

CONGRATULATIONS!

You have just purchased the finest commercial refrigerator available. You can expect many years of trouble-free operation.

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TDM-R-48-GE/GE-W-W



TDM-DZ-59-GE/GE-W-W



TDM-R-77-GE/GE-B-W

True®

INSTALLATION MANUAL

TRUE DISPLAY MERCHANDISER



NOTICE TO CUSTOMER

Loss or spoilage of products in your refrigerator/freezer is not covered by warranty. In addition to following recommended installation procedures you must run the refrigerator/freezer 24 hours prior to usage.



SAFETY INFORMATION

How to Maintain Your True Refrigerator to Receive the Most Efficient and Successful Operation.

You have selected one of the finest commercial refrigeration units made. It is manufactured under strict quality controls with only the best quality materials available. Your TRUE cooler when properly maintained will give you many years of trouble-free service.

WARNING: Use this appliance for its intended purpose as described in this Owner Manual.

TO LOCATE REFRIGERANT TYPE, SEE SERIAL LABEL ON OUTSIDE REAR OF CABINET. This cabinet may contain fluorinated greenhouse gas covered by the Kyoto Protocol (please refer to cabinet's inner label for type and volume, GWP of 134a= 1,300, R404a= 3,800).

FOR HYDROCARBON REFRIGERATION ONLY (R-290) SEE BELOW:

- **DANGER** - Risk of fire or explosion. Flammable refrigerant used. Do not use mechanical devices to defrost refrigerator. Do not puncture refrigerant tubing.
- **DANGER** - Risk of fire or explosion. Flammable refrigerant used. To be repaired only by trained service personnel. Do not puncture refrigerant tubing.
- **CAUTION** - Risk of fire or explosion. Flammable refrigerant used. Consult repair manual/owner's guide before attempting to service this product. All safety precautions must be followed.
- **CAUTION** - Risk of fire or explosion. Dispose of properly in accordance with federal or local regulations. Flammable refrigerant used.
- **CAUTION** - Risk of fire or explosion due to puncture of refrigerant tubing; follow handling instructions carefully. Flammable refrigerant used.
- **CAUTION** - Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.

SAFETY PRECAUTIONS

When using electrical appliances, basic safety precautions should be followed, including the following:

- This refrigerator must be properly installed and located in accordance with the Installation Instructions before it is used.
- Do not allow children to climb, stand or hang on the shelves in the refrigerator. They could damage the refrigerator and seriously injure themselves.
- Do not touch the cold surfaces in the freezer compartment when hands are damp or wet. Skin may stick to these extremely cold surfaces.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance. Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.

- Keep fingers out of the "pinch point" areas; clearances between the doors and between the doors and cabinet are necessarily small; be careful closing doors when children are in the area.
- Unplug the refrigerator before cleaning and making repairs.
- Setting temperature controls to the 0 position does not remove power to the light circuit, perimeter heaters, or evaporator fans.

NOTE: We strongly recommend that any servicing be preformed by a qualified technician.

DANGER

RISK OF CHILD ENTRAPMENT

PROPER DISPOSAL OF THE REFRIGERATOR

Child entrapment and suffocation are not problems of the past. Junked or abandoned refrigerators are still dangerous... even if they will sit for "just a few days." If you are getting rid of your old refrigerator, please follow the instructions below to help prevent accidents.

BEFORE YOU THROW AWAY YOUR OLD REFRIGERATOR OR FREEZER:

- Take off the doors.
- Leave the shelves in place so that children may not easily climb inside.

APPLIANCE DISPOSAL

When recycling appliance please make sure that the refrigerants are handled according to local and national codes, requirements and regulations.

REFRIGERANT DISPOSAL

Your old refrigerator may have a cooling system that uses "Ozone Depleting" chemicals. If you are throwing away your old refrigerator, make sure the refrigerant is removed for proper disposal by a qualified service technician. If you intentionally release any refrigerants you can be subject to fines and imprisonment under provisions of the environmental regulations.

USE OF EXTENSION CORDS

NEVER USE AN EXTENSION CORD! TRUE will not warranty any refrigerator that has been connected to an extension cord.

REPLACEMENT PARTS

- Component parts shall be replaced with like components.
- Servicing shall be done by authorized service personnel, to minimize the risk of possible ignition due to incorrect parts or improper service.
- Lamps must be replaced by identical lamps only.
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

WARNING!

HOW TO CONNECT ELECTRICITY

USE OF ADAPTER PLUGS

NEVER USE AN ADAPTER PLUG! Because of potential safety hazards under certain conditions, we strongly recommend against the use of an adapter plug.

The incoming power source to the cabinet including any adapters used must have the adequate power available and must be properly grounded. Only adapters listed with UL should be used.

NORTH AMERICA USE ONLY!

NEMA plugs

TRUE uses these types of plugs. If you do not have the right outlet have a certified electrician install the correct power source.

NOTE: International plug configurations vary by voltage and country.



115/60/1
NEMA-5-15R



115/208-230/1
NEMA-14-20R



115/60/1
NEMA-5-20R



208-230/60/1
NEMA-6-15R

INSTALLATION

OWNERSHIP

To ensure that your unit works properly from the first day, it must be installed properly. We highly recommend a trained refrigeration mechanic and electrician install your TRUE equipment. The cost of a professional installation is money well spent.

Before you start to install your TRUE unit, carefully inspect it for freight damage. If damage is discovered, immediately file a claim with the delivery freight carrier.

TRUE is not responsible for damage incurred during shipment.

UNCRATING

TOOLS REQUIRED

- Tin Snips / Band Cutters
- Claw Hammer
- Hex Head Driver
- Adjustable Wrench
- 3/4" (19 mm) Open-End Wrench
- Phillips Screwdriver
- Level

The following procedure is recommended for uncrating the unit:

- A. Cut metal retaining straps securing protective top skid. Remove the outer packaging by pulling tri-wall nails from skid. Remove (4) cardboard corner pads and dust cover.
- B. Inspect for concealed damage. Again, immediately file a claim with the freight carrier if there is damage.
- C. Move your display case as close to the final location as possible before removing the wooden skid.

NOTE: KEYS FOR COOLERS WITH DOOR LOCKS ARE LOCATED IN WARRANTY PACKETS.

ELECTRIC INSTALLATION & SAFETY INFORMATION

Models standard with power cords: Do not, under any circumstances, cut or remove the ground prong from the power cord. For personal safety, this appliance must be properly grounded.

- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.
- Lamps must be replaced by identical lamps only.
- Appliance tested according to the climate classes 5 and 7 temperature and relative humidity.

ELECTRICAL INSTRUCTIONS

- A. Before your new unit is connected to a power supply, check the incoming voltage with a voltmeter. If anything less than 100% of the rated voltage for operation is noted, correct immediately.
- B. All units equipped with a service cord must be powered at proper operating voltage at all times. Refer to cabinet data plate for this voltage.

TRUE RECOMMENDS THAT A SOLE USE CIRCUIT BE DEDICATED FOR THE UNIT.

WARNING: Compressor warranties are void if compressor burns out due to low voltage.

WARNING: Power supply cord ground should not be removed!

WARNING: Do not use electrical appliances inside the food storage compartments of the appliances unless they are of the type recommended by the manufacturer.

NOTE: To reference wiring diagram, remove rear grill. Wiring diagram is positioned under the electrical box.

CURVED GLASS DISPLAY CASES

Some cases are equipped with a service receptacle, found on the upper right cabinet and backside. No electrical load greater than 4-5 amps should be connected to this receptacle. Maximum Amp load is listed on the label next to the service receptacle.



FOR REFERENCE ONLY

WIRE GAUGE CHART

115 Volts													230 Volts												
Amps	Distance In Feet To Center of Load												Amps	Distance In Feet To Center of Load											
	20	30	40	50	60	70	80	90	100	120	140	160		20	30	40	50	60	70	80	90	100	120	140	160
2	14	14	14	14	14	14	14	14	14	14	14	14	5	14	14	14	14	14	14	14	14	14	14	14	14
3	14	14	14	14	14	14	14	14	14	14	14	14	6	14	14	14	14	14	14	14	14	14	14	14	14
4	14	14	14	14	14	14	14	14	14	14	14	14	7	14	14	14	14	14	14	14	14	14	14	14	14
5	14	14	14	14	14	14	14	14	14	12	12	12	8	14	14	14	14	14	14	14	14	14	14	12	12
6	14	14	14	14	14	14	14	12	12	12	10	10	9	14	14	14	14	14	14	14	14	14	12	12	10
7	14	14	14	14	14	12	12	12	10	10	10	8	10	14	14	14	14	14	14	14	12	12	12	10	10
8	14	14	14	14	12	12	12	10	10	10	8	8	12	14	14	14	14	14	14	12	12	12	10	10	10
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35	10	10	8	6	6	6	5	5	4	4	3	2	60	12	10	8	6	6	6	6	6	5	4	4	3
40	10	8	8	6	6	5	5	4	4	3	2	2	70	10	10	8	6	6	6	5	5	4	4	2	2
45	10	8	6	6	6	5	4	4	3	3	2	1	80	10	8	8	6	6	5	5	4	4	3	2	2
50	10	8	6	6	5	4	4	3	3	2	1	1	90	10	8	6	6	5	5	4	4	3	3	1	1
													100	10	8	6	6	5	4	4	3	3	2	1	1

LOCATING

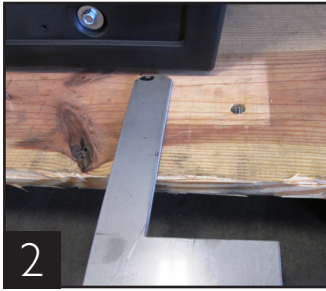
- A. Use a 9/16 inch wrench to remove the bolts from the bracket that connects the unit to the wood skid. See image 1. Slide the bracket out from beneath the unit. See image 2.

TO AVOID DAMAGE TO GLASS DO NOT LAY CABINET ON ITS SIDE OR BACK WHEN REMOVING SKID, INSTALLING LEG LEVELERS, CLEANING, ETC.

- B. Lift up from the base and walk unit off the skid and set in final location.
- C. Unblock doors, free plastic wedges, blue foam and tape. Remove fiberglass tape securing glass. Remove components: (shelves, brackets, etc.) from inside cabinet.
- D. Appliance tested according to the climate classes 5 and 7 for temperature and relative humidity.



1 Removing bracket from skid.



2 Removing bracket from cabinet.

CLEARANCES: For proper cabinet operation, clearance guidelines should be followed.

TDM – 0" at the sides. Open at the front and rear.

LEVELING

- A. Set unit in its final location. Be sure there is adequate ventilation in your room. Under extreme heat conditions, (100°F+, 38°C+), you may want to install an exhaust fan.

WARNING: WARRANTY IS VOID IF VENTILATION IS INSUFFICIENT.

- B. Proper leveling of your TRUE unit is critical to operating success (for non-mobile models). Effective condensate removal and door operation will be effected by leveling.

WARNING: DISPLAY CASE MUST BE LEVELED ACCURATELY TO ENSURE FRONT GLASS DOOR SEALS PROPERLY.

- C. The unit should be leveled front to back and side to side with a level. Place the level in the interior floor of the unit and check all four sides.
- D. If the cabinet is not level adjust leg levelers by first relieving weight to leveler and adjusting by either hand or wrench. Repeat with all leg levelers until cabinet is level in all directions.
- E. Ensure that the drain hose or hoses are positioned in the pan.
- F. Models with power cord: Free plug and cord from inside the lower rear of the cooler (do not plug in).
- G. Models with power cord: The unit should be placed close enough to the electrical supply so that extension cords are never used.

NOTE: If the cabinet has a center leveling screw, castor, or leg, make sure it is adjusted properly so it makes full contact with the floor after the cabinet has been leveled.

WARNING: CABINET WARRANTIES ARE VOID IF OEM POWER CORD IS TAMPERED WITH. TRUE WILL NOT WARRANTY ANY UNITS THAT ARE CONNECTED TO AN EXTENSION CORD.

RECOMMENDED OPERATION CONDITIONS (80°F DEGREES & 55% RELATIVE HUMIDITY)

INSTALLATION OF CASTORS

TOOLS REQUIRED:

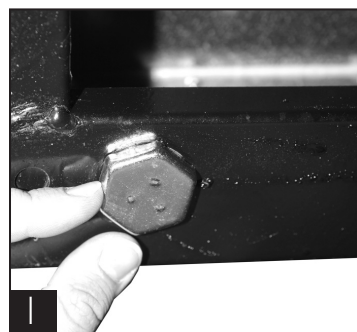
- Castor wrench (if not included contact TRUE)
- Adjustable wrench

WARNING: MAKE SURE UNIT IS EMPTY OF ALL ITS CONTENTS (SHELVING, SHELVING LIGHTING). MAKE SURE POWER SUPPLY HAS BEEN DISCONNECTED.

- Curved glass can be damaged if you lay unit on its back, side, or front. Use a 6" x 6" (15.2 cm x 15.2 cm) block of wood or equivalent. Slide the block under the cabinet frame rail. This will support the unit while installing castors.
- Leg levelers can be backed out by hand (Image 1).
- Take two threaded castors and thread them into the existing leg leveler holes. (Image 2). Shims can be used between castor and cabinet frame rail for leveling (Image 3). Use the tool provided to tighten the threaded castors (Image 4).
- Repeat process for the other side of the cabinet.

WARNING: DISPLAY CASE MUST BE LEVELED ACCURATELY TO ENSURE FRONT GLASS DOOR SEALS PROPERLY.

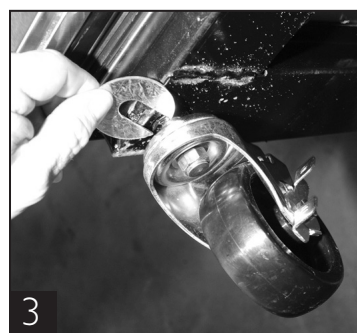
- The unit should be leveled front to back and side to side with a level. Place the level in the interior floor of the unit and check all four sides.



Back out leg levelers by hand, or with adjustable wrench.



Thread castors into existing leg leveler holes.



Use shims as necessary to level cabinet.



Tighten castor in position with castor wrench.

SEALING CABINET TO FLOOR

It may be necessary to seal the bakery case to the floor for local sanitary codes or if the customer so desires. TRUE recommends either of the following methods.

- Using a vinyl cove base trim as produced by Armstrong, Johnson, or Kentile (available at floor covering suppliers) or using mastics available at hardware stores.
- When applying the cove base trim, thoroughly clean both the cabinet and floor of dirt and grease. Apply a recommended contact cement to the cove base trim. After cove base trim has dried, fill in cracks and joints with a caulking material.
- When applying a mastic, thoroughly clean both the cabinet and floor of dirt and grease. Draw an outline of the cabinet on the floor. Raise and block the front side of the cabinet. Apply a bead of mastic to the floor 1/2" (1.3 cm) inside the outline drawn. Lower the cabinet. Raise and block the rear side of the cabinet. Apply the bead of mastic, lower the cabinet.

NOTE: Asphalt floors are very susceptible to chemical attack. A layer of tape on the floor prior to applying the sealant will protect the floor.

NSF APPROVED SEALANTS:

1. Minnesota Mining #ECU800 Caulk
2. Minnesota Mining #ECU2185 Caulk
3. Minnesota Mining #ECU1055 Bead
4. Minnesota Mining #ECU1202 Bead
5. Armstrong Cork - Rubber Caulk
6. Products Research Co. #5000 Rubber Caulk
7. G.E. Silicone Sealer
8. Dow Corning Silicone Sealer

SETUP

STANDARD ACCESSORIES

SHELF INSTALLATION:

STEP 1

Lift the front glass up from the center to allow access.

STEP 2

Locate and remove any boxes containing the brackets, light bars, shelves, etc. from the cabinet interior.

STEP 3

SHELF SUPPORTS

Install shelf supports into stainless pilasters located on interior walls.

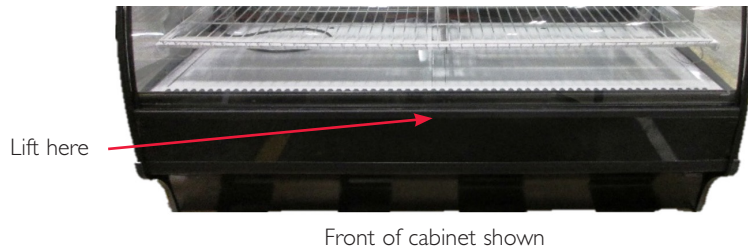
Adjust to desired height matching right and left pairs.

Supports are left and right determined.

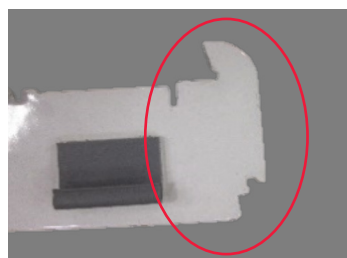
NOTE: Models TDM-R-77 and TDM-DC-77 have three (3) shelf supports per shelf.

When installed correctly, the shelf wire clips and horizontal tab are positioned towards center of cabinet.

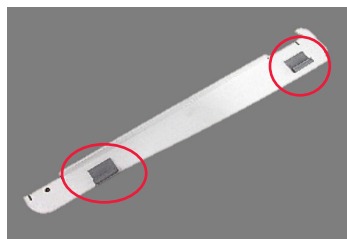
Supports have two notches to allow for a flat shelf or a slightly angled shelf installation.



Shelf support



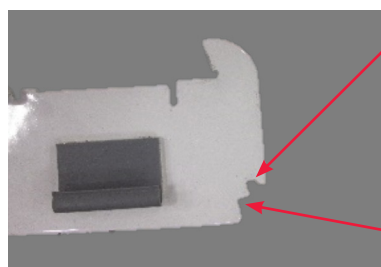
Hook End



Wire clip



Horizontal tab



The top notch will provide a flat shelf

The bottom notch will provide an angled shelf



Top notch installed (gap)



Bottom notch installed (no gap)

STEP 4

HORIZONTAL LIGHT BAR ASSEMBLY.

Position the light bar assembly light with the lamp on the bottom. The electrical cord will be on the same side as the light receptacle. Light bar assembly will be installed with deflector facing towards the back of the cabinet.

LIGHT RECEPTACLE LOCATION:

TDM-DC-36/48/59: left side

TDM-R-36/48/59: left side

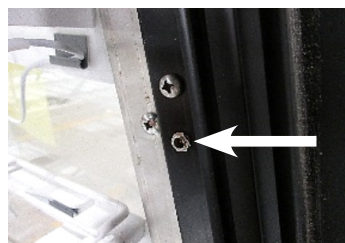
TDM-DZ-48/59/77: (dual zone) left and right side.

TDM-DC-77 and TDM-R-77: left and right side.

Hang the end hooks of light bar assembly on the front of the shelf supports. Maneuver the light assembly until it seats into the notch of the shelf support. Secure light assembly onto all shelf supports.



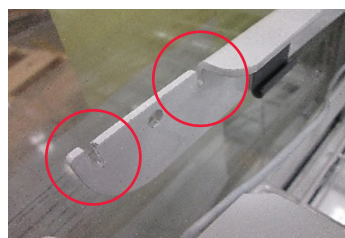
Horizontal light bar assembly



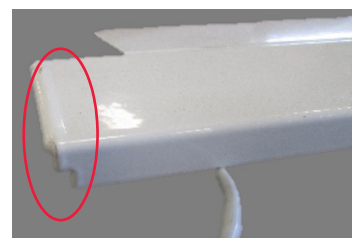
Light Receptacle



Light Deflector



Notches of shelf support



End hooks of light assembly



Light assembly installed on shelf support

STEP 5

REAR HORIZONTAL BRACKET

NOTE: Rear horizontal brace will not have the plastic shelf clips installed when shipped with stainless or glass shelves.

Position the rear horizontal bar so the shelf clips are towards the back of the cabinet.

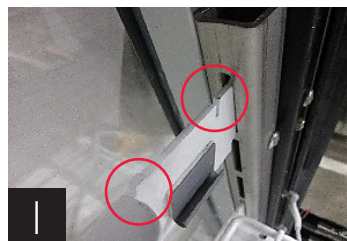
Hang the end hooks of rear horizontal bar on the back of the shelf supports.

Install rear bracket by sliding end hooks over rear notches of shelf support. Secure onto all shelf supports. See images 1-3.

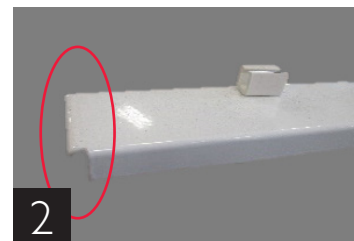
Route light bar assembly wiring harness to the back of the cabinet. Plug the light assembly into the corresponding light receptacle. Secure the light assembly wire harness to the shelf support with installed clips. See images 4 and 5.



Rear horizontal bracket



Notches of shelf support



End hooks of light assembly



Light assembly installed on shelf support



Wire clip



Light cord installed

STEP 6

SHELF INSTALLATION OPTIONS:

Wire Shelf Step 6.1

Glass Shelf Step 6.2

Stainless Shelf Step 6.3

NOTE: The shelves are different sizes. The deepest shelf will install on the bottom and the narrowest shelf will install on the top.

STEP 6.1 WIRE SHELVES

NOTE: Shelf retainer on rear horizontal bracket will only be used with wire shelves. Shelf retainer will need to be removed prior to installing glass or stainless shelving. See images 4-5.

With the tray lip/stop of shelf facing up and towards the front of the cabinet, place and align the rear of the shelf with the shelf retainers on the rear horizontal bracket. Snap the rear of the shelf into the shelf retainers. See images 1-3.

Gently lower the front of the shelf onto the light bar assembly.

Repeat for all remaining wire shelves.

STEP 6.2 GLASS SHELVES

NOTE: Shelf retainer will need to be removed prior to installing glass shelving. See images 4-5.

Gently lay the glass shelves on the front horizontal light bar assembly and the rear horizontal brackets. See images 6-7

"U" brackets on the back of the glass shelf fits over the rear horizontal bracket.

There are two glass pieces per shelf.

Repeat for all remaining glass shelves.

STEP 6.3 STAINLESS SHELVES

NOTE: Shelf retainer will need to be removed prior to installing stainless shelving. See images 4-5.

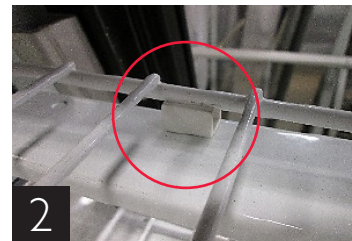
Gently lay the stainless shelves on the front horizontal light bar assembly and the rear horizontal brackets. See images 8-9.

Bottom edges of stainless shelf fits over the outer edges of the shelf braces and shelf supports.

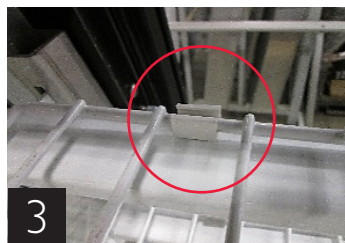
Repeat for all remaining stainless shelves.



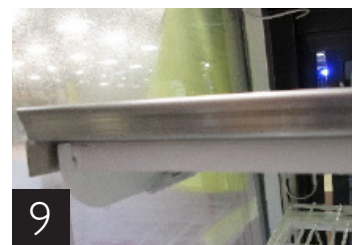
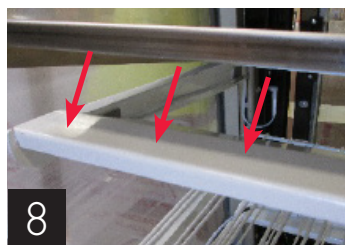
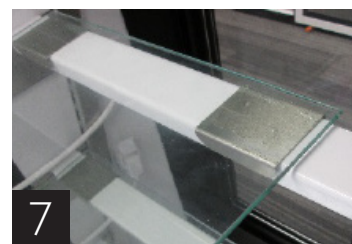
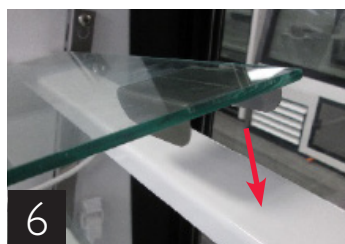
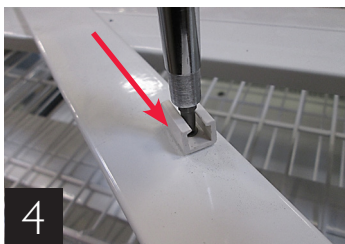
Front tray lip /stop



Align shelf with retainer



Press shelf into retainer



AIR DEFLECTOR INSTALLATION

STEP 1

Lift the front glass up from the center to allow access.

STEP 2

Locate box containing the air deflector and hinge assembly. See image 1.

STEP 3

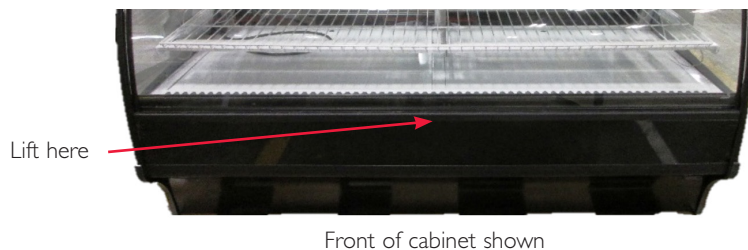
Locate the slot in the top black plastic cover that is located in front of the glass. See image 2.

STEP 4

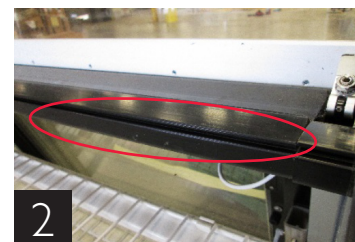
Slide the black air deflector hinge into the top black plastic cover. Push in until it stops to secure it. See images 3 and 4.

STEP 5

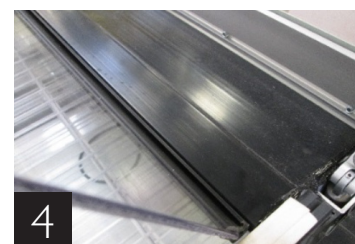
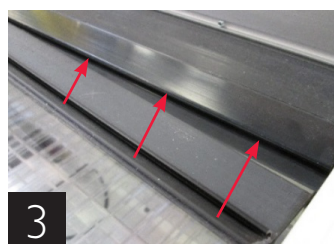
Gently lower the air deflector onto the retainer located on both side walls of the cabinet. See image 5



Air deflector and hinge assembly



Slot



Gently lowering

OVERLAY KIT INSTALLATION

STEP 1

Locate the boxes containing the overlay kit. Unwrap the end panel overlay.

Verify and determine correct

STEP 2

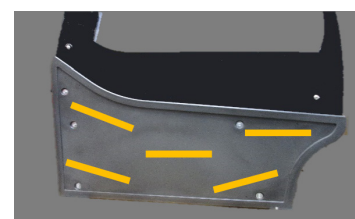
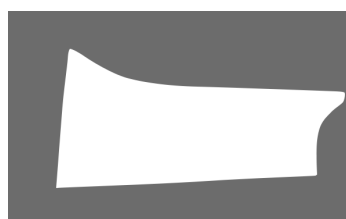
Remove protective film from double sided tape located on side of cabinet.

STEP 3

Carefully align the bottom edge of the end panel overlay at a 45 degree angle with the bottom side edge of the cabinet.

Allow the bottom edge of the end panel to come in contact with the double sided tape. If alignment is good, continue to press and adhere the entire end panel overlay to the rest of the double sided tape.

Repeat for opposite side end panel overlay.



NOTE:

The cabinet is shipped with additional gaskets that are positioned on the left and right side of the front curved glass. If the existing gaskets have become compressed during shipping, replace with new.

Identify the mounting and position of the old gasket on the glass.

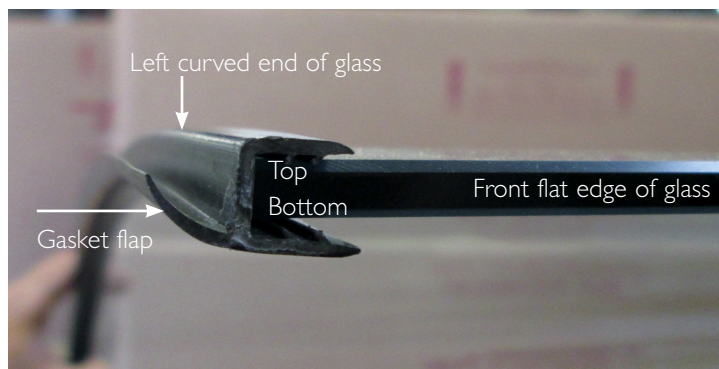
This will ensure a proper fit when installing the new gasket.

The old gasket will simply peel off the glass.

Both gaskets are the same. When installed correctly, the gasket flap will be posited on the bottom edge of the curved front glass end.

Picture shown is with glass lifted up

Picture shown is the left gasket on the curved glass edge.



OPERATION

STARTUP

- A. The compressor is ready to operate. Plug in the cooler.
- B. Temperature controls are factory-set to give refrigerated deli/bakery display an approximate temperature of 35-41°F (1.6-5°C) or an approximate temperature of 42-65° (5.5-18.3°C) for chocolate/wine. Allow unit to function several hours, completely cooling cabinet before changing the control setting.
Temperature Control Location and Settings.
 - LAE temperature control is located in the lower right corner at the rear of the unit.See website for adjustments, sequence of operation, and more information.

- C. Excessive tampering with the control could lead to service difficulties. Should it ever become necessary to replace temperature control, be sure it is ordered from your TRUE dealer or recommended service agent.
- D. Good air flow in your TRUE unit is critical. Be careful to load product so that it neither presses against the back wall, nor comes within four inches of the evaporator housing. Refrigerated air off the coil must circulate down the back wall.

NOTE: If the unit is disconnected or shut off, wait five minutes before starting again.

RECOMMENDATION - Before loading product we recommend you run your TRUE unit empty for two to three days. This allows you to be sure electrical wiring and installation are correct and no shipping damage has occurred. Remember, our factory warranty does not cover product loss!

LIGHT SWITCH LOCATION

In most instances, the light switch is located next to the temperature control.

CAUTION:

This display refrigerator is designed to operate in an environment of max 80°F and 55% relative humidity. In this environment the display refrigerator can display/store potentially hazardous foods at a temperature at or below 41°F per NSF 7 - Type II guidelines. The display refrigerator has the potential to operate at a higher internal temperature (necessary for storage of wine bottles, chocolates, etc.) but in this condition the display refrigerator cannot be used for the display/storage of potentially hazardous foods.

ELECTRONIC TEMPERATURE CONTROLS

LAE ELECTRONIC TEMPERATURE CONTROL GENERAL SEQUENCE OF OPERATION

t1 = Thermostat

t2 = Defrost

t3 = Display

t3 probe is not installed and / or activated in all applications

when t3 is not installed and / or activated, the display probe is t1.



LAE ELECTRONIC CONTROL GENERAL SEQUENCE OF OPERATION

- I. Cabinet is plugged in.
 - a. Display will illuminate.
 - b. Interior light will illuminate on Glass Door Models only. Solid door cabinet lights are controlled by the door switch.
2. After the LAE control preprogrammed time delay of up to 6 minutes, the compressor and evaporator fan(s) will start if the control is calling for cooling.
 - a. Control or condenser fans may be already pre-programmed from the factory so at the start of every compressor cycle or during a defrost cycle, the condenser fan(s) will reverse for 30 seconds to blow dirt off the condensing coil.
3. The LAE control will cycle the compressor but may also cycle evaporator fan(s) on and off determined by the Set-Point and Differential temperatures.
 - a. The Set-Point is the adjustable preprogrammed temperature which shuts off the compressor and evaporator fan(s). This is not the programmed cabinet temperature.
 - b. The Differential is the non adjustable preprogrammed temperature that is added to the Set-Point temperature that will restart the compressor and evaporator fan(s).
 - c. The LAE control is designed to read and display a cabinet temperature **not a product temperature**. This cabinet temperature may reflect the refrigeration cycle of the Set-Point and its Differential, or it may show an average temperature.
The most accurate temperature on a cabinets operation is to verify the product temperature.

Example: If the Set-Point is -9°F/-23°C and the Differential is 10°F/5°C

$$(\text{Set-Point}) -9^{\circ}\text{F} + 10 (\text{Differential}) = 1^{\circ}\text{F}$$

Or

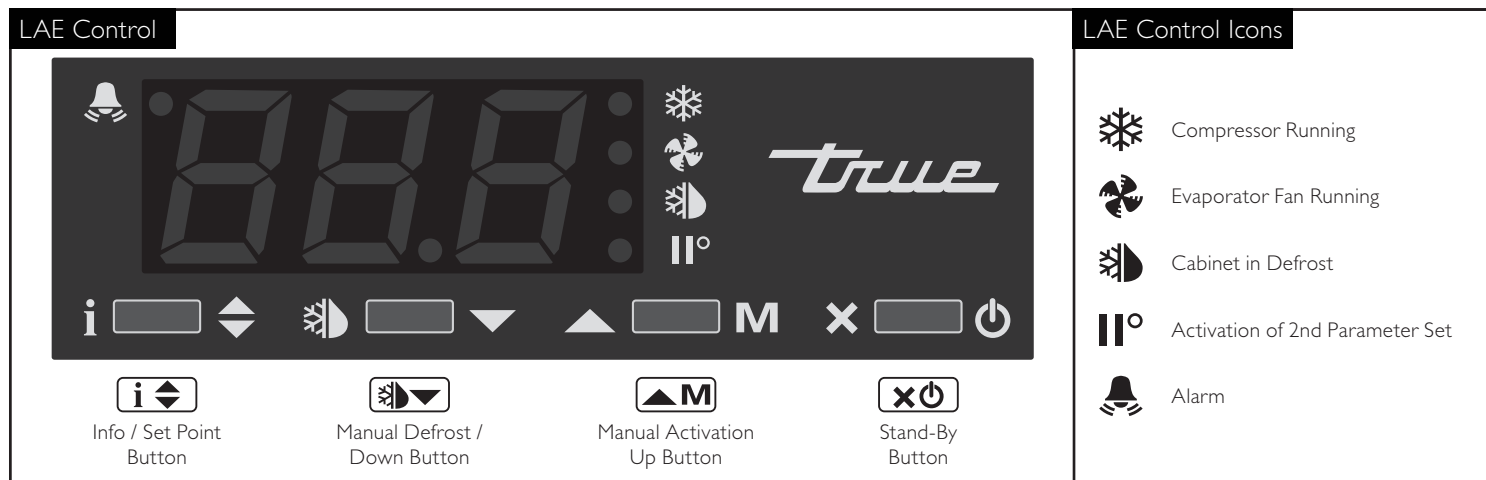
$$(\text{Set-Point}) -23^{\circ}\text{C} + 5 (\text{Differential}) = -18^{\circ}\text{C}$$

The compressor and evaporator fan(s) will cycle off -9°F/-23°C and back on at 1°F/-18°C

4. The LAE control may be preprogrammed to initiate defrost by interval or at specific times of day.
 - a. At this time the "dEF" will appear on the display and compressor will turn off until a preprogrammed temperature or duration is reached. During this time for freezers only, evaporator fan(s) will also turn off and the coil heater and drain tube heaters will also be energized. Some cabinets may also change the rotation of the reversing condenser fan motor.
 - b. After the preprogrammed temperature or duration for defrost has been reached there may be a short delay for both the compressor and evaporator fans to restart. At this time "dEF" may still appear on the display for a short time.

HOW TO USE AN LAE ELECTRONIC CONTROL

Indicator lights for Refrigeration/Heating Mode, Fan Operation, Defrost Mode.



USING THE LAE ELECTRONIC CONTROL

LOCKING AND UNLOCKING THE LAE CONTROLLER:

WHY: Locking of control is necessary to prevent changes to program that may affect cabinet operation.

HOW TO LOCK AND UNLOCK LAE CONTROLLER:

STEP 1 - To change lock setting press and release the Info button . "t1" will appear. See image 1.

STEP 2 - Press the Down button until "Loc" appears. See image 2.

STEP 3 - While pressing and holding the Info button press the Up or Down button to change the lock settings. If "no" appears, the controller is unlocked. If "yes" appears, the controller is locked. See images 3 and 4.

STEP 4 - Once the lock setting has been set correctly release the info button . Wait 5 seconds for the display to show temperature. See image 5.



Image 3: If "no" appears on screen, the controller is unlocked.



Image 4: If "yes" appears on screen, the controller is locked.



LAE Control



Info / Set Point
Button



Manual Defrost /
Down Button



Manual Activation
Up Button



Stand-By
Button

HOW TO TURN OFF THE LAE ELECTRONIC CONTROL:

May need to unlock control.

WHY: Turning off the control will deactivate all electrical components.

CAUTION: Turning off the control will not shut off power to the cabinet. Cabinet must be unplugged prior to any repair.

HOW TO TURN OFF THE LAE ELECTRONIC CONTROL:

STEP 1 - To turn off control, press and hold the Stand-by button  until "OFF" appears. Release Stand-by button. See Image 2.

STEP 2 - To turn on control, repeat prior steps and a temperature will appear.



LAE Control



Info / Set Point
Button



Manual Defrost /
Down Button



Manual Activation
Up Button



Stand-By
Button

CHANGING THE "SET POINT":

May need to unlock control.

WHY: The set point is the temperature at which the compressor will shut off.

NOTE: The "set point" *IS NOT* the cabinet holding temperature.

HOW TO CHANGE THE "SET POINT":

STEP 1 - To see the set point, press and hold the Info button . See image 1.

STEP 2 - While still holding the Info button , press the Up  or Down  button to change the "set point".

STEP 3 - Once the "set point" has been set correctly release the Info button . The display will show temperature. See image 2.



LAE ELECTRONIC TEMPERATURE CONTROLS

LAE Control



Info / Set Point
Button



Manual Defrost /
Down Button



Manual Activation
Up Button



Stand-By
Button

HOW TO CHANGE THE TEMPERATURE SETTING OF THE LAE ELECTRONIC CONTROL (MODEL TDM'S ONLY):

CHANGE THE TEMPERATURE RANGE OF A REFRIGERATED UNIT:

May need to unlock control.

WHY: Electronic control is programmed to operate in one of two pre-set temperature ranges of either a product temperature range of 35-41°F (1.6°-5°C) or a product temperature range of 42-65°F (5.5-18.3°).

CAUTION: This display refrigerator is designed to operate in an environment of max 80°F and 55% relative humidity. In this environment the display refrigerator can display/store potentially hazardous foods at a temperature at or below 41°F per NSF 7 - Type II guidelines. The display refrigerator has the potential to operate at a higher internal temperature (necessary for storage of wine bottles, chocolates, etc.) but in this condition the display refrigerator cannot be used for the display/storage of potentially hazardous foods.



STEP 1 - To change the temperature range, press and release the Manual Activation  button on the controller.

STEP 2 - To verify the temperature setting range, locate the icon for the Activation of 2nd Parameter Set **1°** on the controller.

With the icon led off, the setting is 35-41°F (1.6°-5°C). See image 1.

With the icon led on, the setting is 42-65°F (5.5-18.3°). See image 2.

STEP 3 - After changing the programmable range of the electronic controller, adjust the Set Point to the desired setting (see instructions on Changing the Set Point)

LAE Control



Info / Set Point
Button



Manual Defrost /
Down Button



Manual Activation
Up Button



Stand-By
Button

INITIATE A MANUAL DEFROST:

May need to unlock control.

WHY: A one time additional defrost may be necessary to clear accumulated frost / ice from evaporator coil.

HOW TO INITIATE A MANUAL DEFROST:

Press and hold the Manual Defrost button  for 5 seconds until "dEF" appears.

NOTE: Defrost will only terminate once a specific preset temperature or a preset time duration is reached.

LAE Control




Info / Set Point
Button


Manual Defrost /
Down Button


Manual Activation
Up Button


Stand-By
Button

HOW TO CHANGE DISPLAY READOUT FROM FAHRENHEIT TO CELSIUS:

May need to unlock control.
This can NOT be changed with the LAE model AR2-28 version of the control. See page 32 for more information.

WHY: Changing readout will assist with customer application.

HOW TO CHANGE DISPLAY READOUT FROM FAHRENHEIT TO CELSIUS:

STEP 1 - To change the display, press and hold the Info button  and the Stand-by button  at the same time. "MdL" or "SPL" will appear. See images 1a and 1b.

STEP 2 - Push the Down button  until "SCL" appears. See image 2.

STEP 3 - Press and hold the Info button  to see the "readout scale". See image 3.

STEP 4 - While pressing and holding the Info button , press the up  or down  button to change the "readout scale". See image 4.

STEP 5 - Once the "readout scale" has been changed, release the info button .

STEP 6 - Wait 30 seconds for the display to show temperature. See image 5.



LAE Control



Info / Set Point
Button



Manual Defrost /
Down Button



Manual Activation
Up Button



Stand-By
Button

DISPLAYING TEMPERATURE PROBES, T1, T2, T3:

WHY: To display temperature probe readings in different locations of the cabinet.

Also, display may show an average cabinet temperature and not a specific probe temperature.

HOW TO DISPLAY PROBE TEMPERATURES:

STEP 1 - To display T1 temperature, press and release the info button . "t1" will appear. See image 1.

STEP 2 - Press and hold the info button . This is the temperature of the T1 Probe. See image 2.

STEP 3 - By releasing the info button , "t2" will appear. Press and hold the info button  to display the temperature of the T2 probe.

STEP 4 - By releasing the info button  again, "t3" will appear. Press and hold the info button  to display the temperature of the T3 probe. (If probe T3 is not activated, "t3" will not appear of the display.)



DISPLAY CODES

DISPLAY			
dEF	Defrost in progress	h _i	Room high temperature alarm
aFF	Controller in stand-by	L _o	Room low temperature alarm
d _o	Door open alarm	E ₁	Probe T1 failure
t ₁	Instant Probe 1 temperature	E ₂	Probe T2 failure
t ₂	Instant Probe 2 temperature	E ₃	Probe T3 failure
t ₃	Instant Probe 3 temperature	t _h	Maximum probe 1 temperature recorded
m _{in}	Minutes of the Real Time Clock	t _L	Minimum probe 1 temperature recorded
h _r	Hours of the Real Time Clock	L _{oc}	Keypad state lock

MAINTENANCE, CARE, CLEANING

CLEANING THE CONDENSER COIL

REFRIGERATED BAKERY & COLD DELI

When using electrical appliances, basic safety precautions should be followed, including the following:

TOOLS REQUIRED

- Phillips Screwdriver
- Stiff Bristle Brush
- Adjustable Wrench
- Air Tank or CO2 Tank
- Vacuum Cleaner

STEP 1 - Disconnect power to unit.

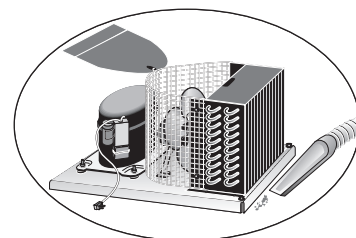
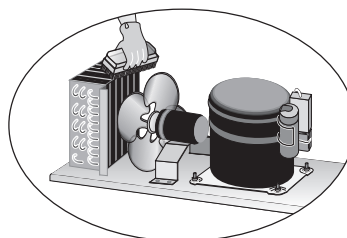
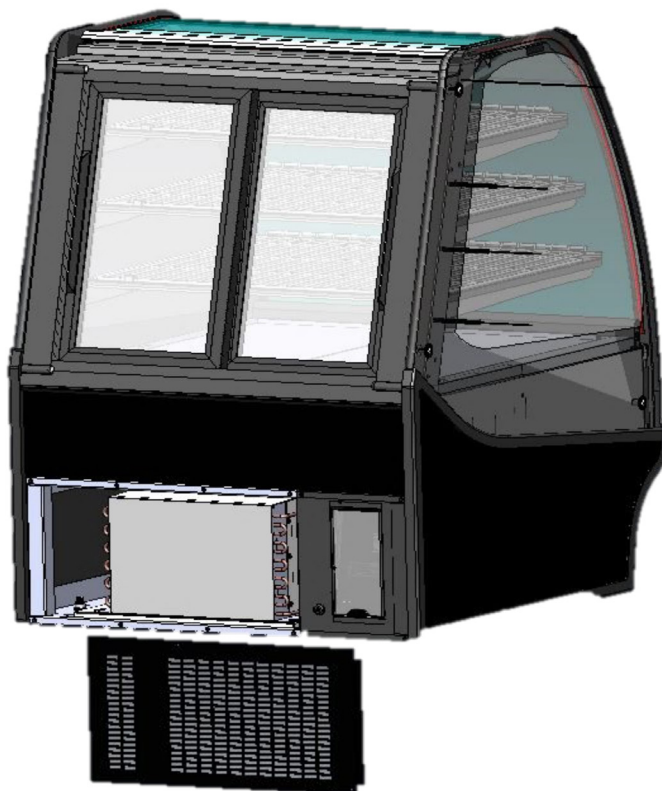
STEP 2 - Take off rear lower grill assembly by removing all bottom screws.

STEP 3 - Clean off accumulated dirt from condensing coil with a stiff bristle brush.

STEP 4 - After brushing condenser coil vacuum dirt from coil and interior floor.

STEP 5 - Connect unit to power and check to see if condenser is running.

STEP 6 - Reinstall grill assembly onto unit and tighten all screws.



IMPORTANT WARRANTY INFORMATION

Condensers accumulate dirt and require cleaning every 30 days. Dirty condensers result in compressor failure, product loss, and lost sales, which are not covered by warranty.

If you keep the Condenser clean you will minimize your service expense and lower your electrical costs. The Condenser requires scheduled cleaning every thirty days or as needed.

Air is pulled through the Condenser continuously, along with dust, lint, grease, etc.

A dirty Condenser can result in NON-WARRANTEED part & Compressor Failures, Product Loss, and Lost Sales.

Proper cleaning involves removing dust from the Condenser. By using a soft brush, or vacuuming the Condenser with a shop vac, or using CO₂, nitrogen, or pressurized air.

If you cannot remove the dirt adequately, please call your refrigeration service company.

On most of the reach-in units the condenser is accessible in the rear of the unit. You must remove the cabinet grill to expose the Condenser.

The Condenser looks like a group of vertical fins. You need to be able to see through the condenser for the unit to function at maximum capacity. Do not place filter material in front of condensing coil. This material blocks air-flow to the coil similar to having a dirty coil.

THE CLEANING OF THE CONDENSER IS NOT COVERED BY THE WARRANTY!

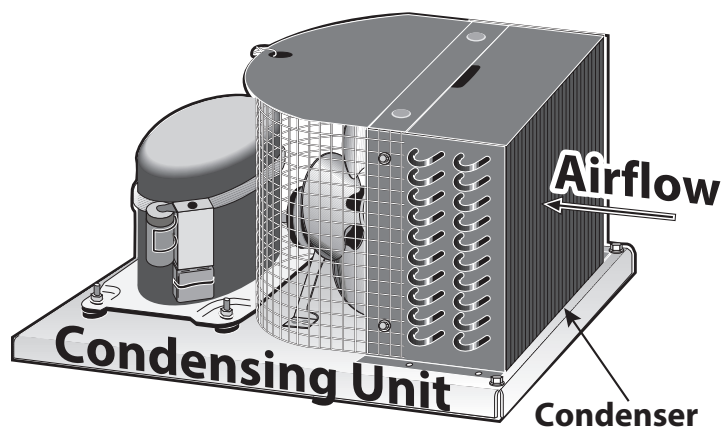
HOW TO CLEAN THE CONDENSER:

1. Disconnect the electrical power to the unit.
2. Remove the louvered grill.
3. Vacuum or brush the dirt, lint, or debris from the finned condenser coil.
4. If you have a significant dirt build up you can blow out the condenser with compressed air.

(CAUTION MUST BE USED TO AVOID EYE INJURY. EYE PROTECTION IS RECOMMENDED.)

5. When finished be sure to replace the louvered grill. The grill protects the condenser.
6. Reconnect the electrical power to the unit.

If you have any questions, please call TRUE Manufacturing at 636-240-2400 or 800-325-6152 and ask for the Service Department. Direct to Service Department 1 (855)372-1368. Service Department Availability Monday-Thursday 7:00 a.m. to 7:00 p.m., Friday 7:00 a.m. to 6:00 p.m. and Saturday 8:00 a.m. to 12:00 p.m. CST.



STAINLESS STEEL EQUIPMENT CARE AND CLEANING

CAUTION: Do not use any steel wool, abrasive or chlorine based products to clean stainless steel surfaces.

STAINLESS STEEL OPPONENTS

There are three basic things which can break down your stainless steel's passivity layer and allow corrosion to rear its ugly head.

1. Scratches from wire brushes, scrapers, and steel pads are just a few examples of items that can be abrasive to stainless steel's surface.
2. Deposits left on your stainless steel can leave spots. You may have hard or soft water depending on what part of the country you live in. Hard water can leave spots. Hard water that is heated can leave deposits if left to sit too long. These deposits can cause the passive layer to break down and rust your stainless steel. All deposits left from food prep or service should be removed as soon as possible.
3. Chlorides are present in table salt, food, and water. Household and industrial cleaners are the worst type of chlorides to use.

RECOMMENDED CLEANERS FOR CERTAIN SITUATIONS / ENVIRONMENTS OF STAINLESS STEEL

- A. Soap, ammonia and detergent medallion applied with a cloth or sponge can be used for routine cleaning.
- B. Arcal 20, Lac-O-Nu Ecoshine applied provides barrier film for fingerprints and smears.
- C. Cameo, Talc, Zud First Impression is applied by rubbing in the direction of the polished lines for stubborn stains and discoloring.
- D. Easy-off and De-Grease It oven aid are excellent for removals on all finishes for grease-fatty acids, blood and burnt-on foods.
- E. Any good commercial detergent can be applied with a sponge or cloth to remove grease and oil.
- F. Benefit, Super Sheen, Sheila Shine are good for restoration / passivation.

NOTE: The use of stainless steel cleaners or other such solvents is not recommended on plastic parts. Warm soap and water will suffice.

8 STEPS THAT CAN HELP PREVENT RUST ON STAINLESS STEEL:

1. USING THE CORRECT CLEANING TOOLS

Use non-abrasive tools when cleaning your stainless steel products. The stainless steel's passive layer will not be harmed by soft cloths and plastic scouring pads. Step 2 tells you how to find the polishing marks.

2. CLEANING ALONG THE POLISH LINES

Polishing lines or "grain" are visible on some stainless steels. Always scrub parallel to visible lines on some stainless steels. Use a plastic scouring pad or soft cloth when you cannot see the grain.

3. USE ALKALINE, ALKALINE CHLORINATED OR NON-CHLORIDE CONTAINING CLEANERS

While many traditional cleaners are loaded with chlorides, the industry is providing an ever increasing choice of non-chloride cleaners. If you are not sure of your cleaner's chloride content contact your cleaner supplier. If they tell you that your present cleaner contains chlorides, ask if they have an alternative. Avoid cleaners containing quaternary salts as they can attack stainless steel, causing pitting and rusting.

4. WATER TREATMENT

To reduce deposits, soften the hard water when possible. Installation of certain filters can remove corrosive and distasteful elements. Salts in a properly maintained water softener can be to your advantage. Contact a treatment specialist if you are not sure of the proper water treatment.

5. MAINTAINING THE CLEANLINESS OF YOUR FOOD EQUIPMENT

Use cleaners at the recommended strength (alkaline chlorinated or non-chloride). Avoid build-up of hard stains by cleaning frequently. When boiling water with your stainless steel equipment, the single most likely cause of damage is chlorides in the water. Heating any cleaners containing chlorides will have the same damaging effects.

6. RINSE

When using chlorinated cleaners you must rinse and wipe dry immediately. It is better to wipe standing cleaning agents and water as soon as possible. Allow the stainless steel equipment to air dry. Oxygen helps maintain the passivity film on stainless steel.

7. HYDROCHLORIC ACID (MURIATIC ACID) SHOULD NEVER BE USED ON STAINLESS STEEL

8. REGULARLY RESTORE/PASSIVATE STAINLESS STEEL

GENERAL MAINTENANCE

CLEANING THE EVAPORATOR COIL

Refrigerated units

TOOLS REQUIRED

- 1/4" nut driver
- Power drill with 1/4" nut setter bit (optional)

STEP 1

Unplug cabinet.

STEP 2

Lift front glass and air deflector.

STEP 3

Remove rear doors.

With door open, grab left and right side of door and lift up and out from the bottom towards you.

STEP 4

Remove all product from cabinet. See image 1.

STEP 5

Remove all shelving, horizontal light bar assembly, rear horizontal bracket and shelf supports.

Refer to "Shelf Installation" in the Set-Up section of this manual

NOTE: When unplugging the light cords, ensure light cord is not damaged when removing the light bar assembly from the cabinet.

STEP 6

Remove inner product floor.

(Only model TDMR-77, remove the center product floor filler bracket.) See image 3.

STEP 7

Remove the screws securing the inner front return air grate.

Remove the inner front return air grate from the cabinet. See image 4.

STEP 8

Remove the screws securing the front fan housing cover.

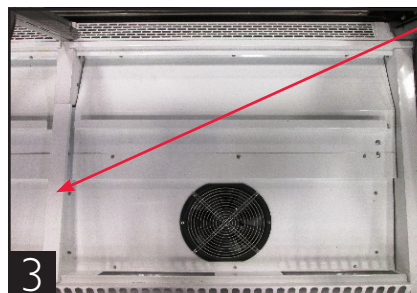
Pivot the fan housing cover forward. See images 5 and 6.



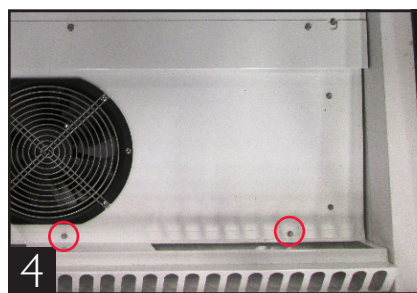
View is from the front of cabinet with the front glass lifted up.



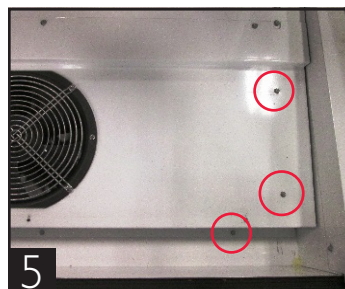
Shelves removed.
Product floor shown.



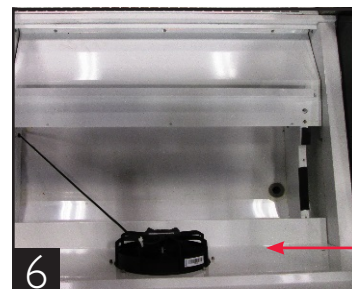
TDMR-77 Filler Bracket.
Product floor removed.



Example of screws to remove.



Example of screws to remove.



Cover shown leaning forward.

STEP 9

Remove the screws securing the rear evaporator coil cover.

Remove the rear evaporator coil cover from the cabinet.

NOTE: The bracket mounted to the top of the evaporator coil cover does not need to be removed.

Leaving the bracket installed will assist the cover from not bending or creasing. See images 7-12.

STEP 10

Vacuum entire area. Clean area with clean cloth, warm water and mild soap solution.

Remove any debris that may clog the drain hose. See images 13 and 14.

STEP 11

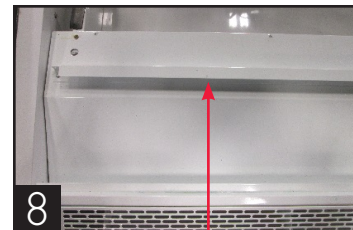
Reassemble and reinstall all components in reverse order.

STEP 12

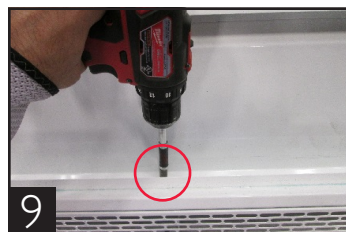
Plug in cabinet.



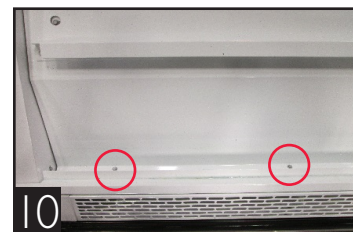
Example of screws to remove.



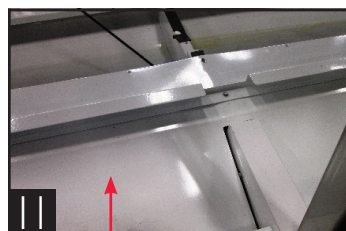
Bracket mounted on top of cover.



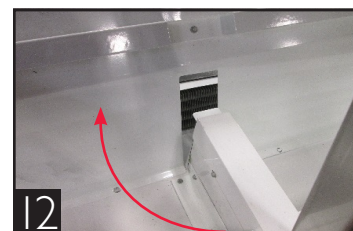
Example of screws to remove.



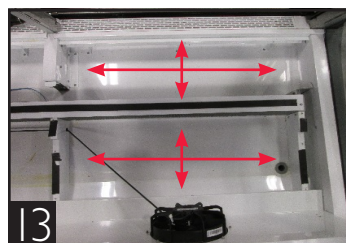
Example of screws to remove.



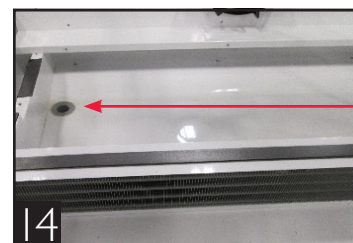
Center of TDMR-77 evaporator cover shown.



Pivot cover up and towards the front of the cabinet.



Areas to clean.



Drain hole.



WARRANTY INFORMATION (U.S.A. & CANADA ONLY!)

THIS WARRANTY ONLY APPLIES TO UNITS SHIPPED FROM TRUE'S MANUFACTURING FACILITIES AFTER SEPTEMBER 1, 2015.

THREE-YEAR PARTS & LABOR WARRANTY

TRUE warrants to the original purchaser of every new TRUE refrigerated unit, the cabinet and all parts thereof, to be free from defects in material or workmanship, under normal and proper use and maintenance service as specified by TRUE and upon proper installation and start-up in accordance with the instruction packet supplied with each TRUE unit. TRUE's obligation under this warranty is limited to a period of three (3) years from the date of original installation or 39 months after shipment date from TRUE, whichever occurs first.

Any part covered under this warranty that are determined by TRUE to have been defective within three (3) years of original installation or thirty-nine (39) months after shipment date from manufacturer, whichever occurs first, is limited to the repair or replacement, including labor charges, of defective parts or assemblies. The labor warranty shall include standard straight time labor charges only and reasonable travel time, as determined by TRUE.

Warranty does not cover standard wear parts which include door gaskets, incandescent bulbs or fluorescent bulbs. Warranty also does not cover issues caused by improper installation or lack of basic preventative maintenance which includes regular cleaning of condenser coils.

ADDITIONAL TWO-YEAR COMPRESSOR WARRANTY

In addition to the Three (3) year warranty stated above, TRUE warrants its hermetically and semi-hermetically sealed compressor to be free from defects in both material and workmanship under normal and proper use and maintenance service for a period of two (2) additional years from the date of original installation but not to exceed five (5) years and three (3) months after shipment from the manufacturer.

Compressors determined by TRUE to have been defective within this extended time period will, at TRUE's option, be either repaired or replaced with a compressor or compressor parts of similar design and capacity.

The two (2) year extended compressor warranty applies only to hermetically and semi-hermetically sealed parts of the compressor and does not apply to any other parts or components, including, but not limited to: cabinet, paint finish, temperature control, refrigerant, metering device, driers, motor starting equipment, fan assembly or any other electrical component, etcetera.

404A/134A/HYDROCARBON COMPRESSOR WARRANTY

The two year compressor warranty detailed above will be voided if the following procedure is not carefully adhered to:

1. This system contains R404A, R134A, or R290 refrigerant and polyol ester lubricant. The polyol ester lubricant has rapid moisture absorbing qualities. If long exposure to the ambient conditions occur, the lubricant must be removed and replaced with new. For oil amounts and specifications please call TRUE technical service department (855-372-1368). Failure to comply with recommended lubricant specification will void the compressor warranty.

2. Drier replacement is very important and must be changed when a system is opened for servicing. An OEM exact replacement should be used. The new drier must also be the same capacity as the drier being replaced.

3. Micron level vacuums must be achieved to insure low moisture levels in the system. 500 microns or lower must be obtained.

WARRANTY CLAIMS

All claims for labor or parts must be made directly through TRUE. All claims should include: model number of the unit, the serial number of the cabinet, proof of purchase, date of installation, and all pertinent information supporting the existence of the alleged defect.

In case of warranty compressor, the compressor model tag must be returned to TRUE along with above listed information.

Any action or breach of these warranty provisions must be commenced within one (1) year after that cause of action has occurred.

WHAT IS NOT COVERED BY THIS WARRANTY

TRUE's sole obligation under this warranty is limited to either repair or replacement of parts, subject to the additional limitations below. This warranty neither assumes nor authorizes any person to assume obligations other than those expressly covered by this warranty.

NO CONSEQUENTIAL DAMAGES. TRUE IS NOT RESPONSIBLE FOR ECONOMIC LOSS; PROFIT LOSS; OR SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOSSES OR DAMAGES ARISING FROM FOOD OR PRODUCT SPOILAGE CLAIMS WHETHER OR NOT ON ACCOUNT OF REFRIGERATION FAILURE.

WARRANTY IS NOT TRANSFERABLE. This warranty is not assignable and applies only in favor of the original purchaser/user to whom delivered. ANY SUCH ASSIGNMENT OR TRANSFER SHALL VOID THE WARRANTIES HEREIN MADE AND SHALL VOID ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IMPROPER USAGE. TRUE ASSUMES NO LIABILITY FOR PARTS OR LABOR COVERAGE FOR COMPONENT FAILURE OR OTHER DAMAGES RESULTING FROM IMPROPER USAGE OR INSTALLATION OR FAILURE TO CLEAN AND/OR MAINTAIN PRODUCT AS SET FORTH IN THE WARRANTY PACKET PROVIDED WITH THE UNIT.

RELOCATION OF CABINET FOR REPAIR. True is not responsible for the cost to move a cabinet for any reason from its position of operation on the customer's premises to make a warranty repair.

NON OEM PARTS. Use of non OEM parts without manufacturer's approval will void cabinet warranty.

ALTERATION, NEGLIGENCE, ABUSE, MISUSE, ACCIDENT, DAMAGE DURING TRANSIT OR INSTALLATION, FIRE, FLOOD, ACTS OF GOD. TRUE is not responsible for the repair or replacement of any parts that TRUE determines have been subjected after the date of manufacture to alteration, neglect, abuse, misuse, accident, damage during transit or installation, fire, flood, or act of God.

IMPROPER ELECTRICAL CONNECTIONS. TRUE IS NOT RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF FAILED OR DAMAGED COMPONENTS RESULTING FROM INCORRECT SUPPLY VOLTAGE, THE USE OF EXTENSION CORDS, LOW VOLTAGE, OR UNSTABLE SUPPLY VOLTAGE.

NO IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE: THERE ARE NO OTHER WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY, EXCEPT THE THREE (3) YEAR PARTS & LABOR WARRANTY AND THE ADDITIONAL TWO (2) YEAR COMPRESSOR WARRANTY AS DESCRIBED ABOVE. THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, INCLUDING IMPLIED WARRANTY AND MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

OUTSIDE U.S. AND CANADA: This warranty does not apply to, and TRUE is not responsible for, any warranty claims made on products sold or used outside the United States and Canada. This warranty only applies to units shipped from True's manufacturing facilities after September 1, 2015.