This manual has been designed to be used in conjunction with the General Installation & Service Manual.

Save the Instructions in Both Manuals for Future Reference!!

This merchandiser conforms to the Commercial Refrigeration Manufacturers Association Health and Sanitation standard CRS-S1-96.
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The following Medium Temperature Lift Glass Meat, Seafood and Deli Service Merchandiser models are covered in this manual:

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLM</td>
<td>6', 8' &amp; 12' LIFT GLASS GRAVITY COIL MEAT SERVICE MERCHANDISER</td>
</tr>
<tr>
<td>LLF</td>
<td>6', 8' &amp; 12' LIFT GLASS GRAVITY COIL SEAFOOD SERVICE MERCHANDISER</td>
</tr>
<tr>
<td>LLD</td>
<td>6', 8' &amp; 12' LIFT GLASS FORCED AIR DELI SERVICE MERCHANDISER</td>
</tr>
</tbody>
</table>
LLM/LLF/LLD Lift Front Glass Service Merchandiser Specification

<table>
<thead>
<tr>
<th>MODEL</th>
<th>LLM/LLF</th>
<th>LLM/LLF</th>
<th>LLF</th>
<th>LLD</th>
<th>LLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>USAGE</td>
<td>SINGLE UNIT GRAVITY MEAT/FISH</td>
<td>PARALLEL SYSTEM GRAVITY MEAT/FISH</td>
<td>ICED DISPLAY GRAVITY FISH</td>
<td>SINGLE UNIT FORCED AIR DELI</td>
<td>PARALLEL SYSTEM FORCED AIR DELI</td>
</tr>
<tr>
<td>BTUH/FT</td>
<td>350</td>
<td>230</td>
<td>150</td>
<td>440</td>
<td>290</td>
</tr>
<tr>
<td>SUCTION°F</td>
<td>+20F</td>
<td>+15F</td>
<td>+20F</td>
<td>+20F</td>
<td>+15F</td>
</tr>
</tbody>
</table>

THE ABOVE RATINGS ARE FOR COMPRESSOR SELECTION ONLY. FOR ENERGY CALCULATION DATA REFER TO THE ENERGY SECTION.

NOTE: FOR COMPRESSOR SIZING INFORMATION REFER TO THE "GOLD" SECTION & FOR LINE SIZING INFORMATION REFER TO THE "BUFF" SECTION OF THE TYLER SPECIFICATION GUIDE.

CASE-TO-CASE SUCTION LINE SUB-FEED BRANCH LINE SIZING

<table>
<thead>
<tr>
<th>FT</th>
<th>6'</th>
<th>8'</th>
<th>12'</th>
<th>16'</th>
<th>20'</th>
<th>24'</th>
<th>28'</th>
<th>32'</th>
<th>36'</th>
<th>40'</th>
<th>44'</th>
</tr>
</thead>
</table>
| R22 PARALLEL GRAVITY | 3/8" | 3/8" | 3/8" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2"
| R22 GRAVITY FISH | 3/8" | 3/8" | 3/8" | 3/8" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2"
| R22 SINGLE FORCED AIR | 3/8" | 1/2" | 1/2" | 5/8" | 5/8" | 5/8" | 5/8" | 7/8" | 7/8" | 7/8" | 7/8"
| R22 PARALLEL FORCED AIR | 3/8" | 3/8" | 1/2" | 1/2" | 1/2" | 1/2" | 5/8" | 5/8" | 5/8" | 5/8" | 7/8"

DEFROST CONTROL

<table>
<thead>
<tr>
<th>PER DAY</th>
<th>MODE</th>
<th>TIME</th>
<th>CUT IN</th>
<th>CUT OUT</th>
<th>R22</th>
<th>R404A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GRAVITY</td>
<td>TIME OFF</td>
<td>110 M.</td>
<td>41# @ R22</td>
<td>28# @ R22</td>
<td>39#</td>
<td>---</td>
</tr>
</tbody>
</table>

CONVENIENCE OUTLET CIRCUIT: One single convenience outlet is on the back of the 6' case and two single convenience outlets are on the back of the 8' & 12' cases. Plan suitable 15A circuits for these 120v outlets.

An evaporator Pressure Regulator should be installed on each system to aid in temperature control. Set the EPR for 34 PSIG (R-22)

Shelves in Gravity Coil cases disrupt air flow and can compromise performance. Shelves work better in Blower style cases.

Pressure Control Settings shown in the above table are for backup purposes only. The actual temperature control should be set by the thermostat. LFM setting for this case = CUT IN @ 29F and CUT OUT @ 19F. LFF setting for this case = CUT IN @ 34F and CUT OUT @ 33F.

CASE BTUH REQUIREMENTS are calculated to produce approximately the indicated entering air temperature with absolute maximum operating ambient limits of 75F & 55RH.

The information contained herein is based on technical data and tests which we believe to be reliable and is intended for use by persons having technical skill, at their own discretion and risk. Since conditions of use are outside Tyler's control, we can assume no liability for results obtained or damages incurred through the applications of the data presented. SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.
INSTALLATION PROCEDURES

WARNING

The raised front glass projects in front of the case and could cause personal injury to workers, operators and/or customers.

- Do not remove orange warning tags from front edge of lift glass.
- Do not leave lift glass raised and unattended.
- Know where the front edge of the raised glass is when working near it.

This case is designed so the front glass can be raised for cleaning and merchandising only. It is recommended that any cleaning or merchandising be done when the store is closed. If this is not possible, it should be done at a time when customer traffic is low.

The raised glass should not be left unattended and should be lowered whenever leaving the case.

The glass front is marked with orange warning tags to make it noticeable when in the raised position. Do not remove the orange warning tags.

Carpentry Procedures

Case Line-Up

Before starting the case line-up, review the store layout floorplans and survey the areas where case line-ups are going to be installed.

WARNING

These cases are very heavy and require two or more people to move and/or position them. Improper handling of these cases could result in personal injury.

1. Snap chalk lines where the front and rear base rails of the case are to be located for the entire line-up.

   NOTE

   Front and rear edges of base rails should always be used to line-up cases. 6” shims allow adjoining ends of cases to be shimmed together.

2. Locate highest point on chalk lines as a reference for determining the number of shims to be placed under the case base rails. Position first case at highest point on the chalk lines and shim case supports as required. Check leveling across the top of the case and on top of the color band.

   CAUTION

   If the base of this case is not sitting evenly on the floor, the case could warp when loaded and possibly break the lift glass.
NOTE
A foam gasket is factory installed on one end of the case. This gasket fits into a groove on the adjoining case when cases are pulled together. Do not depend on the foam gasket alone to make a good seal!

3. Apply two heavy beads of caulking compound from the Filler Kit to the end of case at dotted ( . . ) and dashed ( - - ) lines. Proper caulking provides good case refrigeration and sanitation.

4. Remove shipping tape from color band backer and bumper backer.

5. Push cases tightly together making sure the pull-ups are aligned.

6. Add shims (1), as required, under the adjoining case base rails (2). Check leveling at top of the case (3) and on top of the color band (4).

CAUTION
Do not drill or use other holes through the case end for pull-ups. This may deform the case end and could cause joint leaks and/or poor refrigeration.

7. Position pull-up bolts and mounting hardware (5) at pull-up locations (A, B, C and D). Do not tighten any pull-up hardware until all of it has been installed. Tighten all pull-up hardware equally starting at point A and finishing at point D. Do not overtighten.

Lift Front Glass Leveling Instructions
Accurate leveling is critical for the proper operation of the lift glass on this case.

In some instances, setting the case on an apparently level floor can cause the lift glass to fit improperly. If there is any twist in the body, it could cause the lift glass not to fit or work properly.

The emphasis when leveling this case must be on making sure the lift glass works and seals properly.
The case should be leveled across the top (1), close to the hinge, and on the color band (2). A 4 foot level is recommended, and both places should be level! This will enable the lift glass to fit and work properly.

If the lift glass still doesn’t close or line-up properly, add shims to case corners. Shimming will ensure proper operation and alignment of the lift glass.

The handle on the lift glass must rest evenly on the color band. Proper lift glass sealing is essential for good product refrigeration.

**NOTE**

- **Do not anchor the base to the floor or enclose the case until the lift glass is fitting properly and working correctly.**
- **Make sure all lift glass hinge stops have been removed to ensure proper operation.**

**To remove lift glass hinge stops:**

1. Open rear of fixture and locate the hinge assemblies (2 on 4’ glass and 3 on 6’ glass).

2. Remove all hinge stops (1) from the shanks of the hex head bolts (2).

**Trim Installation**

The joint trim and mounting hardware are shipped loose. Trim includes top joint trim (1), rear upper joint trim (2), rear lower joint trim (3), rear base joint trim (4) and horizontal joint trim (5).

Horizontal joint trim covers gaps between the cases. The trim is glued onto the shipping cardboard. It is applied after running beads of caulking on the edges of the cases. Sheet metal screws or pop-rivets can be used for additional securing.

Patch end trim is shipped factory installed. If field installation is required, be sure the patch end is pulled up enough to fit snugly against the sealing tubing on the inside of the case.
The patch end must seal tightly against the lift glass wiper to ensure proper operating temperatures.

See “General I&S Manual” for bumper and color band installation and alignment.

Refrigeration Procedures

Refrigeration system and superheat instructions can be found in the “General I&S Manual”. Service case temperature control information is listed below.

Temperature Control

The temperature of each case is controlled with a thermostat and suction line solenoid. One thermostat and one solenoid are required for up to three cases.

The LLM and LLF cases use a gravity coil with an electronic thermostat for improved temperature control. LLD case uses a conventional mechanical thermostat.

Typical Service Case with Gravity Coil

In addition to the thermostat and suction solenoid, a suction stop EPR valve is required in the suction line. The EPR valve acts as a low pressure limit to aid in the overall temperature control.
Setting Electronic Thermostat (LLM/LLF)

1. Remove the four screws and cover from the electronic thermostat.
2. Set the heating/cooling jumper blocks to the “COOL” position.
3. Adjust the differential potentiometer marked “DIFF” to 10°F (LLM) or 1°F (LLF).
4. Position the setpoint dial, on the front cover, to 29°F (LLM) or 34°F (LLF).
5. Check the temperature cycles by suspending a thermometer in the same general area as the thermostat probe. The temperature should cycle between 19°F and 29°F (LLM) or 33°F and 34°F (LLF).
6. Replace the cover and secure with four screws.

With the cooling mode selected, the differential is below the setpoint. The relay will energize and the LED indicator will illuminate when the temperature reaches the setpoint (29°F or 34°F). When the temperature drops to the setpoint (29°F or 34°F) minus the differential setting (10° or 1°F), the relay and LED indicator will de-energize and refrigeration will stop.

Start the refrigeration system (note that the LED indicator is illuminated) and allow the case to cool. This allows the thermostat to cycle the suction solenoid valve from open to close.

The settings above are specific to TYLER service cases with gravity coils only. Other applications will require different set points.

Electrical Procedures

Electrical Considerations

CAUTION
Make sure all electrical connections at components and terminal blocks are tight. This prevents burning of electrical terminals and/or premature component failure.

NOTE
The ballast box is located at the lower left rear corner of the case. It houses ballasts and terminal blocks.

Case Fan Circuit (LLD only)
This circuit is to be supplied by an uninterrupted, protected 120V circuit. The case fan circuit is not cycled on this case.

Fluorescent Lamp Circuit
LL(M/F/D) case lighting is supplied by T-8 electronic ballast lights. It is controlled by a light switch in each case. The standard lighting is 1-row of horizontal canopy lights.

Anti-Sweat Circuit
All anti-sweat heaters are wired directly to the main power supply so they can operate at all times.

Defrost Information
See “General I&S Manual” for operational descriptions for each type of defrost control.

Defrost Control Chart

<table>
<thead>
<tr>
<th>Type</th>
<th>Defrost Duration</th>
<th>Term. Temp.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Time</td>
<td>1</td>
<td>110</td>
</tr>
</tbody>
</table>

LLM/LLF Defrost Option Settings

<table>
<thead>
<tr>
<th>Type</th>
<th>Defrost</th>
<th>Duration</th>
<th>Term.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Time</td>
<td>1</td>
<td>110</td>
<td>-----</td>
</tr>
</tbody>
</table>

LLD Defrost Option Settings

<table>
<thead>
<tr>
<th>Type</th>
<th>Defrost</th>
<th>Duration</th>
<th>Term.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off Time</td>
<td>1</td>
<td>46</td>
<td>-----</td>
</tr>
</tbody>
</table>

Thermostat and sensor locations are shown on page 9 of this manual.

WIRING DIAGRAMS

ELECTRICIAN NOTE - OVERCURRENT PROTECTION
120V circuits should be protected by 15 or 20 Amp devices per the requirements noted on the cabinet nameplate or the National Electrical Code, Canadian Electrical Code - Part 1, Section 28. 208V defrost circuits employ No. 12 AWG field wire leads for field connections. On remote cases intended for end to end line-ups, bonding for ground may rely upon the pull-up bolts.

The following pages 11 thru 15 show wiring diagrams for case and lighting circuits.
NOTE: ALL CASES MUST BE GROUNDED
CONNECT TO FACTORY BOND LUG OR CONNECT IN FIELD FOR ISOLATED GROUND

GENERAL PURPOSE RECEPTACLES 120VAC 60Hz SUPPLY ON 220VAC 50Hz INTERNATIONAL INDIVIDUAL CIRCUITS ARE PROVIDED FOR LIGHTS 120VAC 60Hz SUPPLY OR 220VAC 50Hz INTERNATIONAL SOLENOID, FAN MOTORS AND ANTI-SWEAT HEATER 120VAC 60Hz SUPPLY OR 220VAC 50Hz INTERNATIONAL FIELD WIRING FOR SHELF LIGHTS THAT ARE NOT FACTORY INSTALLED

NOTE: USE COPPER CONDUCTORS ONLY

WIRE LEGEND
1. RED
2. BLUE
3. YELLOW
4. PINK
5. ORANGE
6. BLACK
7. WHITE
8. GREEN

NOTE: ALL CASES MUST BE GROUNDED
**NOTE:** ALL CASES MUST BE GROUNDED
CLEANING INSTRUCTIONS

WARNING

TYLER Refrigeration does not recommend the use of high pressure cleaning equipment on service style cases!! The sealing of front glass and end joints is critical in these cases and high pressure cleaners can penetrate and/or damage these seals. Damaged seals allow water leaks and/or air leaks that can cause poor case refrigeration.

CAUTION

- When cleaning this case, try not to introduce water into the case faster than it can be carried away by the waste outlet.
- Always use a soft cloth or sponge with mild detergent and water to clean the front glass. Never use abrasives or scouring pads to clean glass. They can scratch and/or damage the glass.

See “General I&S Manual” for case cleaning instructions. Stainless steel cleaning is covered in the following chart.

Stainless Steel Cleaning Methods

The cleaning data in the following stainless steel cleaning chart was supplied by AISI. The information was supplied by Prime Metals Division, Alumax Aluminum Corporation.

<table>
<thead>
<tr>
<th>TYPE OF CLEANING</th>
<th>CLEANING AGENT*</th>
<th>APPLICATION METHOD**</th>
<th>EFFECT ON FINISH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine cleaning</td>
<td>Soap, ammonia or detergent and water.</td>
<td>Sponge with cloth, then rinse with clear water and wipe dry.</td>
<td>Satisfactory for use on all finishes.</td>
</tr>
<tr>
<td>Smears and fingerprints</td>
<td>Arcal 20, Lac-O-Nu, Lumin Wash O’Cedar Cream Polish, Stainless Shine</td>
<td>Rub with cloth as directed on the package.</td>
<td>Satisfactory for use on all finishes. Provides barrier film.</td>
</tr>
<tr>
<td>Stubborn spots and stains, baked-on splatter, and other light discolorations</td>
<td>Allchem Concentrated Cleaner</td>
<td>Apply with damp sponge or cloth.</td>
<td>Satisfactory for use on all finishes.</td>
</tr>
<tr>
<td></td>
<td>Samae, Twinkle, or Cameo Copper Cleaner</td>
<td>Rub with damp cloth.</td>
<td>Satisfactory for use on all finishes if rubbing is light.</td>
</tr>
<tr>
<td></td>
<td>Grade FFF Italian pumice, whiting or talc</td>
<td>Rub with damp cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td></td>
<td>Liquid NuSteel</td>
<td>Rub with dry cloth. Use a small amount of cleaner.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td></td>
<td>Paste NuSteel or DuBois Temp</td>
<td>Rub with dry cloth. Use a small amount of cleaner.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td></td>
<td>Cooper’s Stainless Steel Cleaner, Revere Stainless Steel Cleaner</td>
<td>Apply with damp sponge or cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td></td>
<td>Household cleaners (Old Dutch, Lighthouse, Sunbrite, Wyandotte, Bab-O, Gold Dust, Sapolio, Bon Ami, Ajax or Comet)</td>
<td>Rub with a damp cloth. May contain chlorine bleaches. Rinse thoroughly after use, if left on surface, may lead to corrosion.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td>TYPE OF CLEANING</td>
<td>CLEANING AGENT*</td>
<td>APPLICATION METHOD**</td>
<td>EFFECT ON FINISH</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Grade F Italian pumice, Steel Bright, Lumin Cleaner, Zud, Restoro, Bon Ami, Ajax or Comet</td>
<td>Rub with a damp cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Penny-Brite or Copper-Brite</td>
<td>Rub with a dry cloth. Use a small amount of cleaner.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Penny-Brite or Copper-Brite</td>
<td>Rub with a dry cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Heat tint or heavy discoloration</td>
<td>Penny-Brite or Copper-Brite</td>
<td>Rub with a dry cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
</tr>
<tr>
<td>Paste NuSteel or DuBois Temp</td>
<td>Rub with dry cloth. Use a small amount of cleaner.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Revere Stainless Steel Cleaner</td>
<td>Apply with a damp sponge or cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Allen Polish, Steel Bright, Wyandotte, Bab-O or Zud</td>
<td>Rub with a damp cloth.</td>
<td>Use in direction of polish lines on No. 4 (polished) finish. May scratch No. 2 (mill) and No. 7 and 8 (polished) finishes.</td>
<td></td>
</tr>
<tr>
<td>Burnt-on foods and grease, fatty acids, milkstone (where swabbing or rubbing is not practical)</td>
<td>Easy-Off, De-Grease-It, 4-6% hot solution of such agents as trisodium tripolyphosphate, or 5-15% caustic soda solution</td>
<td>Apply generous coating. Allow to stand for 10-15 min. Repeated application may be necessary.</td>
<td>Excellent removal, satisfactory for use on all finishes.</td>
</tr>
<tr>
<td>Tenacious deposits, rusty discolorations, industrial atmospheric stains</td>
<td>Oakite No. 33, Dilac, Texo 12, Texo N.Y., Flash-Klenz, Caddy Cleaner, Turco Scale 4368 or Permag 57.</td>
<td>Swab and soak with clean cloth. Let stand 15 minutes or more according to directions on package. Rinse and dry.</td>
<td>Satisfactory for use on all finishes.</td>
</tr>
<tr>
<td>Hard water spots and scale</td>
<td>Vinegar</td>
<td>Swab or wipe with a cloth. Rinse with water and dry.</td>
<td>Satisfactory for use on all finishes.</td>
</tr>
<tr>
<td>Organic solvents such as carbon tetrachloride, tri-chlorethylene, acetone, kerosene, gasoline, benzene, alcohol and chlorothane n.u.</td>
<td>Rub with a cloth. Organic solvents may be flammable and/or toxic. <strong>Observe all precautions against fire. Do not smoke while vapors are present. Be sure area is well ventilated.</strong></td>
<td>Satisfactory for use on all finishes.</td>
<td></td>
</tr>
</tbody>
</table>

* Use of proprietary names is intended only to indicate a type of cleaner, and does not constitute an endorsement, nor is omission of any proprietary cleanser to imply its inadequacy. It should be emphasized that all products should be used in strict accordance with instructions on package.

** In all applications a stainless steel wool or sponge or fibrous brush or pad are recommended. Avoid use of ordinary steel wool or steel brushes for scouring stainless steel.
GENERAL INFORMATION

Rear Sliding Door Removal and Installation

The sliding doors come installed from the factory in the door frame. These doors are removable for cleaning and to aid in case maintenance. **NOTE: DO NOT FULLY IMMERSE DOORS WHEN CLEANING.** The inner and outer doors are marked with labels from the factory. If the doors are not labeled, the inner door can be identified as having the limiter stops on it.

1. Remove the outer door (1) by sliding it to the right end of the door frame (2) (within an inch of being closed).
2. Firmly grasp both sides of the outer door (1) and lift into the upper track (3) until it clears the lower track (4).
3. Tilt out the bottom of the outer door (1) so it can clear the lower track (4).
4. Lower the outer door (1) out of the upper track (3) to remove it from the case.
5. Repeat steps 1 thru 4 to remove the inner door (5).
6. Reverse the above steps to replace the inner and outer doors (5 and 1).

**Mezzanine Shelving**

Mezzanine shelves are available in 10” or 12” widths. One level of shelving is optionally available for LLM and LLF cases, while two levels of shelving is available for LLD cases. The shelves can be moved forward from the mullions in two inch increments and can be
locked into three positions.

To install mezzanine shelving, position and insert the mezzanine shelf (1) and captive shelf brackets (2) into slots in the uprights (3).

NOTE

The brackets can be moved vertically at 1” increments in the uprights.

Lighted Shelves

Lights are optional on the 10” and 12” mezzanine shelves. Wiring harnesses for all shelf locations are factory installed. Ballasts are optionally supplied for all shelf light sockets. The ballasts are located in the electric box on the lower left rear portion of the case, facing rear of case.

Service Case Flush System

Flush systems are offered only on LLF cases to provide a convenient and effective means of maintaining case cleanliness. The system may be operated either manually by a hand valve or automatically using a solenoid and a time clock. The flush water is drained from the case via the normal drain path.

Water is supplied to the system through a pressurized water connection to a domestic water supply. The water is fed to a nozzle array which provides even flushing throughout the case interior. It is recommended to flush cases at least once a day. Flush time varies depending on the specific case needs.

1. Position the manifold (1) near the rear case wall and secure with manifold anchor clamps (2).

2. Cut a hole in the case well just large enough to connect manifold to ½” PVC water supply piping (3).

NOTE

A suitable water supply must be downstream of the isolation valve.

3. Install isolation valve (4) (hand or solenoid) and manifold (1) to water supply piping (3).
4. Caulk the area where the water supply piping (3) enters the case well to prevent water leakage during system flushing.

**Top Mounted Scale Shelf Installation**

The optional scale shelf is mounted to the mullion on the back of the case. The shelf rests on the flat portion of the top of the case. Use the follow instructions to mount the scale shelf assembly.

1. Remove the screws (1) and rear cover (2) from the scale shelf assembly (3).

2. Center the scale shelf assembly (3) on the top rear of the case (4) at the selected mullion (5) location.

3. Loosen wing nut (6) on the front right side of the lower rear support (7) and the two locking capscrews (8) at the rear.

4. Adjust scale shelf (3) to sit level from front-to-rear and side-to-side. When the shelf is level, retighten the wing nut (6) and the two locking capscrews (8).

5. Drill pilot holes in the top two holes in the lower rear support (7), and start two screws (9). Check for proper shelf alignment, then tighten two screws (9).

6. Drill pilot holes thru lower two holes in lower rear support (7) and secure with two screws (9).

7. Replace rear cover (2) and screws (1) on scale shelf assembly (3).

**SERVICE INSTRUCTIONS**

**Light Servicing**

See “General I&S Manual” for T-8 lamp, fan blade and motor (LLD only), and color band and bumper replacement instructions.

**Ballast and Lighting Locations**

All light ballasts are located in the electric box on the left end of the rear of the case.

In order to retain safety approval with Underwriters Laboratory and the Canadian Standards Association, the mounting of electrical components and interconnecting wires must not deviate from the following instruc-
tions. Only qualified personnel are autho-

rized to install the accessory items. TYLER Refrigeration recommends you order all com-
ponent parts from its Service Parts Depart-
ment.

**Ballast Installation**

1. Remove cover from electric box (1) located on the left rear side of the case.

**NOTE**

If tappit screws are not available, a star-
washer should be used between the bal-
last and the heads of the screws.

2. Install required number of ballasts (2) in electric box (1) with two screws (3) each.

3. Identify and connect required wiring har-
nesses (upper, lower, etc...) to the ballast connectors (4).

4. Replace cover on electric box (1).

**Anti-Sweat Replacement**

LL(M/F/D) cases have a front glass anti-sweat heater. Use the following instructions to replace an anti-sweat heater.

**WARNING**

Shut off or disconnect power supply to case before changing an anti-sweat. Electrical power from wire ends could damage other components and/or cause personal injury or death.

1. Open the lift glass and remove the bottom screens and/or bottom trays from the case.

2. Remove front ducts (1) and front duct supports (2) from the case.

3. Drill out rivets (3) and remove screws (4) and anti-sweat cover (5) from interior sur-
face of bottom glass support (6).

4. Disconnect or cut the defective anti-sweat wire (7) from the case wires.

5. Remove the aluminum tape (8) and defec-
tive anti-sweat wire (7) from the anti-sweat cover (5).

6. Position new anti-sweat wire (7) on anti-
sweat cover (5) and secure with new alu-
minum tape (8).

7. Connect or splice the new anti-sweat wire (7) to case wires.
8. Install anti-sweat cover (5) under bottom glass support (6) and secure with screws (4) and rivets (3).

9. Replace all components that were removed to expose the anti-sweat cover.

10. Close the lift glass and restore the electrical power to case.

**Lift Glass Replacement**

**NOTE**

If lift glass is shattered, start with step 1, otherwise start with step 2 to replace the lift glass.

**WARNING**

Wear safety glasses and gloves and use at least two people when replacing glass. Glass is heavy and weight distribution is uneven. Mishandling of glass could cause breakage and/or personal injury.

1. Pull down the glass frame clamp (1) by applying significant force at the hinge assemblies (2). The hinge assemblies are located inside the rear at the top of the fixture. Hold hinges down until step 2 is performed.

2. Place the metal hinge stops (3), shipped with the glass, over the shank of the center bolt (4) at the rear of each hinge assembly (2). This prevents the hinges from popping upright when the lift glass is removed.

3. While holding glass, remove screws (5) from hinges (2) and glass frame clamp (1).

4. Replace broken lift glass (6) with new lift glass (6).

5. Install screws (5) in hinges (2) and glass frame clamp (1). Tighten each hinge-screw (5) to 60 lb-in. of torque. **Do not overtighten.**

6. Check torque of glass frame clamp setscrews (7). It should be pre-torqued to 150 lb-in. **Do not overtighten.**
NOTE
Lift glass must seal tightly to ensure proper operating temperatures! 5/8" replacement seals are available through TYLER Service Parts.

7. After the lift glass has been replaced, remove the metal hinge stops (3). Make sure the lift glass wipers overlap and seals tightly against the color band.

Lift Glass Hinge Replacement

NOTE
All product should be removed from the case and the surrounding area before making this repair.

WARNING
Do not take hinge apart! The glass assembly is extremely heavy and could fall without proper support. Glass breakage and/or personal injury could result.

1. Remove the lift glass by following the instructions on the previous page.

2. Mark the position of the defective hinge (1) on the top interior of the case.

3. Remove screws (2) from back edge of stainless steel top (3). Lift up and pull out on back edge of stainless steel top (3) to remove it from top of case (4).

4. Remove four screws (5) from top of case (4) and remove defective hinge assembly (1) from inside top of case (4).

5. Position new hinge assembly (1) inside
top of case (4) as marked during removal and secure with four screws (5). After rechecking the hinge positioning, tighten the four screws (5) to 125 lb-in. of torque.

6. Push front edge of stainless steel top (3) under “T” rail (6) and insert back edge behind door frame trim. Secure stainless steel top (3) with screws (2).

7. Install the lift glass by following the instructions on the previous page.

**Lift Glass Edge Seal Replacement**

In order to attach the rubber edge seal to the lift glass, the glass must be clean. Use rubbing alcohol to clean the glass and the inside of the replacement trim.

1. Loosen two setscrews (1) in the glass frame clamp (2) closest to the edge of the glass. **Do not remove the setscrews.**

2. Remove the defective glass seal (3) by pulling out of the groove (4) in the edge of glass.
3. Clean the groove (4) in the edge of the glass thoroughly.

4. Beginning at the top of the edge of the glass, snap new glass seal (3) into the groove (4) by the pushing small “V”’s into the groove (4).

5. Cut off any excess glass seal (3) that extends beyond the handle (5).

6. Retighten and torque the setscrews (1). They should be torqued to 150 lb-in. **Do not overtighten.**

**PARTS INFORMATION**

**Operational Parts List**

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<tr>
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<td>Electrical Circuit</td>
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## Cladding and Trim Parts List

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