

E3091-2
11/15/19
REV. D



The Signature of Quality[®]

INSTALLATION & OPERATIONS INSTRUCTIONS
*REFRIGERATED SSRSP
SANDWICH PREP CASE MODELS*



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 AVE
WI Phone (608) 424-3331

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

CONTENTS

INTRODUCTION	3
WARNING LABELS & SAFETY INSTRUCTIONS	4
PRE-INSTALLATION PROCEDURES	5
<u>Inspection for Shipping Damage</u>	5
GENERAL ELECTRICAL & GROUNDING	5
<u>Permanent Connected</u>	5
<u>Cord Connected (Option)</u>	5
<u>Electrical Information</u>	6
INSTALLATION INSTRUCTIONS	6
<u>Locating the Display Case</u>	6
<u>Removing Case from Shipping Skid</u>	6
<u>Cleaning</u>	6
REFRIGERATION	7-8
<u>Self-Contained Models</u>	7
<u>Remote Models</u>	7-8
<u>Electronic Expansion Valve</u>	9
SHELVING INSTALLATION & REMOVAL	10-12
<u>Shelf Brackets & Supports</u>	10-11
<u>Solid Shelf</u>	11
<u>Glass Shelves (Option)</u>	12
REAR DOORS	13
<u>Bottom Section Rear Doors (Option)</u>	13
NIGHT CURTAIN (OPTION)	14
SECURITY NIGHT COVER (OPTION)	15
OPERATING INSTRUCTIONS	16-19
<u>Power Switch</u>	16
<u>Light Switch</u>	16
<u>Temperature Control</u>	16-19
Button and Display Overview	17
Powering on Control.....	17
Adjusting the Set Point	17
Entering Manual Defrost Mode	18
Error Codes.....	18
Electronic Control Operation.....	19
Control Parameters	20
<u>Initial Startup</u>	20
<u>Placing Product in Upper Food Pan Section</u>	21
MAINTENANCE	22
<u>Ceiling LED Replacement (Cases mfg'd after 08/01/18)</u>	22
<u>Shelf LED Replacement (Cases mfg'd after 08/01/18)</u>	22
PERIODIC MAINTENANCE	22
<u>Cleaning Condenser Coil</u>	22
CLEANING INSTRUCTIONS	23-26
<u>Daily Cleaning</u>	23
<u>Weekly Cleaning</u>	24
<u>Weekly Interior Cleaning</u>	24-26
<u>Weekly Exterior Cleaning</u>	26
SERVICE INFORMATION	27-28
<u>Special Service Situations</u>	28
<u>Pre-Service Checklist</u>	28
SALE & DISPOSAL	29
Owner Responsibility.....	29
WIRING DIAGRAMS	30-32
<u>Self-Contained (mfg'd before 08/01/18)</u>	30
<u>Remote (mfg'd before 08/01/18)</u>	30
<u>Self-Contained (mfg'd after 12/15/18)</u>	31
<u>Remote (mfg'd after 12/15/18)</u>	31
<u>Self-Contained (mfg'd after 1/20/20)</u>	32
<u>Remote (mfg'd after 12/1/19)</u>	32
REPLACEMENT PARTS	33-34

INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Refrigerated Self-Service Merchandisers. A repair parts list and wiring diagram are also included in the manual. Read all 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 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.

REGISTRATION & SERIAL NUMBER

It's important to keep a record of the model and serial number of your merchandiser for warranty and part identification. Please write them here for your quick reference.

Register your product online! Visit our website at www.federalindustries.com and register your product today.

Case Model _____ Serial Number _____

We're here to provide you with the best possible experience with your new product, however, we cannot cover everything about your merchandiser in this manual, so if you have any additional questions or issues, please see the SERVICE INFORMATION PAGE to find who you should contact.

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 procedures.



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 warning and safety messages:

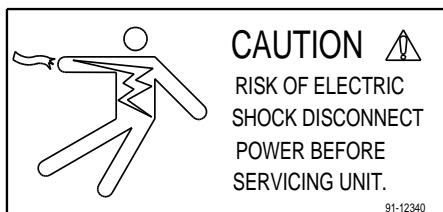
DANGER: Severe injury or death will occur if you ignore the message.

WARNING: Severe injury or death can occur if you ignore the message.

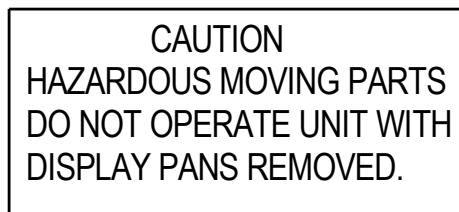
CAUTION: Minor injury or damage to your case can occur if you ignore the message.

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.



This label is located below the display pan.

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, 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.

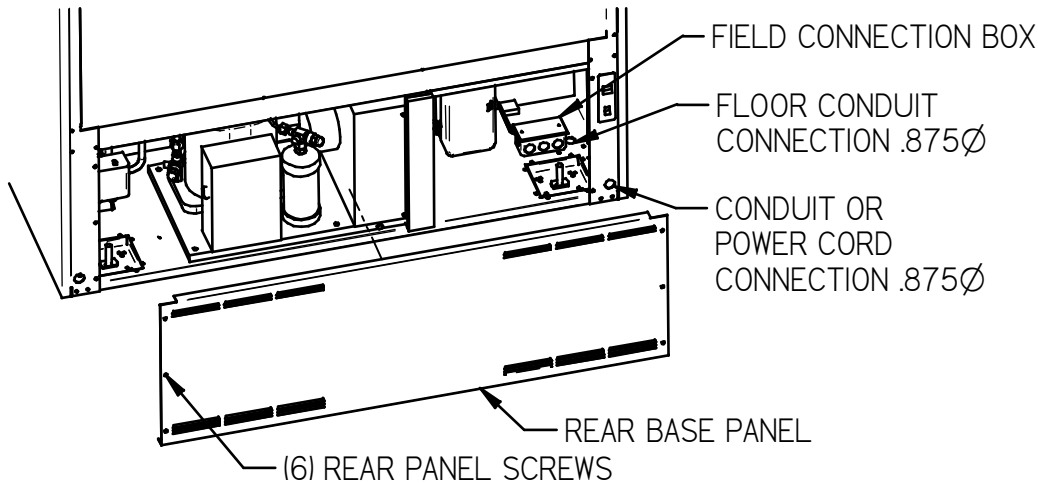
GENERAL ELECTRICAL & GROUNDING



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

Permanent Connected (OPTION)

- Only a licensed electrician must perform all case electrical connections.
- All electrical wiring hookups must be done in accordance with all applicable local, regional, or national electrical standards.
- A separate circuit for each display case is required to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.
- The electrical service must be grounded upon installation.
- See the electrical data plate located at the rear of the case for proper circuit size and wire ampacity.
- The electrical connection box is accessible from the rear of the case with rear grill removed.



Cord Connected (OPTION)

- A factory installed optional power cord is properly sized to the amperage requirements of the case. See the electrical data plate located on the rear exterior of the case for the proper circuit size for each case.
- The cord is factory installed protruding from the rear corner of the case.
- A separate circuit for each display case is required to prevent other appliances on the same circuit from overloading the circuit and causing malfunction.

Electrical Information

PERMANENTLY CONNECTED					
MODEL	SELF CONTAINED			REMOTE	
	VOLTAGE	TOTAL AMPS	MAX FUSE SIZE	VOLTAGE	MAX FUSE SIZE
SSRSP5052	230/60/1	9.5	15	120/60/1	15
SSRSP5952	230/60/1	14.5	20	120/60/1	15
SSRSP7752	230/60/1	14.5	20	120/60/1	15

CORD CONNECTED OPTIONAL			
MODEL	SELF CONTAINED		
	VOLTAGE	TOTAL AMPS	CORD STYLE
SSRSP5052	230/60/1	9.5	15AMP NEMA 6-15
SSRSP5952	230/60/1	14.5	20AMP NEMA 6-20
SSRSP7752	230/60/1	14.5	20AMP NEMA 6-20

(E3091-2 EXCEL)

INSTALLATION INSTRUCTIONS

Locating Display Case

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

The case requires a minimum of 12” clearance at the rear of the unit for air discharge. Do not locate case with back tight against the wall.

No clearance is needed on sides of the unit.

Removing Case From Shipping Skid and General Installation



CAUTION: Do not push or pull against the top end glass, or door frames, and do not pull on end panels when removing the case from the skid or moving the case. Case damage or glass breakage will result.

1. Remove crate top and sides and note missing or damaged items as explained in the pre-installation procedures outlined above.
2. Move the case as near as possible to the final location before removing it from the shipping skid.
3. Remove the (4) brackets that secure the case to the shipping skid.
4. Prepare cabinet according to instructions in this section that pertain to your model.
5. Lift the case off of skid and into required position. Only lift the case from under the rear lip and front bottom trim channel above the base. Note: Do not push or pull on front bottom trim channel.
6. The case must be level for proper drainage of defrost condensate to the condensate evaporator. Using the wrench provided, level and square the case as needed by adjusting the leg leveler in each corner of base. The 6' cases also have a set of leg levelers in the center which must be adjusted so the base is flat.
7. The leveled case must be sealed to the floor using a NSF Listed Sealant.

Cleaning

For initial setup, clean the case as outlined in the “Weekly Cleaning” section of this manual.

REFRIGERATION

Self Contained Models

BEFORE 12/1/19

SELF CONTAINED			
WITH ELECTRONIC CONTROL	SSRSP5052	SSRSP5952	SSRSP7752
Refrigeration R404 Charge	32 OZ	34 OZ	36 OZ

(E3091-2 EXCEL)

AFTER 12/1/19

SELF CONTAINED			
WITH ELECTRONIC CONTROL	SSRSP5052	SSRSP5952	SSRSP7752
Refrigeration R449 Charge	32 OZ	34 OZ	36 OZ

The self-contained models are shipped from the factory with a completely operational 404A refrigeration system (before 12/1/19) or 449A refrigeration (after 12/1/19) and require no modifications or adjustments upon installation. The case must be installed as per the installation section of this manual to provide proper condensing air cooling.

The dual pressure control is used as a safety device and is factory set. The pressure control works on a differential. The low-pressure side is a safety to protect the compressor in the case of refrigerant loss. The high-pressure side is a safety to protect from system failure causing too high of system pressure.

The high side of the pressure control is factory set to 400psi and is not adjustable. Low side setting for the R404a and R449a cases are set at 40psi differential for the cutout and 60psi for the cut-in.

Note: The condenser fan runs continuously.

This unit also has a defrost timer that will shut the compressor off a set number of times per day to insure a full defrost occurs. The compressor will remain off until the either the off time is reached or until the temperature sensor on the coil reaches a set temperature, whichever happens first.

Remote Models

REMOTE			
	SSRSP5052	SSRSP5952	SSRSP7752
Refrigeration R449 Charge	CHARGED IN FIELD		
Remote Low Press. Switch Cut In	50		
Remote Low Press. Switch Cut Out	15		
Remote High Press. Switch Cut Out	450 psi		
BTU Requirement @90F/20F	5400	6400	7400

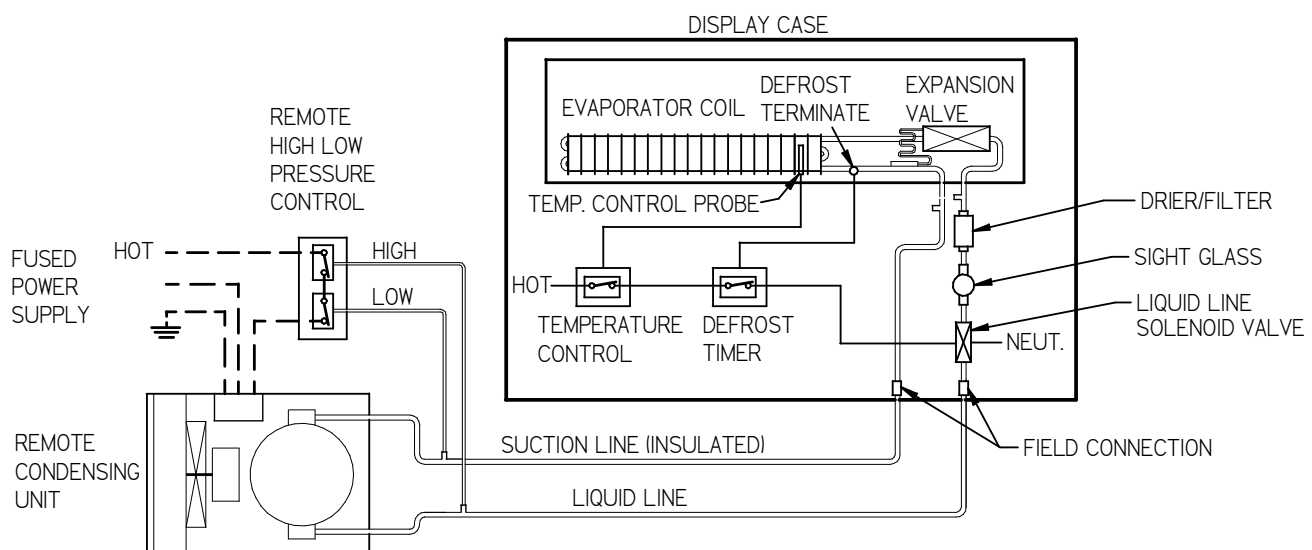
(E3091-2 EXCEL)

Remote Models

The remote models are designed to use 449 refrigerant and are shipped from the factory with the evaporator coil, expansion valve, sight glass and refrigerant solenoid valve. A thermostat senses evaporator temperature and opens and closes the refrigerant solenoid valve. The solenoid valve closes and shuts off the refrigeration flow to the unit and initiates a pump down cycle. This will allow the remote low pressure switch to open and shut off remote compressor. The temperature control may require some adjustment by the installer for proper operation of unit. This unit also has a defrost timer that will shut the refrigeration solenoid off a set number of times per day (set at the factory to 3 times per day) to insure a full defrost occurs. The solenoid will remain off until either the off time is reached or until the temperature sensor on the coil reaches a set temperature, whichever happens first

The condensing unit is optionally supplied from the factory for remote location installation. The condensing unit supplied from the factory will require a high low pressure switch that must be mounted and wired by the installer. The high low pressure switch must be wired in series with the compressor power supply as shown in diagram below. A drier/filter must also be installed by installer.

1. Mount condensing unit indoors as close to the remote display case as practical. The refrigeration line should be as short as possible and must not exceed 30 feet.
2. All refrigeration and/or electrical materials between the condensing unit and display case are to be supplied by installing contractor.
3. Route properly sized and designed refrigeration lines from the condensing unit to the cabinet. Horizontal suction lines should be pitched downward towards the condensing unit at least $\frac{1}{2}$ " per 10' run to aid the oil drainage. A "P" trap must be installed in the suction line at the foot of every riser to insure oil return. Dry nitrogen must be used to flow through tubing while brazing refrigeration lines.
4. The suction line must be insulated the entire length with Armaflex (or equivalent). Do not run liquid line inside insulation with suction line.
5. The remote high/low-pressure control must be mounted, wired and set pressures by the installer.
6. Leak check the condensing unit, cabinet, and all connecting tubing. The cabinet and condensing unit tubing should be checked to insure no leaks occurred during shipping or from rough handling. Make certain all refrigeration valves are opened and evacuate system to 500 microns. Charge the system with the refrigerant type specified on the data plates.



Electronic Expansion Valve (EEV) After 1/20

A traditional TXV uses springs and a temperature bulb to open and close a valve port that controls the flow of refrigerant entering the evaporator coil. An electronic expansion valve (EEV) controls the refrigerant flow much more precisely, increasing the performance and efficiency of the refrigeration system. The EEV controls the flow of Refrigerant by opening and closing the valve port based on the response to signals sent to the EEV by an electronic controller. The electronic Control bases these signals by processing information provided from a temperature sensor and pressure transducer located on the discharge side of the evaporator coil.

These sensors monitor the evaporator superheat and protects the compressor from any liquid flood back under low superheat conditions.

EEV Controller Settings

The electronic expansion valve controller also allows the use of different types of refrigerants without the need to change the expansion valve.

The controller is set from the factory to run on 449A refrigerant and will not need any changes to the control unless another refrigerant is used.

Note: Check your State and Local regulations for approved refrigerants for your install location. Federal Industries is not liable for any alternate refrigerants used.

The control is located in the front left corner of evaporator tub under the Display Deck Pan.

Note: Never change any of the other setting other than the refrigerant type. It may also be necessary to change the superheat setting only when using a different refrigerant.



Indicator lights	
	Red light - critical alarm (system is NOT running)
	Yellow light - non-critical alarm (system running)
	Green light - compressor on
	Green blinking - compressor waiting on timer to start/stop

Changing Refrigerant

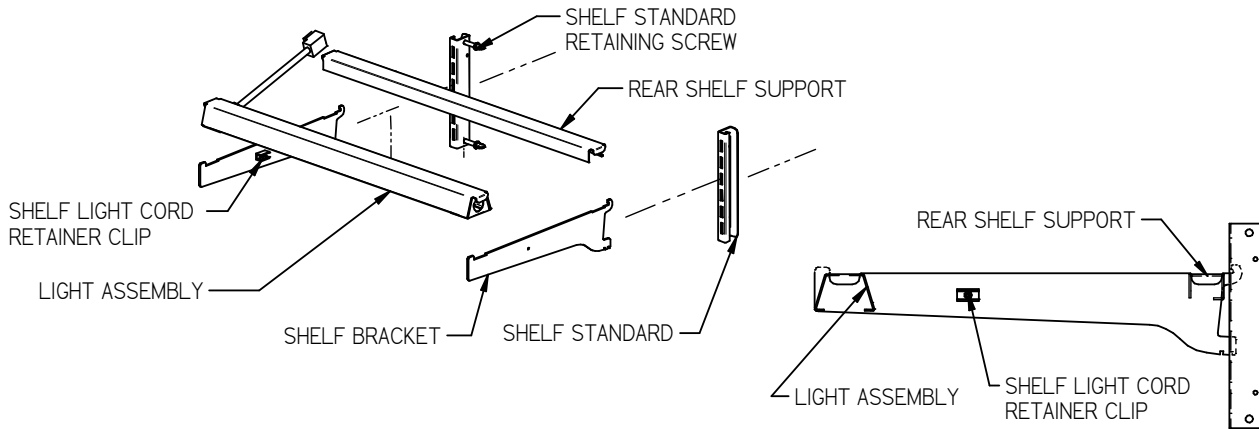
- Access the set point mode by pressing and holding the **ENTER** button until Ctl displays on the screen.
- Use the up or down arrows to advance through the available set points until rFG displays on the screen and press the **ENTER** button.
- Use the up or down arrows until the desired refrigeration displays on the screen and press and hold the **ENTER** button until rFG once again displays on the screen.
- Press the **BACK** to return to escape the settings menu.

Changing Superheat

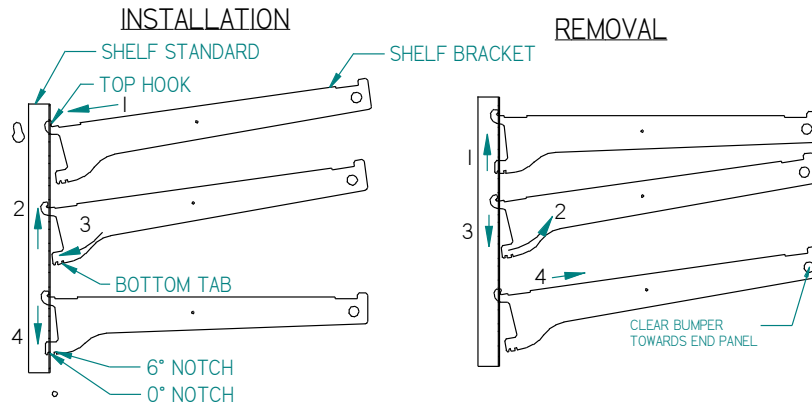
- Access the set point mode by pressing and holding the **ENTER** button until Ctl displays on the screen.
- Use the up or down arrows to advance through the available set points until SSP displays on the screen and press the **ENTER** button.
- Use the up or down arrows to set the desired superheat displays on the screen and press and hold the **ENTER** button until SSP once again displays on the screen.
- Press the **BACK** to return to escape the settings menu.

SHELVING INSTALLATION & REMOVAL

Shelf Bracket & Supports Installation



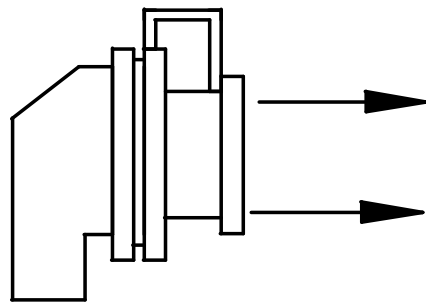
1. Turn the light switch to the off position.
2. Follow the instruction in the illustration below and insert (1) of the (2) shelf brackets in the desired shelf standard slot on one side of the case. Place the additional shelf bracket at the same height on the shelf standard slot on the opposite end of case. The bracket with a shelf light cord retainer clip must be on the side with the shelf light receptacle.



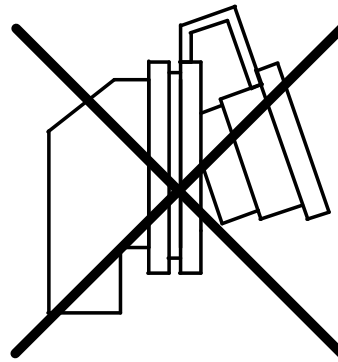
1. Place shelf bracket top hook into desired shelf standard slot.
2. Lift shelf bracket top hook to allow shelf bracket bottom tab to clear shelf standard slot.
3. Swing shelf bracket bottom tab into shelf standard slot.
4. Place the desired shelf bracket notch of 0, 6, or 12 degrees onto bottom of shelf standard slot.

1. Lift shelf bracket up to allow shelf bracket notch to clear the bottom of shelf standard slot.
2. Swing shelf bracket bottom tab out of shelf standard slot.
3. Drop shelf bracket down to allow shelf bracket top hook to clear top of shelf standard slot.
4. remove shelf bracket top from shelf standard slot.

3. Hang one end of the shelf light housing or shelf support on the front notch of a shelf bracket. Hang the other end of the shelf light housing or shelf support on the notch of the other shelf bracket.
4. Push shelf light cords into plastic shelf cord retainer clip located on inside of shelf bracket.
5. Remove the cap from the appropriate female light sockets.
IMPORTANT: Grip each side of cap firmly and wiggle and pull cap straight out of socket. Do not roll cap during removal. Incorrect removal of cap may cause damage to electrical connection.



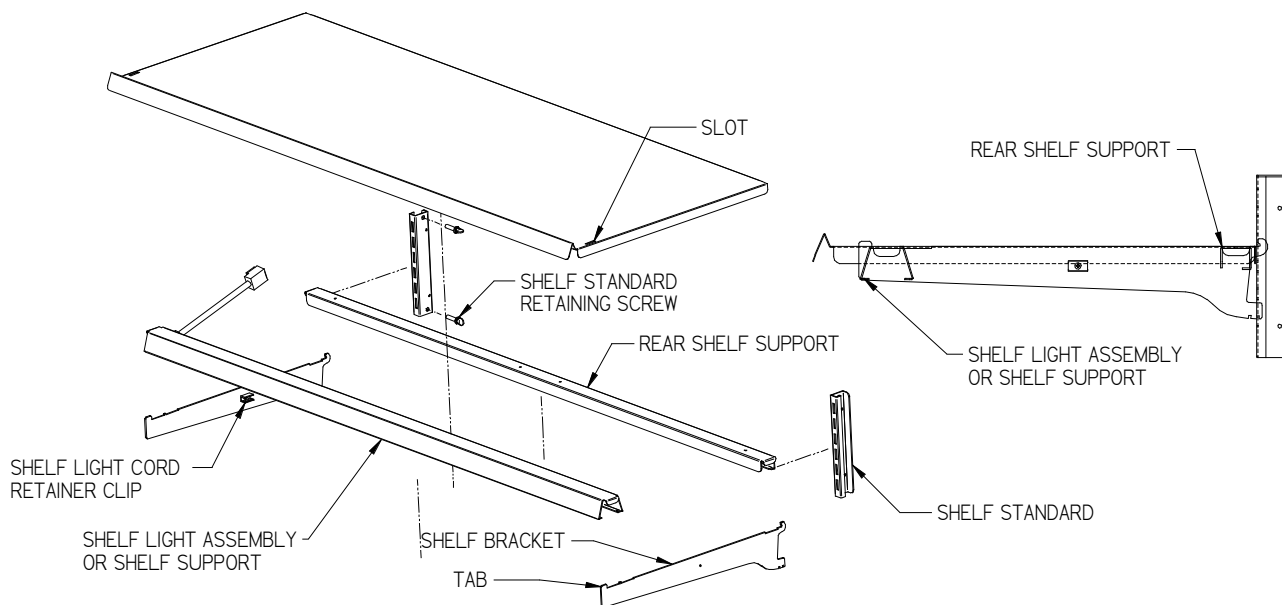
RIGHT



WRONG

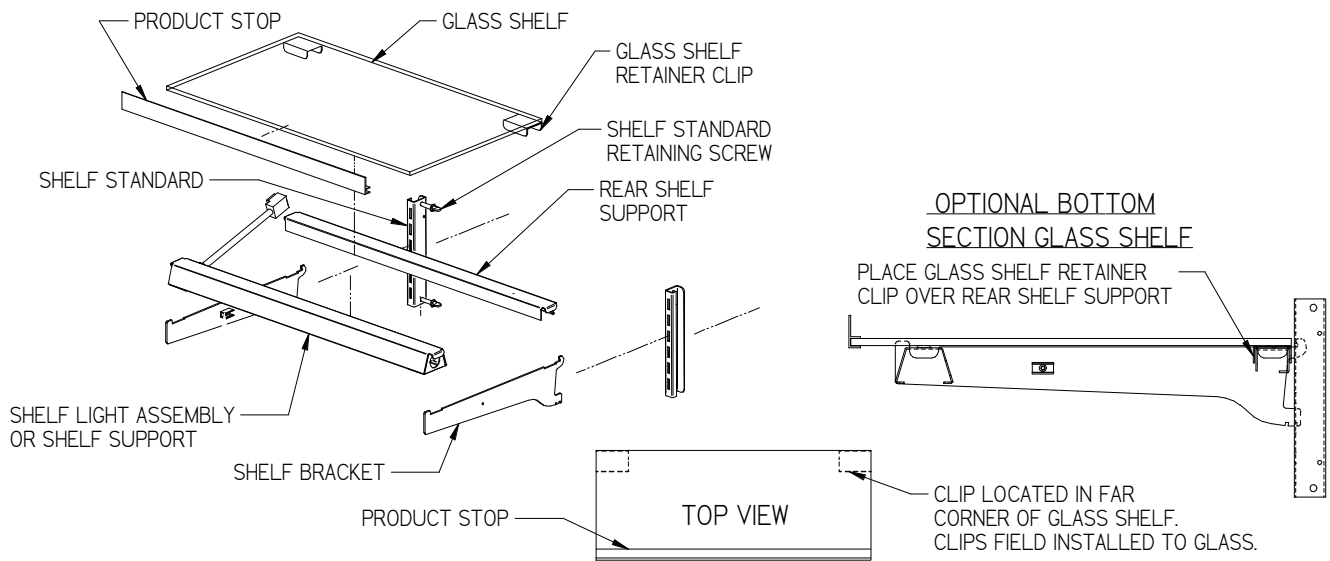
6. If the socket is not being used for a shelf light, the cap must be plugged into the socket. On models with the 5 pin shelf plug, this is necessary for the entire light system to operate. On models with the 3 pin shelf plug, this is necessary to prevent buildup and damage to the receptacle.
7. Plug in shelf light by aligning the male pins on the appropriate shelf light cord plugs with the female light sockets and push together. **IMPORTANT:** Do not roll plug during insertion.
8. Hang one end of the shelf support on to the rear notch of one shelf bracket and then on the rear notch of the shelf bracket on the opposite side.
9. Place supplied shelving onto shelf supports as outlined in the appropriate "Shelf Installation" section of this manual.
10. Removal of shelving is performed by following steps in reverse order.
11. The shelf standards are removable from case by removing the (2) shelf standard retaining screws holding them to the inside wall of case.

Solid Shelf Installation



1. Install shelf brackets and shelf supports as described in the Shelf Bracket & Supports Installation Section of this manual.
2. Place the front of metal shelf onto front shelf light assembly or front shelf support. The tab on end of shelf bracket must go through slot in front of shelf.
3. Place the back of shelf over the back of the rear shelf support.

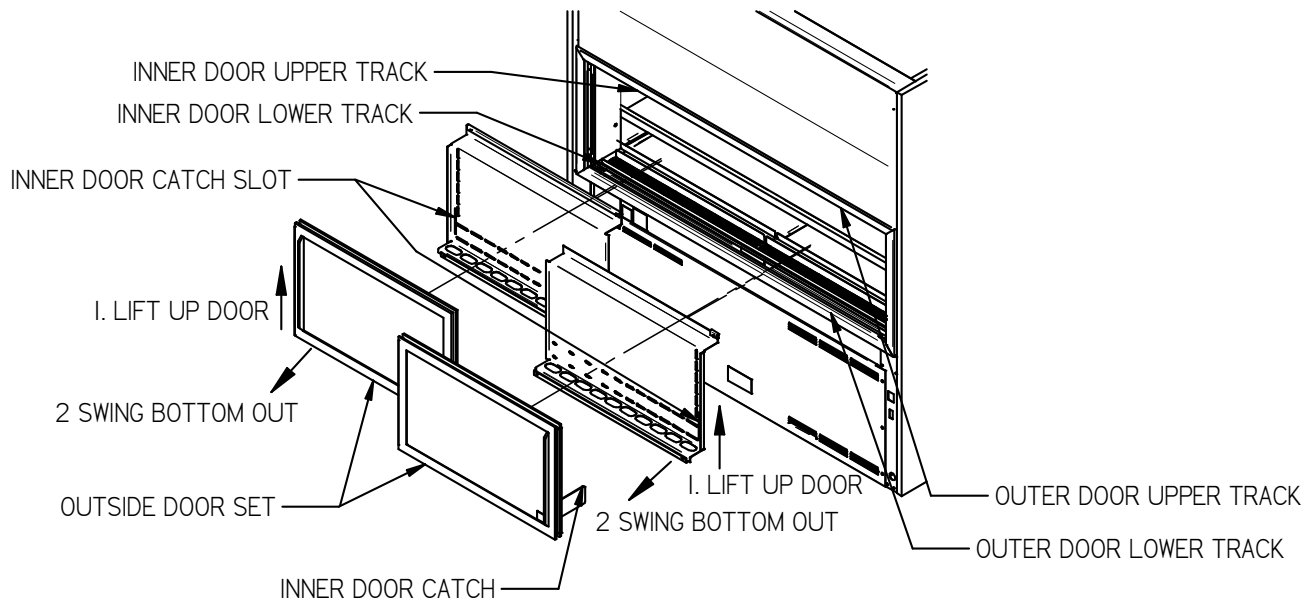
Glass Shelf Installation (OPTIONAL)



1. For first time installation, it will be necessary to attach the (2) glass shelf retainer clips to each glass shelf. First, use rubbing alcohol to clean the glass shelf in the areas where the clips will be adhered and allow to air dry. Remove the backing from the tape located on flat side of glass shelf retainer clip. Position the glass shelf retainer clips in the (2) far corners of glass as indicated in the above illustration. Repeat for each glass shelf.
2. Also for first time installation, it will be necessary to attach (1) product stop to each glass shelf. Using the above illustration for reference, align the product stop edge with the edge of the glass and push the “U” section of the product stop onto the glass lip. Make sure that the lip of the glass shelf is inside the “U” section of the product stop across the entire front of glass.
3. Attach a clear bumper on both sides of the top surface of the light housing or front shelf support for the front of the glass shelf to set on. This step may have already been performed at the factory for you.
4. Install the shelf by placing the glass shelf retainer clips over the rear shelf support. Verify that the front of the glass shelf is resting on the clear bumpers mentioned in step 3.

REAR DOORS (OPTION)

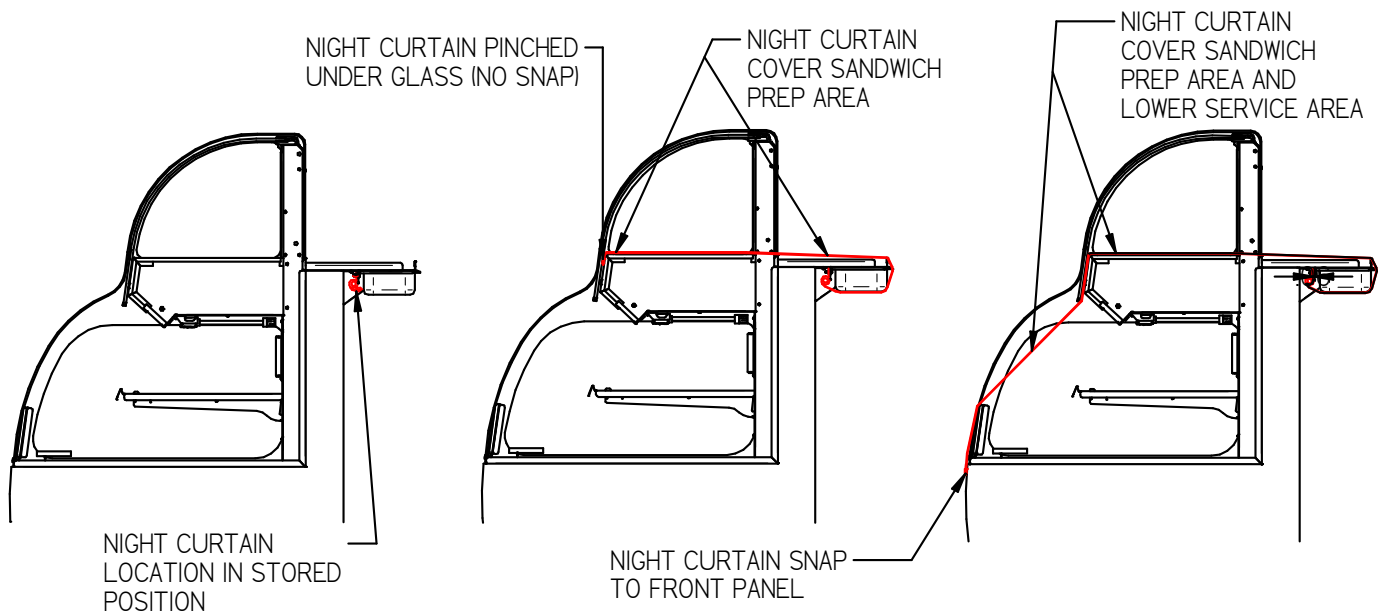
BOTTOM SECTION REAR DOORS (OPTIONAL)



1. Starting with the outer outside door, lift the door upward until the bottom edge of door clears the lower track and then swing the bottom of the door outward and down out of upper track.
2. Remove the outer inside door using the same procedure.
3. The inner door set can then be removed using the same procedure starting with the inner outside door followed by the inner inside door.
4. Reverse this procedure for door reinstallation starting with the inner inside door followed by the inner outside door. Check that the doors slide freely.
5. Replace the outside inner door and the outside outer door. Be sure to slide the inner door catch into the inner door catch slot for each door.

Note: The doors are not interchangeable and they must be replaced in the same location that they were removed from.

NIGHT CURTAIN OPERATION



The night curtain rolls up and is stored under the sandwich wrap board as shown in first view. The curtain can be used to cover only the upper sandwich prep area when not in use (as shown in second view). The curtain can be used to cover the sandwich prep area and the lower service area (as shown in third view)

OPENING:

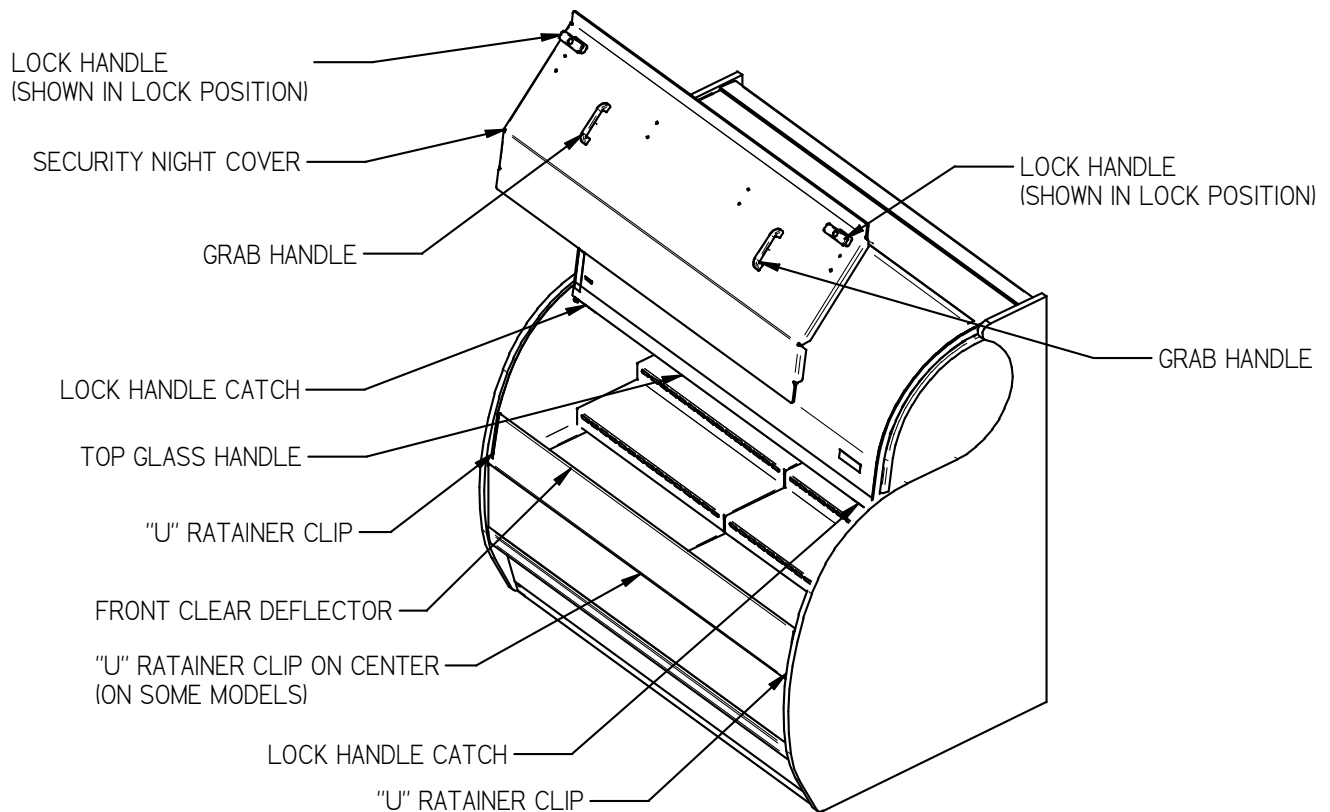
1. Standing behind the case, grasp the night curtain strap and begin unrolling the night curtain down and around sandwich prep area. Hook the edge of night curtain over the front edge of sandwich prep area under the front glass.
2. Move around to the front of the case. Lift the front glass and pull the night curtain out in front of case. Attach the snap located under the night curtain strap to the snap located on the front lower panel.

CLOSING:

1. From the front of case, grasp the night curtain strap and detach it from the snap located in the front lower panel.
3. While holding the night curtain strap hook the front of night curtain over the front edge of sandwich prep area.
2. From behind the case, unhook the night curtain from the front edge of the sandwich prep area. Allow the night curtain to roll up around the rear of the case and back under the sandwich prep board.

Note: The 59” and 77” models have (2) night curtains.

SECURITY NIGHT COVER (OPTION)



REMOVAL:

1. Unlock the lock handles and turn the handles to the vertical position to disengage from lock handle catches.
2. Grab the front grab handles and lift the cover straight up and out of the case opening.

INSTALATION:

1. Turn the lock handle so the latch handle is vertical to the top of the case.
2. Holding the grab handles place the bottom flange of the security night cover inside the "U" retainers clips located on each side of case opening behind the front clear deflector. There also may be a "U" retainers clip in the center of the case that must also engage the security night cover flange.
3. Set the top flange of the security cover down against the top glass handle.
4. Turn the lock handles so they engage the lock handle catches and use the key to lock them in place.

IMPORTANT: Cleaning the Acrylic plastic security night cover requires special care to prevent hazing of the material. Lightly dust (not wipe) the surface with clean soft cloth. Then the surface can be wiped carefully with a soft, wet cloth or chamois. The cloth or chamois must be kept free of grit by frequently rinsing in clean water. Grease and oil can be removed with kerosene. Do not use window cleaners or kitchen scouring compounds. DO NOT use solvents such as Acetone, Benzene, Carbon Tetrachloride, and Lacquer Thinners. A spray wax such as Pledge or Maguire's polish can be applied and wiped with a clean soft cloth. The wax tends to fill in and hide small scratches.

OPERATING INSTRUCTIONS

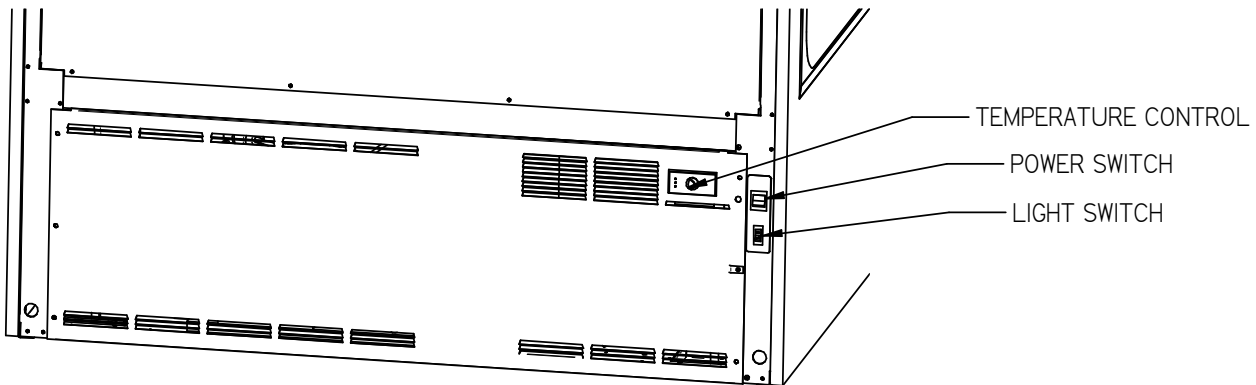


NOTICE:

This refrigerated display case is designed to operate in a maximum environment of 75°F (23.9°C) and 55% relative humidity. Exceeding these limits will cause poor case performance and excessive sweating.

Temperature Control Functions

1.1 USER CONTROLS OVERVIEW



Power Switch

The unit has a power switch that turns off power to the entire unit, including the condensate evaporator and the lights.

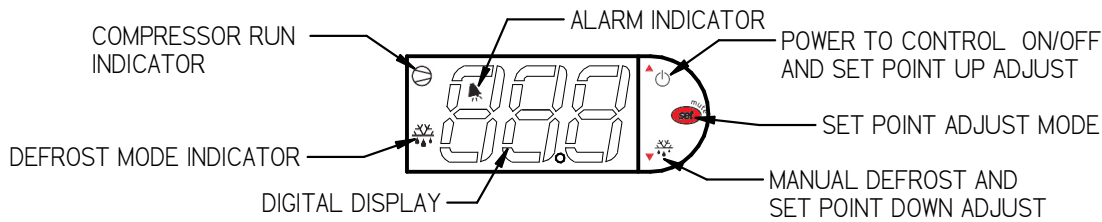
Light Switch

The unit has a light switch that turns on and off the interior lights of unit.

Electronic Temperature Control

Located in the rear grille of the display case, the temperature control allows the user to adjust the temperature of the display merchandiser to their needs.



Button and Display overview





Button Overview

	Press and hold this button for three seconds to turn system on (if off) or off (if on). Also used to adjust set point when in set point adjust mode
	Press to enter set point adjust mode, confirm set point changes, and mute alarms.
	Press and hold this button for three seconds to initiate a manual defrost (and cancel defrost if initiated), also adjusts set point down when in set point adjust mode





Powering on control

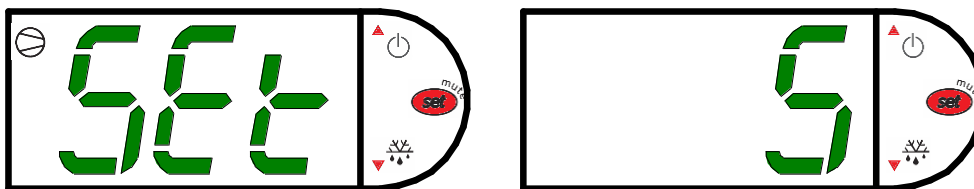
To turn refrigeration control power on, press and hold  for approx. three seconds. The display will read “On” while the button is depressed. When the control powers on, the display will read the current set point (a number “1” thru “9”). The compressor run indicator  will illuminate on the display, meaning that the compressor is running. (Note: the control may already be in the on mode when shipped from factory).

To turn refrigeration control power to off, press and hold  for approx. three seconds. The display will read “Off” while the button is depressed. When the control powers off the display will flash back and forth between the relative current case temperature and “Off”. The compressor run indicator  will be off on the display. When refrigeration control is in the off-mode cabinet lights and evaporator fans will still operate, but the compressor will not turn on causing the case to gradually reach room temperature.







Adjusting the set point

The set point is what determines how cold the display case will hold food and beverage. To adjust the set point press and hold the  button approx. three seconds until the display begins to flash a number. Then press the use the  button to scroll number up (colder) or press the  button to scroll number lower (warmer). There are nine (9) available set points numbers, the higher the number of the set point, the colder the display case will run, with setting “9” being the coldest and setting “1” being the warmest. Once you have chosen your desired setting press the  button again to confirm your choice.




Entering Manual Defrost Mode

In order to initiate a manual, defrost press and hold the  button approx. three seconds. The control will read “dEF” while the button is being held. The defrost is initiated when the defrost mode indicator  illuminates on the display. The control display will then return to reading the case temperature. When the defrost mode indicator  turns off the defrost is complete and the compressor will turn back on illuminating the compressor run indicator .



Error codes

It is possible for error codes to be displayed on the control screen. In the event of a malfunction an alarm will sound and the alarm indicator  will be displayed on the display. An error code or codes will flash intermittently on the display. If there are multiple codes, the display will continuously cycle through them. The following photo shows error code “E0” as an example.



Mute: You may mute the alarm by pressing and releasing the wrench button. The red ringing bell and all error codes will still be displayed. When the fault is remedied the control will return to normal operation and will automatically clear the codes from the display.

Carel Control

E0 = Air sensing probe - Open or shorted

E1 = Evap. coil probe - Open or shorted

Error codes may be encountered if either the controller or the display case is malfunctioning. The following is a list of error codes that may be encountered.

Table 1 - Error Codes and Resolutions

Code	Description	Cause	Resolution
E0	Temperature probe error	Probe signal is interrupted or short-circuited	Check to ensure probe wires and quick disconnect are secure in control. Check probe resistance to table below. If 0 resistance is present check wiring insulation. If infinite resistance is present check for breaks in wiring (meter will likely read overload or very high in the mega-ohm range). Ensure that probes are wired per the wiring diagram provided. Replace probe if other remedies fail, or if probe resistance deviates from “\Table 3” below
E1	Defrost probe error	See E0	
EE	Unit parameter reading error	Operating conditions	Remedy abnormal operating conditions. The control is rated to operate in a range of 14 to 122°F (-10 to 50°C) and less than 90%RH non-condensing. Replace control if problem persists.
EF	Operating parameter reading error	See EE	

ELECTRONIC CONTROL OPERATION

This unit is equipped with an electronic temperature control. The control parameters are set at the factory and cannot be manually changed in the field. The pre set control parameters are listed on the chart in the Settings Chart below.

Operation

The control uses two sensors, one located in the air stream and one located on the evaporator coil. The sensor located in the air stream is referred to as the temperature control sensor. The sensor located on the evaporator coil is referred to as the defrost probe.

The temperature control sensor is located on the plastic tub behind the evaporator coil to the left in the cold air stream. The sensor location is critical for proper operation on the unit. Do not move or relocate this sensor.

The coil sensor is strapped to the evaporator coil. This sensor location is critical for proper operation of the unit. Do not move or relocate this sensor.

The temperature control is set to cut in at 39°F (3.9°C). The Temp control cuts out at 26°F (-3.3°C) at the coldest setting “9” and 36°F (2.2°C) at the warmest setting “1”.

See “**Error! Reference source not found.**” on page **Error! Bookmark not defined.** for more details on using the control.

Defrost Cycle

The control is programmed to initiate defrost via two different methods. There are 3 programmed defrost cycles in the case which will initiate a defrost cycle every 8 hours. The unit does not have a time clock so the defrost cycles cannot be set for any specific time of day.

The unit also has an ‘On demand’ defrost feature that will initiate a defrost when the temperature differential between the evaporator temperature and the air temperature is more than 20°F (11.1°C) for 5 minutes after 30 minutes into the refrigeration cycle (e.g. if the air stream probe measures 42°F/5.6°C or greater and the defrost probe measures 20°F/-6.7°C or lower for five minutes). Once initiated the defrost cycle will terminate when evaporator coil sensor reaches 43°F (6.1°C).

If a manual defrost is required, one can be initiated by pressing and holding the down arrow for three (3) seconds. This is typically unnecessary and should only be performed if special circumstances require it.

CONTROL PARAMETERS

Table 2 - Control Parameters

Parameter Description									
Control Setpoint →	1	2	3	4	5	6	7	8	9
Compressor Cut out [°F]	34.0	32.6	31.3	30.0	28.8	27.6	26.4	25.2	24.0
Compressor Cut in [°F]	39.0°								
Compressor Min On Time	10 min								
Compressor Min Off Time	3 min								
Compressor Max Run Time	90 min								
Defrost Termination Temp [°F]	43.0								
Time to first defrost	8 hr.								
Time to subsequent defrost	8 hr.								
Maximum Defrost duration	30 min								
Defrost on demand differential [°F]	20.0								
Delay for defrost on demand	5 min								
Time delay to the next defrost on demand	30 min								

Table 3 - Temperature Probe Common Resistance Chart

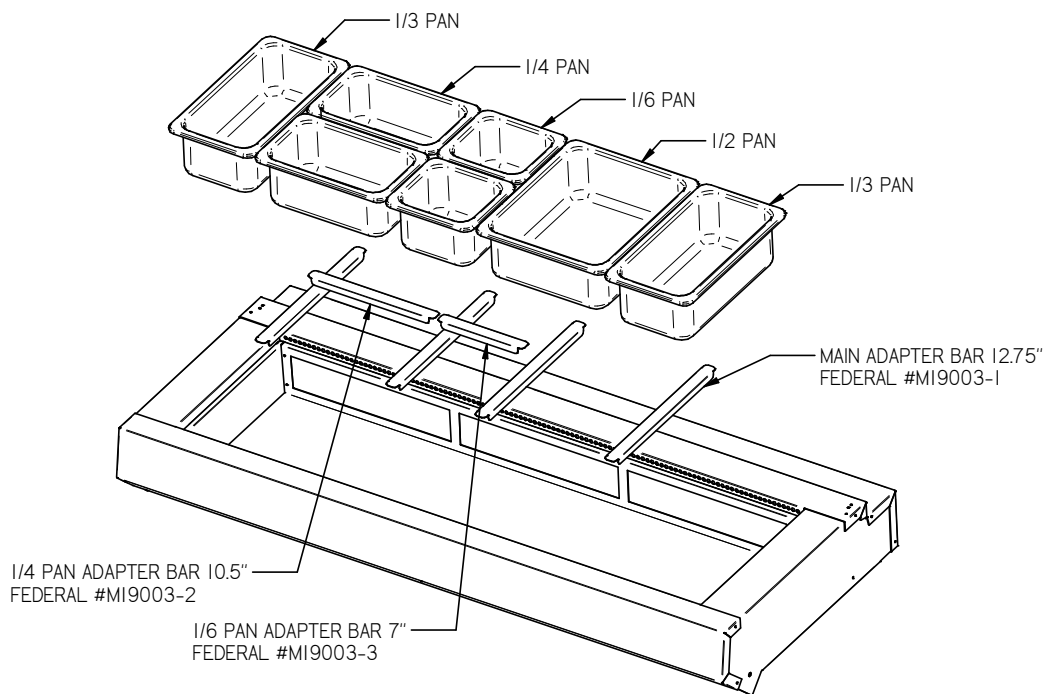
Probe Temp	Maximum Resistance [Ω]	Normal Resistance [Ω]	Minimum Resistance [Ω]
32°F (0°C)	27.83	27.28	26.74
77°F (25°C)	10.1	10	9.9
212°F (100°C)	1	0.97	0.94

INITIAL STARTUP

After all the checks outlined in the installation section of this manual have been made, the case is ready to be put into service. Turn on the Power at the breaker box and flip the Power Switch and Light Switch on unit to the on position. Also ensure that the control is powered on as described above.

At start up from a warm unit, it is recommended that the temperature control is set to a warmer setting, such as 1. After the unit has gone through several cycles, adjust the control to a mid-range setting, then to a colder setting if necessary to maintain desired product temperature

Placing Product into Upper Food Pan Section of Case



- Determine food pan arrangement and size requirements.
- Install food pans and place adapter bars provided between all pans. (There cannot be air gaps between pans). See drawing above for typical arrangement.
- Above drawing shows a typical food pan arrangement. Any arrangement of Full, 1/2, 1/4, 1/3 or 1/6 size pans can be used provided sufficient adapters are used.
SSRSP5052 = (4) HALF PANS, SSRSP5952 = (5) HALF PANS, SSRSP7752 = (7) HALF PANS
- A set of divider bars are supplied with each case. If required, additional adapters can be ordered from Federal Industries.
- Do not run case without all food pans and all adapters installed.



NOTICE: CASE MUST BE STOCKED WITH PRE-CHILLED PRODUCT (38-40deg).



NOTICE: This refrigerated display case is designed to operate in a maximum environment of 75 DEG. F and 55% relative humidity. Exceeding these limits will cause poor case performance and sweating of glass panels.



NOTICE: DO NOT RUN CASE WITHOUT ALL FOOD PANS INSTALLED. LOWER SECTION OF CASE AND OTHER FOOD PANS WILL NOT HOLD PROPER TEMPERATURE IF ALL PANS ARE NOT INSTALLED.

MAINTENANCE

Ceiling LED Replacement (Cases Manufactured after 08/01/18)

1. Turn power switch on rear of case to “off.”
2. Disconnect light cord barrel plug from receptacle in LED by pulling barrel plug straight out.
3. The LED is attached to clips mounted to the ceiling. Disengage the LED from the clips.
4. Attach the new LED to the clips on the ceiling. Be sure that LED is centered about clips.

Shelf LED Replacement (Cases Manufactured after 08/01/18)

1. Turn power switch on rear of case to “off.”
2. Disconnect light cord barrel plug from receptacle in LED by pulling barrel plug straight out.
3. The LED is adhered to the front shelf support with double-sided tape. It may be necessary to use a razor blade to detach the LED from the top light housing. **NOTE: TAKE CARE NOT TO DAMAGE THE FINISH ON THE FRONT SHELF SUPPORT.**
4. Remove the remaining double-sided tape from the Front Shelf Support.
5. Apply a new layer of double sided tape to the new LED and adhere to the front shelf support. Locate new LED by centering between (2) .09 dia holes on the front shelf support.

PERIODIC MAINTENANCE

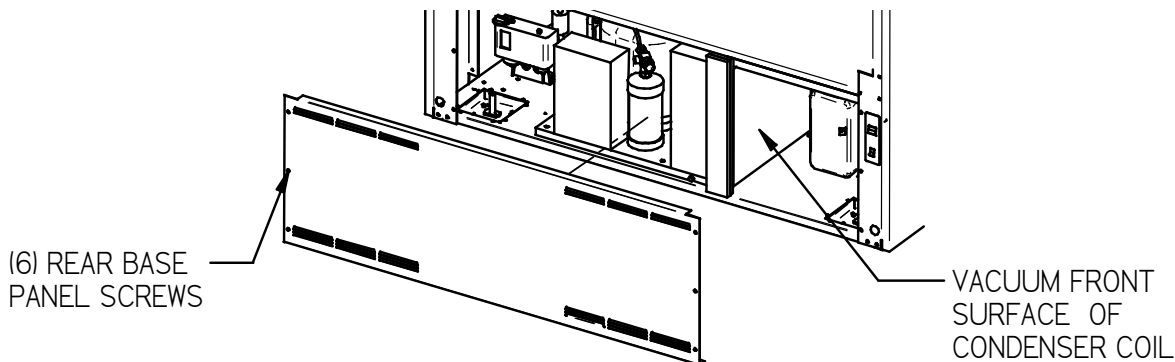
Cleaning Condenser Coil (All Self Contained Refrigerated Models)



NOTICE:

Condenser coil must be cleaned a minimum of twice per month to insure proper refrigeration performance and prevent compressor failure. In some environments, it may be necessary to clean more frequently. FAILURE TO CLEAN CONDENSER COIL WILL VOID COMPRESSOR WARRANTY.

1. Disconnect power to the unit.
2. Remove the back base panel located on the back bottom of unit by removing the (6) front panel retaining screws.
3. Carefully vacuum the front surface of condenser coil. Take care not to bend coil fins with vacuum cleaner nozzle.
4. Reinstall back panel and retaining screws.



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 power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.



NOTICE: Remove all product from case before proceeding with cleaning procedure.



NOTICE: Acrylic front air deflector requires special washing procedures to prevent hazing and yellowing of material.



NOTICE: This case is not designed to be cleaned by flushing.

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

Note: Detergents are not recommended and do not use abrasive cleaners or pads to prevent scratching of surfaces.

1. Clean all foreign materials from the door opening if supplied.
2. Wipe complete interior of both the upper & lower areas of case using a damp cloth.
3. To allow easier access to clean upper section interior tilt the upper front glass open. Tilt the front glass up by standing in front of the case and grabbing the handle at the bottom of the glass and lifting the bottom of the glass upward. The glass can then be cleaned with common window cleaners. Close the glass by pulling the front handle of glass down to the closed position.
4. The remaining exterior surface should be wiped down using any ammoniated cleaners or soapy warm water.
5. **IMPORTANT:** Cleaning the clear acrylic plastic front air deflector require special care to prevent hazing and yellowing of material. Lightly dust (not wipe) surface with clean soft cloth. Then the surface can be wiped carefully with a soft, wet cloth or chamois. The cloth or chamois must be kept free of grit by frequently rinsing in clean water. Grease and oil can be removed with kerosene. Do not use window cleaners or kitchen scouring compounds. **DO NOT** use solvents such as Acetone, Benzene, Carbon Tetrachloride, and Lacquer Thinners. A spray wax such as Pledge or Maguire's polish can be applied and wiped with a clean soft cloth. The wax tends to fill in and hide small scratches.

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 lights and power switches and remove all product from case. Allow sufficient time for the unit to reach room temperature before proceeding with cleaning.



NOTICE: Remove all product and food pans from case before proceeding with cleaning procedure.

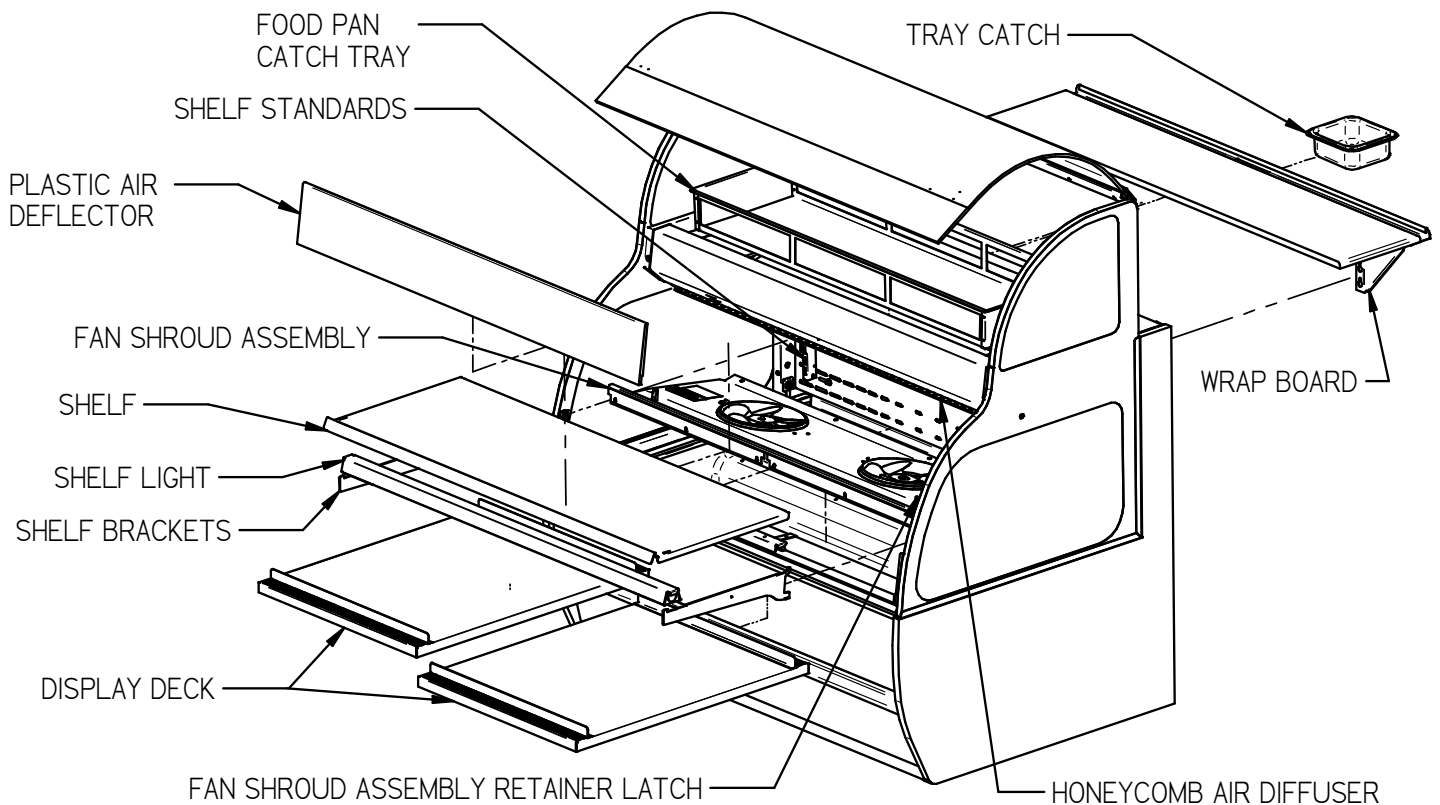


NOTICE: Acrylic front air deflector requires special washing procedures to prevent hazing and yellowing of material. Read weekly cleaning procedure carefully.

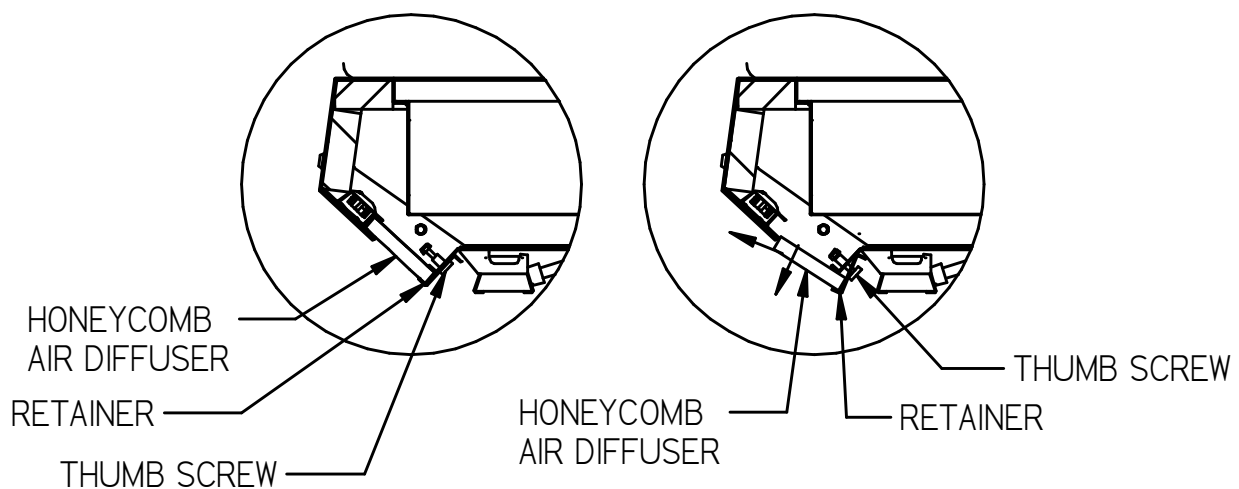


NOTICE: This case is not designed to be cleaned by flushing.

Weekly Interior Cleaning



1. To allow access to clean upper section interior tilt the upper front glass open. Tilt the front glass up by standing in front of the case and grabbing the handle at the bottom of the glass and lifting the bottom of the glass upward. The glass can then be cleaned with common window cleaners.
2. Remove food pan catch tray by lifting it out of top of case. Clean all foreign material from around and under the food pan catch tray. Clean food pan catch tray using warm soapy water and a brush.
3. If supplied with the lower rear door option, remove both inner & outer rear doors as described in the "Door Removal" section of this manual.
4. Clean all foreign material from inner and outer rear door tracks and clean both sides of the doors using warm soapy water and a brush. Apply a light film of lubricant such as PAM to door tracks to make the doors operate smoother.
5. Remove interior shelving from unit as described in the "Shelving Installation and Removal" section of this manual. Remove both shelf standards from interior of case by removing the (2) thumbscrew from top and bottom of each standard.
6. Clean all shelves, shelf supports, shelf light housings, shelf brackets, shelf standards using warm soapy water and a brush. Rinse thoroughly and allow to dry.
7. Lift the display deck(s) up and out of evaporator tub.
8. Remove the fan shroud assembly. There are either (2) retainer latches or (2) thumbscrews located at each end at the front of the fan shroud. Lift the black tab up on each retainer latch or remove the (2) front thumbscrews. Detach the rear of the fan shroud from the case by removing the thumb screws from along the rear lip of the fan shroud. Lift the fan shroud assembly and reach in and unplug the evaporator fan motor cord(s). Lift fan shroud assembly out of tub.
9. Clean the display deck(s) using warm soapy water and a brush. Rinse thoroughly and allow to dry. Wipe off fan shroud assembly (do not rinse or submerge fan motors).
10. Clean the entire interior of the case using warm soapy water. Flush foreign material from drain area. Wipe off all soapy water with a damp cloth and allow to dry. (DO NOT use solvents such as Acetone, Benzene, Carbon Tetrachloride, and Lacquer Thinners)
11. Remove the honeycomb air diffuser(s) from upper air duct track. Loosen thumb screws on Retainer located behind diffuser. Retainer will drop down allowing diffuser to be pulled out of case.



12. Clean honey comb air diffuser with warm soapy water and a brush. Rinse thoroughly and allow to dry.
13. Remove the clear plastic front air deflector by lifting it up and out of case.
IMPORTANT: Cleaning the Acrylic plastic front air deflector require special care to prevent hazing and yellowing of material. Lightly dust (not wipe) surface with clean soft cloth. Then the

surface can be wiped carefully with a soft, wet cloth or chamois. The cloth or chamois must be kept free of grit by frequently rinsing in clean water. Grease and oil can be removed with kerosene. Do not use window cleaners or kitchen scouring compounds. DO NOT use solvents such as Acetone, Benzene, Carbon Tetrachloride, and Lacquer Thinners. A spray wax such as Pledge or Maguire's polish can be applied and wiped with a clean soft cloth. The wax tends to fill in and hide small scratches.

14. Slide the tray catch out from under wrap board and wash with warm soapy water.
15. Remove the wrap board assembly by lifting assembly up out of key slots on support brackets.
Clean the Wrap board using warm soapy water and a brush. Rinse thoroughly and allow to dry.
16. Reassemble all components in reverse order.

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.

Weekly Exterior Cleaning

1. Clean the front and end glass using any common window cleaner.
2. The exterior surfaces should be wiped down using any ammoniated cleansers or warm soapy water.

SERVICE INFORMATION

CAUTION
RISK OF ELECTRIC SHOCK

DISCONNECT POWER BEFORE
SERVICING UNIT

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

To find a service company in your area, please visit our website at www.federalindustries.com. There you can also find self-service tools to help you get the answers you need faster!

For Warranty Service Requests & ALL Technical Support please contact:

- Phone: (800) 356-4206 and choose the Tech Support/Warranty Option
- Email: Service@federalind.com

For Warranty Compressors please contact the Parts Department:

- Phone: (800) 356-4206 and choose the Warranty Parts Option
- Email: Parts@Federalind.com



Federal Industries has partnered with Parts Town for ALL Non-Warranty Part Identification, Pricing, Lead Times, Orders & Freight Quotes. Please contact Parts Town directly if you need parts:

- Website: PartsTown.com
- Email: CustomerService@PartsTown.com
- Phone: 833-809-8188

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 to prevent the possibility of hydrofluoro olefin (HFO) from being released into the atmosphere.

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.



NOTICE:

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.

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.

Case Does Not Operate

- Check for disconnected power supply.
- Check for tripped breaker or blown fuse.

Lights Do Not Operate

- Check that light switch is on.
- Be sure cords are properly seated in receptacles on LEDs.
- Check that shelf light cord(s) are tight in the sockets.
- Plug unused light sockets with socket cap provided with socket.

Case Temperature Too Warm

- Check that the cold air inlet and outlet slots are not blocked.
- Be sure that the rear doors (if supplied) are closed and tightly sealed.
- Check for a blocked or dirty condenser coil fins.
- Check cold airflow. Lack of adequate cold airflow could be 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 power switch “off” position for approximately one hour to defrost.
- Is the case installed properly to allow adequate air flow to and from condenser?
- Check that there is no air movement around case causing disruption to air curtain. Such as ceiling fans, heating/AC air ducts, exterior doors, ect
- Are all food pans and adapter bars installed preventing air loss from top of case?

SALE & DISPOSAL

Owner Responsibility

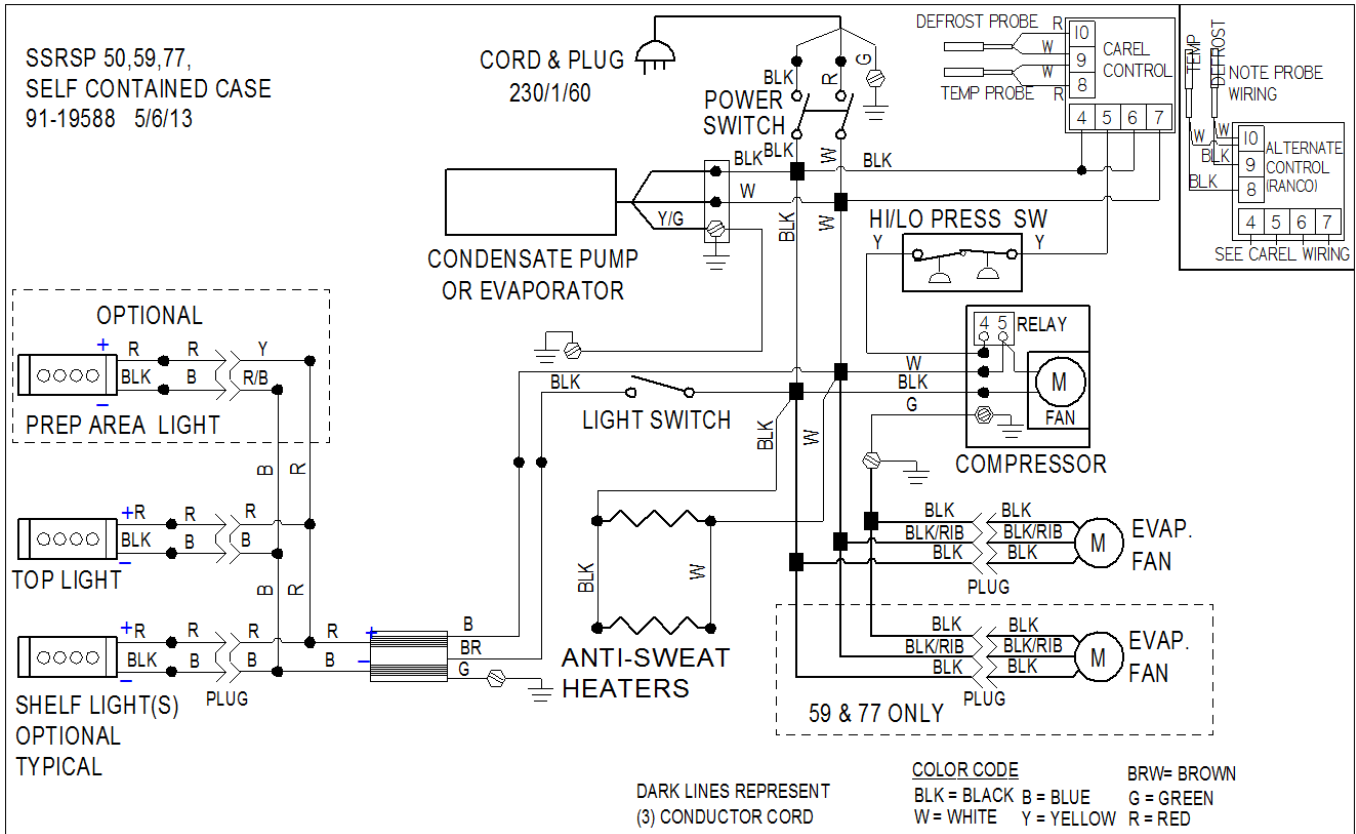
If you sell or give away your Federal Industries case you must make sure that all safety labels and the Installation-Service Manual are included with it. If you need replacement labels or manuals, Federal Industries will provide them free of charge. Contact the customer service department at Federal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

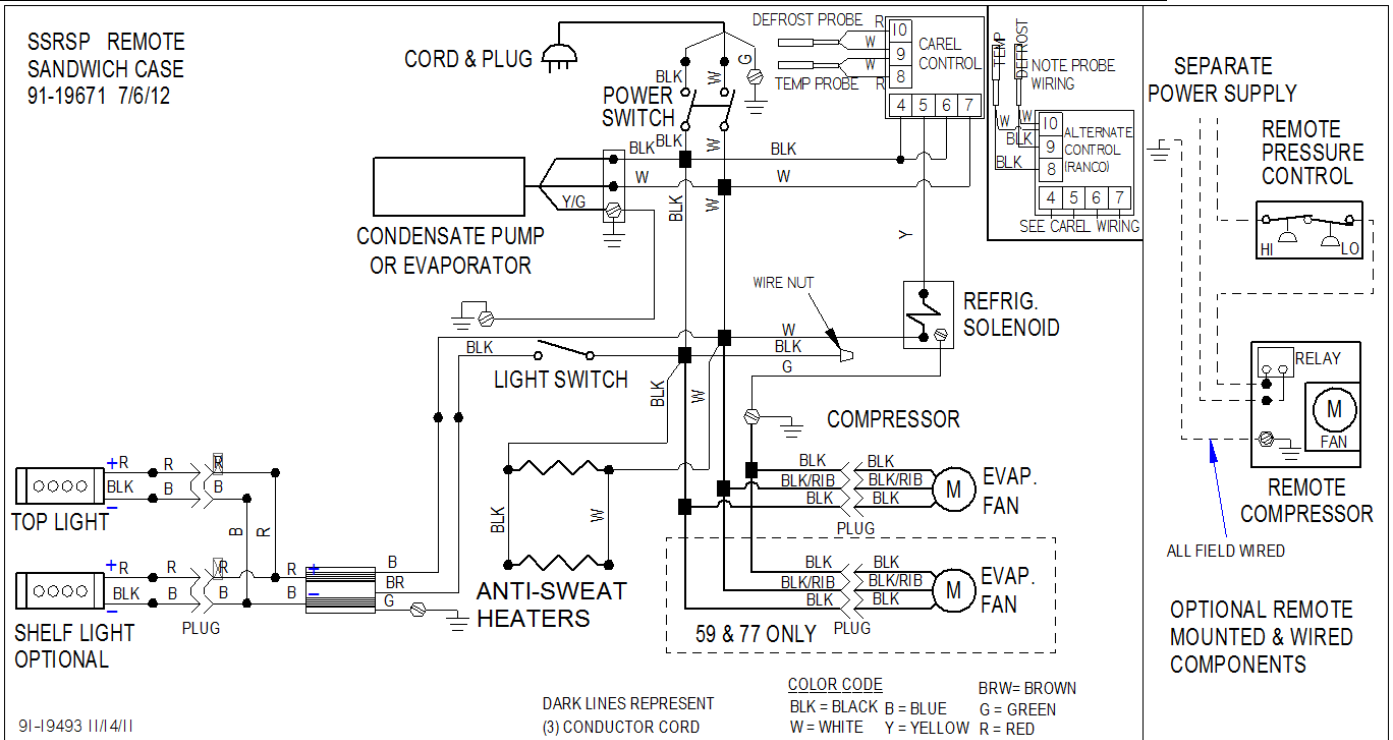
If you sell or give away your Federal Industries case and you evacuate the refrigerant charge before shipment, Federal Industries recommends that the charge be evacuated into a recovery system to prevent the possibility of HFO's from being released into the atmosphere.

MAIN WIRING DIAGRAMS

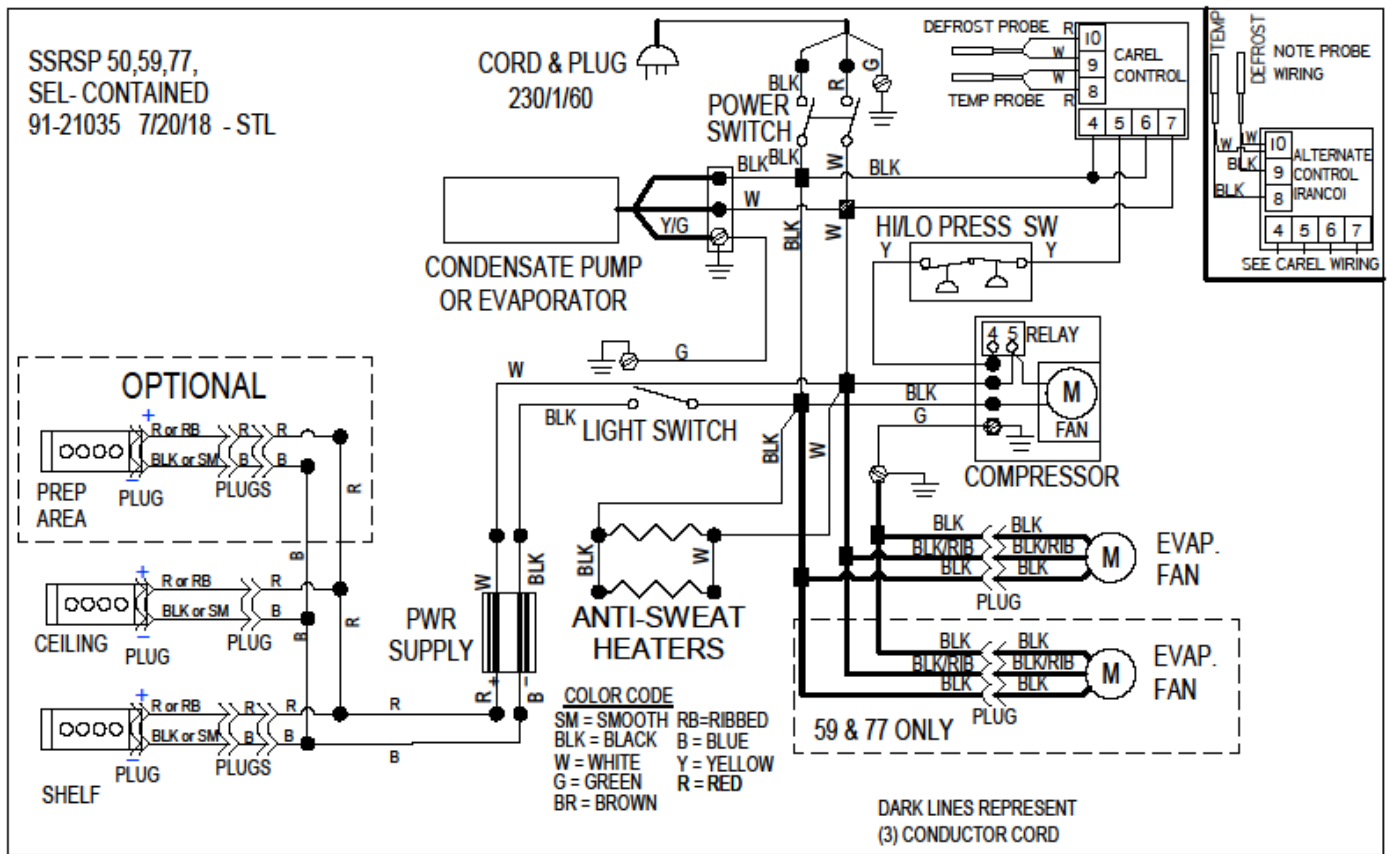
SELF CONTAINED SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd Before 12/15/18)



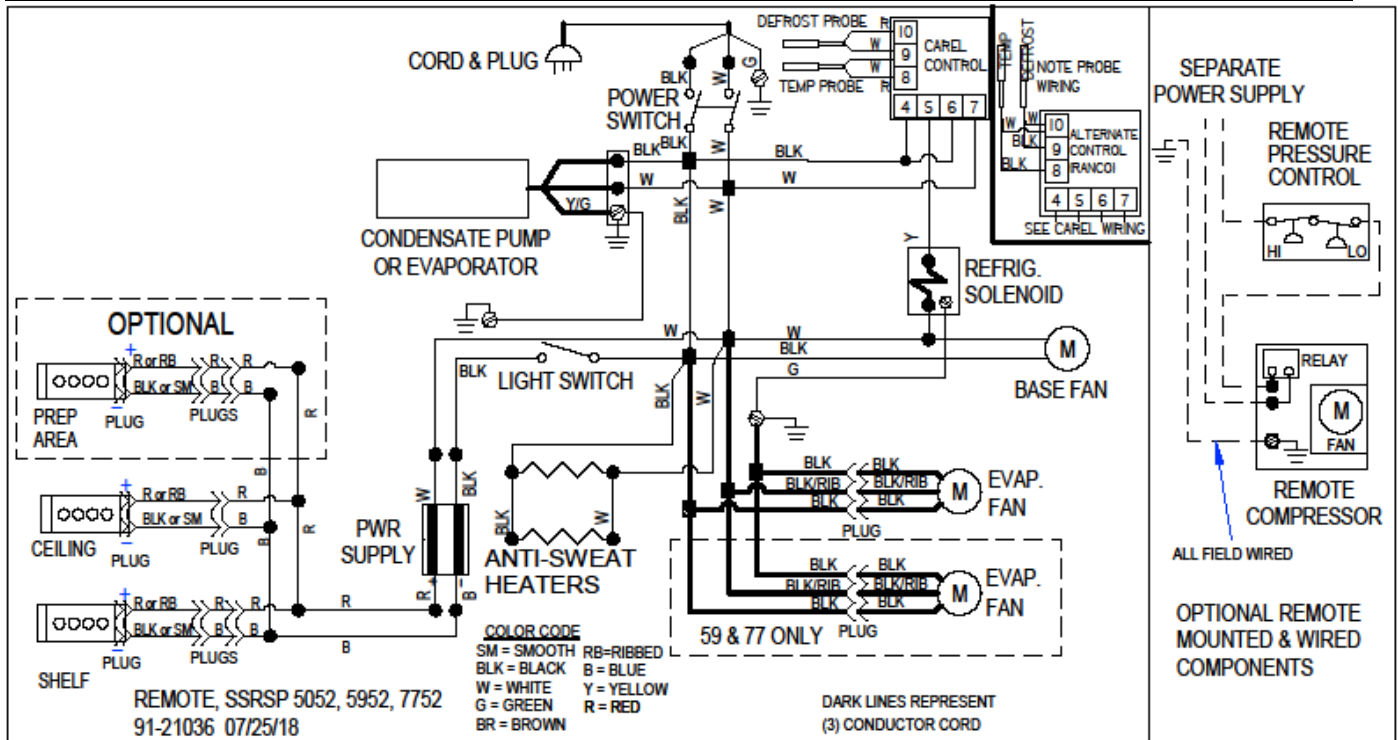
REMOTE SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd Before 12/15/18)



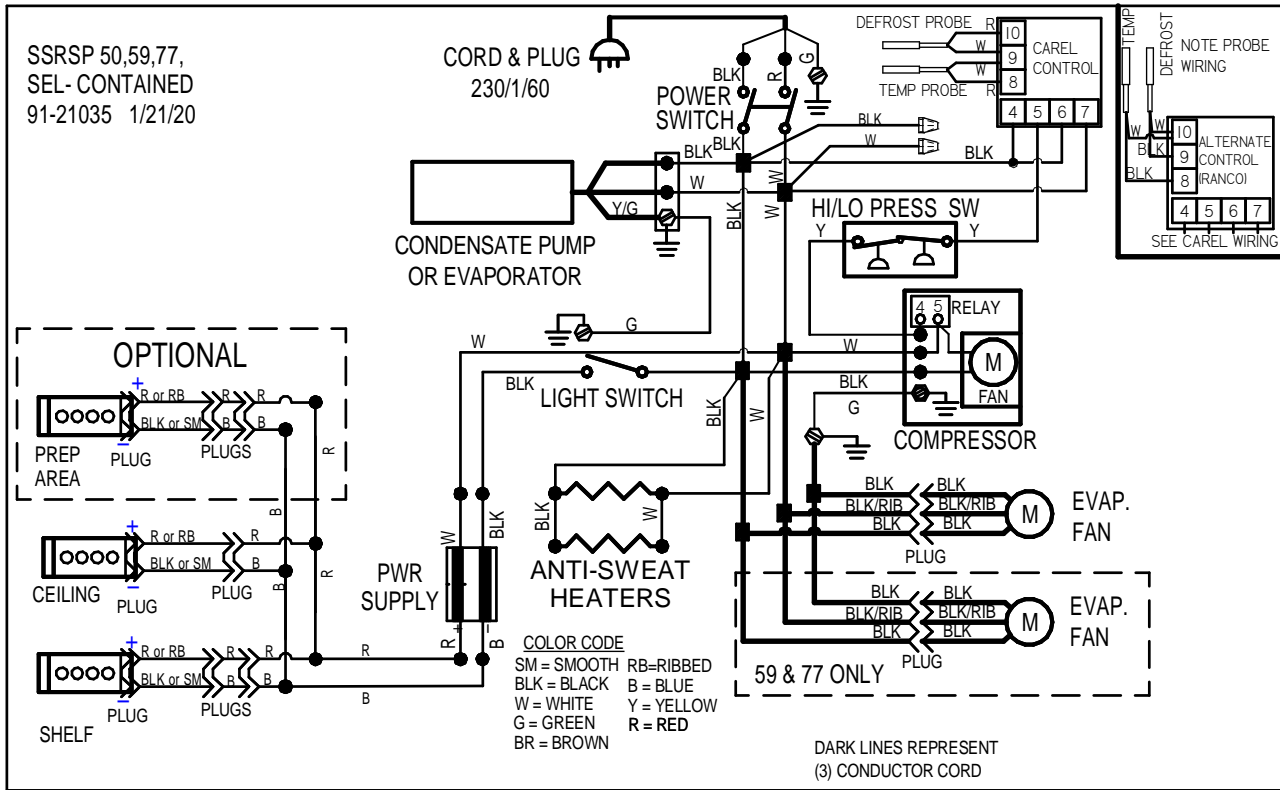
SELF CONTAINED SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd After 12/15/18 until 12/1/19)



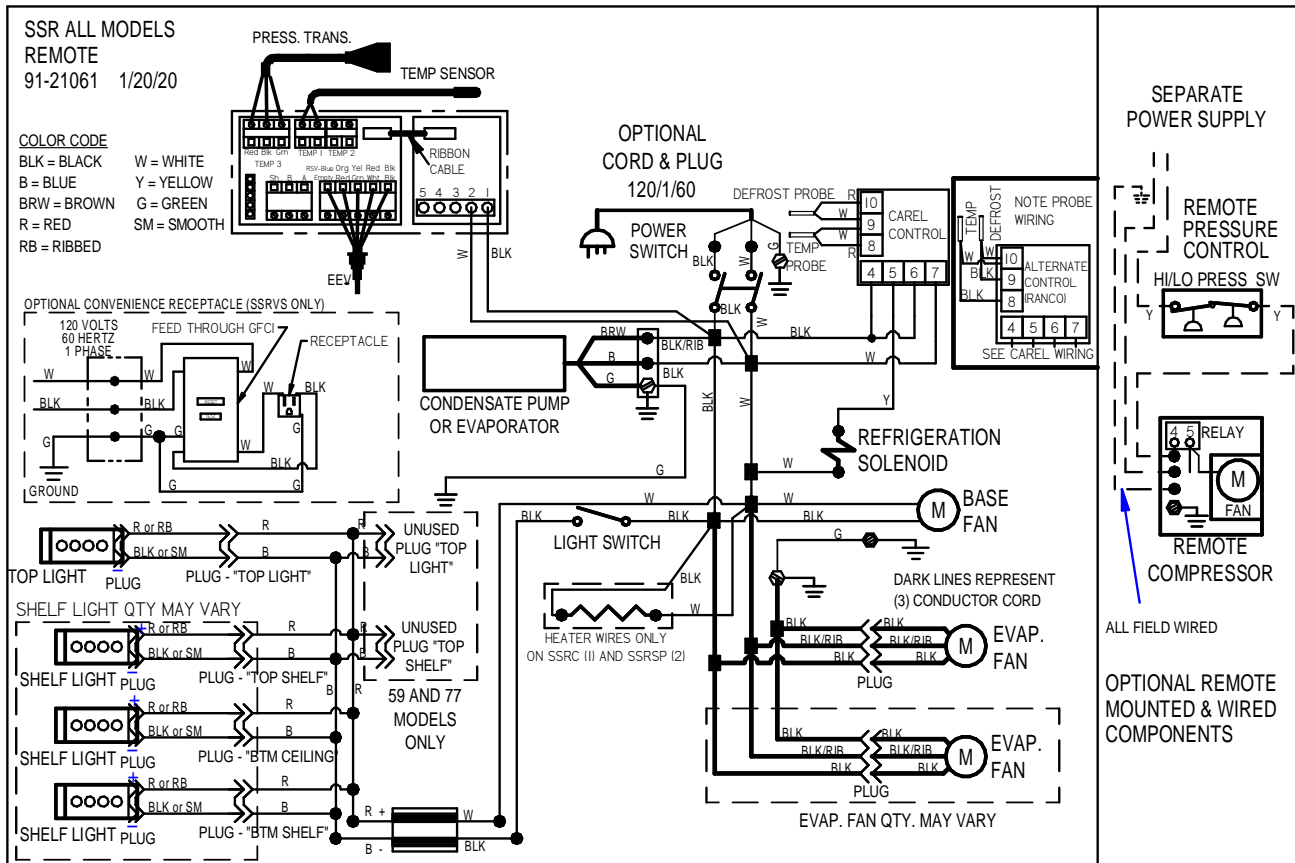
REMOTE SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd After 12/15/18 until 12/1/19)



SELF CONTAINED SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd After 1/20/20)



REMOTE SSRSP5052, SSRSP5952, SSRSP7752 (Mfg'd After 12/1/19)



REPLACEMENT PARTS (E3091-2 EXCEL)

REFRIGERATION	SSRSP5052	SSRSP5952	SSRSP7752
Compressor (SC)	30-18052	30-18645	30-18645
Condensing Unit (SC)	30-20512	30-18215	30-18215
Evaporator Coil	33-13357	33-13358	33-13359
TXV (BEFORE 12/1/19)	32-19419		32-19416
EEV (AFTER 12/1/19)	32-21228		
Filter Drier	32-12626		
Site Glass	32-54010		
Evaporator Fan Motor (SC 240V)	41-19070		
Evaporator Fan Motor (remote 120V)	41-17981		
Evaporator Fan Blade	72-17355		
Latch Evaporator Housing to Coil	66-13640		
Pressure Control (SC)	32-51009		
Temperature Control	32-19865-8		
Temperature Probe	32-19866		
Temperature Probe, EEV (After 12/1/19)	32-21224		
Pressure Transducer, EEV (After 12/1/19)	32-21225		
Control Display	32-19446		
Digital Display Ribbon Cable	32-19093		
Solenoid Remote Refrigeration (Remote)	32-30141		
Condensate Pan Ass'y (SC)	SA4471-3		
Condensate Pan Heater (SC)	40-19392		
Condensate Pump (remote)	47-18980		
Condensate Drain Tube	SA4490-2	SA4490-2 & SA4683-1	
Condensate Drain Tube (remote)	SA4490-3		
Thermometer	32-13662		
ELECTRICAL	SSRSP5052	SSRSP5952	SSRSP7752
Light Switch	41-11066		
Power Switch	41-18186		
LED Power Supply-Cases mfg before 12/15/18	39-19039		
LED Power Supply-Cases mfg after 12/15/18	39-20986		
LED Light Assembly (Cases Prior to 12/15/18)	SA5307-2	SA5307-3	SA5307-4
LED Light Strip (Cases Prior to 12/15/18)	42-19038	42-19038-5	42-19038-3
LED Strip Light (Cases After 12/15/18)	42-20871-42C35	42-20871-54C35	42-20871-72C35
Shelf Light Cord (Cases Prior to 12/15/18)	43-16861-1		
Shelf Light Cord (Cases After 12/15/18)	43-20862-3B		
Ceiling Light Cord (Cases After 12/15/18/18)	43-20860-4B		
Anti Sweat Heater (SC)	43-18491-2	43-18491-3	43-18491-4
Anti Sweat Heater (remote)	43-18491-5	43-18491-6	43-18491-7
Power Cord (Optional)	43-17839		
EEV Control (After 12/1/190)	32-21223		
Wiring Diag. (SC) (Cases Prior to 12/15/18)	91-19588		
Wiring Diag. (SC) (Cases After 12/15/18)	91-21035		
Wiring Diag. (REM) (Cases Prior to 12/15/18)	91-19671		
Wiring Diag. (REM) (Cases After 12/15/18)	91-21036		
Wiring Diag. (REM) (Cases After 12/1/19)	91-21061		

PANELS & GLASS	SSRSP5052	SSRSP5952	SSRSP7752
Front Glass	50-19570-2	50-19570-3	50-19570-4
Front Glass Clamp	81-18196-2	81-18196-3	81-18196-4
Gas Cylinder	81-19639	81-19639	81-11047
Glass End Clear	50-19584		
Glass End Reflective Left(Optional)	50-19584-1L		
Glass End Reflective Right(Optional)	50-19584-1R		
End Panel Ass'y Left (Black)	68-19585-L		
End Panel Ass'y Right (Black)	68-19585-R		
End Panel Ass'y Left (Color needed)	68-19585-1L		
End Panel Ass'y Right (Color needed)	68-19585-1R		
End Panel Ass'y Left (Stainless)	SA5326-L		
End Panel Ass'y Right (Stainless)	SA5326-R		
SHELVING	SSRSP5052	SSRSP5952	SSRSP7752
Glass Shelf (Optional)	52-11214	52-11217	52-12034
Glass Shelf Retainer(Optional)	SA4091		
Glass Shelf (Optional)	M17950-2	M17950-3	M17950-4
Shelf Bracket	67-16038-1A		
Shelf Standard	M16522		
Step Riser Black (Btm Section Optional)	SA4486-2	SA4486-3	SA4486-4
DOORS (Bottom Optional)	SSRSP5052	SSRSP5952	SSRSP7752
Rear Door Bottom Track (Btm) (Opt)	57-18519-2	57-18519-3	57-18519-4
Rear Door Jamb(Btm Section)(Optional)	57-18199-2		
Rear Door Inner Solid(Btm Section)(Opt)	53-18211-2	53-18211-3	53-18211-4
Rear Door Outer Solid(Btm Section)(Opt)	53-18212-2	53-18212-3	53-18212-4
CatchDoor Inner Inside(Btm Section)(Opt)	M15356-2		
Catch Outer Inside(Btm Section)(Opt)	M15356-1		
Rear Door Inner Inside(Btm Section)(Opt)	SA4465-2	SA4465-3	SA4465-4
Rear Door Outer Inside(Btm Section)(Opt)	SA4464-2	SA4464-3	SA4464-4
MISCELLANEOUS	SSRSP5052	SSRSP5952	SSRSP7752
Deflector Front Clear (Btm Section)	15-18198-2	15-18198-3	15-18198-4
Security Night Cover Panel (Optional)	M17218-2	M17218-3	M17218-4
Security Night Cover Latch (Optional)	66-11727		
Pan Adapter 1/2 or 1/3 Pan	M19003-1		
Pan Adapter 1/4 Pan	M19003-2		
Pan Adapter 1/6 Pan	M19003-3		
Night Curtain	65-19645	65-19458	65-19646

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

