Franke New Equipment
Limited Warranty & Service Commitment

Franke Foodservice Systems ("Franke") warrants new equipment manufactured in Franke's own facilities and installed in the United States and Canada to be free of defects due to poor materials or workmanship for the period of time listed below (following the date of original installation):

Franke-Manufactured Equipment

- Stainless Steel Surfaces – Life of the equipment
- Compressor -- 5 Year Extended Warranty, as detailed below
- All Other Components – 1 Years Parts and Labor

5-Year Extended Compressor Warranty

- One Year from Date of Installation – Parts & Labor
- 2nd through 5th Year from Date of Installation – Parts only

  In accordance with the compressor manufacturer's policy, the serial number plate affixed to the compressor must be returned with the service invoice before reimbursement will be made.

Exclusions. Certain Franke parts that are expendable by nature and that need to be replaced frequently may not be covered. Franke is not liable under these warranties for repairs or damages due to improper operation, attempted repairs or installation by unauthorized persons, alterations, water quality, abuse, fire, flood, or acts of God. Additionally, this warranty may be voided in the case of:

- Failure to follow Franke instructions for use, care or maintenance
- Removal, alteration or defacing of the Franke-affixed serial number

This warranty is conditional upon Franke receiving notice of any defect subject to this warranty within thirty (30) days of its original discovery by the Buyer.

Other Equipment (Not Manufactured by Franke)

Equipment not manufactured by Franke (commonly known as "buyouts" or purchased goods) and manufactured by other entities is covered by the warranties, if any, of such third-party manufacturers. Where such third party manufacturers provide warranties on any or all portions of said "buyouts," Franke agrees to transfer all such warranties to the Buyer.

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The Franke Service Commitment

Franke Foodservice Systems' Technical Support Department and its third-party Service Network are committed to meeting the unique service needs of restaurant operators. Accordingly, we strive to provide the following response times to service requests for Franke-manufactured equipment:

1. Provide contact with the customer…
   - Within 30 minutes of request for service during normal business hours
   - Within 90 minutes after normal business hours (including weekends)
2. Perform service visit
   - The same day for emergency service*
   - Within 24 hours for standard service
3. Target a 90% "first call" fix rate
4. Provide 90-day warranty on service performed

   **For the purposes of this warranty, "emergency" is defined as an equipment operating condition that poses an immediate risk to the safety of restaurant workers or customers.*

This response time breakdown applies throughout the week and weekend. Due to varying customer locations, and varying service agent locations and schedules, response rates may occasionally be extended. In these situations, Franke Technical Support will work directly with the customer to find mutually suitable options. Franke reserves the right to use service agents outside of the stated Service Network.

Service Network

United States and Canada

Franke supports and is a member of the National Service Cooperative ("NSC"), the leading independent provider of factory-authorized service in North America. Franke provides 24-hour, 7-days a week response to service requests through its own Call Center and that of the NSC.

Whenever possible, Franke selects service agents who belong to the Commercial Food Equipment Service Association. This trade association currently has more than 450 members representing the U.S., Canada, Mexico and Puerto Rico.

When Franke cannot select a CFESA member, it nonetheless adheres to the CFESA standard for qualified service agents in North America. Among them are:

- 24 Hour emergency service
- Factory authorized warranty service
- Factory trained and certified technicians
- OEM parts availability
- System for communication with field technicians

Performance of service agents, including their parts stocking abilities, call response time, service rates and customer satisfaction are monitored by the Franke Field Service Department via online, written and phone surveys. This Service Network list is updated annually by Franke Technical Support.

Contact Information:

Franke Technical Services - 1-800-5FRANKE (1-800-537-2653) and select option 5 or visit: FS-TS@Franke.com

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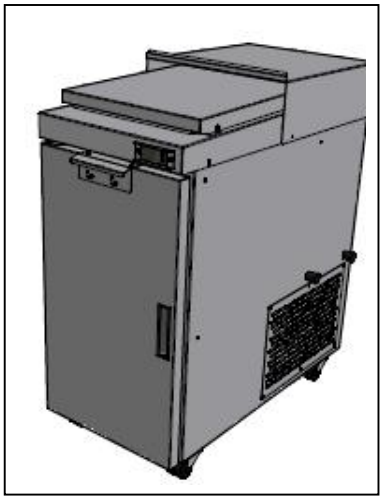
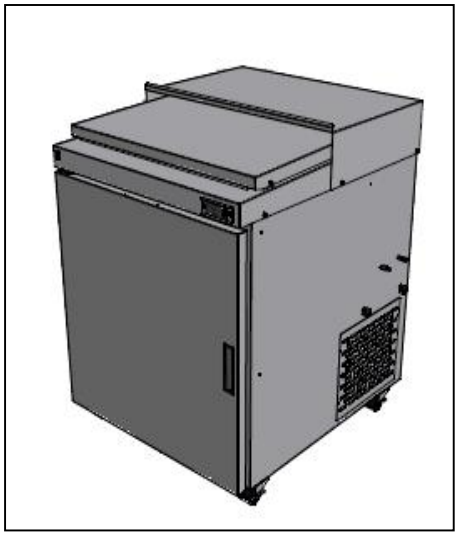
The Problem	Possible Cause	What To Check & Do
Main Power Not "ON"	Power not available to unit?	Breaker OK? Yes = Continue; No = Call electrician
		Receptacle OK? Yes = Continue; No = Call electrician
	Power cord OK?	Yes = Continue; No = Replace power cord
Main Power "ON" But Freezer Does Not Run	Compressor thermal overload tripped?	Unplug Freezer power cord for 1 hour, then retry. If problem reoccurs: 1. Ensure air filter is maintained per PM Service Instructions 2. Ensure condenser coil is clear of debris and cleaned, per PM Service Instructions
		Test condenser electric components for defects or failure, including: start-capacitor, run-capacitor, start relay, condenser fan & compressor.
	Power disconnected to temperature controller	Check input voltage to temperature controller. Replace wiring harness if damaged.
	Temperature controller disconnected from condensing unit	Check output voltage at temperature controller. Replace wiring harness to Condenser, if damaged
	Sensor cable is disconnected or damaged, from controller to freezer inner compartment	Connect or replace sensor cable per ***Section 2.8***
	Temperature controller is defective	Replace defective component per ***Section 2.7***
Freezer Runs But No Temperature Is Displayed	Temperature sensor cable is disconnected or damaged, from controller to freezer inner compartment	Connect or replace temperature display cable per ***Section 2.8***
	Communications cable disconnected or damaged from controller to temperature display	Connect or replace display communications cable per ***Section 2.8***
	Temperature display is defective	Replace temperature display per ***Section 2.6***
Temperature Display Reads Temperature But Freezer Does Not Cool To 0° F	Set point too high	Adjust thermostat setting, per **Section 3.2**
	Door and/or Rolling Lid leaking cold air	Inspect door and lid gaskets for damage. If needed replace per ***Section 2.2*** [Door] and/or ***2.3*** [Lid]
	Evaporator fan not functioning	Replace evaporator fan per ***Section 4.3***

The Problem	Possible Cause	What To Check & Do
Temperature Display Reads Temperature But Freezer Does Not Cool To 0° F ***[Continued]***	Evaporator coil blocked with ice	Check temperature controller circuit for defrost heater. Does relay close when manual defrost is initiated? If not, replace temperature controller per ***Section 2.7***
	Evaporator coil blocked with ice [Continued]	Check high temperature cutoff switch for proper function. If needed, replace per ***Section 2.12***
		Check defrost heater integrity. If needed, replace defrost heater per ***Section 2.9***
	Refrigerant charge is not correct or system has a leak.	Inspect service valves, lines, joints and components for signs of leaks, kinks or restrictions.
		Check system pressure and check for leaks per **Section 4.6**. If leak is found, repair refrigeration leak per ***Section 4.7***
	Condensing unit is not starting properly or is tripping on overload.	Ensure condenser coil filter is clean and being washed monthly per GSF PM Card instructions. If not, wash filter and notify unit manager.
		Ensure condenser coil is clean, unobstructed and being cleaned every three months (or more frequently, if needed) per GSF PM Card instructions. If not, vacuum or brush out condenser and notify unit manager.
		Check condenser electrical components for defects (start-capacitor, run-capacitor, start-relay, condenser fan, compressor, etc.) Replace if needed. (See Section 1.1 for specific section.)

Model GSF-18



Model GSF-30

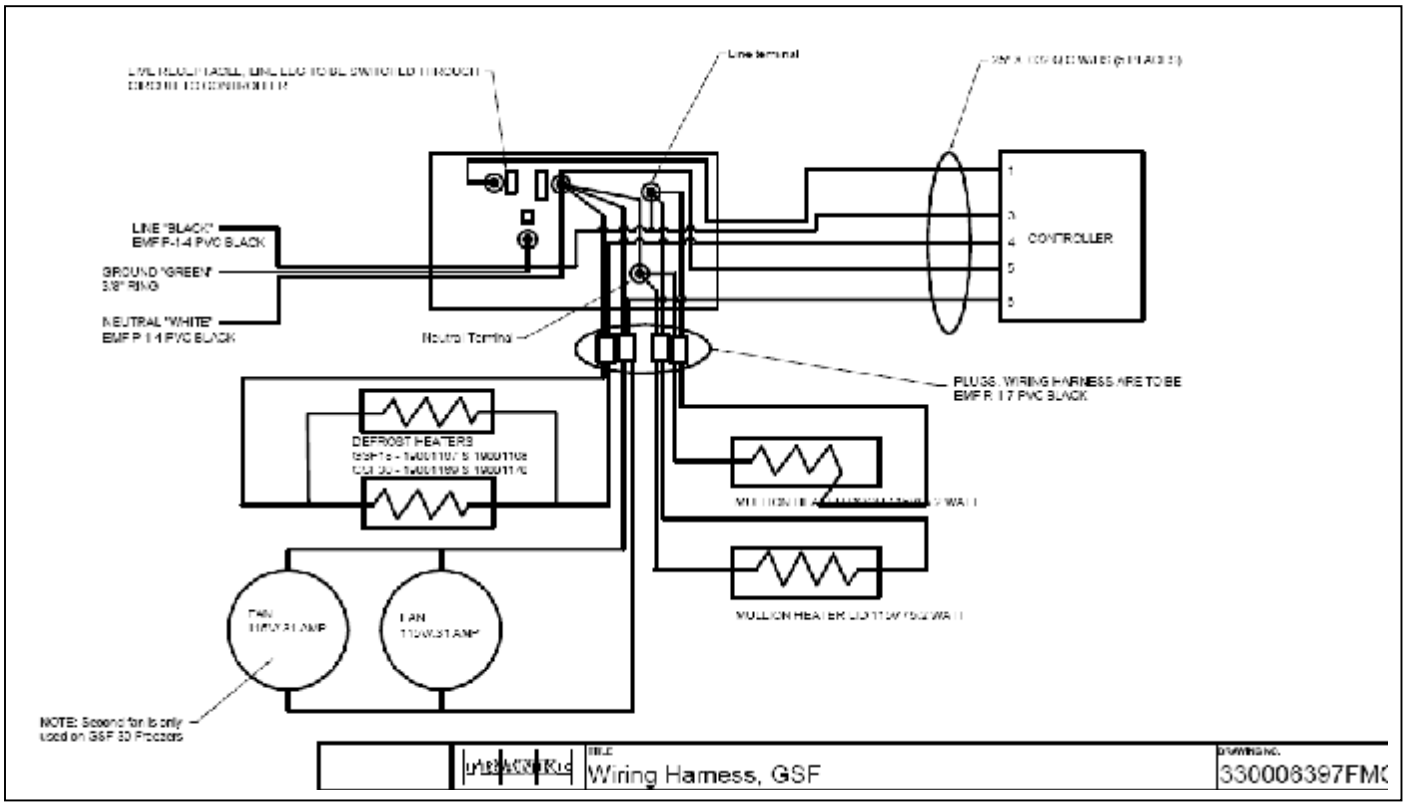


Basic Repair Parts List

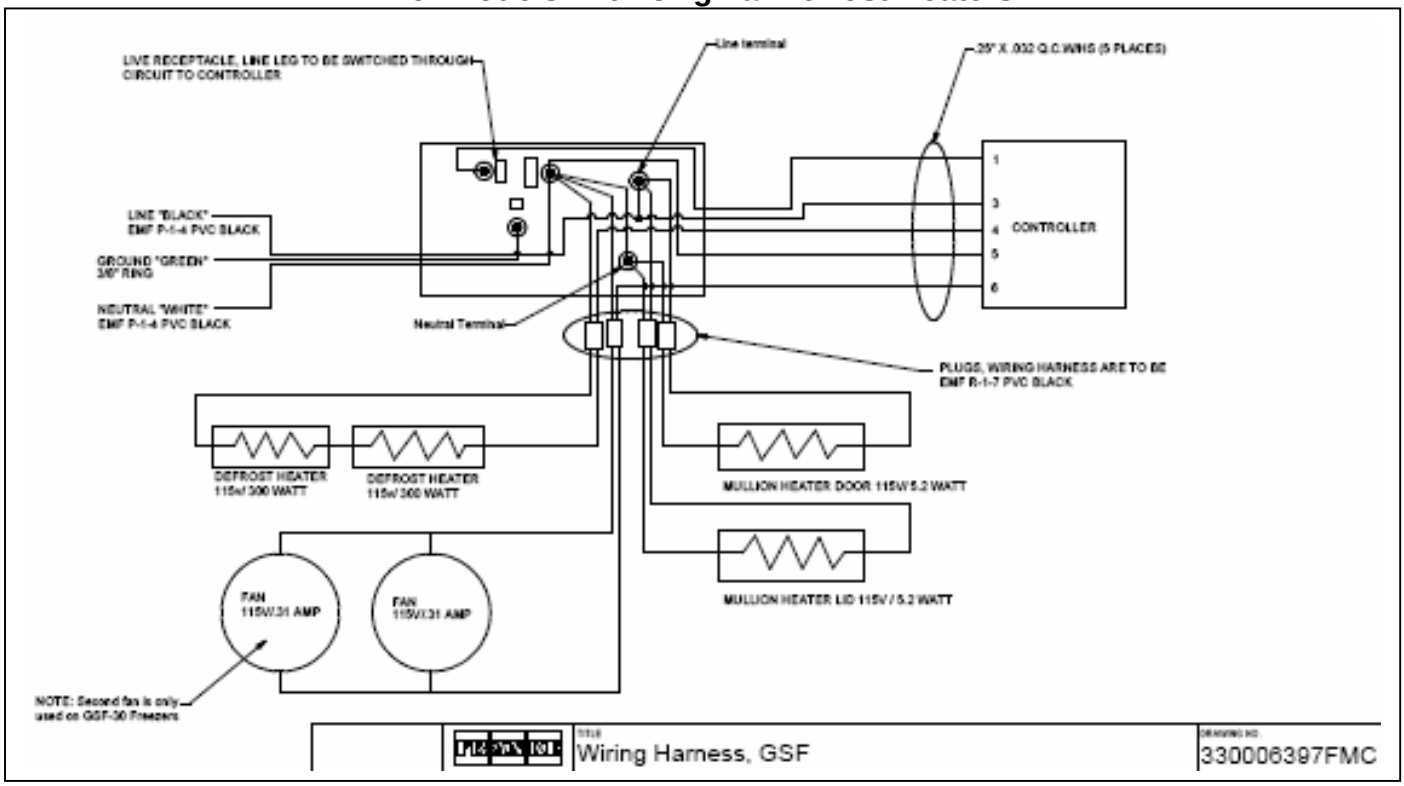
[Also See Section 2.1 for Truck Stock List]

For GSF-18	For GSF-30	Part Description	Quantity
19000472	19000473	Front Door Gasket	1 ea.
19000474	19000475	Top Rolling Door Gasket	1 ea.
2921119	2921119	Top Rolling Door Rollers	4 ea.
19000471	19000471	Product Trolley Rollers	4 ea.
19000436	19000436	Remote Temp. Display	1 ea.
19001093	19001093	Danfoss Controller/Thermostat	1 ea.
19000468	19000468	Remote Temperature Display Cable	1 ea.
19000469	19000469	Temperature Sensor (Cable)	1 ea.
19001011	19001011	Display Guard Kit	1 ea.
19001167	19001169	Defrost Heater (Coil)	1 ea.
19001168	19001170	Defrost Heater (Drain Area)	1 ea.
19000479	19000470	Defrost Sensor Cable	1 ea.
19000817	19000817	Swivel Caster with Brake	4 ea.
17003744	17003744	Upper Front Hinge Plate	1 ea.
17003745	17003745	Lower Front Hinge Plate	1 ea.
19001253	19001253	Condenser Fan Motor	1 ea.
19000454	19000454	Evaporator Fan Motor	2 ea.
19000305	19000430	Evaporator Coil	1 ea.
3589843	3589843	Start Capacitor	1 ea.
117-7441	117-7441	Start Relay	1 ea.
19000497	19000496	Thermostatic Expansion Valve	1 ea.
19000362	19000362	Condenser/Compressor	1 ea.
19000282	19000282	Cord-set [8-feet]	1 ea.
19000452	19000452	Air Filter	1 ea.
3588590	3588590	Thermostat, SPST	1 ea.

For Models With NEW Defrost Heaters



For Models With Original Defrost Heaters



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2.1 An Introduction To GSF Service Manual

The Basics:

1) Technicians should be authorized to work on Franke Equipment and be **EPA Certified** and qualified to diagnose and repair refrigeration equipment.
2) The Franke Grill-Side Freezer comes in two sizes, the compact GSF-18 model and larger GSF-30 model.
3) Both GSF Models operate on 120-volt power and are provided with a grounded plug and 8' power cord.

WARNING:
Unplug unit from its120-volt power source whenever servicing electrical components or removing the rear or side service access panels. Failure to unplug unit may result in electric shock, burns or death.

4) The GSF refrigeration system is charged with 18-20 ounces (.65 kg) of ozone-safe R404A refrigerant. See unit Data Plate and use site glass provided, when filling.
5) Only use R404A refrigerant when recharging this unit.
6) Always verify proper unit cleaning before replacing or repairing components. [See Section 4.1A]

Suggested [On-Truck] Repair Parts:
We suggest the following to ensure a first-trip fix of the GSF:

For GSF-18	For GSf-30	Description	Qty.
19000472	19000473	Front Door Gasket	1 ea.
19000474	19000475	Top Rolling Door Gasket	1 ea.
2921119	2921119	Top Rolling Door Rollers	4 ea.
19000471	19000471	Product Trolley Rollers	4 ea.
19000436	19000436	Remote Temp. Display	1 ea.
19001093	19001093	Danfoss Controller/Therm.	1 ea.
19000468	19000468	Remote Temp. Display Cable	1 ea.
19000469	19000469	Temperature Sensor (Cable)	1 ea.
19001011	19001011	Display Guard Kit	1 ea.
19001167	19001169	Defrost Heater (Coil)	1 ea.
19001168	19001170	Defrost Heater (Drain Area)	1 ea.
19000479	19000470	Defrost Sensor Cable	1 ea.
19000817	19000817	Swivel Caster w/Brake	4 ea.
17003744	17003744	Upper Front Hinge Plate	1 ea.
17003745	17003745	Lower Front Hinge Plate	1 ea.
19001253	19001253	Condenser Fan Motor	1 ea.
19000454	19000454	Evaporator Fan Motor	2 ea.
19000305	19000430	Evaporator Coil	1 ea.
3589843	358943	Start Capacitor	1 ea.
117-7441	117-7441	Start Relay	1 ea.

[List Continued…Next Page]

[Unit Model & Serial Number]

The GSF Unit Serial Number is located adjacent to the Model Number & Data sticker, which is on the back of unit.

@Tools Required:
[For Mechanical Systems Repair]

- Ø 3/8" screwdriver
- Ø ¼" screwdriver
- Ø 1/16" "mini" screwdriver
- Ø 1/8" Allen/hex wrench
- Ø 3/16" Allen/hex wrench
- Ø 5/32" Allen/hex wrench
- Ø 5 mm Allen/hex wrench
- Ø 13 mm Allen/hex wrench
- Ø 7/16" box/socket wrench
- Ø Razor knife
- Ø Needle nose pliers
- Ø Small wire cutters
- Ø Rubber mallet
- Ø Plastic Wire Ties

[Also See Section 4.1A]

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Additional Suggested [On-Truck] Repair Parts:

For GSF-18	For GSf-30	Description	Qty.
19000497	19000496	Thermostatic Expansion Valve	1 ea.
19000362	19000362	Condenser/Compressor	1 ea.
19000282	19000282	Cordset [8-feet]	1 ea.
19000452	19000452	Air Filter	1 ea.
3588590	3588590	Thermostat, SPST	1 ea.

2.2 Front Freezer Door Gasket Replacement [Model GSF-18 use Part No. 19000472] [Model GSF-30 use Part No. 19000473]

1) GSF Freezer should be unplugged and the freezer compartment fully defrosted before proceeding.
2) Open freezer door and inspect the one-piece magnetic door gasket. If the gasket is torn or crushed so that it doesn't completely seal around the door perimeter, it should be replaced.
3) Remove top door hinge using a 7/16" [11 mm] box wrench or socket, being careful not to drop the door. Place door on a non-mar surface with the gasket side facing up.
4) Carefully remove the one-piece gasket from the slotted plastic extrusion built into the back of the freezer door. [**Note**: Plastic extrusion can be easily damaged. Using a razor knife to separate the old gasket from its retaining tailpiece may facilitate this procedure. Carefully remove the separated tailpiece from the slot by pulling toward each corner using small needle nose pliers.] See Photos 2 and 3.
5) Take the new gasket and insert the tailpiece into the gasket-mounting slot. Align the corners and start at the top of the door. Continue around the door perimeter until completely seated. [**Tip**: Place the door on a cushioned surface and carefully hammer the new gasket tailpiece into slot around the door perimeter. **Be careful not to break the rubber tailpiece**.]
6) Re-install freezer door on bottom hinge with bushing, then mount the upper hinge. Be careful to align the door before tightening the hinge mounting bolts.

7) **Test** the replacement of the Freezer Door Gasket by:
8) Close the door and visually check the door seal and fit.
9) Plug power cord into 120-volt outlet. Allow compressor to draw down Freezer Compartment temperature. Check with your hand around the full door perimeter for any leaks of cold air.

@Tools Required:
- Ø 7/16" [11 mm] socket wrench
- Ø Razor knife
- Ø Needle nose pliers
- Ø Rubber mallet

[Photo 1]

The GSF freezer door is equipped with a one-piece magnetic door seal.

[Photo 2]

To speed replacement, cut away the old door gasket from its tailpiece.

[Photo 3]

Use a needle nose pliers to pull the gasket tailpiece from slot.

[Photo 4]

Align gasket tailpiece with door slot and hammer carefully into place around door perimeter.

2.3 Top Rolling Lid Door Gasket Replacement [Model GSF-18 use Part No. 19000474] [Model GSF-30 use Part No. 19000475]

1) GSF Freezer should be unplugged and the freezer compartment fully defrosted before proceeding.
2) Roll back top door, lift front edge and pull door clear of roller STOP depressions in freezer top.
3) Turn over door to gasket side, place door on a non-mar surface or the unit's top, with the gasket side facing up.
4) Lift up inner edge of gasket material to expose plate/retainer screws. Use a large Phillips screwdriver to remove all the screws around the perimeter of the lid.
5) Lift retaining plate off gasket. It is OK to pry plate up with a large flat blade screwdriver or dull putty knife.
6) Take new one-piece door gasket [P/N 19000474 (GSF-18) or 19000475 (GSF-30)] and position and align inside the rolling lid door.
7) Take inner door/gasket retainer plate and insert it under one side of gasket. Gently work around top, bottom and other side of plate, pulling gasket up and around plate. [**NOTE**: Avoid using sharp tools to lift or pry gasket material around the retaining plate.]
8) Make sure gasket retaining plate holes all line up, then insert and tighten all retaining screws.
9) Reposition the roll-back door on the freezer top with the two large plastic roller stop/guides to the case front.

Test the replacement of the Rolling Lid Door Gasket by:

10) Roll back the door to see if it moves freely. Release the door to see if it rolls forward unassisted and engages the roller depressions or stops.
11) Plug power cord into 120-volt outlet. Allow compressor to draw down Freezer Compartment temperature. Check with your hand around the front and sides of the door where it meets the top, for significant cold air leaks.

[Photo 1]

Lift roll-back door up and off GSF top and carefully place up-side-down on freezer top.

[Photo 2]

Lift up gasket and remove all gasket retaining plate screws.

[Photo 3] NEED PHOTO

After replacing gasket, position rolling lid door with 'C' Channel baffle to unit front.

@Tools Required:

- Large Phillips screwdriver
- Large flat blade screwdriver or putty/utility knife

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2.4 Rolling Lid Door Roller Replacement [4-each Part No. 2921119]

1) GSF Freezer should be unplugged and the freezer compartment fully defrosted before proceeding.
2) Roll back top door, lift front edge and lift door clear of roller STOP depressions in freezer top.
3) Turn over door to gasket side and place door on a flat, non-mar surface with the gasket side facing up.
4) Inspect each roller bearing to see if it is free of debris and turns easily.
5) If one or more bearings are stiff or show minor corrosion, lubricate with a food-safe vegetable-based oil.
6) If bearings are frozen [won't rotate], badly corroded or damaged, replace each effected with Part No. 2921119 by:
7) Using a Phillips Screw Driver and ¼" [6 mm] wrench, remove the M6-20 screw and matching acorn nut.
8) Position new bearing inside the door edge, insert new M6-20 screw, use removable thread locking compound then screw on the acorn nut and tighten. [Repeat for each bearing that requires replacement.]
9) Reposition the roll-back door on the freezer top.

Test the replacement of the Rolling Lid Door Bearings by:

10) Roll back the door to see if it moves freely. Release the door to see if it rolls forward unassisted and engages the roller depressions or stops.
11) Plug power cord into 120-volt outlet. Allow compressor to draw down Freezer Compartment temperature. Check the door seal with your hand around the front and sides where it meets the top, for significant leaks of cold air.

[Photo 1]

The GSF top freezer door rolls on four bearings that act as rollers or wheels. (GSF-18 model shown)

[Photo 2] NEW PHOTO?

Inspect all four bearings for foreign objects, corrosion and damage. (GSF-30 door shown)

[Photo 3]

Screw goes through door side, then the bearing. Add locking compound, screw on and tighten the acorn nut to secure.

Ø

2.5 Grill Product Trolley Roller Replacement [4-each Part No. 19000471]

1) Roll back the top door, lift out insert pan(s) and the rectangular (Optional) Secondary Grill Product Trolley.
2) The Trolley rolls on four stainless steel rollers with integrated bearings. Inspect each roller/bearing assembly to see if it is free of debris and spins easily.
3) If one or more bearings are stiff or show minor corrosion, lubricate with a food-safe vegetable-based oil. Wipe off any excess oil with a paper towel.
4) If a bearing is frozen [won't spin], badly corroded or the wheel is damaged, replace each affected roller with Part No. 19000471 by:
5) Using a flat blade screwdriver and ¼" [6 mm] wrench to remove #1/4-20 x 1/2" screw and matching acorn nut.
6) Position new bearing outside the trolley frame. Insert the new screw from the bearing side, then through the trolley frame.
7) Apply removable thread locking compound then screw on the acorn nut and tighten. [Repeat for each bearing that requires replacement.]
8) Reposition the Grill Product Trolley inside the freezer. Place the product pan(s) back inside the trolley frame.

Test the replacement of the Grill Product Trolley Bearings by:
9) While holding the Roll-Back Door open, pull the product trolley forward, then release it. It should smoothly roll back out-of-the-way, to provide unobstructed access to frozen hamburger patties stored below the Secondary Grilled Product.

[Photo 1]

The GSF Product Pan Trolley rolls on four roller bearings that serve as wheels. (GSF-18 model shown)

[Photo 2]

Remove trolley and inspect all four bearings for foreign objects, corrosion or roller damage.

[Photo 3]

Screw goes through the bearing, then the trolley frame. Screw on and tighten acorn nut to secure.

Ø

2.6 LED Remote Temperature Display Replacement [Part No. 19000436] and Upgrading Display Guard [Kit No. 19001011]

NOTE: If the front mounted temperature display has been damaged by carts etc., install the Heavy Duty Display Guard Kit.

1) Disconnect power at outlet. [Pull 120-Volt plug.]
2) Using a Phillips Screw Driver, remove the two screws from the temperature display protective bezel and remove display assembly to extent of wire harness.
3) Take a small flat blade screwdriver and depress retaining tab on display that secures three-wire plastic connector to separate display from wiring harness.
4) Remove the two plastic double-pronged retainers that hold the temperature display to the stainless steel bezel. Separate the bezel and display.
5) Obtain new Temperature Display [P/N 19000436] and insert through bezel plate. **NOTE**: If installing Heavy Duty Display Guard Kit [P/N 19001011], insert the new display through the new thick plastic protective bezel and discard the old metal bezel plate.
6) Replace two plastic retainers to secure display to bezel.
7) If installing new Heavy Duty Display Guard Kit, press fit rubber gasket over rear of Temperature Display. [See Photo 5 for order of assembly.]
8) Insert three-wire harness connector to display. It can only go on one way. Make sure retaining tab locks connector.
9) Position Temperature Display together with bezel or display guard and gasket in front cutout, insert and tighten two mounting screws. When installing HD Display Guard Kit, use the screws provided with the kit.

Test the new LED Temperature Display by:

10) Plug in unit power cord to 120-volt power supply.
11) The temperature display should show the current freezer compartment temperature and track the pull-down to a safe operating temperature range of 0 to -10° F [-18 to -23° C].
12) Return GSF to normal operating location, if it was moved.

[Photo 1]

Remove the two bezel-retaining screws. Temperature Display Assembly will come out.

[Photo 2]

Disconnect the display harness by levering tab on display to release plastic harness terminal.

[Photo 3]

Remove black two-pronged plastic retainers from left & right side of temperature display.

[Photo 4]

Temperature Display will pull out of protective metal bezel.

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[Photo 5 – HD Display Guard]

Order of component assembly when installing replacement Heavy Duty Display Guard Kit.

[Photo 6]

Remote Temperature Display installed with new heavy duty protective bezel.

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2.7 Controller/Thermostat Replacement [P/N 19001093 - Danfoss ETC1H]

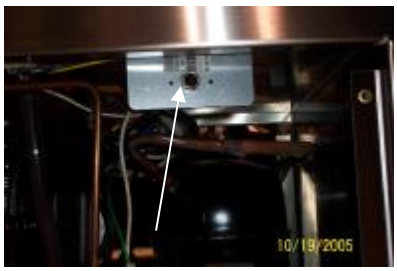
1) Disconnect power at outlet. [Pull 120-Volt plug.]
2) Make sure freezer is empty and fully defrosted.
3) Pull out GSF unit to gain access to left side [from front] ventilated service access panel.
4) Remove access panel retaining screws using flat blade screwdriver.
5) Locate Controller mounted to bracket at top of access panel opening. [See Photo 1] Using a pliers or Visegrips, loosen and remove nut that holds controller to bracket.
6) Carefully remove the three cable harness terminals from left side of controller. Note that they are keyed for position. (See Photo 2)
7) Disconnect the five wire leads [four black, one white] from right side of controller. [Note that leads and terminals are numbered 1-5.]
8) Remove Controller/Thermostat and replace with new [P/N 19001093 Danfoss ETC1H].
9) Reattach wire leads and harness connectors to Controller, per wire number and position when removed.
10) Position controller through bracket hole and secure with nut removed earlier.
11) Secure left-side service access panel with screws removed earlier.

Test the new Controller/Temperature Sensor by:

12) Plug in unit power cord to 120-volt power supply.
13) The temperature display should show the current freezer compartment temperature and track the pull-down to a safe operating temperature range of 0 to -10° F [-18 to -23° C].

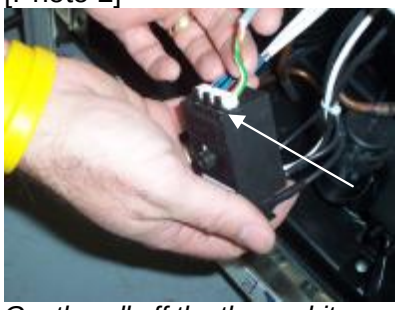
14) If temperature display indicates Controller is functioning properly, return GSF to normal operating position.

[Photo 1]



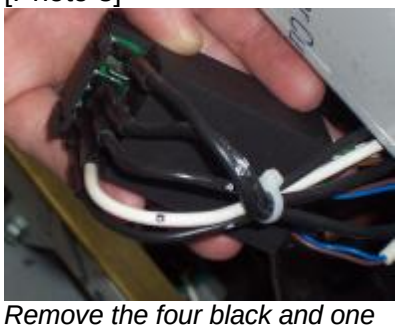
Remove nut that holds Controller/Thermostat to mounting bracket.

[Photo 2]



Gently pull off the three white terminal harness clips from left side of controller.

[Photo 3]



Remove the four black and one white lead from the right side of controller. [Note leads and terminals are numbered.]

2.8 Temperature Sensor [Part No. 1900469] and Remote Display Cable Replacement [Part No. 19000468]

NOTE: Replace temperature sensor first, unless there is obvious damage to the sensor cable. If new sensor fails to correct problem, install a new Remote Display Cable.

1) Disconnect power at outlet. [Pull 120-Volt plug.]
2) Make sure freezer is empty and fully defrosted.
3) Pull out GSF unit to gain access to left side [from front] vented service access panel.
4) Remove access panel retaining screws using flat blade screwdriver and locate Controller mounted to bracket at top of access panel opening.
5) From rear of Controller, remove sensor cable terminals.
6) Inside freezer compartment locate temperature sensor in shield clip mounted on right rear of back panel [shelf level] in compartment. Remove the two mounting screws with a Phillips screwdriver.
7) Tie or tape a pull line [fish] to the sensor, for use in pulling the new sensor back through the bottom of unit.
8) Push sensor through hole in evaporator panel into the coil area.
9) From the compressor compartment, carefully pull old sensor out through bottom of freezer compartment, along with your pull line.
10) Remove pull line from the old sensor and attach it to the new temperature Sensor [P/N 19000469].
11) From inside the freezer, pull new sensor back through cabinet bottom and through hole in evaporator cover, using your pull line.
12) Push new sensor back into clip-shield and secure shield to rear wall with Phillips screws removed earlier.
13) From the compressor compartment, reseal the hole in the bottom of freezer compartment.
14) Attach new sensor cable leads to the controller.
15) Use wire ties to secure new cable away from refrigeration lines, compressor, etc.

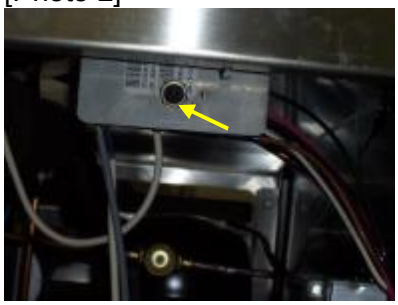
Test the new Temperature Sensor by:

16) Plug in unit power cord to 120-volt power supply.
17) The temperature display should show the current freezer compartment temperature and track the pull-down to a safe operating temperature range of 0 to -10° F [-18 to -23° C].
18) If temperature display functions properly, return GSF to normal operating position.

[Photo 1]

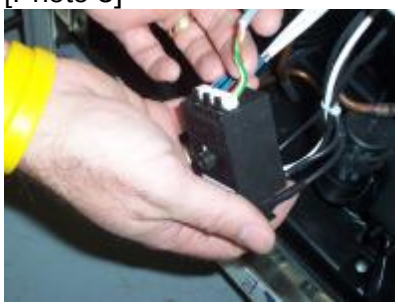
Remove two screws that attach sensor clip/guard to back of compartment.

[Photo 2]



Controller is mounted above left side vented access panel opening.

[Photo 3]



Remove sensor cable leads from rear of Controller/Thermostat. [Shown with controller removed.]

Ø

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For Remote Display Cable Replacement [If Required]:

19) Repeat steps 1-5 for Temperature Sensor Replacement.
20) Remove top of unit. [**See Section 4.1B** on how to access components through unit top. Follow Steps 1-8.]
21) With top removed, the cable for the remote temperature display can be removed from the side of the unit and pulled down through the chase in the back of the unit.
22) Route new cable [P/N 19000468] along the side of the unit and through the holes (with grommets) to front of unit. [Use tape to keep cable in place, if necessary.]
23) Go to left side access panel and pull cable through to Controller/Thermostat. Attached cable terminals to Controller.
24) Use wire ties to secure new remote display cable away from refrigeration lines, compressor, etc.
25) Replace top of unit. [**See Section 4.1B** and reverse Steps 1-8]

Test the new Remote Display Cable by:
26) Repeat Test Procedure described in Steps 16-18.

2.9 High Temp. Cutoff Switch Replacement [Part Number 3588590]

The High temperature Cutoff Switch is replaced through the unit top. **See Section 4.1B. Follow Steps 1-11, to gain access, then:**

1) Using a Phillips screwdriver, remove all the screws securing the top and front of the 'L' shaped motor mounting panel.
2) Leave motor(s) attached and lift panel clear of compartment to extent of motor harness.
3) Remover black (rear) and white (front) leads from the High Temperature Cutoff Switch. Use pliers if needed.
4) Use Phillips screwdriver to remove two screws holding switch to mounting bracket. Pull out switch.
5) Obtain P/N 3588590 replacement Cutoff Switch, position over mounting bracket and replace two mounting screws.
6) Reattach black and white wire leads to switch terminals.
7) Position motor mounting panel in compartment and use the Phillips screwdriver to install and tighten all the motor mounting panel screws.

Reassemble Freezer Top by reversing disassembly instructions outlined in Section 4.1B, Steps 11 through 1.

Test Operation of new High Temperature Cutoff Switch by:

8) Plug in unit to a 120-volt power source.
9) Allow compressor to draw unit down to its normal operating temperature range, which should be between 0 and -10° F [-18 to -23° C]. Unit should maintain that operating temperature if both freezer compartment doors remain closed.
10) Put unit into Manual Defrost Mode. [Push and HOLD (for 7-10 seconds) the lower button just right of the digital temperature display. Display will read: **dEF**.
11) Check the evaporator heater wires with your Induction/AMP Meter. It should be pulling 2-5 AMPs.
12) At end of defrost cycle, heater will shut off, the compressor will come back on and the display will return to the actual compartment temperature reading.

[Photo 1]

The GSF-18 model has a single evaporator fan assembly, while the GSF-30 model has two.

[Photo 2]

Use a Phillips screwdriver to remove all top and front screws that secure the motor mounting panel. Leave motor(s) attached to panel.

[Photo 3]

Remove black and white leads from cutoff switch. Use Phillips screwdriver to remove mounting screws from small bracket.

Ø

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2.10 Defrost Heater(s) Replacement:

Model GSF-18: P/N 19001167 for Coil
P/N 19001168 for Drain Area
Model GSF-30: P/N 19001169 for Coil
P/N 19001170 for Drain Area

NOTE: There are two defrost heaters. One is attached to the bottom of the Coil. The other is attached to the bottom of the drain area, below the Coil.

IMPORTANT: Replace BOTH heaters when servicing this unit to ensure correct wattage is achieved.

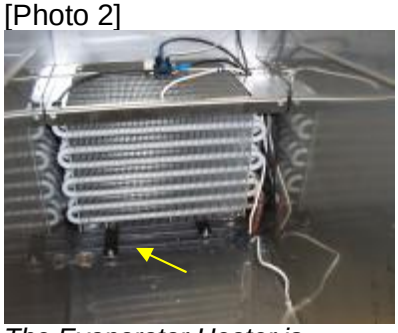
The Defrost Heaters are replaced through the unit top. **See Section 4.1B. Follow Steps 1-10, to gain access, then:**

1) Using Phillips screwdriver, remover the nine screws securing the evaporator coil cover to freezer interior back and sides.
2) Lift evaporator motor cover clear of freezer compartment, to extent of motor wiring harness. [Evaporator motor(s) can remain mounted to evaporator motor cover.]
3) Using Phillips screwdriver, remove two screws securing temperature sensor guard, which is mounted bottom-right on vented evaporator front cover.
4) Push sensor through hole in front evaporator cover.
5) Remove evaporator front panel to fully expose evaporator coil.
6) The Coil Heater is fitted into slots and attached to the bottom of the coil with wire snap clips. Unsnap wire clips and gently work the heater free from slots in the coil. Gently work the heater out and unplug it from the wiring harness.
7) The drain heater is mounted below the Evaporator Coil. Use ¼" [6 mm] socket or wrench to remove the four nuts that secure the two metal heater straps or retainers. Lift off those straps.
8) Gently lift heater out from under Evaporator Coil to extent of the harness.
9) Remove harness leads for both heater terminals.
10) Obtain replacement heaters:
    - § **For GSF-18**: use P/N 19001167 for Coil and P/N 19001168 in drain area;
    - § **For GSF-30**: use P/N 19001169 for Coil and P/N 19001170 in drain area.

[Photo 1]

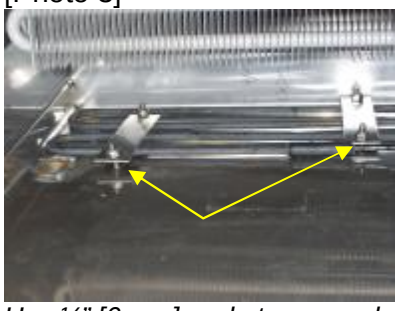
Remove screws that secure temperature sensor guard and push sensor through hole in front evaporator cover panel.

[Photo 2]



The Evaporator Heater is located directly below the Evaporator Coil.

[Photo 3]



Use ¼" [6 mm] socket or wrench to remove the two drain heater coil retaining straps.

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2.10 Defrost Heaters Replacement continued:

11) Reattach harness leads to heater terminals. **NOTE**: The drain heater plugs into the coil heater, which has double connections.

IMPORTANT: The Coil Heater is higher wattage than the Drain Heater. **Maker sure the correct heater is attached to the Coil.**

12) Gently reposition and press the coil heater into the Coil slots and replace the wire heater clips that hold it to the bottom of the Coil.
13) Position drain heater coils between heater mounting strap posts.
14) Place the two heater straps over their mounting posts, replace ¼" nuts and tighten with ¼" [6 mm] socket or wrench.
15) Check wiring connections and re-tie loose wiring so that it is clear of fans and away from areas where water will collect.
16) As you replace the Evaporator Panel, push the white temperature sensor back through its hole in front, so it is in the correct mounting position.
17) Replace temperature sensor guard using the two Phillips screws removed earlier.
18) Reposition and secure the evaporator front panel and motor cover using the nine screws removed earlier.

Reassemble Freezer Top by reversing disassembly instructions outlined in Section 4.1B, Steps 11 through 1.

Test Operation of new Defrost Heaters by:

19) Plug in unit to a 120-volt power source. The compressor will start and begin to cool the freezer.

DANGER – RISK OF ELECTRIC SHOCK!

The following test procedure requires the unit to be operated with the service access panels open and meter checking of HOT/live electrical wiring. This test should only be done by a qualified service technician, taking all appropriate safety precautions.

20) Once the freezer has cooled down, initiate a manual defrost cycle by pressing and holding the lower button on temperature display until '**dEF**' appears in the display. **NOTE**: If defrost cycle does not initiate, allow more time for Coil to reach operating temperature.
21) In the compressor compartment locate the wire lead from junction box marked 'heater'. Check the heater AMP draw using a clamp-on meter. **On GSF-18 Model** the heaters AMP draw should be about **4.3** (600W @120V) **on GSF-30 Model** heaters AMP draw should be about **5.0** (600W @120V).
22) The defrost cycle should end in 15-20 minutes. There should be a 2-minute delay before the compressor starts, followed by another 2-minute delay before the evaporator fan(s) starts. **NOTE**: Older units may have this fan delay programming.
23) If defrost cycle seems to function properly, allow compressor to draw unit down to its normal operating temperature range, which should be between 0 and -10° F [-18 to -23° C].
24) Replace service panels and return unit to its normal operating position.

2.11 Locking Swivel Caster Replacement [Part No. 19000817]

1) GSF Freezer should be unplugged and the freezer compartment empty and fully defrosted before proceeding.
2) Remove all loose components from the freezer, including: the top Roll-Back Compartment Door, the Grill Product Trolley (if ordered) and associated pans, plus the wire interior shelf.
3) Roll Freezer forward and place a flattened cardboard carton to the left or right of the unit. **CAUTION: This is a two-person job.** Gently and slowly tilt the unit until the right or left side rests on the cardboard.
4) With the unit on its side, inspect all four casters for debris or tape stuck on wheels and damaged or broken wheels.
5) If one or more casters are damaged, loosen the four M6 [6 mm] caster bolts and remove the damaged caster or casters.
6) Use P/N 19000817 to replace either front or rear caster.
7) Use the four M6 [6 mm] caster bolts to attached each new caster.
8) Using two people, as needed, lift up the top of the GSF until it is vertical and back on its casters.

IMPORTANT: After setting the unit upright, leave unit standing for 30 minutes, to allow oil to return to compressor, before restarting!

Test the replacement caster(s) by:

9) Roll the unit back and forth to see if it moves freely.
10) Lock both front casters and see if unit resists easy or accidental movement.

11) Return all loose components that were removed and the unit to its normal operating position.

[Photo 1]

The GSF Freezer is equipped with four locking, double wheel swivel casters.

[Photo 2]

Use a 6 mm wrench or socket to remove and tighten caster mounting bolts.

Ø

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2.12 Replace Front Door Hinges: [Upper Hinge - Part No. 17003744] [Lower Hinge - Part No. 17003745]

1) GSF Freezer should be unplugged and the freezer compartment fully defrosted before proceeding.
2) Open the freezer front door to access upper and lower mounting hinge brackets.
3) Using a 11 mm wrench or socket, loosen and remove the two upper hinge bracket-mounting bolts, while supporting the weight of the door. [**Tip**: If a second person is available, have them support the weight of the door while you remove and replace the hinge brackets.]
4) Remove upper hinge bracket from the door bushing.
5) Lift the door up and off the lower hinge pin and set it aside, without scratching the door panel finish.
6) Remove the two M6 hex mounting bolts from the lower hinge bracket.
7) Take the new lower hinge bracket [P/N 17003745] and install it in the lower hinge position, with the hinge pin up, using the same two mounting bolts.
8) Take the Freezer Door and place its lower hinge bushing on the lower hinge mounting bracket pin.
9) Position the new upper hinge mounting bracket [P/N 17003744] with the pin in the upper door hinge bushing, and secure that bracket with the two H6 hex bolts.

10) **Test** the function and alignment of the door. Door should open and close freely and seal completely against the freezer compartment front frame.

[Photo 1]

GSF Freezers ship from factory with door hinged left. Opposite side mounting holes [with plugs] are provided for reversing door.

[Photo 2]

Remove mounting bolts from the upper hinge-mounting bracket and lift door off lower hinge pin.

[Photo 3]

Install the new lower hinge bracket first, then position door and install upper hinge bracket.

Ø

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3.1 Reverse Front Door Hinges/Door Swing

Problem: The GSF ships from the factory hinged left, so the freezer door opens and swings left. It is often best if the door swings toward the front of the store, so it will not get in the way when loading and when bringing cases from the rear of the store. Depending on kitchen and grill station layout, the door swing can be changed, as needed.

1) GSF Freezer should be unplugged and the freezer compartment fully defrosted before proceeding.
2) Open the freezer front door to access upper and lower mounting hinge brackets.
3) Using a 10 mm wrench or socket, loosen and remove the two upper hinge bracket-mounting bolts, while supporting the weight of the door. [**Tip**: If a second person is available, have them support the weight of the freezer door while you remove hinge brackets.]
4) Remove upper hinge bracket from the door bushing.
5) Lift the door up and off the lower hinge pin and set it aside, without scratching the door panel finish.
6) Remove the two M6 hex mounting bolts from the lower hinge bracket and set it aside.
7) Locate the mirror image bracket mounting holes on the right side of the freezer cabinet frame. Remove fill plugs with sharp flat blade screwdriver. [Save them.]
8) Take the upper hinge-mounting bracket and reinstall it in the lower hinge position with the hinge pin up, using the same two mounting bolts.
9) Rotate the Freezer Door 180 degrees and place what was the upper hinge bushing on the lower hinge mounting bracket pin.
10) Position the remaining [former lower] hinge mounting bracket with the pin in the [now] upper door hinge bushing and secure that bracket with the two remaining M6 Hex mounting bolts.
11) Take the hole fill plugs and press them back into the left side bracket mounting holes.

12) **Test** the function and alignment of the door. Door should open and close freely and seal completely against the freezer compartment front frame.

[Photo 1]

GSF Freezers ship from factory with freezer door hinged left, to open and swing to the left.

[Photo 2]

Remove mounting bolts from the upper hinge-mounting bracket and lift door off lower hinge pin.

[Photo 3]

Rotate door 180 degrees and reverse hinges for right side mounting.

Ø

3.2 Adjusting Set Freezer Temperature Range

The GSF internal thermostat maintains the recommended frozen grilled product storage temperature range of 0° to –10° F (-18° to -23° C). This thermostat is calibrated, set and tested at the factory, prior to shipment from Franke.

Problem 1: Preset operating temperature range does not maintain product in desired frozen state due to: higher ambient kitchen temperatures, high humidity, too close proximity to HOT Grill Station, crew propping open freezer doors or insufficient side or rear clearance.

Problem 2: Preset operating temperature range maintains product too cold or builds excessive frost due to lower ambient kitchen temperatures or infrequent opening of freezer doors. [NOTE: Make sure frost buildup isn't from a bad door gasket.]

Problem 3: Crew member "plays" with temperature display buttons and inadvertently changes set temperature range. [**These instructions <u>are</u> also included in GSF Operating Manual.**]

To Change Temperature Set Point:

1) GSF Freezer should be plugged in and the freezer compartment fully defrosted before proceeding.
2) Push and hold either button for two seconds to display the mid-point target temperature, which is factory set at -5° F (-20° C).
3) Push the top button to raise target temperature, the lower button to lower. (If you lower the target temperature to -10° F (-23° C), the operating range will become –5° to -15° F (-20° to -26° C), or five degrees plus or minus (±5°/±2°C) the set point.
4) The current compartment temperature will automatically reappear. [If the target temperature was reduced, the compressor should come on to lower the compartment temperature.)

5) **To Test**: If lowering set point temperature, the compressor should come on and begin to lower freezer temperature. If raising set point, you will have to open the front freezer door to dump cold air and speed the freezer warm-up. Check temperature display to see if new target range is achieved.

[Photo 1]

GSF Freezers ship from factory preset for 0° to –10° F (-18° to -23° C) operating temperature.

[Photo 2]

Press and hold either button for two seconds. Push top button to raise target temperature, lower button to lower temperature.

Ø

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4.1A Basic [Operator] Refrigeration Maintenance

[Before attempting service, failure diagnosis or component repairs, verify basic operator maintenance has been done.]

PROBLEM: Freezer is running but will not reach 0° F [-18° C] or lower. High temperatures caused by a dirty condenser coil, blocking the side louvered panels or direct contact with the Grill Station may cause the freezer to function improperly, not maintain temperature or cease operating.

1) **FIRST: Perform Manual Defrost:** push and HOLD (for 7-10 seconds) the lower button to the right of temperature display. Display will read: **dEF**.
2) Open the front freezer compartment door and verify that GSF has been defrosted. If significant ice buildup is still present, disconnect power at outlet, open the freezer compartment door and allow the ice to melt.
3) Check to see if freezer is over loaded or if plastic carton liners are obstructing evaporator fan openings. This freezer, like most requires some room for air circulation.
4) Check freezer door gasket for damage. If damage is found, see Section 2.2 Front Door Gasket Replacement.
5) Check rear and side clearance around unit. To operate efficiently, the following clearances are required:

Model	On Left Side	On Right Side	Rear
GSF-18*	6” or 2”	2” or 6”	2”
GSF-30	2”	2”	6”

* GSF-18 requires 6” clearance on one side and 2” on the opposite side.

6) Unlatch and open rear or side access panel. Inspect the condenser coil filter. If dirty, remove filter and wash in sink. Allow the filter to dry completely before replacing.
7) Inspect the condenser coil to ensure it is clean and free of dust and debris. If it is dirty, clean it with a soft bristle brush or portable vacuum.

CAUTION

Avoid contact with fins on the condenser coil and any refrigeration lines. The fins are very sharp and can cause cuts. Certain refrigerant lines can be very hot and could cause burns to exposed skin. The use of gloves is recommended.

8) **Test** unit for operation within 0° to -10° F [-18 to 23° C] normal operating temperature range.
9) If these steps correct problem, notify unit manager of problems noted with crew cleaning, operator *[continued]*

[Photo 1]

To inspect condenser coil and coil filter, unlatch and open rear louvered access panel on GSF-18 model or side panel on the larger GSF-30 model..

[Photo 2]

Inspect the condenser coil filter. If dirty, wash in the sink and allow to dry before replacing.

[Photo 3]

Inspect the condenser coil. If dirty, clean with soft brush or portable vacuum.

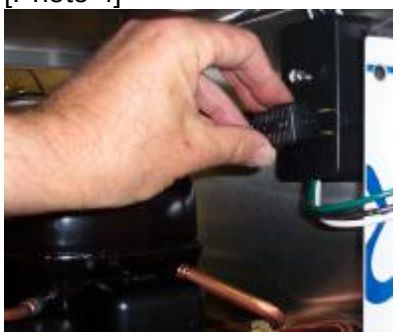
4.1A Basic [Operator] Refrigeration Maintenance …[CONTINUED]

preventive maintenance or location of unit. If problem persists, see Troubleshooting Guide and Sections 4.2 - 4.9.

PROBLEM: The Freezer will not run when plugged in.

1) Verify unit is plugged in to120-volt power supply.
2) Check circuit breaker for that outlet or use a test meter to verify power at outlet.
3) Verify condenser package is plugged into internal outlet. Remove rear service access panel. Internal outlet is mounted to cabinet sidewall.
4) If these simple steps return unit to service, notify unit manager of fix.
5) If unit is plugged in and power is present at the outlet, but Refrigeration System will not power-up, see Troubleshooting Guide and Sections 4.2 through 4.10.

[Photo 4]



Ensure condenser package plug is plugged into internal outlet.

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4.1B Refrigeration Component Service Access

The GSF-18 & GSF-30 have been designed to be easier to service. Service access to key refrigeration system components is as follows:

From rear and/or side louvered panels for:

- § Air filter
- § Complete Condenser Unit
- § Condenser Fan/Motor
- § Compressor
- § Start Relay & Start Capacitor
- § Expansion Valve & Filter/Dryer

CAUTION

Avoid contact with fins on the condenser coil and any refrigeration lines. The fins are very sharp and can cause cuts. Certain refrigerant lines can be very hot and could cause burns to exposed skin. The use of gloves is recommended.

Through unit top [See description & photos 1-6] for:

- § Evaporator Coil
- § Evaporator Fan[s]/Motor[s]
- § High Temp. Cutoff Switch
- § Evaporator Coil Heater

For Service Access Though Unit Top:

1) Unplug unit for 120-volt power supply.
2) Make sure freezer is empty and fully defrosted.
3) Lift off the rolling lid and product trolley. Remove wire freezer shelf through front freezer door.
4) Using a medium Phillips screwdriver, remove the four screws securing the grill tool shelf and lift it off.
5) Using the same screwdriver, remove two screws in the temperature display protective bezel and pull out control assembly.
6) Using a small flat blade screwdriver to depress retaining tab on display that secures three wire plastic connector, to separate display from wiring harness.
7) Using the Phillips Screw Driver remove the two remaining screws holding on the freezer top. Carefully lift top from front to expose top heater wiring harness.
8) Disconnecting the two top heater wires from harness will allow you to remove freezer top from work area. [**NOTE**: The two extra wires coming out of top are for a redundant (extra) top heater element.]
9) Carefully remove all foil tap securing wiring harness to evaporator fan cover. [**NOTE**: If you do not have foil tape, save all pieces removed.]

[Photo 1]

Remove the four screws securing the grill tool shelf and remove..

[Photo 2]

Remove the two remaining screws securing the freezer top.

[Photo 3]

Remove two temperature display bezel screws, pull out control and depress retainer to disconnect harness from control.

[Photo 4]

Lift front of freezer top to expose rear top heater wires

4.1B Refrigeration Component Access Cont.

10) Using Phillips screwdriver, remove the five screws securing evaporator fan cover. Remove that cover.

At this point evaporator fan/motor[s] is/are still mounted to the evaporator coil cover. To complete replacement, **see:**

- **Section 4.4 to replace Evaporator Fan/Motor**
- **Section 4.5 to replace Evaporator Coil**
- **Section 2.8 to replace Remote Display Cable**
- **Section 2.9 to replace High Temp Cutoff Switch**
- **Section 2.10 to replace Defrost Heaters**

[Photo 5]

Disconnect top heater connectors from wiring harness and remove top from work area.

[Photo 6]

Remove all metallic tape securing wiring harness and sealing cover, then remove the five screws that secure evaporator fan[s] cover.

Ø

4.2 Condenser Fan Motor Replacement [Part No. 19001253; 16W EBM or Elco Motor]

[If Refrigeration Package has been pulled, proceed to Step 6.]

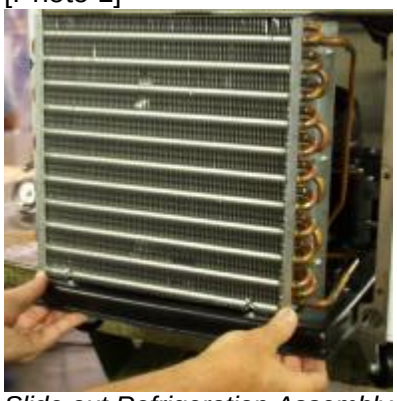
1) Roll GSF unit out to allow easy access to rear and left [from front] service access panels.
2) Disconnect GSF power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove four screws securing left service access panels.
4) Using a 11 mm box wrench or socket, remove the four Refrigeration Assembly mounting bolts.
5) Open and remove rear access panel, remove filter and slide out Refrigeration Package to extent of compressor lines and wiring harness.
6) Disconnect fan motor wires at terminals.
7) Use 3/8" [10 mm] wrench or socket to remove four bolts securing wire condenser fan guard to condenser.
8) Use 1/8" Allen Wrench to loosen setscrew and remove motor fan.
9) Use a Phillips screwdriver to separate condenser motor from the wire guard.
10) Take new motor [P/N 19001253] and mount to wire fan guard.
11) Replace fan and tighten setscrew on flat of motor shaft.
12) Mount guard/motor assembly to condenser frame.
13) Attach motor harness leads to motor terminals.
14) Slide the Refrigeration Package back into the GSF and position over mounting holes.
15) Replace and tighten four 7/16" [11 mm] mounting bolts.

Test operation of Refrigeration System by:

16) Plug in unit to a 120-volt power source.
17) If the compressor fan operates and brings the Freezer compartment down to the normal operating temperature range of 0 to -10° F [-18 to -23° C], repair is complete.

18) Close the rear service access panel; replace left side access panel and return freezer to normal operating position.

[Photo 1]



Slide out Refrigeration Assembly after removing mounting bolts.

[Photo 2]

Remove fan guard mounting bolts, then separate fan/motor from condenser assembly.

[Photo 3]

Use Phillips screwdriver to remove four screws holding motor to fan and 1/8" Allen wrench to remove fan.

@Tools/Supplies Required:

- 3/8" [10 mm] flat screwdriver
- Medium Phillips screwdriver
- 11 mm box wrench or socket
- 10 mm box wrench or socket
- 1/8" Allen wrench

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4.3 Evaporator Fan Motor Replacement [P/N 19000454: GSF-18 = 1 GSF-30 = 2 ea.]

Evaporator Fan Motors are replaced through unit top. **See Section 4.1B. Follow Steps 1-11, to gain access, then:**

1) Use a Phillips screwdriver to remove all the screws that secure the evaporator motor housing/cover to freezer compartment interior.
2) Gently remove the plastic fan blade from the motor shaft. It is a snug press fit. Be careful not to snap a fan blade.
3) Using a small Phillips screwdriver, remove the two screws securing motor to the motor housing. The motor should fall off in your hand, with harness leads attached.
4) Separate motor wires from harness at motor terminals. Use pliers if needed.
5) Obtain P/N 19000454 replacement evaporator motor assembly and attach wiring harness connectors to motor.
6) Use the Phillips screwdriver to attach new motor to the inside of housing, using two screws removed earlier.
7) Re-attach the fan blade by gently pressing on to motor shaft. **Make sure the fan blade is installed correctly so that it will blow air UP**.
8) Return motor housing/cover to mounting position and secure all Phillips screws removed earlier.

Reassemble Freezer Top by reversing disassembly instructions outlined in Section 4.1B, Steps 11 through 1.

Test Operation of new Evaporator Fan Motor[s] by:

9) Plug in unit to a 120-volt power source.
10) Allow compressor to draw unit down to its normal operating temperature range, which should be between 0 and -10° F [-18 to -23° C]. Unit should maintain that operating temperature if both freezer compartment doors remain closed.

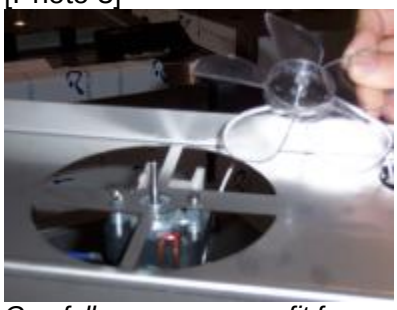
[Photo 1]

The GSF-18 model has a single evaporator/fan assembly, while the GSF-30 model has two, as show above.

[Photo 2]

Remove all top & front screws securing the evaporator fan motor housing/cover.

[Photo 3]



Carefully remove press-fit fan blade from motor shaft to access the two motor mounting screws.

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4.4 Evaporator Coil Replacement [GSF-18 use P/N 19000305] [GSF-30 use P/N 19000430]

The Evaporator Coil is replaced through the unit top. **See Section 4.1B. Follow Steps 1-10, to gain access, then:**

1) Using Phillips screwdriver, remover the nine screws securing the evaporator coil cover to freezer interior back and sides.
2) Lift evaporator motor cover clear of freezer compartment, to extent of motor wiring harness. [Evaporator motor[s] can remain mounted to evaporator motor cover.]
3) Remove evaporator front panel to fully expose evaporator coil.
4) **Note:** Recover any residual refrigerant and ensure line pressure is equalized to zero, before opening the refrigeration system.

> **IMPORTANT**: Any residual refrigerant charge should be recovered in strict accordance with the Federal Clean Air Act.

5) Cut the refrigerant lines then remove evaporator coil. The evaporator coil will lift off the heater coil positioned below the evaporator.
6) Obtain replacement evaporator coil: [P/N 19000305 for GSF-18 or P/N 19000430 for GSF-30].
7) Clean and prepare the copper line fittings, position coil then braise both line connections.
8) **Note**: When resealing the system, use a continuous Nitrogen charge to assure no contaminants enter the system, especially when brazing.
9) Before recharging system, pull vacuum equivalent to 30 inches [760 mm] of Mercury, for minimum of 30 minutes.
10) Recharge the system with 19-21 ounces of R404A refrigerant. Gradually add refrigerant until small bubbles stop rushing past sight glass.
11) Reposition and secure the evaporator front panel and motor cover using the nine screws removed earlier.

Reassemble Freezer Top by reversing disassembly instructions outlined in Section 4.1B, Steps 11 through 1.

Test Operation of new Evaporator Fan Coil by:

12) Plug in unit to a 120-volt power source.

[Continued]

[Photo 1]

Remove screws that secure evaporator fan and front evaporator panels.

[Photo 2]

Recover any residual refrigerant and ensure line pressure is zero before opening system.

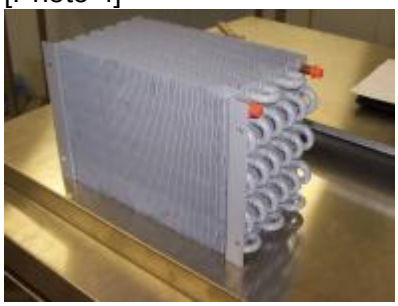
[Photo 3]

Prepare evaporator coil for removal and cut refrigeration lines.

4.4 Evaporator Coil Replacement Cont.

13) Allow compressor to draw unit down to its normal operating temperature range, which should be between 0 and -10° F [-18 to -23° C]. Unit should maintain that operating temperature, if both freezer compartment doors remain closed.

[Photo 4]



Prepare fittings for braising, then position replacement evaporator coil in freezer bottom.

[Photo 5]

When resealing the system, use a continuous Nitrogen charge to keep contaminants out.

ø

4.5 Compressor Capacitor/Relay Replacement [Capacitor Part No. 3589843] and/or [Start Relay Part No. 3589841]

1) Roll GSF unit out to allow easy access to the left side [from front] louvered service panel.
2) Disconnect power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove the four screws that secure that louvered service access panel.
4) Using needle nose pliers, carefully remove the capacitor leads without touching each other or any metal surfaces.

WARNING
High voltage warning. Use caution. There is a danger of electrical shock, which can cause injury or even death!

5) Unsnap the plastic retainer clip holding the capacitor, and then remove the capacitor.
6) Install the new capacitor [P/N 3589843] and snap retainer clip.
7) Connect capacitor leads to the terminal block.

Test operation of Compressor by:
8) Plug in unit to a 120-volt power source.
9) If compressor starts and runs, proceed to Step 19.

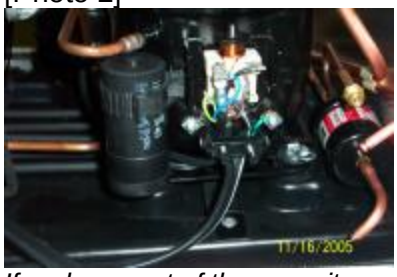
10) **To replace Start Relay:** remove plastic relay cover by depressing clips on either side.
11) Using a medium flat blade screwdriver, loosen the two strain relief set screws that secure power cord.
12) Disconnect the two bayonet terminals clips.
13) Using a small Phillips Screw Driver, remove left and right relay mounting screws. Removing right screw will free green ground connection and the relay.
14) Remove plastic cover and install the new relay [P/N 3589841] and secure with the two mounting screws.
15) Slip the power cord though the strain relief, then connect power cord connectors to relay bayonet terminals and reattach ground line with right relay mounting screw.
16) Tighten strain relief screws and replace plastic relay cover.

Test operation of Compressor by:
17) Plug in unit to a 120-volt power source.
18) If compressor starts and runs, proceed to Step 19.
19) Close the left side service access panel and return freezer to normal operating location.

[Photo 1]

Try replacing just the compressor capacitor first.

[Photo 2]



If replacement of the capacitor does not start the compressor, replace the start relay.

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Rev. 2 4/07

4.6 Check System [Refrigerant] Pressure and Electronic Leak Detection

1) Roll GSF unit out to allow access to side service access panels.
2) Disconnect power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove the four screws securing the left side [from front] access panel.
4) Using a standard manifold refrigeration gauge, confirm the following pressures for units with **20 oz. [570 gm] R404A charge:**
   - ø **Discharge Valve**: 230 +/- 10 psig [16 ± 1 Bar] @ 80˚F/27°C ambient
   - ø **Suction Valve**: 16 +/- 2 psig [.4 ± .1 Bar] @ 80˚F/27°C ambient
5) If Discharge Valve pressure is HIGH and Suction Valve pressure is LOW, check for a kinked or restricted line.
6) If a kinked or restricted line is found, **See Section 4.8** for Filter/Dryer Replacement.
7) If Discharge Valve Pressure is LOW and Suction Pressure is LOW, verify leak and location with an Electronic Leak Detector. [If existing system pressures are high enough, a thorough scan with a standard leak detector may be sufficient to locate the exact location.]
8) If system pressure is too low or leak[s] is intermittent and difficult to detect, pressurize the system with Nitrogen to an equalized MAXIMUM of 150 PSIG [10.5 Bar].
9) Use electronic leak detector or application of a soap solution to locate any and all leaks.
10) **IMPORTANT**: Make sure the condensing unit is off when checking for leaks. Air movement from the fan would inhibit the ability of the leak detector to sense refrigerant.
11) If a leak is found, **See Section 4.7** for Leak Repair Procedures.

[Photo 1]

Check Discharge and Suction Valve pressures using a manifold refrigeration gauge.

[Photo 2]

If system pressure is too low or the leaks difficult to pinpoint, pressurize system with 150 PSIG [10.5 Bar] of Nitrogen and use an electronic leak detector or soap solution.

Ø

Rev. 1 2/06

4.7 Repair System [Refrigerant] Leak

1) Roll GSF unit out to allow easy access to rear and side service access panels.
2) Disconnect power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove the four screws on both left and right side service access panels.
4) Using an 11 mm box wrench or socket, remove the two Refrigeration Package mounting bolts.
5) Open and remove rear access panel, remove condenser filter and slide out Refrigeration Package to extent of refrigeration lines and compressor wiring harness.
6) Repair or replace refrigerant lines as needed.
7) **Note**: Recover any residual refrigerant and ensure line pressure is equalized to zero, before opening the refrigeration system.

> **IMPORTANT**: Any residual refrigerant charge should be recovered in strict accordance with the Federal Clean Air Act.

8) **NOTE:** Any time a leak is found and a repair is required, **ALWAYS replace the filter dryer**. [See Section 4.8] In addition, the system may need to be drained completely and new Polyol Ester Oil added. If required, the old Polyol Ester Oil should be recovered and disposed of in accordance with Federal Laws covering the handling of hazardous materials.
9) When resealing the system, use a continuous Nitrogen charge to assure no contaminants enter the system, especially when brazing.
10) Before recharging the system, pull a vacuum equivalent to 30 inches [760 mm] of Mercury, for a minimum of 30 minutes.
11) Plug in unit to a 120-volt power source.
12) Recharge the system with 18-20 ounces of R404A refrigerant. Gradually add refrigerant until bubbles stop rushing past sight glass, **while compressor is running**.

Test operation of Refrigeration System:

13) If compressor brings the Freezer compartment down to the normal operating temperature range of 0 to -10° F [-18 to -23°C], proceed to Step 14.
14) Push the Refrigeration Package back into the GSF base and position over the mounting holes.
15) Replace and tighten the two 11 mm mounting bolts.
16) Close the rear service access panel, replace side access panels and return freezer to normal operating position.

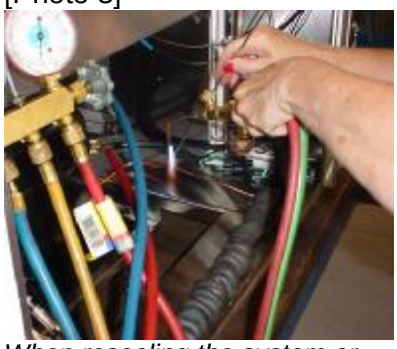
[Photo 1]

Remove the two Refrigeration Assembly mounting bolts.

[Photo 2]

Recover any residual refrigerant and ensure line pressure is zero before opening system.

[Photo 3]



When resealing the system or repairing leaks, use continuous Nitrogen charge to keep contaminants out.

Ø

4.8 Filter/Dryer Assembly Replacement [P/N: 023Z8129]

[If Refrigeration Package has been pulled, proceed to Step 6.]

1) Roll GSF unit out to allow easy access to rear and side service access panels.
2) Disconnect power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove screws on left & right side service access panels.
4) Using an 11 mm box wrench or socket, remove the Condenser/Compressor Base Plate mounting bolts.
5) **Note:** Recover any residual refrigerant and ensure line pressure is equalized to zero, before opening the refrigeration system.
6) Cut refrigeration lines and slide out Condenser Package.

> **IMPORTANT**: Any residual refrigerant charge should be recovered in strict accordance with the Federal Clean Air Act.

7) Cut line to allow removal of Filter/Dryer.
8) Remove single screw on mounting strap and remove the Filter/Dryer Assembly.
9) Install new Filter/Dryer Assembly [P/N: 023Z8129]. Braze lines as required.
10) Secure filter to base with metal strap and screw.
11) When resealing the system, use a continuous Nitrogen charge to assure no contaminants enter the system, especially when brazing.
12) Before recharging the system, pull a vacuum equivalent to 30 inches [760 mm] of Mercury, for a minimum of 30 minutes.
13) Recharge the system with 18-20 ounces of R404A refrigerant. Gradually add refrigerant until small bubbles stop rushing past sight glass.

Test operation of Refrigeration System by:

14) Plug in unit to a 120-volt power source.
15) If compressor starts and brings the Freezer compartment down to the normal operating temperature range of 0 to -10° F [-18 to -23° C], proceed to Step 15.
16) Push the Refrigeration Package back into the GSF Freezer base and position over the mounting holes.
17) Replace and tighten the 11 mm mounting bolts.
18) Close rear service access panel, replace left & right side panels and return dispenser to normal operating position.

[Photo1]

A strap and single screw hold filter/dryer to compressor base.

[Photo 2]

Recover any residual refrigerant and ensure line pressure is zero before opening system.

[Photo 3]

When resealing the system, use a continuous Nitrogen charge to keep contaminants out.

4.9 Expansion Valve Replacement [Model GSF-18 use Part No. 19000497] [Model GSF-30 use Part No. 19000496]

1) Roll GSF unit out to allow easy access to rear and side service access panels.
2) Disconnect power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove screws on left & right side service access panels.
4) **Note:** Recover any residual refrigerant and ensure line pressure is equalized to zero, before opening the refrigeration system.
5) Sweat off copper fittings on side and bottom of Expansion Valve.

> **IMPORTANT**: Any residual refrigerant charge should be recovered in strict accordance with the Federal Clean Air Act.

6) Install new Expansion Valve [GSF-18 = P/N: 19000497 or GSF-30 = 19000496. Clean and braze lines as required.
7) When resealing the system, use a continuous Nitrogen charge to assure no contaminants enter the system, especially when brazing.
8) Before recharging the system, pull a vacuum equivalent to 30 inches [760 mm] of Mercury, for a minimum of 30 minutes.
9) Recharge the system with 18-20 ounces of R404A refrigerant. Gradually add refrigerant until small bubbles stop rushing past sight glass.

Test operation of Refrigeration System by:

10) Plug in unit to a 120-volt power source.
11) If compressor starts and brings the Freezer compartment down to the normal operating temperature range of 0 to -10° F [-18 to -23° C], proceed to Step 15.
12) Close rear service access panel, replace left & right side panels and return dispenser to normal operating position.

[Photo 1]

Sweat off fitting on side & bottom of Expansion Valve.

[Photo 2]

Recover any residual refrigerant and ensure line pressure is zero before opening system.

[Photo 3]

When resealing the system, use a continuous Nitrogen charge to keep contaminants out.

Ø

4.10 Condensing Unit Replacement [Part Number: 19000362]

[If Refrigeration Package has been pulled, proceed to Step 6.]

1) Roll GSF unit out to allow easy access to rear and side service access panels.
2) Disconnect GSF power at outlet. [Pull 120-Volt plug.]
3) Using a 3/8" [10 mm] flat screwdriver, remove the screws securing left & right service access panels.
4) Using an 11 mm box wrench or socket, remove the Refrigeration Assembly mounting bolts.
5) Open and remove rear access panel, remove filter and slide out Refrigeration Package to extent of compressor lines and wiring harness.
6) From left access panel, unplug the compressor power cord at the Main Electric Supply junction box.
7) **Note:** Recover any residual refrigerant and ensure line pressure is equalized to zero, before opening the refrigeration system.

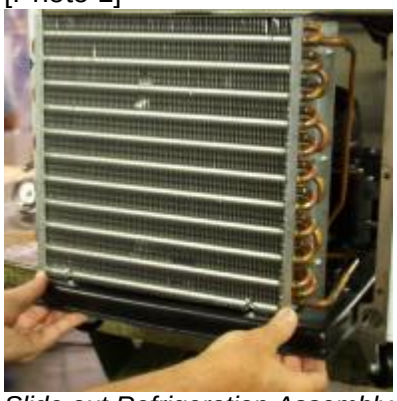
> **IMPORTANT**: Any residual refrigerant charge should be recovered in strict accordance with the Federal Clean Air Act.

8) Cut the refrigerant lines.
9) Clean and prepare the refrigeration line fittings, then braise line connections.
10) **Note**: When resealing the system, use a continuous Nitrogen charge to assure no contaminants enter the system, especially when brazing.
11) Before recharging system, pull vacuum equivalent to 30 inches [760 mm] of Mercury, for minimum of 30 minutes.
12) Recharge the system with 18-20 ounces of R404A refrigerant. Gradually add refrigerant until small bubbles stop rushing past sight glass.
13) Plug in compressor power cord at power junction box.
14) Slide the Refrigeration Package back into the GSF and position over mounting holes.
15) Replace and tighten the 11 mm mounting bolts.

Test operation of Refrigeration System by:

16) Plug in unit to a 120-volt power source.
17) If compressor starts and brings the Freezer compartment down to the normal operating temperature range of 0 to -10° F [-18 to -23° C], repair is complete.
18) Close the rear service access panel, replace side access panels and return freezer to normal operating position.

[Photo 1]



Slide out Refrigeration Assembly after removing mounting bolts.

[Photo 2]

Recover any residual refrigerant and ensure line pressure is zero before opening system.

[Photo 3]

When resealing the system, use a continuous Nitrogen charge to keep contaminants out.

@Tools/Supplies Required:

- Ø 3/8" [10 mm] flat screwdriver
- Ø 11 mm box wrench or socket
- Ø Refrigerant Recovery Tank & fittings
- Ø Nitrogen Charge Tank
- Ø R404A Refrigerant
- Ø Tubing Cutter
- Ø Brazing Torch, etc.
- Ø Plastic wire ties