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SN4CD, SN6CD, SN8CD

Self-Contained & Remote Models

INSTALLATION & OPERATION INSTRUCTIONS



KEEP THIS MANUAL FOR FUTURE REFERENCE

Engineering and technical data are subject to change without notice.

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INTRODUCTION

Thank you for purchasing a Federal Industries display case. This manual contains important instructions for installing and servicing the Series '90 Refrigerated Deli Display Cases. A repair parts list and wiring diagram are also included in this 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 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 Dept.
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.

CAUTION

HAZARDOUS MOVING PARTS.
DO NOT OPERATE UNIT WITH DISPLAY PANS REMOVED.

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 located the air inlet near a source of heat.

Removing Case from Shipping Skid

CAUTION: **Do not push against the curved glass, end glass, 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 four (4) bolts that secure the case to the skid. Do not remove the shipping brackets from the case. The brackets are intended to be used as hand grips for locating the case. Remove the brackets when the case is in the final location

Removing Packaging Material

Remove the brackets that held the case to the shipping skid.

Remove the plastic ties that hold the metal shelf and shelf brackets in place.

Remove the shipping tape that secures the doors and lift-up 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.

Four (4) leg levelers are provided for leveling the case. The leg levelers can be turned in and the case can be placed with the base frame on the floor.

The leveled case can be sealed to the floor using an NSF Listed Sealant.

Grill Removal



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

The front of the case has a removable base panel to access the anti-fogging fans and the front leg levelers from inside of the case. Normally it is not necessary to remove the panel to install the case. This panel must be in place for proper operation of the case.

There are two (2) removable panels on the back of the case. The left side panel allows access to the light ballasts, the pullout condensing unit, and the field wiring connection box. Remove this panel to make field wiring connections.

The right side panel houses the thermometer, power switch, light switch, and thermostat. Removing this panel allows access to the terminal board, branch circuit fuse (SN8CD Only), and the condensate evaporator. Normally it is not necessary to remove this panel to install the case.

Condensate Evaporator

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

The condensate evaporator is located behind the control panel box and is accessible from the rear of the case.

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.

The ballasts used on this case allow removal of one or more shelf lights without affecting the remaining lights.

Shelving

Remove both rear doors from the track by lifting them upward until the bottom edge clears the lower door track and then outward. Lift up the front glass to the fully open position. Put the shelf support assembly in the desired shelf standard slots.

Plug the shelf light cords in the appropriate light socket. Make certain that the light cords are completely inserted into the sockets or arcing may result causing damage to the plugs and sockets.

Put the metal shelf on the rear shelf support assembly as shown. If the shelf is not in the proper position, it may disrupt the air flow in the case and cause product loss.

Close the front glass and reinstall both rear doors.

Display Component Check

The display case power switch is located on the control panel at the back of the case. After the case is properly wired to the power source, the switch should be moved to the "on" position to check the case components. The switch should be turned off any time the case is not in operation.

The case is equipped with a top light and shelf light. The light switch is on the control panel at the back of the case. The switch should be moved to the "on" position to verify that the lights are working properly. The lights should be turned off any time the case is not in operation.

The refrigeration system temperature control is on the control panel at the back of the case. The temperature control knob should be moved to a numbered position to verify that the refrigeration system functions properly. The temperature control knob should be in the "off" position when the case is not in use.

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 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 electrical standards.

A separate circuit for each display case is recommended to prevent 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 a power source. See the electrical data plate located at the rear of the case for proper circuit size and wire ampacity.

Connect a separate 115 Volt, 60 HZ, 1 Phase power supply to the display case junction box and a separate 115 Volt, 60 HZ, 1 Phase power supply to the appliance receptacle junction box.

The electrical connection boxes are accessible from the rear of the case. See diagram below for location of the field wiring connection boxes.

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.

Controls

Light Switch

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

Power Switch

The power switch controls power to the entire case. The switch rocker is red in the "on" position, black in the "off" position.

Temperature Control

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

Thermometer

This a solar powered device. It updates the temperature display approximately every 10 seconds.

Doors

The doors can be removed by lifting the door up until the bottom clears the bottom tracks. Clean the door frequently for easy door operation. A very light film of lubricant, such as PAM, will help the doors slide easily.

Anti-Fogging Fans

Two fans are mounted in the base of the unit to blow warm air from the refrigeration system over the curved glass to prevent fogging.

The warm air is vented through the slots in the glass handle. Do not block these vents or the front glass will fog. These fans run continuously when the power switch is on.

Hinged Front Glass

The front glass hinges up for easy cleaning of the case interior. Pneumatic cylinders assist in lifting the glass. The glass will hold in any position beyond approximately the first 20" of travel. In the first 20" of travel, the glass will gently close. See diagram below:

The hinged glass mechanism will give years of reliable operation in normal usage. Service on the lift mechanism is required if…

- **The glass becomes difficult to open.**
- **The glass does not hold in the open position.**
- **The glass closes fast.**

Consult the factory if service is required.

CAUTION:



OPERATION OF THE LIFT-UP GLASS IS TO BE DONE BY TRAINED PERSONNEL ONLY. THIS CASE IS NOT INTENDED TO BE USED AS A SELF-SERVICE UNIT. DO NOT ALLOW CUSTOMERS TO OPERATE LIFT-UP GLASS.

Mezzanine Shelf

The shelf is adjustable up and down in 2" increments. To reposition the shelf:

1. **Turn the light switch off.**
2. **Unplug the shelf light cord.**
3. **Remove the shelf from the shelf supports.**
4. **Grasp the shelf from the shelf supports.**
5. **Tip the front of the shelf support up until it can be removed from the shelf standard.**
6. **Reposition the shelf as desired.**

The shelf can be installed horizontally or slanted downward at 5. To change the shelf slant:

1. **Remove the shelf from the shelf support.**
2. **Grasp the shelf support at each end.**
3. **Lift the shelf support up at the back until the brackets can be repositioned in the shelf standard slots. See diagram below:**

Rear Wrapping Board

The rear wrapping board is attached to the back side of the case and can be put into a position by swinging it up and pushing it forward. It can also be removed completely by lifting it upward off its mounting track while the wrapping board is in the down position.

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.

Placing Product into Case

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

Do not block the slots along the front or rear of the case display floor.

CASE SHOULD BE STOCKED WITH PRE-CHILLED PRODUCT ONLY.

The display pans are removable for cleaning and can become dislodged in shipment. To ensure proper air flow and performance of the case, make sure that the display pans are positioned as shown. Check that the pans are installed properly before placing product on the display pans.

Periodic Maintenance

Cleaning Condenser Coil (Self-Contained Units)

Turn power switch off.

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 power switches 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.

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 it 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 power switches 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 upward until the bottom of the door clears the lower door track and then outward. Remove the inner door in the same manner.**

2. **Lift up the front glass to the fully open position.**

3. **Remove all shelves from the case.**

4. **Unplug the shelf lights and lift the shelf support assembly out of the shelf standard slots.**

5. **Remove the two (2) thumb screws holding the shelf standard to the side wall and take the shelf standard out of the case.**

6. **Lift the display pans up and take them out of the case.**

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 support assemblies, shelf standards, and display pans 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.**

11. **Reassemble the case in reverse order starting with step 6.**

Exterior Cleaning

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

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

Plastic exterior surfaces can be cleaned with any ammoniated household cleaner. Stains can be removed by scrubbing with TRIALENE Soap, ETHYL CELLOSOLVE, CARBONA, or similar solvent base cleaning fluids. The surfaces must be thoroughly rinsed with water after using solvent based cleaners.

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 Dept.
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.

Case Does Not Operate

Check for disconnected power supply.

Check for tripped breaker or blown fuse.

Check that the power switch and thermostat are not "off".

Pre-Service Checklist

Lights Do Not Operate

Check that the light switch is on.

Be sure light is properly seated in the sockets.

Check that light cords are tight in the sockets.

Case Temperature Too Warm

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

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

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

Glass Fogging

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

Check case temperature- case is designed to operate between 38F and 42F.

Check that nothing is blocking the warm air vents in the glass handle.

Check that warm air is being blown evenly across the front glass surface. If the air is not blowing or is not blown evenly, service is required.

Check that the air flow is not being disturbed by a nearby fan or air duct.

Check that nothing is placed on top of the case glass.

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 hydrocholrflurocarbons (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 prevent the possibility of HCFC's from being released into the atmosphere. The release of these HCFC's is a potential source of ozone depletion.

REFRIGERATION & ELECTRICAL DATA

SELF-CONTAINED MODELS

	SN4CD	SN6CD	SN8CD
Refrigerant Charge (R-22)	2 lbs.	3 lbs.	3.5 lbs.

ALL MODELS ARE 115 VOLT, 1 PHASE, 60 HERTZ, 2 WIRE

	AMPS	AMPS	AMPS
Compressor			
RLA	8.6	8.6	13.0
LRA	48.0	48.0	66.3
Condenser Fan Motor	0.6	0.6	1.7
Evaporator Fan Motor (2)	0.5 ea.	0.5 ea.	0.5 ea.
Anti-Fogging Fan Motor (2)	0.5 ea.	0.5 ea.	0.5 ea.
Lights	1.2	1.3	1.7
Condensate Evaporator	1.6	1.6	1.6

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

Each Model is equipped with a general purpose receptacle, requiring a separate electrical circuit of 120V, 15Amps. This circuit must be wired in accordance with the National Electric Code.

REFRIGERATION & ELECTRICAL DATA

REMOTE MODELS

	SN4CD-R	SN6CD-R	SN8CD-R
Refrigerant Charge	R-22	R-22	R-22

ALL MODELS ARE 115 VOLT, 1 PHASE, 60 HERTZ, 2 WIRE

	AMPS	AMPS	AMPS
Evaporator Fan Motor (2)	0.5 ea.	0.5 ea.	0.5 ea.
Anti-Fogging Fan Motor (2)	0.5 ea.	0.5 ea.	0.5 ea.
Lights	1.2	1.3	1.7
Condensate Evaporator	1.6	1.6	1.6

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

Each model is equipped with a general purpose receptacle, requiring a separate electrical circuit of 120V, 15Amps. This circuit must be wired in accordance with the National Electrical Code.

REPLACEMENT PARTS
MODELS SN4CD, SN6CD, & SN8CD

Part Description	Part Number		
Refrigeration System	**SN4CD**	**SN6CD**	**SN8CD**
Condensing Unit (Self-Contained Only)	30-11040	30-11041	30-11041
Compressor (Replacement)	30-11212	30-11213	30-11213
Evaporator Coil	33-50053	33-50037	33-11360
Expansion Valve	32-11452	32-11452	32-11369
Evaporator Fan Motor	41-32501	41-32501	41-32501
Evaporator Fan Blade	72-32507	32-32507	72-32507
Filter Drier	32-11451	32-11451	32-11451
Thermostat	32-15495	32-15495	32-15495
Thermostat Knob	72-15447	72-15447	72-15447
Electrical Components			
Power Switch	41-11066	41-11066	41-11066
Light Switch	41-11066	41-11066	41-11066
Terminal Block	45-11056	45-11056	45-11056
Ballast	39-12902	39-12902	39-12904
Light	42-11069	42-11071	42-11069
Light Cord (w/Receptacle)	43-10988	43-10988	43-10988
Light Cord (w/Plug)	43-10989	43-10989	43-10989
Light Socket (Stationery)	42-10834	42-10834	42-10834
Light Socket (Spring Loaded)	42-10833	42-10833	42-10833
Condensate Evaporator	40-32903	40-32903	40-32903

REPLACEMENT PARTS
MODELS SN4CD, SN6CD & SN8CD

Part Description	Part Number		
Misc. Components	**SN4CD**	**SN6CD**	**SN8CD**
End Glass- Clear	50-11115	50-11115	50-11115
End Glass- Mirrored L.H.	50-11173	50-11173	50-11173
End Glass- Mirrored R.H.	50-11174	50-11174	50-11174
Front Glass- Clear	50-10995	50-10997	50-10995
Glass Handle	66-11077	66-11079	66-11077
Clamp (Glass)	81-11043	81-11263	81-11043
White Hood Top	15-12759	15-12760	15-12761
Lamp Shield	42-30212	42-30212	42-30212
Door L.H.- Clear	53-11318	53-11256	53-11318
Door R.H.- Clear	53-11319	53-11257	53-11319
Door- Mirrored L.H.	53-11320	53-11258	53-11320
Door- Mirrored R.H.	53-11321	53-11259	53-11321
Gas Cylinder	81-11046	81-11046	81-11046
Pivot Hinge	66-11076	66-11076	66-11076
Leg Leveler	65-11486	65-11486	65-11486
Thermometer	32-11068	32-11068	32-11068
Mezzanine Shelf	M-9561-1	M-9561-2	M-9561-1
Decal- Electrical Hazard	91-10743	91-10743	91-10743
Decal- Slip Hazard	91-11175	91-11175	91-11175

WIRING DIAGRAM-MAIN WIRING SELF-CONTAINED

WIRING DIAGRAM- MAIN WIRING REMOTE

WIRING DIAGRAM- LIGHTS (48” & 59”)

WIRING DIAGRAM- LIGHTS (77")

WIRING DIAGRAM- WIRING RECEPTACLE

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