Light Socket (stationary)	42-10834	42-10834	42-10834
Light Socket (spring loaded)	42-10833	42-10833	42-10833
Heater, Tubular	40-12545	40-12545	40-12545

REPLACEMENT PARTS

MODEL FCCR-4, FCCR-5, FCCR-6

Part Description	Part Number		
<u>Misc. Components</u>	FCCR-4	FCCR-5	FCCR-6
Front Curved Glass	50-18464	50-18465	50-18466
Glass Shelf Top	52-12597	52-12600	52-12603
Glass Shelf Middle	52-12598	52-12601	52-12604
Glass Shelf Bottom	52-12599	52-12602	52-12605
Door R.H. – Reflective	53-12550	53-12552	53-12554
Door L.H. – Reflective	53-12551	53-12553	53-12555
Light Shield	42-30209	42-30209	42-30209
Shelf Support L/R Plastic	67-12648	67-12648	67-12648
Shelf Support Center Plastic	67-12647	67-12647	67-12647
Gray Shelf Pad	78-10270	78-10270	78-10270
Mirrored End – Left	55-18451-L	55-18451-L	55-18451-L
Mirrored End – Right	55-18451-R	55-18451-R	55-18451-R

WIRING DIAGRAM – FCCR-4 & FCCR-5

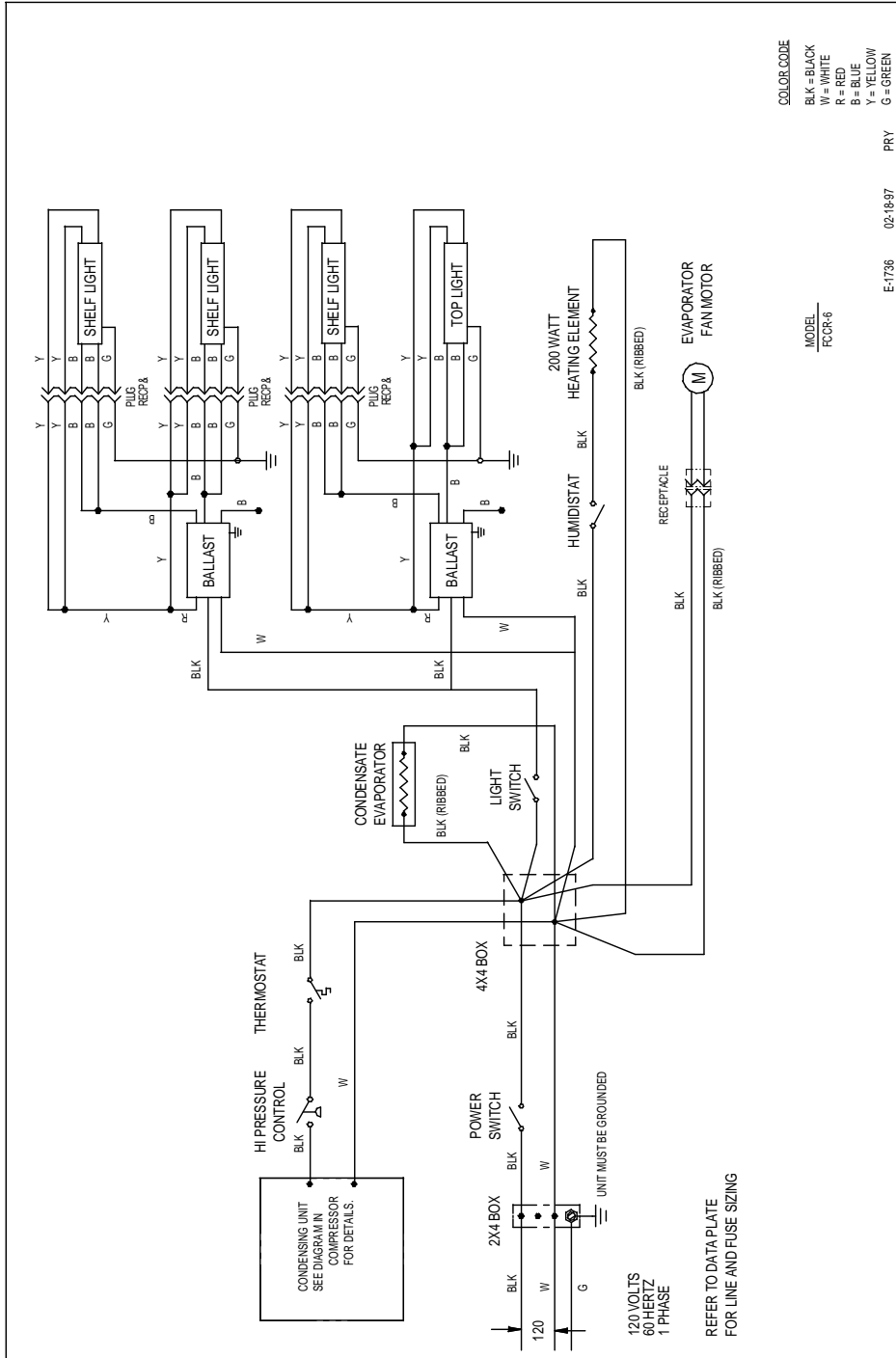


COLOR CODE
 BLK = BLACK
 W = WHITE
 R = RED
 B = BLUE
 Y = YELLOW
 G = GREEN

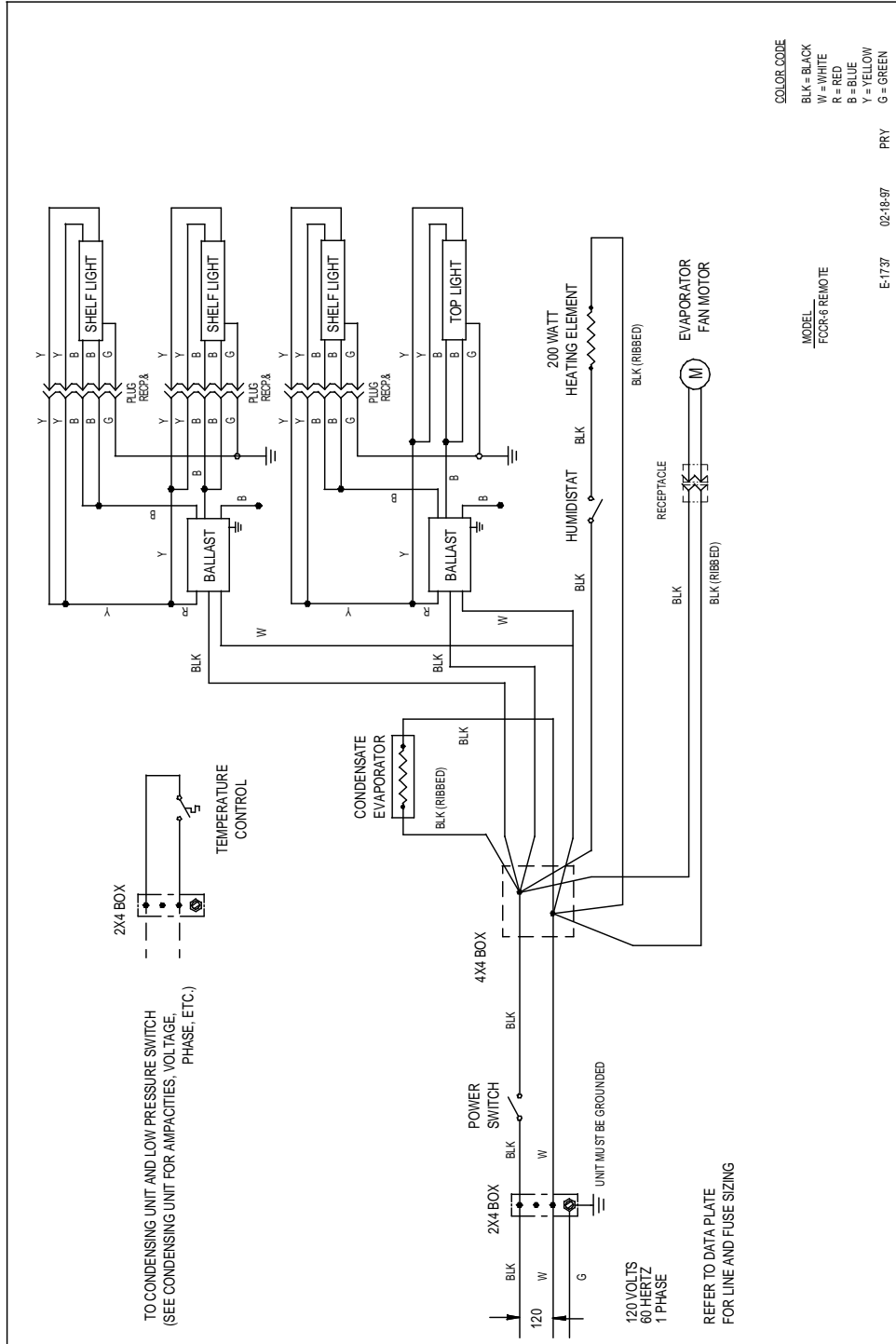
MODELS
 FCCR-4
 FCCR-5

E-1174 07-14-95 RDK

WIRING DIAGRAM – FCCR-6



WIRING DIAGRAM - FCCR-6 REMOTE



California Residents Only.

 **WARNING**

This product can expose you to chemicals including chromium which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov