



# **HOSHIZAKI**

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## **SERVICE MANUAL FOR MODEL RM-49**

# REQUIRED TOOLS



CORDLESS DRILL DRIVE



CUTTING TUBING



OPEN WRENCH OF 1/2"



RATCHET WITH SOCKET OF  
7/16"



SCREWDRIVER SET WITH  
SOCKET OF 9/32"



WISE GRIP



PIERCING VALVE



WATCHER SLOTTED  
SCREWDRIVER



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# REQUIRED EQUIPMENT



OXIACETYLENE  
EQUIPMENT



DRY NITROGEN  
EQUIPMENT



VACUUM PUMP WITH  
MICRON GAUGE



MANIFOLD PRESSURE  
GAUGES



LEAK DETECTOR



REFRIGERANT RECOVERY  
MACHINE



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# CONTENTS

- Instructions to replace LED Power Supply.
- Instructions to replace high intensity LED flexible strips.
- Instructions to replace interior LED strips lights.
- Instructions to replace condenser fan motor.
- Instructions to replace evaporator fan motor.
- Instructions to replace electronic thermostat.
- Instructions to replace thermostat ambient sensor.
- Instructions to replace starting relay, overload protector and starting capacitor.
- Instructions to replace compressor.
- Instructions to replace door.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

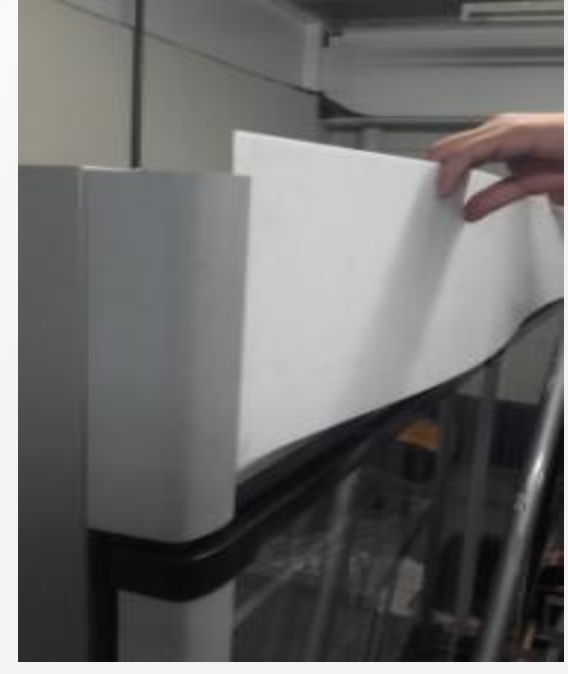
## Instructions to Replace LED Power Supply.



1. Unscrew the two screws that hold in place the top of the header sign , using a Phillips screwdriver # 2



2. Pull out the top of the header sign.



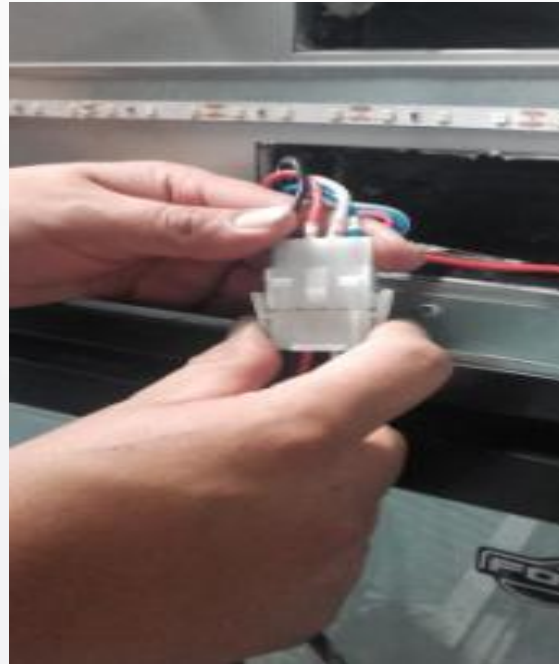
3. Grab the acrylic sign and pull it out.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace LED Power Supply.



4. In order to remove the Power Supply, unscrew the two screws that hold it in place using a Phillips screwdriver # 2.

5. Disconnect the Power Supply's electrical connector.

6. To install the new Power Supply reverse the previous steps.



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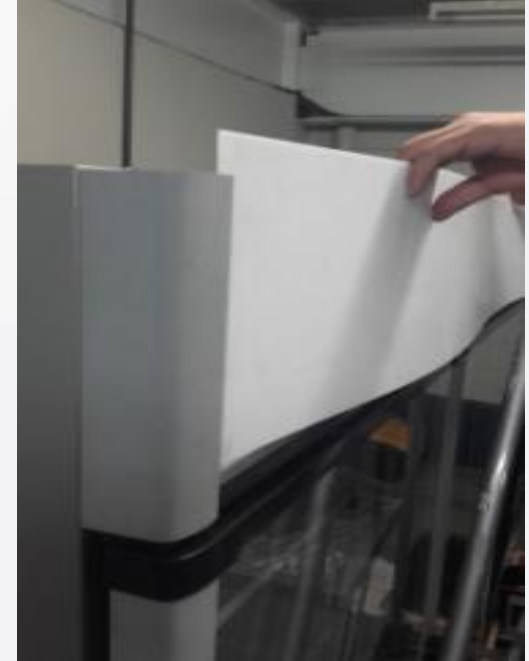
## Instructions to Replace High Intensity LED Flexible Strips .



1. Unscrew the two screws that hold in place the top of the header sign , using a Phillips screwdriver # 2



2. <pull out the top of the header sign.



3. Grab the acrylic sign and pull it out.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace High Intensity LED Flexible Strips .



4. Disconnect the electrical connector of LED strip Light.



5. Remove the high intensity LED flexible strip by pulling it out from its base. Repeat this step to remove the other high intensity LED flexible strip.



6. To install the new high intensity LED flexible strip, reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace LED Strips .



1. Remove the LED profile cover of breaker strip using a slotted screwdriver.

2. Disconnect the electrical connector of LED strip Light.

3. Use a slotted screwdriver to pull out the LED strip.

4. To install the new LED strip reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Condenser Fan Motor



1. Unscrew the four screws that hold in place the front grill , using a Phillips screwdriver # 2



2. Pull out the front grill.



3. Disconnect the Tyco electrical connector of condensing unit.



4. Remove the two bolts that hold in place the rails using a 1/2" open wrench, these rails support the condensing unit.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Condenser Fan Motor



5. Remove the two screws that holds in place the evaporation pan bracket to the cabinet base using a 1/4" socket screwdriver. Proceed to remove the evaporation pan from the condensing unit compartment.



6. Pull out the condensing unit from the base of the cabinet.



7. The condensing unit can be removed all the way out for easier service.



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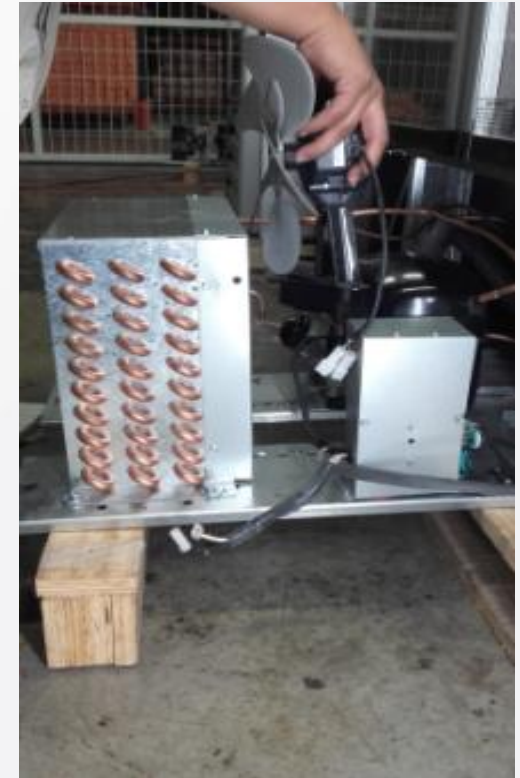
## Instructions to Replace Condenser Fan Motor



8. Disconnect the Tyco electrical connector of the condenser fan motor.



9. Unscrew the two screws that hold in place the base motor to the rails using a Phillips screwdriver # 2



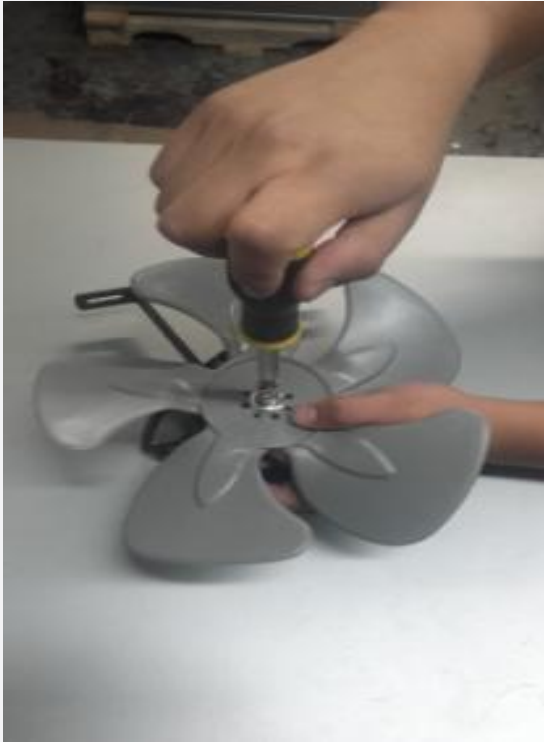
10. Pull out the condenser fan.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Condenser Fan Motor



11. Remove the bolt that hold in place the fan blade to the fan motor using a 9/32" socket screwdriver.



12. Unscrew. the two screws that hold in place the base motor to the fan motor using a 9/32" socket screwdriver.



13. To install the new condenser fan motor reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace the Evaporator Fan Motor.



1. Unscrew the four screws that hold in place the fan guard on the air baffle using a Phillips screwdriver # 2.



2. Remove the bolt that hold in place the fan blade to the fan motor using a 9/32" socket screwdriver.



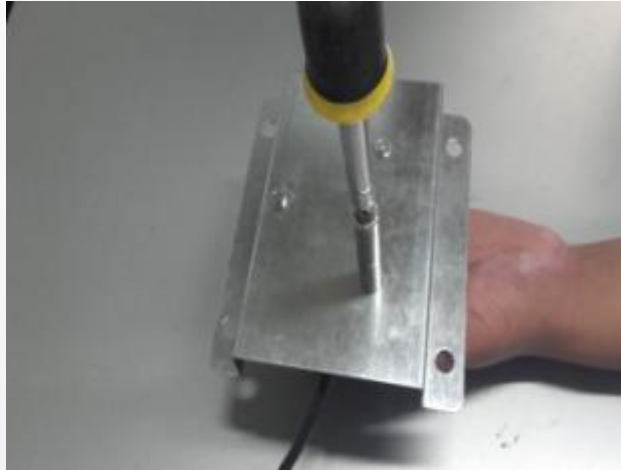
3. Unscrew the four screws that hold in place the support base motor to the top of cabinet using a Phillips screwdriver # 2.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace the Evaporator Fan Motor.



4. Disconnect the Tyco electrical connector of the evaporator fan motor located in the top of cabinet.

5. Unscrew the three screws that hold in place the support base motor to the fan motor chassis using a 9/32" socket screwdriver .

6. To install the new evaporator fan motor reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace The Electronic Thermostat.



1. Remove the front frame of the thermostat using your fingers.



2. Turn 90° both screws to loosen their cams and the front panel will detach. Then, proceed to remove the thermostat from the panel, by keeping it horizontally.



3. Disconnect the connectors located in the back of thermostat. .



4. To install the new electronic thermostat reverse the previous steps.



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## Instructions to replace Ambient Sensor.



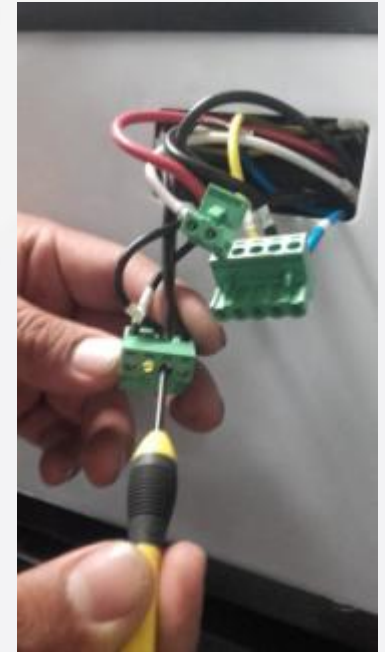
1. Remove the front frame of the thermostat using your fingers.



2. Turn 90° both screws to loosen their cams and the front panel will detach. Then, proceed to remove the thermostat from the panel, by keeping it horizontally.



3. Disconnect the connector of the ambient sensor located on the back of the thermostat, shown in the picture.



4. Unscrew the two screws that hold the wires in place of the ambient sensor using a precision flat blade slotted screwdriver.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to replace Ambient Sensor.



5. Unscrew the four screws that hold in place the fan guard on the air baffle using a Phillips screwdriver # 2.



6. Remove the bolt that hold in place the fan blade to the fan motor using a 9/32" socket screwdriver.



7. Pull out the ambient sensor from its plastic clip support.



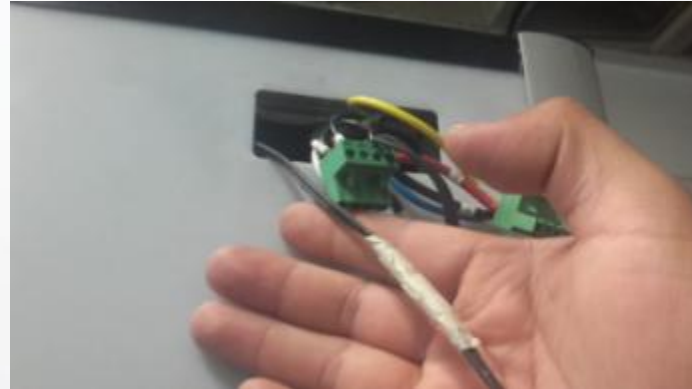
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## Instructions to replace Ambient Sensor.



8. Use masking tape to splice the damaged ambient sensor with the new. This operation will serve as guide to remove the damage sensor and connect the new to the connector of thermostat.



9. Pull both ambient sensors through the cut out of display . Once the splice is visible, remove the tape and damage sensor and connect the new and reverse the previous steps to install the thermostat.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



1. Unscrew the four screws that hold in place the front grill , using a Phillips screwdriver # 2

2. Pull out the front grill.

3. Disconnect the Tyco electrical connector of condensing unit.

4. Remove the two bolts that hold in place the rails using a 1/2" open wrench, these rails support the condensing unit.



# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



5. Remove the two screws that holds in place the evaporation pan bracket to the cabinet base using a 1/4" socket screwdriver. Proceed to remove the evaporation pan from condensing unit compartment.



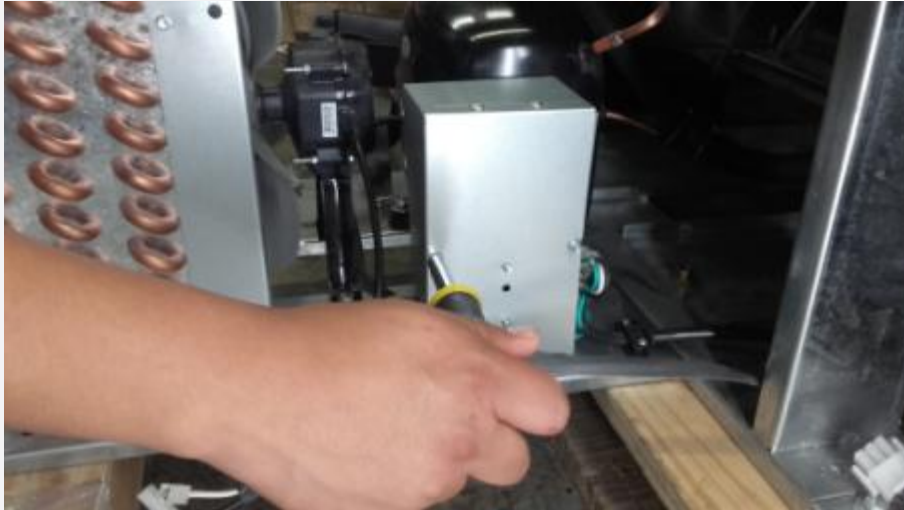
6. Pull out the condensing unit from the base of the cabinet.



7. The condensing unit can be removed all the way out for easier service.

# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



8. Remove the two bolts that hold in place the electrical box cover using a ¼" socket screwdriver.



9. Remove the electrical box cover by pulling it out.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.

## LOCATION OF ELECTRICAL CONNECTIONS

Relay

Start Relay wire connections

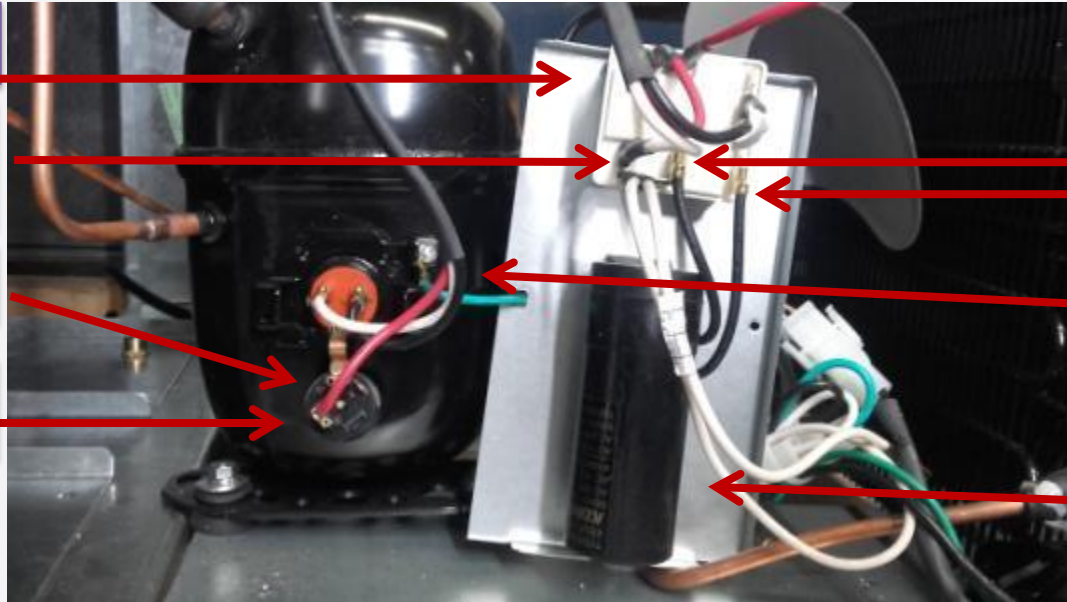
Overload protector

Overload protector wires connection

Starting capacitor wires connections

Ground wire .

Starting Capacitor



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



10. Remove the screws that hold in place the relay to the electrical box using a screwdriver # 2.



11. Use a slotted screwdriver as a pry bar to pull out the electrical connectors from the relay .



12. To install the new relay reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



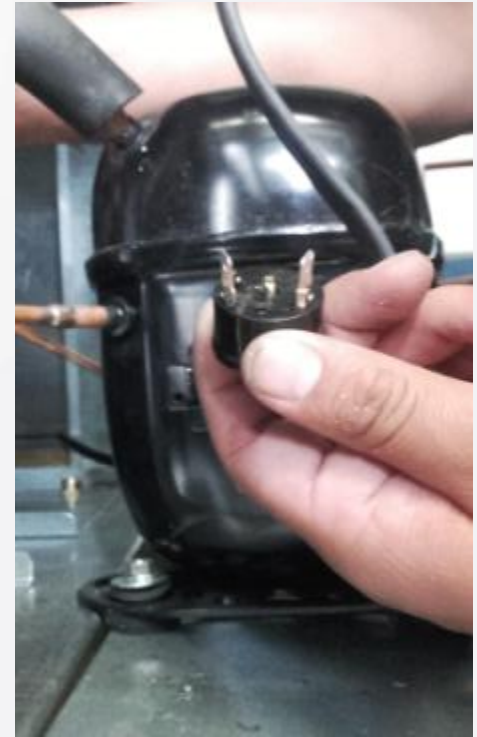
13. Remove the four bolts that hold in place the electrical box using a ¼" socket screwdriver.



14. Insert a flat screwdriver in the slot of the plastic electrical box to remove it from the compressor. Use the flat screwdriver as a pry bar to push the box downward.



15. To remove the overload protector use a slotted screwdriver as a pry bar to pull out it from the compressor shell.



16. To install the new overload protector reverse the previous steps



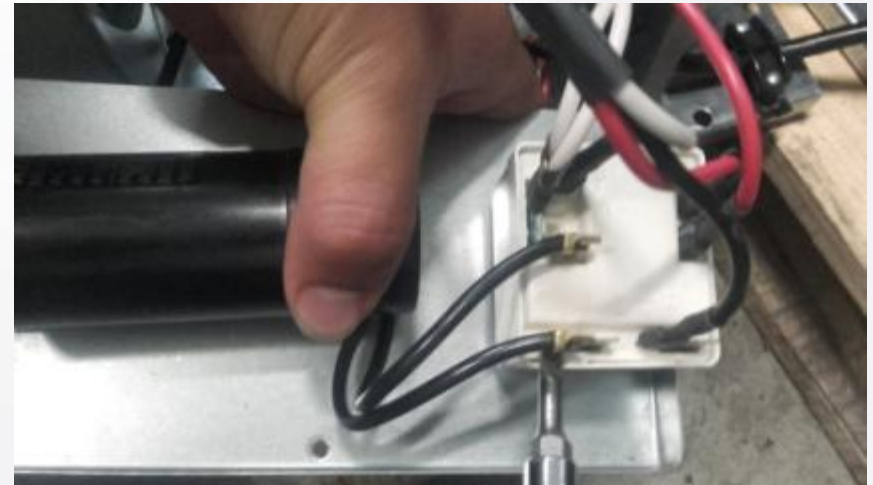
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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

Instruction to Replace Starting Relay, Overload Protector and Starting Capacitor.



17. Use a slotted screwdriver as a pry bar to remove the starting capacitor from its base: The base of the capacitor is attached to the top of the electrical box.



18. Use a slotted screwdriver as a pry bar to disconnect the terminals of the starting capacitor.

To install the new starting capacitor reverse the previous steps.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Compressor.



1. Unscrew the four screws that hold in place the front grill, using a Phillips screwdriver # 2

2. Pull out the front grill.

3. Disconnect the Tyco electrical connector of condensing unit.

4. Remove the two bolts that hold in place the rails using a 1/2" open wrench, these rails support the condensing unit.



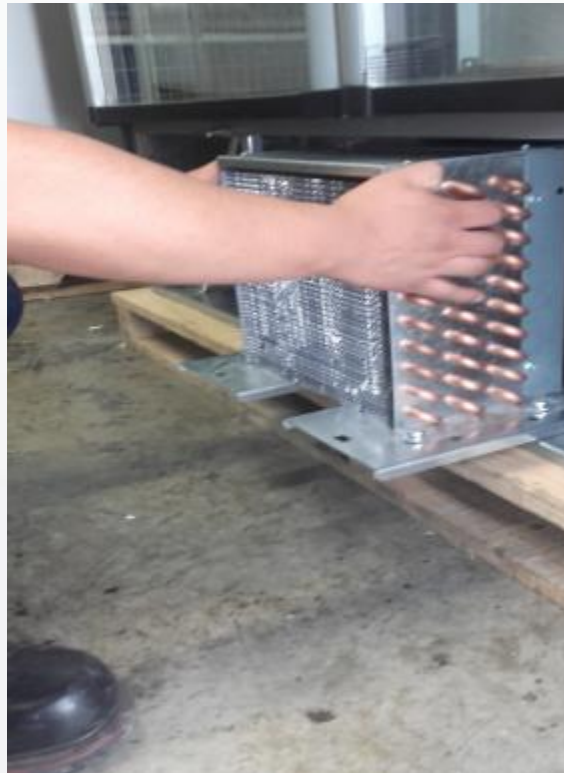
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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Compressor.



5. Remove the two screws that holds in place the evaporation pan bracket to the cabinet base using a 1/4" socket screwdriver. Proceed to remove the evaporation pan from the condensing unit compartment.



6. Pull out the condensing unit from the base of the cabinet.



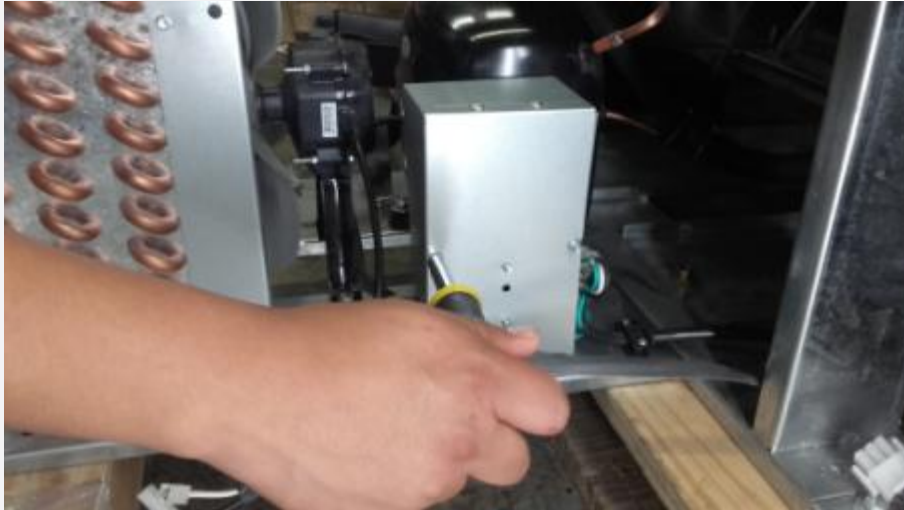
7. The condensing unit can be removed all the way out for easier service.



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace Compressor.



8. Remove the two bolts that hold in place the electrical box cover using a 1/4" socket screwdriver.



9. Remove the electrical box cover by pulling it out.

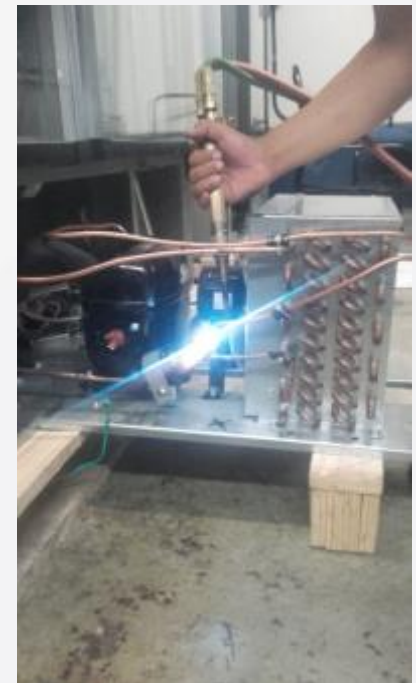


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## Instructions to Replace Compressor.



10 . The first step is to recover all refrigerant from the system by installing a piercing valve in the compressor service tube. Attach the hose of the recovery machine to the service tubing. Use an Allen Key Wrench to close the piercing valve for piercing the tube and open it to release the refrigerant.

11. Open Manifold Gauge Pressure valves and turn on the recovery machine to recover all the refrigerant.

12. Warm the brazing of the discharge and suction tubes in order to unsolder them from the compressor.

13. To remove the filter dryer, slowly warm up the joint of the capillary tubing with the filter dryer and pull them apart by using pliers.



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## Instructions to Replace Compressor.



14. Remove the four nuts that hold in place the compressor to the base rails using a 7/16" socket ratchet.



15. Remove the compressor from the base rails.



16. Not all compressor removal requires cleaning the low and high sides of the system. However, if you suspect that there are high levels of contamination, sweep the system using dry nitrogen at 250 psig.



17. Place the new compressor on the base rails



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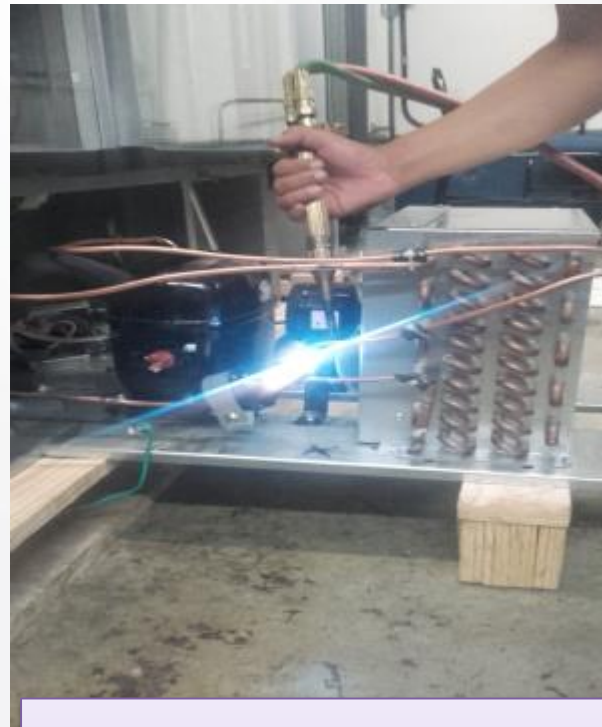
## Instructions to Replace Compressor.



18. Install the four nuts that hold in place the compressor to the base rails using a 7/16" socket ratchet.



19. Proceed to braze the service, discharge and suction tubing.



20. Braze the filter to the condenser discharge line and to the capillary tubing.  
Do not over heat the body of the filter and take great care not to block the capillary tubes with solder material. The filter dryer must be installed in a vertical position with the capillary tube inlet at the bottom of the filter.



21. Please review the slides 22 through 26 to install the relay, overload protector and starting capacitor.

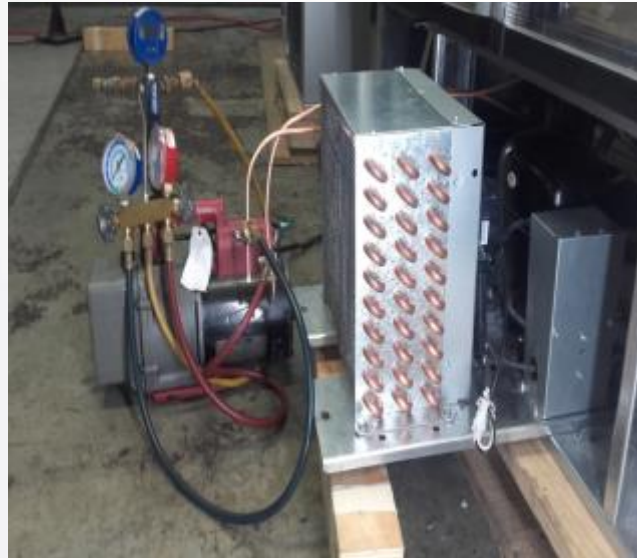


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## Instructions to Replace Compressor.



22. Use the Piercing Valve already installed in the service tube of the compressor. Proceed with the evacuation and charging process of the system. . Attach the hoses of the manifold gauge to the vacuum pumps

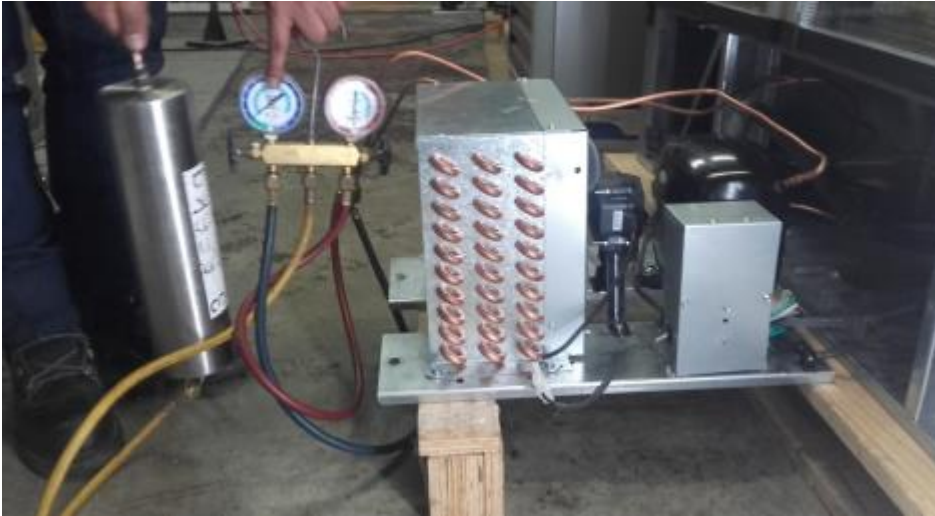
23. Turn on the vacuum pump to start evacuating the system. This should take up to 20 minutes for the micron gauge to reach 200 microns or less. Once this level is obtained, continue the vacuum for an additional 10 minutes to assure that non-condensable gases have been removed. Then, close the manifold valves.



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## Instructions to Replace Compressor.



24. After the vacuum process has been finished, close the valves of the manifold gauges and proceed to connect the hose from the refrigerant tank to the service line of the manifold. Open the low pressure valve as well as the tank valve to charge the refrigerant. Inject the amount specified in the serial name plate of R-134a refrigerant into the refrigeration system. Wait until the pressure readings of the system have equalized and then turn on the cooler.



25. Unplug the cooler. Pinch the service tubes using a vise pinch and proceed to remove the manifold gauges and piercing valve. Check for refrigerant leaks using a leak detector.
- NOTE: To avoid leaks that may originate from Schrader Valves when installed for service in the future, proceed to pinch off the tubing using a vise grip and braze it with oxyacetylene welding. Check for refrigerant leaks using a leak detector in all the soldered joints.

# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions to Replace the Door.



1. Unscrew the four screws that hold in place the front grill , using a Phillips screwdriver # 2



2. Pull out the front grill.



3. Use a cordless drill drive with a Phillips bit # 3 to remove the three bolts that hold in place the lower hinge .



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# DISCONNECT UNIT FROM POWER SUPPLY BEFORE DOING ANY SERVICE

## Instructions for Replacing the Door.



4. To remove the door, pull it downward from the upper hinge.



5. To install the new door reverse the previous steps..



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**HOSHIZAKI AMERICA, INC.**

618 Hwy. 74 South, Peachtree City, GA 30269 USA

(P) 770.487.2331 (F) 770.487.3360

[www.hoshizakiamerica.com](http://www.hoshizakiamerica.com)