HUSSMANN®

EVOLVE R-290

# Installation, Operation, and Service Manual

## NAV8A

### Air-Cooled, Self-Contained

**P/N** 3221870 **Rev** A

July 2025

### Certifications

c UL us LISTED

CLASSIFIED UL EPH

**WARNINGS:**

**READ THE ENTIRE MANUAL BEFORE INSTALLING OR USING THIS EQUIPMENT.**

If the information in these instructions are not followed exactly, a fire or explosion may result, causing property damage, personal injury or death. Installation and service must be performed by a qualified installer or service agency.

The unit uses R-290 gas as the refrigerant. R-290 is flammable and heavier than air. It collects first in low areas but can be circulated by the fans. If propane gas is present or even suspected, do not allow untrained personnel to attempt to find the cause. The propane gas used in the unit has no odor. The lack of smell does not indicate a lack of escaped gas. If a leak is detected, immediately evacuate all persons from the store, and contact the local fire department to advise them that a propane leak has occurred. Do not let any persons back into the store until the qualified service technician has arrived and that technician advises that it is safe to return to the store. No open flames, cigarettes, or other possible sources of ignition should be used inside or in the vicinity of the units.

**FAILURE TO ABIDE BY THIS WARNING COULD RESULT IN AN EXPLOSION, DEATH, INJURY, AND PROPERTY DAMAGE.**



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**Spanish P/N 3228781**
**French P/N 3228784**

# NAV8A

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# NAV8A

## User Safety and Product Information

### Legal Disclaimer

Review all safety warnings on the case and in this manual before attempting start-up. Hussmann shall not be liable for any repair of replacement made without the written consent of Hussmann, or when the product is installed or operated in a manner contrary to the printed instructions covering installation and service which accompanied such product. Please note that failure to follow the instructions in this document may void your factory warranty.

### ANSI Z535.5 Definitions

The definitions below are used to clarify the magnitude and urgency of harm and damage, considering problems arising from misuse. Relative to their potential danger, the definitions are divided into five parts according to ANSI Z535 Series.


**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.


**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.


**CAUTION** indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.


**NOTICE** is used to address practices not related to personal injury.


**SAFETY INSTRUCTIONS** (or equivalent) signs indicate specific safety-related instructions or procedures.

### Proposition 65


This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State Government, Proposition 65 can be considered more of a 'right-to-know' law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful.
We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State Government website.

## General Safety Instructions

**SAFETY INSTRUCTIONS**

This manual was written in accordance with originally prescribed equipment that is subject to change. Hussmann reserves the right to change or revise specifications and product design in connection with any feature of our products.

Only qualified personnel (installer or service agency) should install and service this equipment. Personal Protection Equipment (PPE) is required. Wear safety glasses, gloves, protective boots or shoes, long pants, and a long-sleeve shirt when working with this equipment and while handling glass.

The safety of our customers and employees is paramount. The precautions and procedures described in this manual are intended as general methods for safe use of this equipment. Please be sure to comply with the precautions described in this manual to protect you and others from possible harm. Always follow OSHA standards for safety.

This unit is designed only for use with R-290 gas as the designated refrigerant. If the information in these instructions are not followed exactly, a fire or explosion may result, causing property damage, personal injury or death. Observe all precautions on tags, stickers, labels and literature provided and referenced for this equipment.

Use only Hussmann approved parts approved through the Hussmann Performance Parts Website. Verify that all repair parts are identical models to the ones they are replacing. Do not substitute parts such as motors, switches, relays, heaters, compressors, power supplies, or solenoids.

Read all safety information regarding the safe handling of refrigerant and refrigerant oil, including the Material Safety Data Sheet. MSDS sheets can be obtained from your refrigerant supplier. Service is to be performed by factory-authorized service personnel, so as to minimize the risk of possible injury due to incorrect parts or improper service. Contact your Hussmann representative to arrange servicing.

### Serial Plate Location

The serial plate is located at the interior top left end.
Serial plate contains all pertinent information such as model, serial number, amperage rating, refrigerant type, and charge.


### UL/ETL Listing

These merchandisers are manufactured to meet UL 60335-2-89 and CSA C22.2 standard requirements for safety. Proper installation is required to maintain this listing. This appliance is to be installed in accordance with the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15.

### Federal / State Regulation

These merchandisers at the time they are manufactured, meet all federal and state/provincial regulations. Proper installation is required to ensure these standards are maintained. Near the serial plate, each case carries a label identifying the environment (temperature and relative humidity) for which the case was designed for use.

## DANGER

- DANGER—Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.
- DANGER—Risk of fire or explosion due to flammable refrigerant used. Follow handling instructions carefully in compliance with national regulations.
- DANGER—Risk of fire or explosion. A3 flammable refrigerant is used in this unit.
- Failure to follow instructions can result in an explosion, death, injury and property damage.

## WARNING

**READ THE ENTIRE MANUAL BEFORE INSTALLING OR USING THIS EQUIPMENT.**

- Installation and service must be performed by a qualified installer or service agency only as recommended by the manufacturer.
- The refrigerant loop is sealed. Only a qualified and authorized technician should attempt to service.
- Propane is flammable and heavier than air. It collects first in the low areas but can be circulated by fans.
- The propane gas used in the unit has no odor. The lack of smell does not indicate a lack of escaped gas. If R-290 is present or even suspected, do not allow untrained personnel to attempt to find the cause.
- If a leak is detected, immediately evacuate all persons from the store, and contact the local fire department to advise them that a propane leak has occurred. Do not let any persons back into the store until the qualified service technician has arrived and that technician advises that it is safe to return to the store.
- A hand-held propane leak detector (“sniffer”) will be used before any repair and/or maintenance.
- No open flames, cigarettes, or other possible sources of ignition should be used inside the building where the units are located until the qualified service technician and/or local fire department determines that all propane has been cleared from the area and from the refrigeration systems.
- Excessive ambient conditions may cause condensation and sweating on doors. Facility operators are responsible for monitoring doors and floor conditions and ensuring the safety of all persons present.
- WARNING: Keep clear of obstruction, all ventilation openings in the appliance enclosure or in the structure for build-in.
- WARNING: Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- WARNING: Do not damage the refrigerating circuit.
- WARNING: Do not use electrical appliances inside the food storage compartments unless they are the type recommended by the manufacturer.
- WARNING: In order to reduce flammability hazards the installation of this appliance must only be carried out by a suitably qualified person.
- Do not use any means to clean, other than those recommended by the manufacturer.

## ⚠WARNING

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odour.
- WARNING – Risk Of Fire – Auxiliary devices which may be ignition sources shall not be installed in the ductwork, other than auxiliary devices listed for use with the specific appliance.
- Do not store items or flammable materials atop the unit. Do not walk on case.
- Do not store explosive substances, such as aerosol cans with flammable propellant, in this appliance.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.
- Any insulation shall be suitable for use with the material being insulated.
- Protection devices, piping, and fittings shall be protected as far as possible against adverse environmental effects, for example, the danger of water collecting and freezing in relief pipes or the accumulation of dirt and debris.

**Additional warnings related to servicing and maintaining equipment can be found in the maintenance and service section. Read all warnings prior to installing, performing maintenance, or servicing the equipment in any way.**

## ⚠CAUTION

- Do NOT block air vents. Obstructing air vents will affect case performance, which could potentially lead to case failure.
- Do NOT use HOT water on cold glass surfaces. This can cause the glass to shatter and could result in personal injury. Allow glass fronts, to warm before applying hot water.
- Do NOT allow cleaning agent or cloth to contact food product.
- Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

## *NOTICE*

- Merchandiser must operate for 24 hours before loading product!
- Regularly check merchandiser temperatures.
- Do not break the cold chain. Keep products in cooler before loading into merchandiser.
- Merchandisers are designed for loading ONLY pre-chilled products.

### Model Description

The NAV8A models are self-contained merchandisers designed for the display of packaged products. Each unit has four, 4-foot shelves. The unit is ready for operation when electrical service is connected.

### Hussmann Product Control

Serial number and shipping date of all equipment is recorded in Hussmann's files for warranty and replacement part purposes. All correspondence pertaining to warranty or parts ordering must include the serial number of each piece of equipment involved. This is to ensure the customer is provided with the correct parts.

### Shipping Damage

All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

#### Apparent Loss or Damage

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim.

#### Concealed Loss or Damage

When loss or damage is not apparent until after equipment is uncrated, retain all packing materials and submit a written response to the carrier for inspection within 15 days.

### Unloading, Moving, and Transporting Case

Merchandisers can be unloaded from the trailer using a level bar, also known as a Johnson bar, or lever dolly. Move the merchandiser as close as possible to its permanent location and remove all packaging. Check for damage before discarding packaging. Improper handling may cause damage to the merchandiser when unloading. To avoid damage:

1. Do not drag the merchandiser out of the trailer. Use a Johnson bar (Mule).
2. Use a forklift or dolly to remove the merchandiser from the trailer.

### Leveling Case

Be sure to position merchandisers properly, then level all four corners. Merchandiser(s) must be installed level to ensure proper operation of the refrigeration system, and to ensure proper drainage of defrost water. This merchandiser must be installed level (from back to front, and side to side) to allow maximum draining of the condensate water as well as proper door alignment and operation. Choose a level area to install case.

### Exterior Loading

**⚠WARNING**

Do NOT walk on top of the merchandiser or damage to the merchandisers and serious personal injury could occur. Merchandisers are not structurally designed to support excessive external loading such as the weight of a person. Do not place heavy objects on the merchandiser.

Check floor where merchandisers are to be set to if it is a level area. Determine the highest part of the floor. Each merchandiser is shipped on a skid to protect the merchandiser's base and to make positioning the case easier. Remove the top of the crate and detach walls from each other (if applicable). Lift crate from the skid. Unscrew the case from the skid. The merchandiser can now be lifted off the crate skid. Lift only at base of skid! Remove any braces and/or skids attached (blanket wrapped merchandiser may have skids). Do not tilt merchandiser on its side or end when removing skid. Once the skid is removed, the merchandiser must be lifted —NOT PUSHED— to reposition. To remove the skid, remove screws attaching skid to the merchandiser.

# NAV8A

## Installation Information

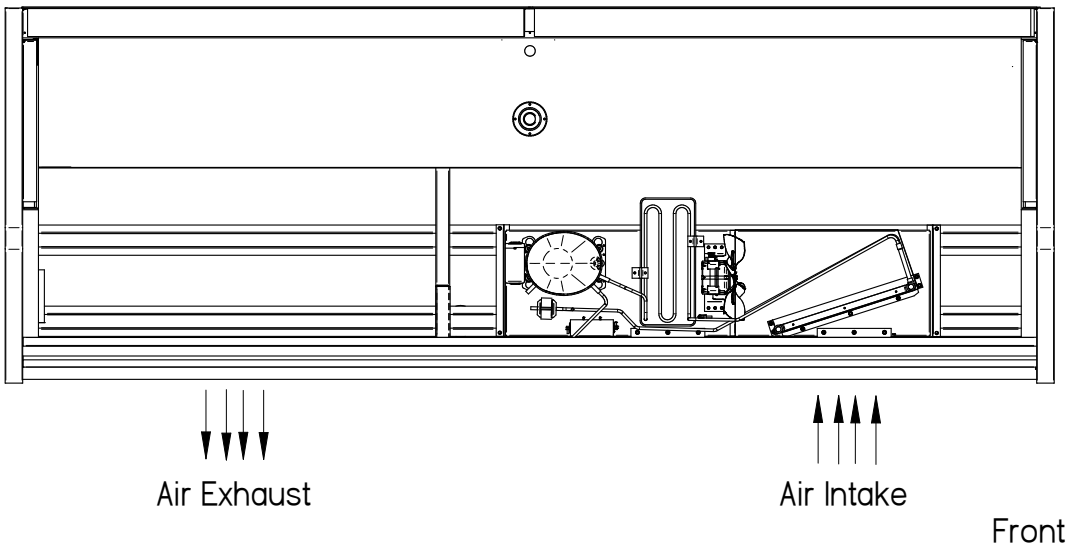
### Location

These merchandisers are designed for displaying products in air-conditioned stores where temperature is maintained at or below the ANSI / NSF-7 specified level and relative humidity is maintained at or below 55%. NSF Type I recommended ambient operating temperature is 75° F (24° C) and maximum relative humidity is 55%. NSF Type II recommended ambient operating temperature is 80°F (27°C) and maximum relative humidity is 55%.

Do not install merchandiser in public corridors or lobbies. Placing refrigerated merchandisers in direct sunlight, near hot tables, or near other heat sources could impair their efficiency. Like other merchandisers, these are sensitive to air disturbances. Air currents passing around merchandisers will seriously impair their operation. Do NOT allow air conditioning, electric fans, open doors or windows, etc., to create air currents around the merchandiser.

Be sure to position self-contained merchandisers properly. Blocking or restricting air flow will adversely affect performance and may damage the refrigeration system. Appliance shall be stored in an area where the room size corresponds to the room area as specified for operation.

These models have vented base panels to allow air circulation through the condensing unit. Refer to the diagram below for a visual representation of air flow distribution within the machine compartment. Allow for a minimum 30 inch (762 mm) clearance in the front and, open clearance at the rear and top.





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## Installation Information

### Sealing Merchandiser to Floor

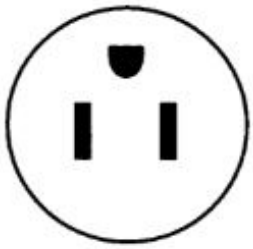
If required by local sanitary codes, or if the customer desires, merchandisers may be sealed to the floor using a vinyl cove base trim. The size needed will depend on how much variation there is in the floor, from one end of the merchandiser to the other. Sealing of the lower front and rear panels on self contained models may hamper their removal for servicing or maintenance of the condensing unit.

NOTE: Do not allow trim to cover any intake or discharge grilles located in the lower front panel.

### Electrical Information

The power cord extends 39 in. (990 mm) from the case and exits on right hand rear of the merchandiser. When shipped, the plug end will be strapped to the back of the unit. Disconnect power before servicing. NAV8A merchandisers require a dedicated electrical circuit with ground. 12 AWG is the minimum acceptable wire size. Consult equipment datasheet for additional electrical specifications.

NAV8A models require a dedicated 15 AMP / 120V circuit with a grounded receptacle (NEMA 5-15P). Always use a dedicated circuit with the amperage stated on the unit. Do not overload the circuit. Plug into an outlet designed for the plug. Do not use extension cords. Never use adapters. If in doubt, call an electrician.



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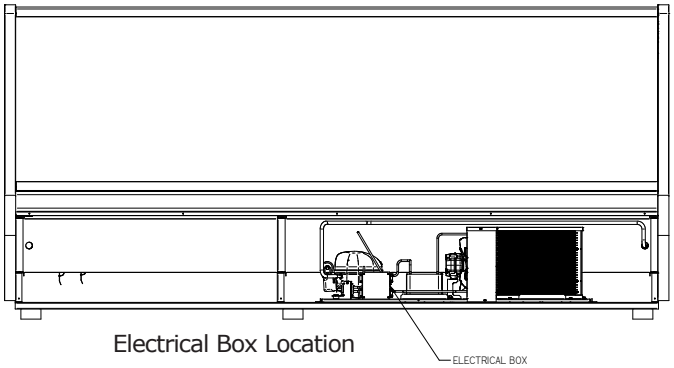
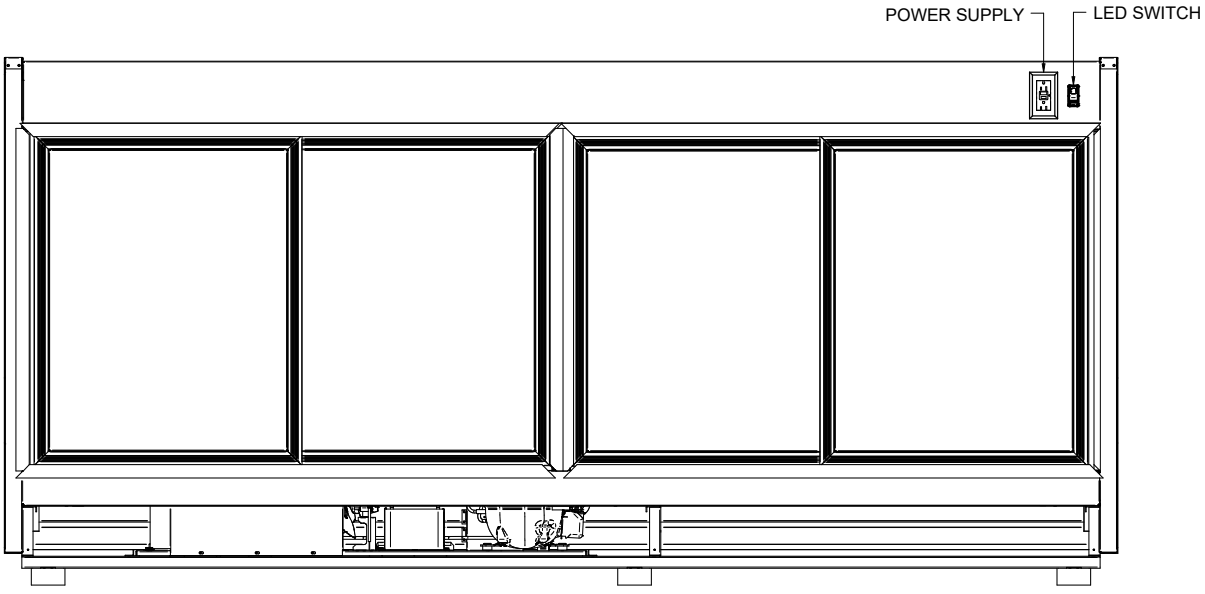



Electrical Box Location

### Lighting

This case features pre-installed LED lighting. Led lighting is standard for NAV8A case models. LEDs are held in place with clips. The protective light shield is a single piece. The light switch for the lamps is located on the back of the case at the top. The switch controls the interior lighting.




BACK VIEW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### Shelf Installation

After the cabinet is leveled, the shelves may be installed. NAV8A models are equipped with four shelves. Heights are adjustable in one-inch increments.

Install the shelf support brackets first to the desired height before installing each shelf. Place the rear of the bracket in the desired slot. Raise the front of the brackets towards the rear of the cabinet. Once the ends are in the slot, rotate the bracket forward, locking it in place. Place the shelf on the bracket. The shelves are not to be slanted and must remain in the horizontal position unless otherwise noted by your Hussmann representative.

### Load Limits

The 13 in. shelf depth is rated for 180 lb (82 kg) each load capacity. The 16 in. shelf depth is rated for 220 lb (100 kg). Exceeding this load can cause damage to the shelves, case, damage to store products, and potentially create a hazardous condition for customers and store personnel. Product must be within designated load limit to ensure proper refrigeration and air curtain performance. Product shelves should be loaded so that the product does not extend over the front edge of the shelf. Product loaded over the edge will interfere with air circulation in the cabinet. It is also desirable to leave a small space between the rear interior wall and the product on the shelves, to allow air to enter the cabinet interior through the perforations in the rear wall.

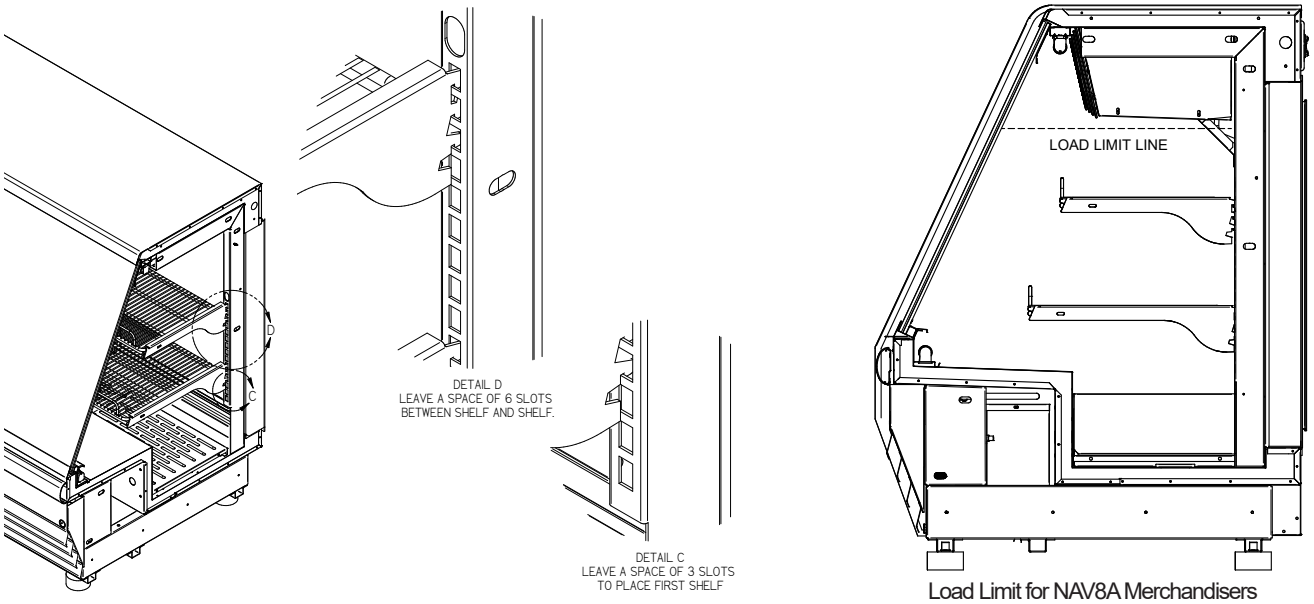
| Shelf Depth | Max. Load Limit (each load capacity) |
|---|---|
| 13 | 180 lb (82 kg) |
| 16 | 220 lb (100 kg) |

### Product Stocking

Product should always be maintained at proper temperature. This means the temperature of the product must be controlled that from the time the product is received through storage, preparation, and display to maximize the life of the product. Product should not be placed inside the merchandisers until merchandisers are at proper operating temperature. Allow merchandiser 24 hours to operate before loading product.

Proper rotation of product during stocking is necessary to prevent product loss. Always bring the oldest product to the front and set the newest to the back.

All air discharge and return flues must remain open and free of obstruction at all times to provide proper refrigeration and air curtain performance. Do not allow product, packages, signs, etc., to block these grilles. Do not use non-approved shelving, baskets, display racks, or any accessory that could disrupt air curtain performance.




Load Limit for NAV8A Merchandisers

# NAV8A

## Installation Information

### Self-Contained Refrigeration Equipment Start-Up Checklist

**Please note that failure to follow this start-up document may void your factory warranty**

The below steps should be done in order and must be completed before the unit is put into operation.

- ☐ Locate, read and maintain install/operation manual in a safe place for future reference.
- ☐ Examine unit. Confirm there is NO damage or concealed damage.
- ☐ Level the unit, side to side and front to rear.
- ☐ Remove all shipping brackets/compressor straps/bolts etc.
- ☐ Unit must be run on a dedicated electrical circuit without the use of an extension cord.
- ☐ Ensure that the proper electrical requirements for the equipment are supplied.
- ☐ Verify field electrical connections are tight.
- ☐ Verify all electrical wiring is secured and clear of any sharp edges or hot lines.
- ☐ Verify the condensate drain line is properly trapped and pitched.
- ☐ Verify all required clearances on the sides and back of unit.
- ☐ Verify there are no air disturbances external to the unit. Heat and air registers, fans, and doors etc.

**Advise owner/operator that merchandiser must operate at temperature for 24 hrs prior to loading with product.**

Hussmann shall not be liable for any repair or replacements made without the written consent of Hussmann, or when the product is installed or operated in a manner contrary to the printed instructions covering installation and service which accompanied such product.

### Leak Detection

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used. The following leak detection methods are deemed acceptable for all refrigerant systems:

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity might not be adequate, or might need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25% maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine can react with the refrigerant and corrode the copper pipe-work.

Note: Examples of leak detection fluids are bubble method and fluorescent method agents.

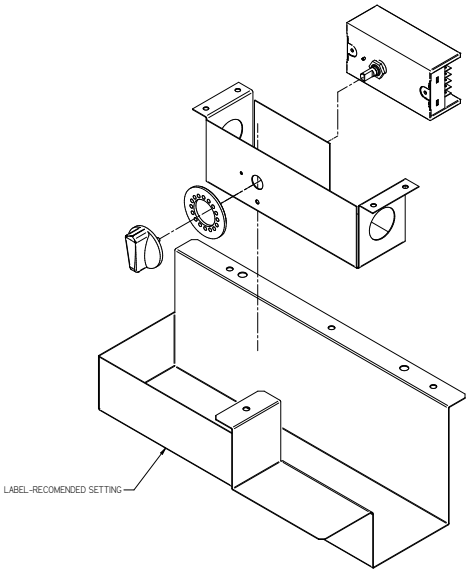
If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak. Removal of refrigerant shall be according to the Refrigerant Recovery section provided.

# NAV8A

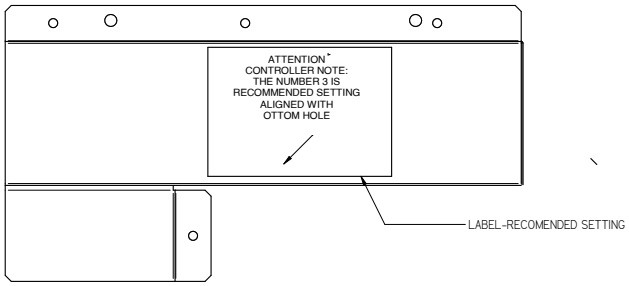
## Controls

### Controller Operation

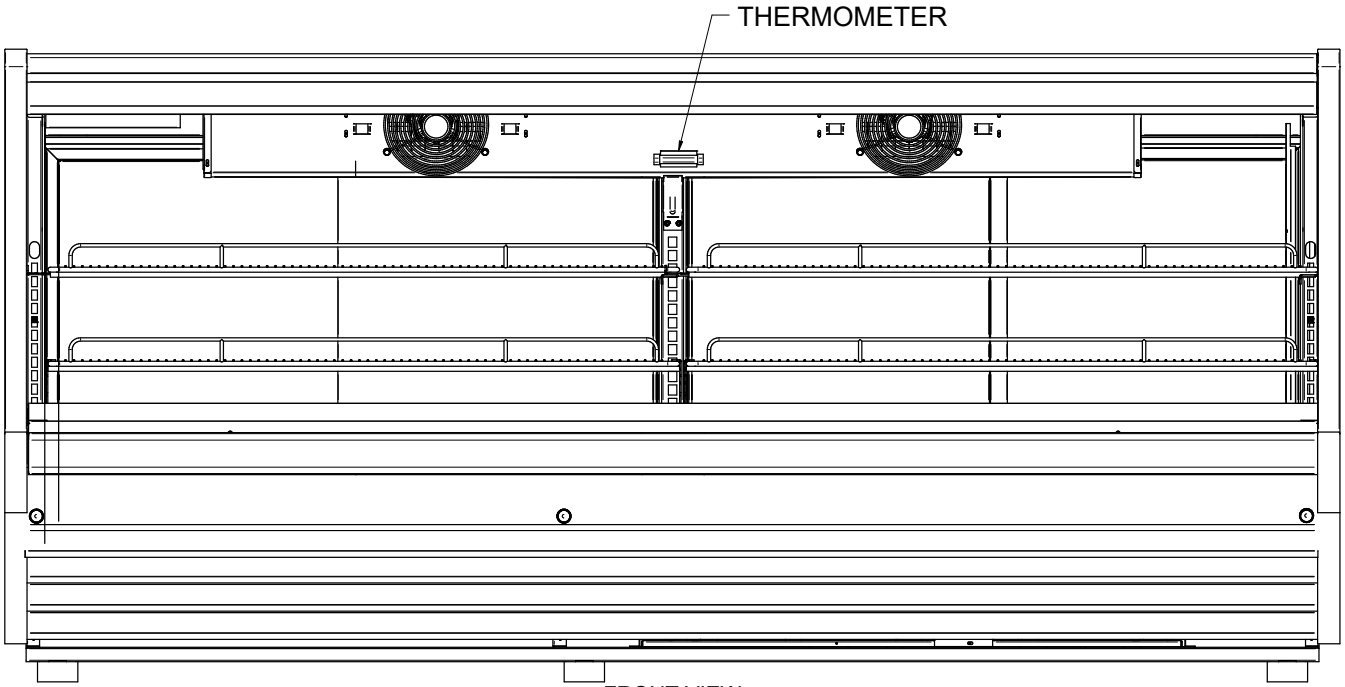
The controller controls refrigeration temperature. This is factory installed in the food compartment, next to the fan plenum as shown in the bottom right picture. Defrosts are time initiated by time and terminated by temperature for this system. This cabinet temperature may reflect the refrigeration cycle of the Set-Point and it's Differential. The most accurate temperature on a cabinets operation is to verify the product temperature.




EXPLODED VIEW
ITEMS SHOW FOR REFERENCE



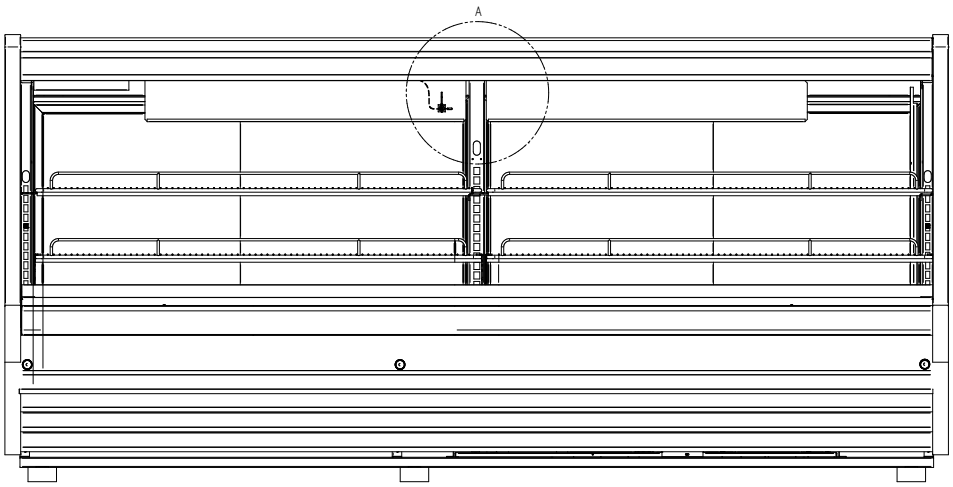

BOTTOM VIEW

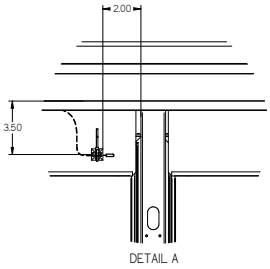


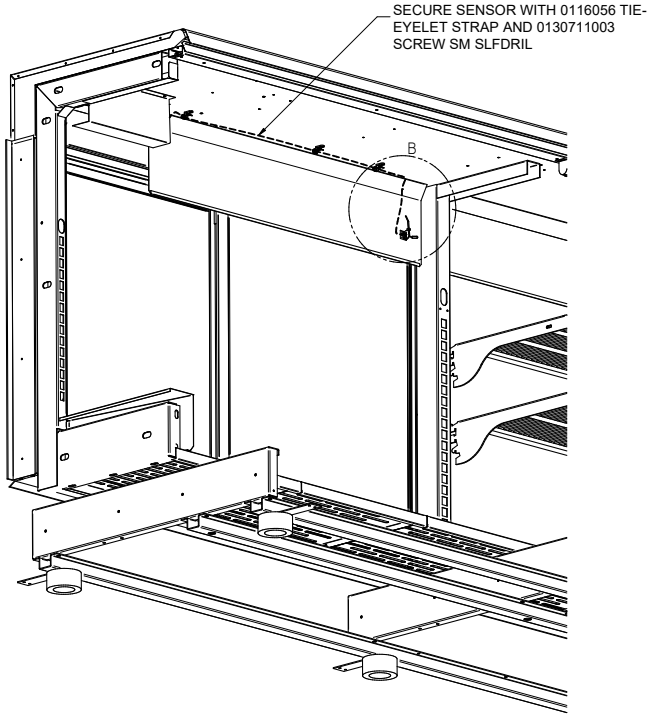

FRONT VIEW
ITEMS HIDDEN FOR
VISIBILITY

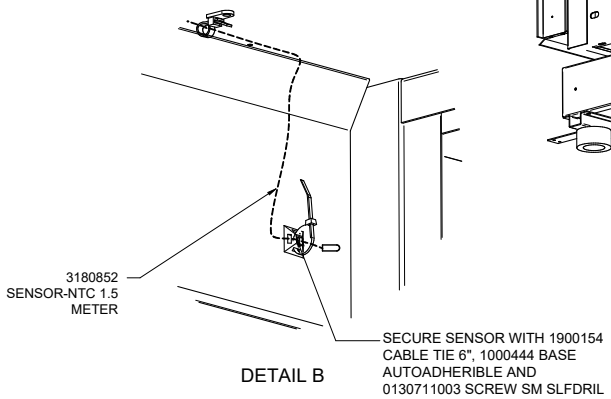
### Sensor Location

**Temperature and Defrost Sensor**



# NAV8A

## Maintenance and Service

**DANGER**

- DANGER—Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.
- DANGER—Risk of fire or explosion due to flammable refrigerant used. Follow handling instructions carefully in compliance with national regulations.
- DANGER—Risk of fire or explosion. A3 flammable refrigerant is used in this unit.
- DANGER—Risk of fire or explosion due to flammable refrigerant used. Follow handling instructions carefully in compliance with national regulations.
- Failure to follow instructions can result in an explosion, death, injury and property damage.

**WARNING**

**READ ALL WARNINGS BEFORE SERVICING OR PERFORMING MAINTENANCE ON THIS EQUIPMENT.**

If the information in these instructions are not followed exactly, a fire or explosion may result, causing property damage, personal injury or death.

- Installation and service must be performed by a qualified installer or service agency only as recommended by the manufacturer.
- The refrigerant loop is sealed. Only a qualified and authorized technician should attempt to service.
- Propane is flammable and heavier than air. It collects first in the low areas but can be circulated by fans.
- The propane gas used in the unit has no odor. The lack of smell does not indicate a lack of escaped gas. If R-290 is present or even suspected, do not allow untrained personnel to attempt to find the cause.
- If a leak is detected, immediately evacuate all persons from the store, and contact the local fire department to advise them that a propane leak has occurred. Do not let any persons back into the store until the qualified service technician has arrived and that technician advises that it is safe to return to the store.
- A hand-held propane leak detector (“sniffer”) will be used before any repair and/or maintenance.
- No open flames, cigarettes, or other possible sources of ignition should be used inside the building where the units are located until the qualified service technician and/or local fire department determines that all propane has been cleared from the area and from the refrigeration systems.
- WARNING – Risk of fire or explosion. Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.

**FAILURE TO ABIDE BY THIS WARNING COULD RESULT IN AN EXPLOSION, DEATH, INJURY, AND PROPERTY DAMAGE.**

## Before Working with Refrigerant

### Safety Checks

- Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimised.
- Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
- All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e., non-sparking, adequately sealed, or intrinsically safe.
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available on hand. A dry chemical or CO2 fire extinguisher should be adjacent to the charging area.
- No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment shall be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times, the manufacturer’s maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer’s technical department for assistance.
- The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

  a. The actual REFRIGERANT CHARGE is in accordance with the room size within which the refrigerant containing parts are installed;
  b. The ventilation machinery and outlets are operating adequately and are not obstructed;
  c. If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
  d. Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
  e. Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

### Checks and Repairs to Electrical Devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment, so all parties are advised.

Initial safety checks shall include:

a. That capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
b. That no live electrical components and wiring are exposed while charging, recovering or purging the system;
c. That there is continuity of earth bonding.

**⚠WARNING**

- LOCK OUT / TAG OUT — To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.
- To reduce the risk of fire, electrical shock or injury when cleaning this merchandiser:
  -Unplug the merchandiser before cleaning.
  -Keep all liquids away from electrical and electronic components.
- To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agents or similarly qualified persons in order to avoid hazard.
- Do not remove the power supply cord ground. Merchandiser must be grounded. All wiring must be in compliance with NEC and local codes.
- Particular attention shall be paid to the following to ensure that by working on electrical components, the casing is not altered in such a way that the level of protection is affected. This shall include damage to cables, excessive number of connections, terminals not made to original specification, damage to seals, incorrect fitting of glands, etc.
  -Ensure that the apparatus is mounted securely.
  -Ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres. Replacement parts shall be in accordance with the manufacturer's specifications.
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times, the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance.
- When servicing, ensure that seals or sealing materials have not degraded to the point that they no longer serve the purpose of preventing the ingress of flammable atmospheres.
- During repairs to sealed components, all electrical supplies shall be disconnected from the equipment being worked upon prior to any removal of sealed covers, etc. If it is absolutely necessary to have an electrical supply to equipment during servicing, then a permanently operating form of leak detection shall be located at the most critical point to warn of a potentially hazardous situation.
- Component parts are designed for propane and are non-incendive and non-sparking. Component parts shall be replaced with like components, and servicing shall be done by factory authorized service personnel only, so as to minimize the risk of possible ignition due to incorrect parts or improper service.

- Do not apply any permanent inductive or capacitance loads to the circuit without ensuring that this will not exceed the permissible voltage and current permitted for the equipment in use.
- Intrinsically safe components are the only types that can be worked on while live in the presence of a flammable atmosphere. The test apparatus shall be at the correct rating.
- Replace components only with parts specified by the manufacturer. Other parts can result in the ignition of refrigerant in the atmosphere from a leak.

## Care and Cleaning

Long life and satisfactory performance of any equipment is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, this unit should be thoroughly cleaned, all debris removed and the interiors washed down. Cleaning often will control or eliminate odor buildup. Frequency of cleaning is dependent on usage and local health requirements.

### Exterior Surfaces

The exterior surfaces must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. Never use abrasive cleaners or scouring pads. Never use caustic soda, kerosene, gasoline, thinner, solvents, detergents, acids, chemicals or abrasives. Do not use ammonia-based cleaners on acrylic parts.

### Interior Surfaces

Do not use ammonia-based products to clean light shields. Never use abrasive cleansers or scouring pads.

The interior surfaces may be cleaned with most domestic detergents and sanitizing solutions with no harm to the surface. Always read and follow the manufacturer's instructions when using any cleaning product.

Inspect all LED connections and plug/ receptacles for signs of arcing. Replace any component that shows signs of arcing. Make sure all unused receptacles have close-off covers securely attached.

### Cleaning Underneath the Case

The case can be moved to facilitate cleaning. Unplug the merchandiser, and move it out if the way in order to sweep and mop the area underneath the case. Brush away all dirt and litter from the area. Ensure there is no dirt build up around the bottom of the case or near the intake or exhaust.

### Cleaning Shelves

Shelves and shelf clips are easily removed for cleaning the interior as well as the shelves themselves.

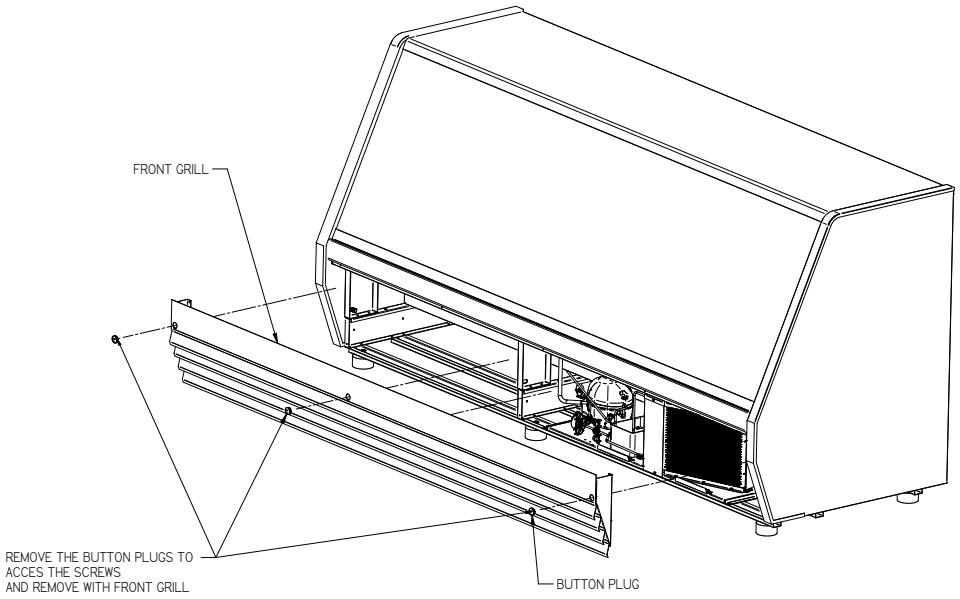
**⚠WARNING**

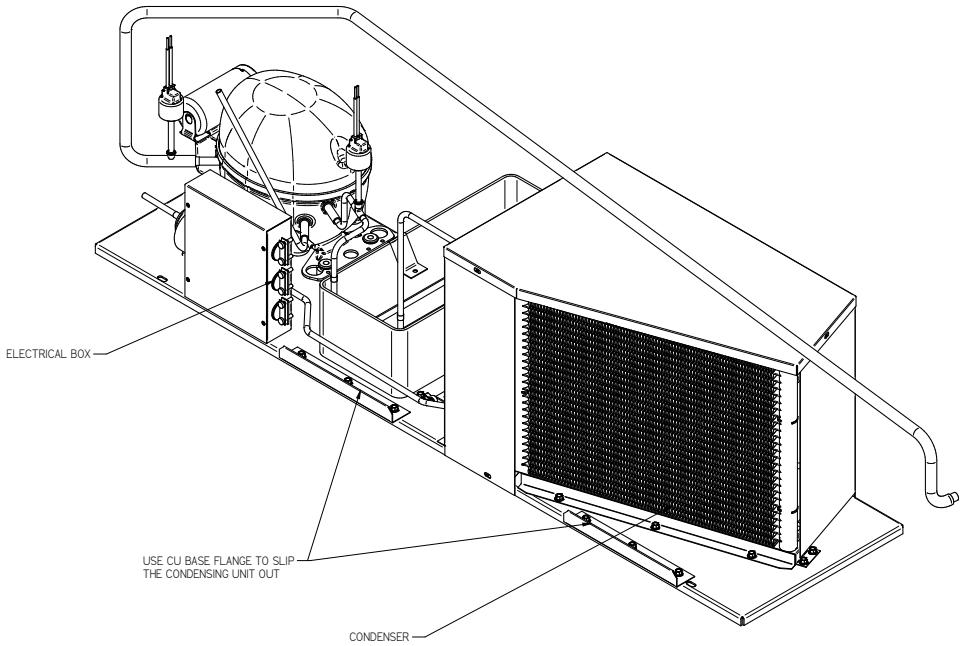
- To reduce the risk of fire, electrical shock or injury when cleaning this merchandiser:
- Unplug the merchandiser before cleaning;
- Keep all liquids away from electrical and electronic components;
- Do not use any mechanical device or other means to speed the defrost process, except as recommended by the manufacturer.
- Do NOT use HOT water on cold glass surfaces. This can cause the glass to shatter and could result in personal injury. Allow glass fronts, to warm before applying hot water.
- Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.
- Always wear gloves and protective eye wear when servicing.

### Cleaning Condenser Coils

To maintain peak operating efficiency, the coil should be cleaned at least once each month. A dirty coil slows product cooling significantly and increases energy consumption by as much as 20%. Dirt buildup on coils can also cause the compressor to lock up damaging the condenser unit. All NAV8A models have the same access panel design for commonality between merchandisers.

1. Remove the plug buttons and lower panel screws.
2. Once the condensing unit base is free, you can slide it out for service. Use base flanges to pull out the condensing unit. Pulling on refrigeration lines or others parts will cause damage to the unit.
3. Use a soft hand brush attachment on a vacuum to remove accumulated dust and debris.



### Cleaning Evaporation Pan

The condensate water outlet for self contained models empties into a limited capacity evaporation pan. Debris or dirt accumulation inside the condensate evaporation pan will reduce the pan's evaporation capacity.

Remove accumulated debris from the evaporation pan. Water introduced during cleaning will cause the evaporation pan to overflow.

**⚠WARNING**

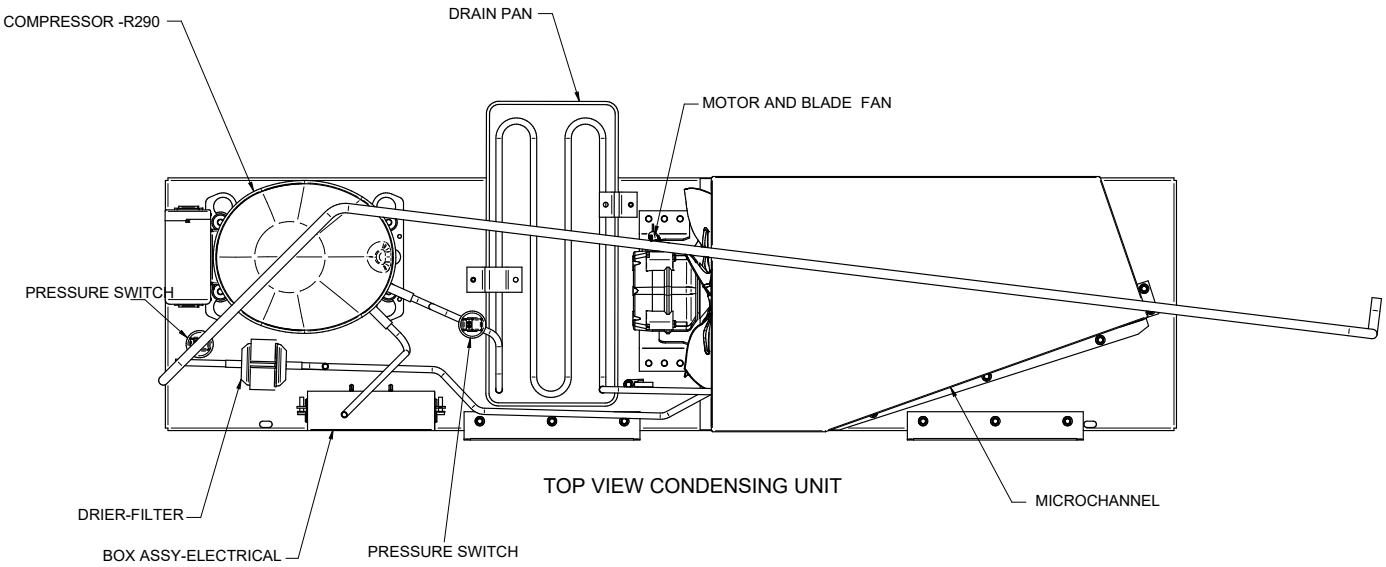
Evaporation pan is hot and poses risk of bodily injury. Always wear gloves and protective eye wear when servicing.

PRECAUTION

CLEANING PRECAUTIONS

When Cleaning:

- Do not use high pressure water hoses
- Do not introduce water faster than waste outlet can drain
- NEVER INTRODUCE WATER ON SELF CONTAINED UNIT WITH AN EVAPORATION PAN
- NEVER USE A CLEANING OR SANITIZING SOLUTION THAT HAS OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this will corrode the copper components of the merchandiser)
- TO PRESERVE THE ATTRACTIVE FINISH:
- Use a water and a mild detergent for the exterior only
- Do NOT use a chlorinated cleaner on any surface
- Do NOT use abrasives or steel wool scouring pads (these will mar the finish)




TOP VIEW CONDENSING UNIT

**Troubleshooting Tips**

Consult an authorized service technician if more extensive cleaning is needed. If the refrigeration unit is damaged, it can be replaced with a new unit.
There are a few simple things to check before calling for service:

1. Product not cold?
Refrigeration unit requires 24 hours at initial startup to cool down to operating temperature with no product loaded in merchandiser. Ask when merchandiser was stocked, and what the usage has been. It may take 30 minutes or more for product to chill following stocking.

2. Power Supply:
Is the unit plugged in? Yes/No

Is there power to the unit? Yes/No

3. Location:
What are the ambient conditions — temperature and humidity, direct sun, nearby source of heat, such as oven or grill? Is the unit level? Has the unit been moved recently?

4. Shelves and Stocking:
Are the standard shelves in the correct places? Is the product stocked properly? Is the bottom shelf at the proper location?

5. Is the case in defrost? Confirm that the defrost schedule is properly set.

### Self-Contained Refrigeration Equipment Maintenance Checklist (Quarterly)

**Warranty does not cover issues caused by improper installation or lack of basic preventative maintenance.**

For visual inspection items, mark “okay” or “complete” in the correct cell when the Preventative Maintenance has been performed. Where data is requested, fill in the corresponding cell with the requested data. **The below procedures are intended to be done quarterly. Post this on or near the unit or retain somewhere else on location if not possible. This sheet should be replaced yearly, but previous copies should be retained on location for future reference as needed.**

| | | | | | |
|---|---|---|---|---|---|
| **Record Starting Date** | | **Unit Model Number** | | | |
| **Store Name and Number** | | **Unit Serial Number** | | | |
| **Store Address** | | **Contractor/Technician** | | | |
| **Quarter** | | **Q1** | **Q2** | **Q3** | **Q4** |
| **Technician** | | | | | |
| **Preventative Maintenance Date** | | | | | |
| Check in with store manager, and record any complaints or issues they have with the unit. | | | | | |
| Look unit over for any damage, vibrations, or abnormal noise. | | | | | |
| Verify unit is level side to side and front to rear. | | | | | |
| Confirm refrigerant lines are properly secured and not touching or rubbing other lines, wires, or frame work. | | | | | |
| Verify fan motor(s) and motor mounts are tightly attached. | | | | | |
| Confirm fan blade(s) do not have excessive play and are not rubbing or hitting housing. | | | | | |
| Make sure all electrical connections —factory and field—are tight. | | | | | |
| Verify electrical connections at lamps are secure and dry. | | | | | |
| Check all electrical wiring and make sure it is secured and not contacting sharp edges or hot lines. | | | | | |
| Check for and replace any frayed or chaffed wiring. | | | | | |
| Check for external air disturbances such as heat and air registers, fans, doors, etc. | | | | | |
| Check for water leaks. | | | | | |
| Verify condenser and evaporator fans are working. | | | | | |
| Record condenser air inlet temperature. | | | | | |
| Record condenser air outlet temperature. | | | | | |
| Is condenser air inlet or air exhaust restricted or recirculating? | | | | | |
| Use a handheld propane leak detector (“sniffer”) to check for refrigerant leaks. | | | | | |
| Record case product temperature. | | | | | |
| Record unit discharge air temperature. | | | | | |
| Record unit return air temperature. | | | | | |
| Record ambient conditions around unit (wet and dry bulb temperature). | | | | | |
| Check product loading to ensure nothing is being loaded beyond the unit load limits. | | | | | |
| Verify clearances on sides and back of unit. | | | | | |
| Confirm door switches function. | | | | | |
| Verify unit doors and lids work and are sealed correctly. | | | | | |
| Verify that all the panels, shields, and covers are in place. | | | | | |

**Technician Notes:**

### Self-Contained Refrigeration Equipment Maintenance Checklist (Annual)

**Warranty does not cover issues caused by improper installation or lack of basic preventative maintenance.**

For visual inspection items, mark “okay” or “complete” in the correct cell when the Preventative Maintenance has been performed. Where data is requested, fill in the corresponding cell with the requested data. **The below procedures are intended to be done annually. Post this on or near the unit or retain somewhere else on location if not possible. This sheet should be replaced yearly, but previous copies should be retained on location for future reference as needed.**

| | | | |
|---|---|---|---|
| **Record Starting Date** | | **Unit Model Number** | |
| **Store Name and Number** | | **Unit Serial Number** | |
| **Store Address** | | **Contractor/Technician** | |
| **Technician** | | | |
| **Preventative Maintenance Date** | | | |
| Clean evaporator coil(s) and fan blade(s). Do not use an acid base cleaner. Rinse off any cleaner residue when complete. | | | |
| Clean discharge air honeycombs or grilles. Do not use an acid base cleaner. Rinse off any cleaner residue when complete. | | | |
| Clean condenser coil(s) and fan blade(s). Do not use an acid base cleaner. Rinse off any cleaner residue when complete. | | | |
| Verify condensate drain lines are clear and functioning. | | | |
| Record voltage reading at unit with unit powered off. | | | |
| Record voltage reading with unit running. | | | |
| Record compressor amp draw. | | | |
| Record defrost heater voltage and amp draw. | | | |
| Record anti-sweat heater voltage and amp draw. | | | |
| Check unit controller for proper operation. See the controller manual or unit installation and operation manual for details related to proper controller operation. | | | |

| |
|---|
| **Technician Notes:** |

Note: Make certain to also review the quarterly checklist on the corresponding page.

### Refrigerant Removal, Evacuation, and Recovery

When breaking into the refrigerant circuit to make repairs—or for any other purpose—conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration. The following procedure shall be adhered to:

a. Safely remove refrigerant following local and national regulations;
b. Purge the circuit with inert gas;
c. Evacuate;
d. Purge with inert gas;
e. Open the circuit by cutting or brazing.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. The system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems.

Refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum. This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

#### Recovery Procedure

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely. When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available.

All cylinders to be used are designated for the recovered refrigerant and labeled for that refrigerant (i.e., special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, FLAMMABLE REFRIGERANTS. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that FLAMMABLE REFRIGERANT does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the supplier. Only electric heating to the compressor body shall be employed to accelerate this process.

When oil is drained from a system, it shall be carried out safely.

### Refrigerant Charging Procedure

A calibrated scale with +/-2 gram accuracy must be used to charge the system. The charge amount is shown on the serial plate. Only R-290 grade refrigerant can be used. Standard propane does not meet the purity/ moisture content of R-290, and therefore cannot be used to charge cases.

No gas charge adjustments are allowed. When connecting hoses between the refrigeration system, manifold gauges, and refrigerant cylinder, ensure that the connections are secure and there are no potential sources of ignition nearby. Ensure that contamination of different refrigerants does not occur when using charging equipment.

Use dedicated hoses to service R-290 (propane) refrigeration systems. Hoses or lines should be as short as possible to minimize the amount of refrigerant contained in them.

Ensure that the refrigeration system is properly grounded prior to charging the system with refrigerant, to avoid the potential for static build-up.

In addition to conventional charging procedures, the following requirements shall be followed:

a. Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
b. Cylinders shall be kept in an appropriate position according to the instructions.
c. Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
d. Label the system when charging is complete (if not already).
e. Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

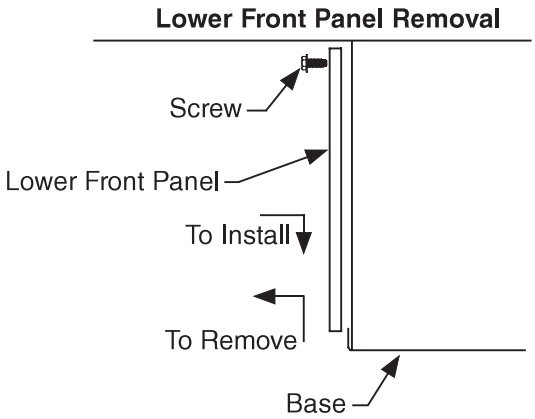
Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

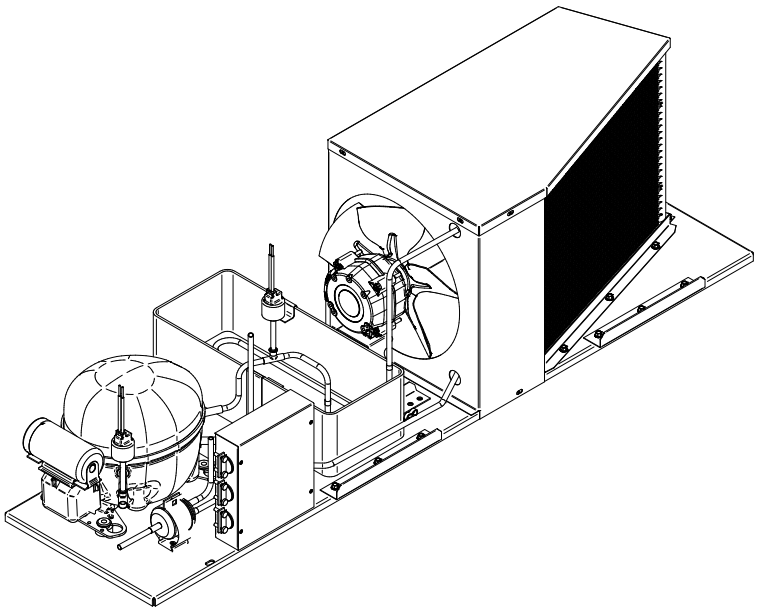
Extreme care must be taken not to overfill the refrigeration system. After charging, carefully disconnect the hoses, attempting to minimize the quantity of refrigerant released. Further leak check the service ports, hoses, refrigerant tanks. The service ports shall be checked for leaks using a hydrocarbon leak detector with a sensitivity of 3 grams/year (0.106 oz/year) leak rate.

Thoroughly leak check the service ports. If no leak is present, use a pinch-off tool to close the ends of the service tubes before brazing them shut. If a Schrader valve is used on the compressor service tube, it must be removed and the previous steps followed in order to braze the service tube shut.

### Refrigeration Unit Access

The lower front panel may be removed by lifting the panel straight upward and over the tabs on which it is hanging. In a self contained merchandiser, two screws will have to be removed from either end of the panel. The panel is installed by reversing the above procedure. Ensure lower front panel is flat against the floor when installed to prevent air circulation problems on self contained merchandisers.

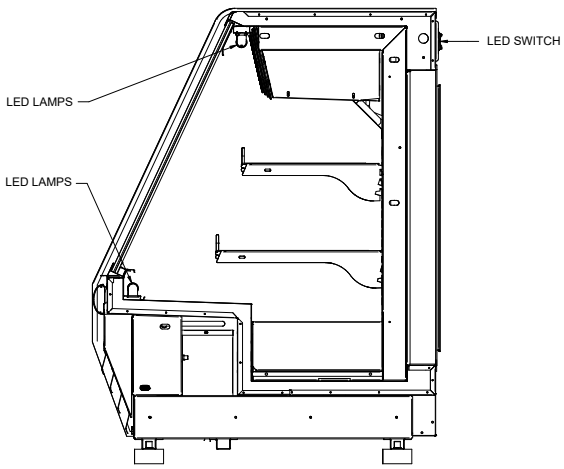


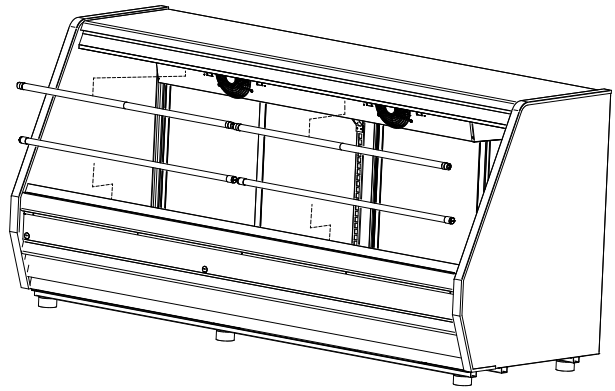
NAV8A CONDENSING UNIT SHOWN

### Replacing LED Lamps

1. When applicable, remove the LED cover by gently squeezing and pulling out the plastic piece.
2. Rotate the LED 90° clockwise to unlock it from the lamp holder.
3. Pull the LED upward to remove it.
4. Detach the plastic shield from the old LED.
5. Install the new LED by inserting it into the lamp holders. Make sure to attach the plastic shield to the new LED before installation.
6. Rotate the LED 90° counterclockwise to lock it in place.
7. Reinstall the plastic cover, if applicable.




LED FIXTURE LOCATION



### Replacing Evaporator Motors

Should it ever be necessary to service or replace the fan motors be certain that the fan blades are reinstalled correctly. See process below describing instructions needed

Unplug power cord before servicing.

Scan the QR code on your mobile device to access additional product information or order parts.

Parts may also be ordered at:

https://parts.hussmann.com/

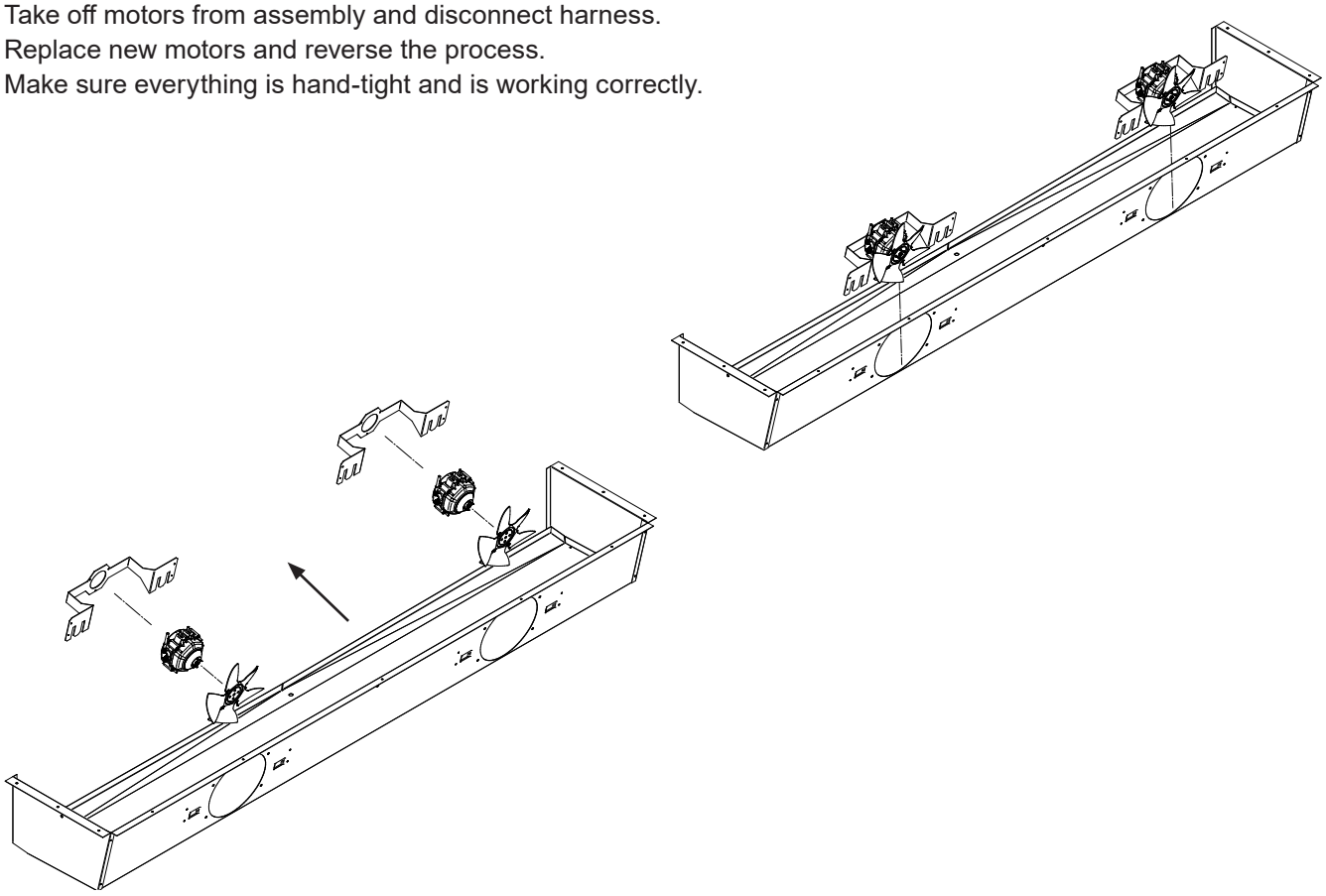
Call toll free: 1.855.487.7778

Required Tools:

- Screwdriver
- 1/4” Socket
- 3/8” Socket

For access to these fans:

1. Remove product and place in a refrigerated area. Make sure the power is off to the case. Make sure there is no voltage in the refrigerator.
2. Slide out the condensing unit. Be careful using the condensing unit flanges to pull it out. Make sure not to stress or interfere with other parts. See Page 18 for removal instructions.
3. Remove the housing screws to access the motors.
4. Take off motors from assembly and disconnect harness.
5. Replace new motors and reverse the process. Make sure everything is hand-tight and is working correctly.



### Replacing Compressor

Unplug the power cord before servicing.

1. Remove product and place in a refrigerated area. Make sure the power is off to the case. Make sure there is no voltage in the refrigerator.
2. Remove lower panel and pull out the refrigeration cassette. See Page 3-3 for removal. Make sure there is no refrigerant left in the system. Refer to Page 2-3 - Steps to Recover Refrigerant.
3. Remove welded joints that connect the condensing units and the evaporator.
4. Disconnect all wires and harness from the compressor.
5. Take off compressor screws.
6. Replace with new compressor.
7. Reverse the process and make sure everything is in place.

Scan the QR code on your mobile device to access additional product information or order parts.

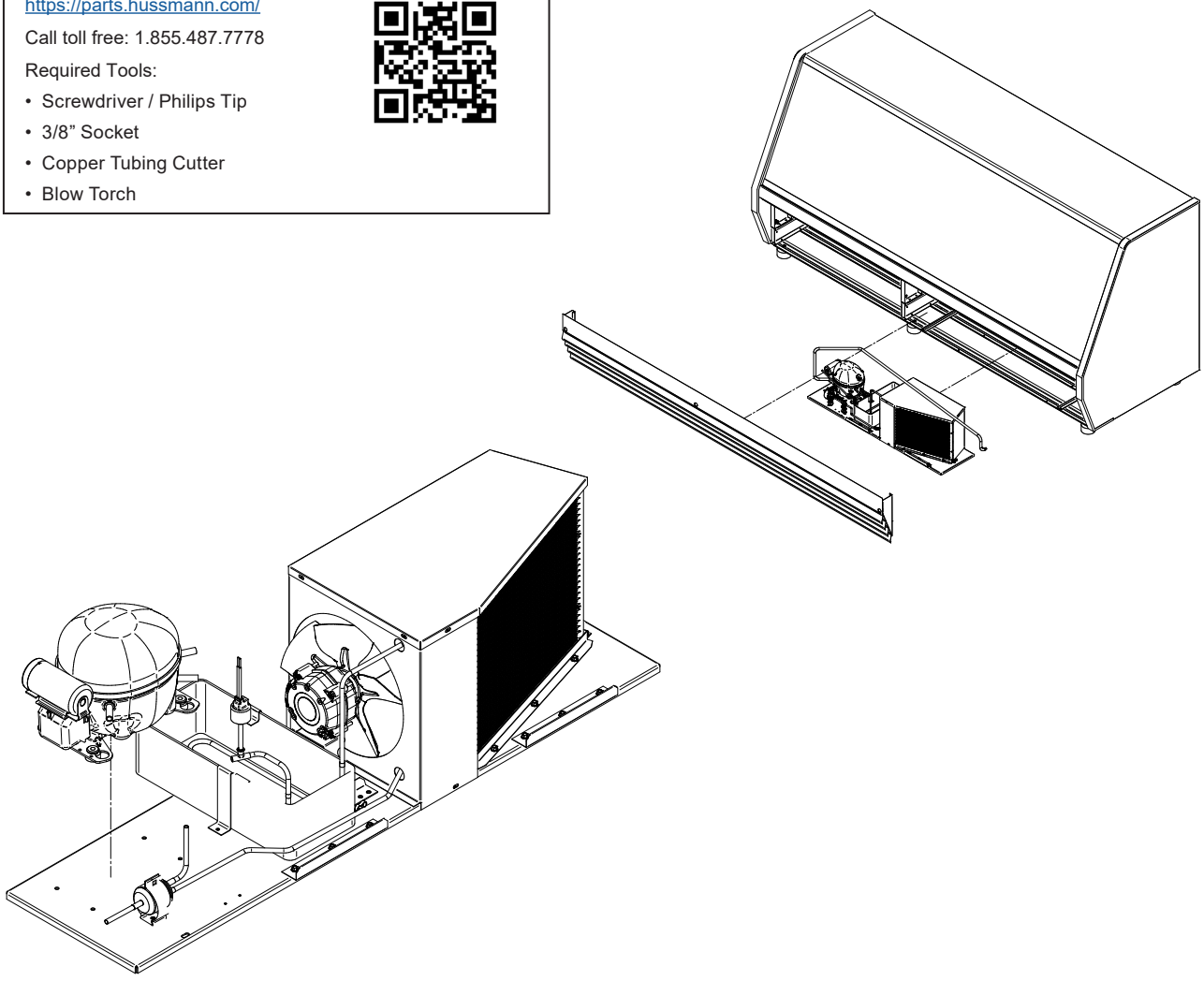
Parts may also be ordered at:

https://parts.hussmann.com/

Call toll free: 1.855.487.7778

Required Tools:

- Screwdriver / Philips Tip
- 3/8” Socket
- Copper Tubing Cutter
- Blow Torch

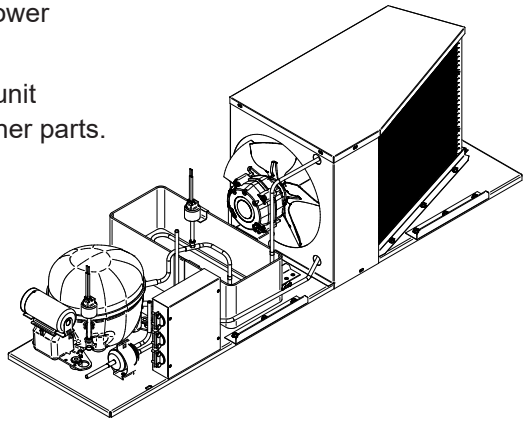


NAV8A Condensing Unit Shown

### Replacing Condenser Motor

Unplug the power cord before servicing.

1. Remove product and place in a refrigerated area. Make sure the power is off to the case.
2. Make sure there is no voltage in the refrigerator. Remove rear lower panel as shown in the illustration.
3. Slide out the condensing unit. Be careful using the condensing unit flanges to pull it out. Make sure not to stress or interfere with other parts.
4. Disconnect condenser motor harness.
5. If a flexible extension is used, skip Step 6.
6. Release screws to partially remove venturi assembly.
7. Release screws to remove condenser fan assembly.
8. Release motor screws to get to motor / blade assembly.
9. Change failed part.
10. If the only damaged part is the motor, remove blade.
11. Reverse the process and make sure everything is in place and working.



Scan the QR code on your mobile device to access additional product information or order parts.

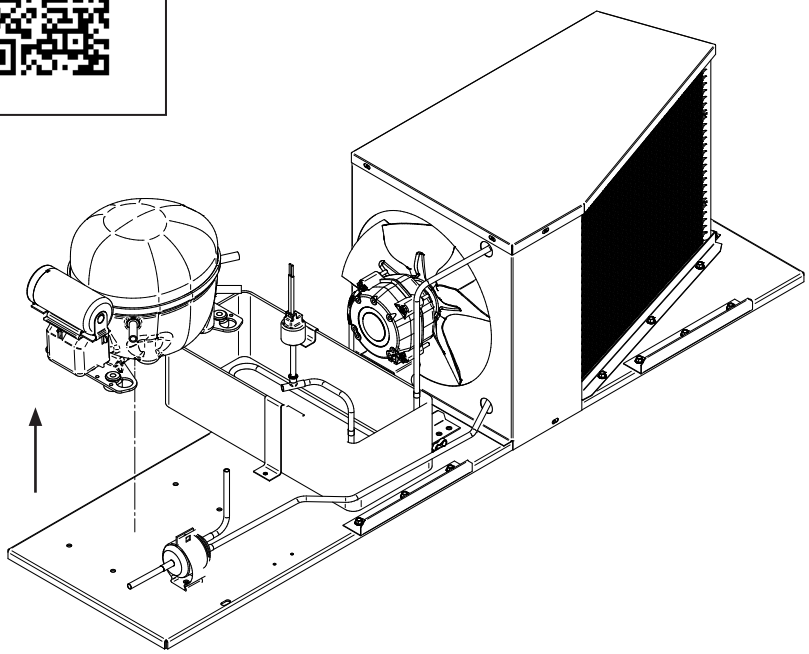
Parts may also be ordered at:

https://parts.hussmann.com/

Call toll free: 1.855.487.7778

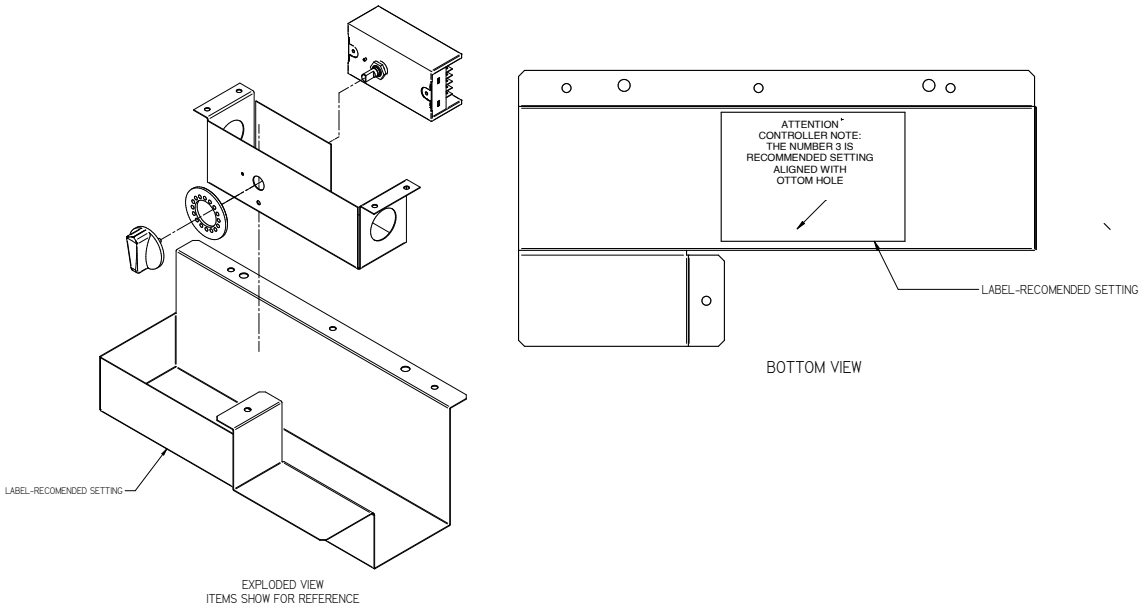
Required Tools:

- Screwdriver
- 3/8" Socket



### Replacement Parts

Controller




Light Switch

## Decommissioning

### Decommissioning Process

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its details. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample should be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

a. Become familiar with the equipment and its operation.
b. Isolate the system electrically.
c. Before attempting the procedure, ensure:
   i. Mechanical handling equipment is available, if required, for handling refrigerant cylinders.
   ii. All personal protective equipment is available and being used correctly.
   iii. The recovery process is supervised at all times by a qualified, competent person.
   iv. Recovery equipment and cylinders conform to the appropriate standards.
d. Pump down refrigerant system, if possible.
e. If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
f. Make sure that cylinder is situated on the scales before recovery takes place.
g. Start the recovery machine and operate in accordance with instructions.
h. Do no overfill cylinders (no more than 80% volume liquid charge).
i. Do not exceed the maximum working pressure of the cylinder, even temporarily.
j. When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
k. Recovered refrigerant shall not be charged into another refrigerating system unless it has been cleaned and checked.

Equipment shall be labeled stating that it has been decommissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

## Warranty

To obtain warranty information or other support, contact your Hussmann representative or visit: https://www.hussmann.com/services/warranty.

Please include the model and serial number of the product.

For questions about your equipment, please contact our Technical Support Team at 1-866-785-8499

For general support or service calls, contact our Customer Support Call Center at 1-800-922-1919

For ordering aftermarket warranty parts, call 1-855-HussPrt (1-855-487-7778) or email the following address: Hussmann_part_warranty@hussmann.com

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**Revision History**

Revision A: (July 2025) Original Issue

Scan the QR code on your mobile device to access additional product information or order parts.

Parts may also be ordered at:
**parts.hussmann.com**
Call toll free: 1.855.487.7778