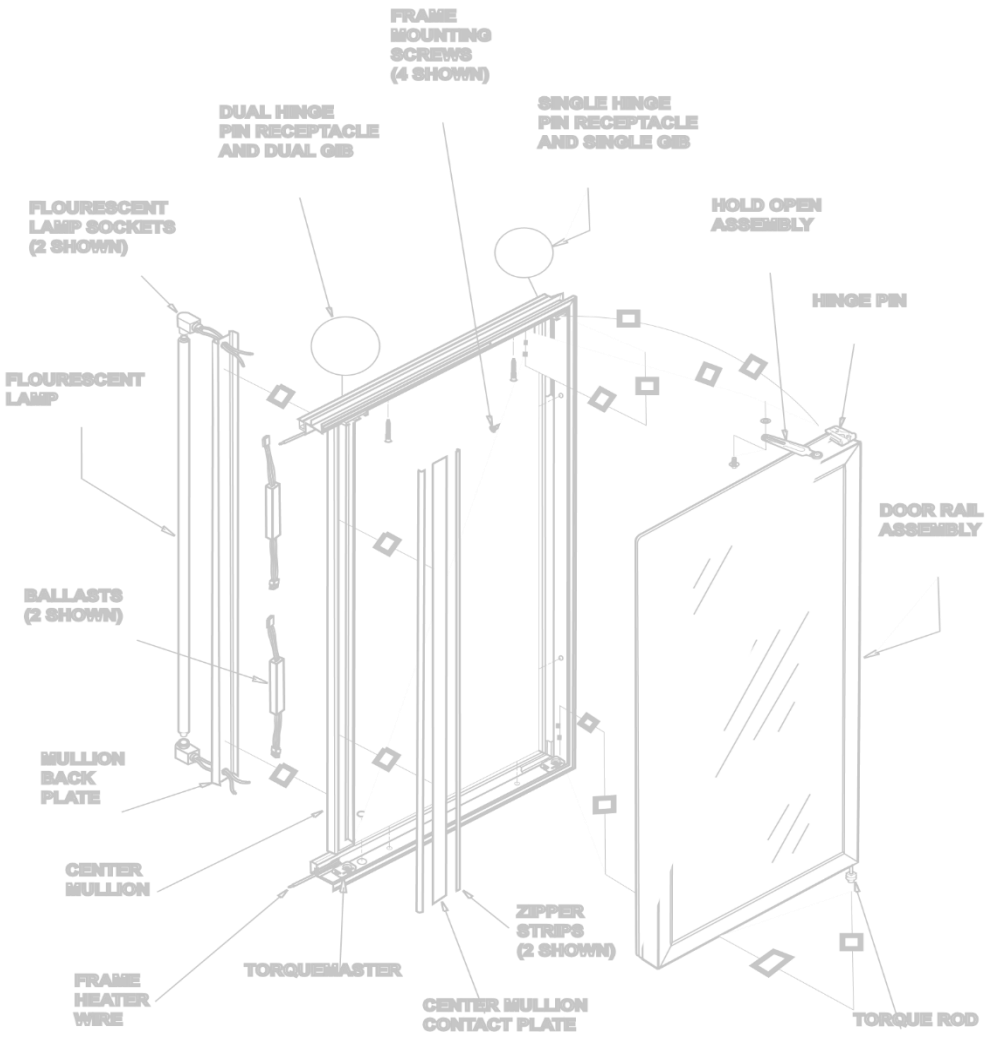
Anthony®



VSTC
Installation Manual

99-18690-I001_B

Anthony products identified in this manual are designed and certified to meet or for safety, and for sanitation standards.
Each customer is responsible for final site approval.

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Preliminary Considerations for Door and Frame Servicing Procedures

Safety

Proper safety equipment includes:

safety glasses

work gloves

work shoes

NOTE: TURN OFF ALL ELECTRICAL POWER PRIOR TO BEGINNING WORK ON THE DOOR OR ON ANY ELECTRICAL. USE EXTRA CAUTION WHEN WORKING WITH OR AROUND THE DOOR GLASS PACKAGE.

NOTE: DO NOT USE POWER TOOLS FOR THE FOLLOWING PROCEDURES

Tools

Tools required for this procedure include:

- #2 Phillips-head screwdriver
- Flat-head screwdriver
- Needle-nose pliers
- Rubber or plastic mallet
- $^{7}/_{16}$” and $^{1}/_{2}$” Hand Wrench
- $^{5}/_{32}$” Hex Key
- Wire stripper and cutter
- Soldering iron
- Heat Gun
- Razor Knife

Tips

- Complete replacement of wire assemblies is recommended whenever required. Splice wires only if necessary using proper materials such as, electrical tape, wire nuts, flux core solder and heat shrink.
- Apply liquid soap to rail plastic covers and gaskets upon installation to facilitate insertion into mounting grooves.
- Keep doors and frames clean for product efficiency. This can also help reduce energy consumption and potential health hazards.
- Whenever binding gasket or plastic parts, use food grade silicone.

- Whenever replacing fluorescent lamps, always replace lamp covers as well.
- Always use the correct tool for the job to be performed. This ensures proper installation and minimizes safety risks.
- If there is any doubt about the work to be performed, consult with a certified technician or Anthony representative.
- Preventative maintenance is recommended to ensure product longevity.

FRAME INSTALLATION AND SERVICE MAINTENANCE

1. Read instructions completely before installing the frame.
    - Clearance between the frame sill and the case bottom or floor is mandated by local building codes.
    - Sill net opening must be at minimum of two inches in height
    - Sill must be completely level.

Before installing the frame, confirm the size of the net opening accommodates t he finish frame. If the tolerances are too high, the net opening will have to be enlarged.

Check size of finished frame to net opening.

- Subtract the frame height measurement, from the net opening's height measurement.
- Subtract the frame width measurement, from the net opening's width measurement.
- Divide each number in half. This is the amount of gap that will occur between the frame and the net opening.

If the gap between the frame and the net opening is greater than 1/16", shim the gap for a proper fit.

Shimming

1. Acquire sturdy, penetrable material, such as plywood. The thickness of the material should be wedge shaped or slightly less than the gap to be filled.
2. Measure the gap length (height or width of frame) and cut the shim material to 1/16" less than the measured length.
3. Install the shim using the same type of mounting hardware that will be used to install the frame. Be certain that the shim installation hardware will not interfere with the frame installation hardware
4. If necessary, cut a second shim to the same length and install it in the opposite side of the net opening.
5. If the adjacent sides of the net opening need shimming, repeat the previous steps. Match the shim length to the frame sides of the net opening (less 1/16").

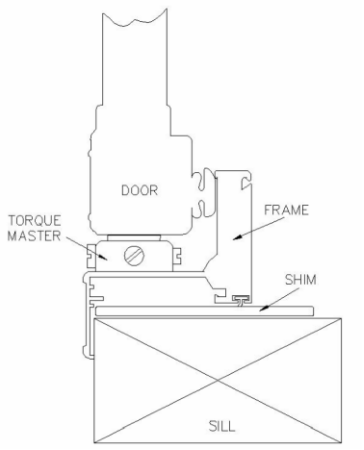


Figure 1 Anthony Door and Frame Cross-Section

To Install the Frame

1. Verify openings conform to net openings listed in price book or original order.
2. Insert the finished frame assembly into the net opening. **DO NOT** force the frame if the fit is too tight.
3. Insert a mounting screw into a mounting hole in each corner of the frame and tighten each screw until it is approximately a quarter inch from flush.
4. Check the frame is aligned properly or square. Refer to “Frame Installation Reference on page 3
   - Use a 16-foot measuring tape to measure diagonally one corner to the opposite and note the distance.
   - Measure the distance between the remaining two corners.
   - Both measurements should be the same, within a 1/16” difference.
5. Confirm the frame and frame flanges are vertically aligned to the wall surface around the net opening.
6. Place a level on the top flange of the header frame to check if it is horizontally aligned.
7. If the top of the header frame sags or bows, correct as necessary.
8. When the frame is aligned, tighten all mounting screws securely until each is flush to the frame surface.

NOTE: <u>DO NOT</u> over-tighten the screws, as this can cause the frame to become out of square.

9. Check entire frame to ensure installation is correct.

NOTE: <u>Use caulk and food grade silicone sealant</u> to seal the gap between the frame and the surrounding wall, inside case, cooler or freezer.

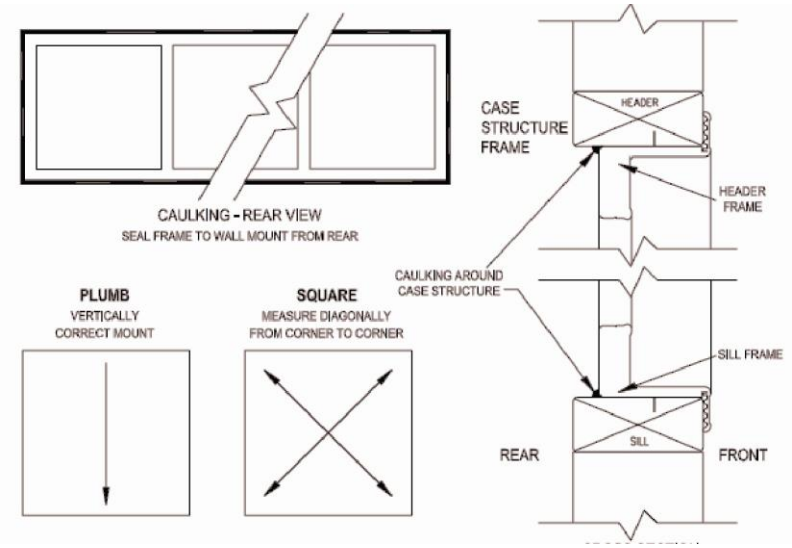


Figure 2 Frame Installation Reference

Frame Electrical Wiring Connections

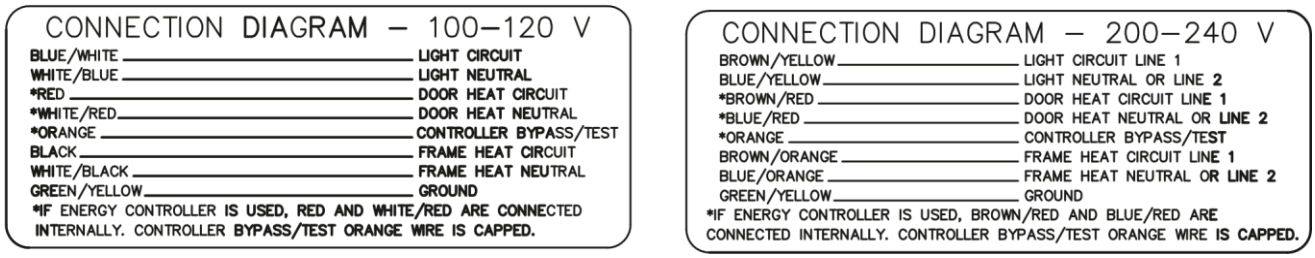


Figure 3 Wire Diagram Connection Label

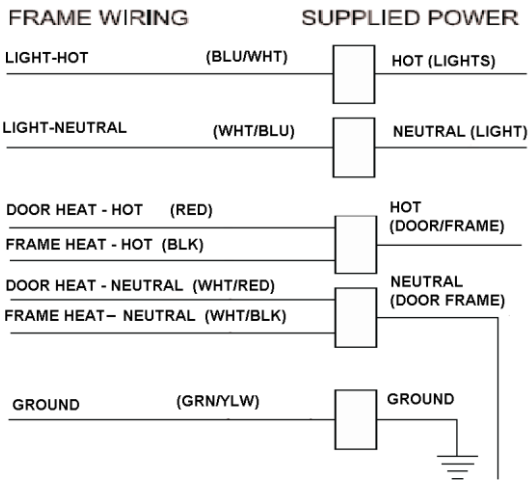


Figure 4 Wiring W/O Energy Controller

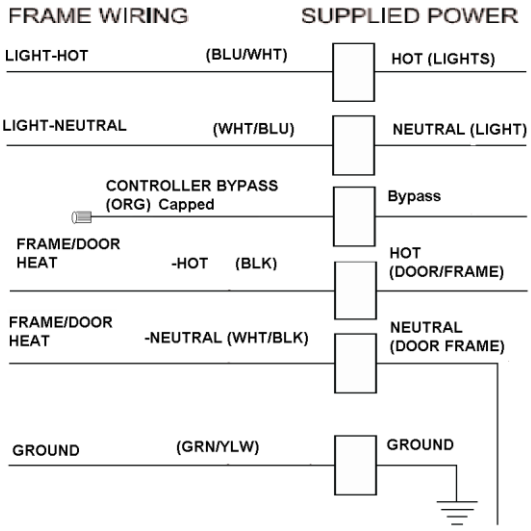


Figure 5 Wiring W/Energy Controller

Figure 6 Wiring Diagram

The seven individual wires extending from the flexible conduit atop the frame, provide electrical power to various frame and door functions. Refer to Figure 6 Wiring Diagram for the wiring diagram label, affixed to the frame header.

Using wire connectors, these wires should be grouped by the Hot wires (Circuit wires), the Neutral wires and the ground wire for connection to either the facility or the case power.

- Blue/White wire connects to the supplied Hot (or Lights Circuit Wire).
- White/Blue wire connects to the supplied Light neutral wire.
- Red and Black wires connect to the supplied Hot (or Door/Frame Heater Circuit Wire).
- White/Red and White/Black wires connect to the supplied neutral wire for Door/Frame Circuit.
- Green/Yellow wire connects to the supplied ground wire.

NOTE: Wiring for lights should have a separate circuit from the door/frame heater wiring circuit.

DOOR INSTALLATION

To Install the Door Assembly

1. Hold the door on each side, with the handle facing forward. Lift door, align torque rod to insert into TorqueMaster™ socket at base of frame. Refer to Figure 7 Insert Torque Rod into TorqueMaster.
2. Engage door with hinge pin inserted into Gib (hinge pin plug) receptacle at top of frame. Push door into frame until hinge pin snaps in place. Refer to Figure 8 Connect Hinge Pin.
3. Insert the hold-open bolt through the elongated hold-open slot.
4. Insert the washer and the hold-open bolt into the frame mounting hole and tighten the bolt, use a 7/16” open-end hand wrench. Refer to Figure 9 Tighten Hold-Open Bolt.
5. Set the door tension swing and correct the door alignment by adjusting the TorqueMaster™. (See “TorqueMaster™ and SAG Adjustment ” on page 7. Refer to Figure 16 TorqueMaster Assembly.

NOTE: Exercise caution when handling the door.

NOTE: DO NOT use power tools when adjusting the TorqueMaster™.

NOTE: DO NOT over tighten hold-open bolt. Verify hold-open does not bind while sliding along the hold-open bolt. Adjust as necessary.

Figure 7 Insert Torque Rod into TorqueMaster

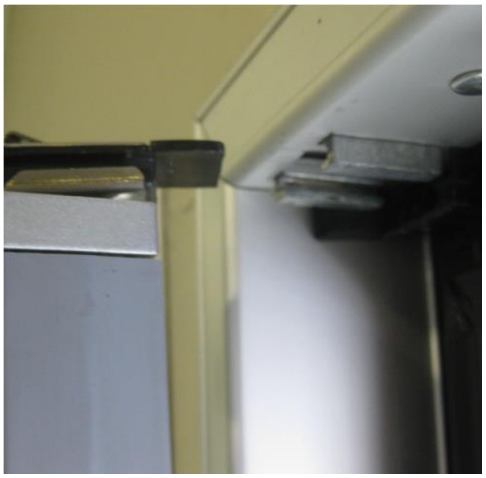


Figure 8 Connect Hinge Pin

Figure 9 Tighten Hold-Open Bolt

To Remove the Door Assembly

1. Release tension on TorqueMaster™ with a flat-head screwdriver. Turn the TorqueMaster™ front facing screw clockwise, until the door does not automatically close from an open position. Refer to Figure 10 Release TorqueMaster Tension.
2. Open door to access the hold open device, then loosen and remove hold-open detent bolt using a 7/16” hand wrench. Refer to Figure 11 Remove Hold-Open Bolt.
3. Retract the door to a near-closed position.
4. Remove hinge pin plug from frame by inserting top-half of needle-nose pliers into the spring clip grip hole and the bottom half beneath the hinge pin shroud. Refer to Figure 12 Disengage Hinge Pin.
5. Compress pliers to clamp down on hinge pin spring clip, then simultaneously pull the hinge pin away from the frame and pull the door top out. Refer to Figure 13 Withdraw Away From Hinge Gib.
6. Lift door out of TorqueMaster™. Refer to Figure 14 Withdraw From Frame. Secure or lean door on its side against a stable surface.

Figure 10 Release TorqueMaster Tension

Figure 11 Remove Hold-Open Bolt

Figure 12 Disengage Hinge Pin

Figure 13 Withdraw Away From Hinge Gib

Figure 14 Withdraw From Frame

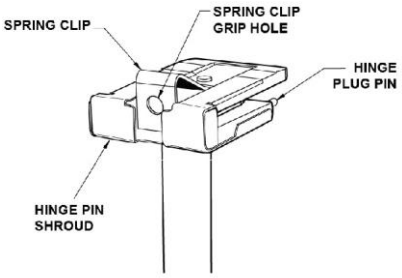


Figure 15 Hinge Pin Assembly

TorqueMaster™ and SAG Adjustment

The TorqueMaster™ regulates the door alignment and the door closing tension.

1. Use a flathead screwdriver to adjust the torque rod tension, by turning the outside screw on the TorqueMaster™.
   - Turn counter-clockwise to increase tension.
   - Turn clockwise to decrease the tension.
2. Adjust the door sag to square the door in the frame by turning the screw that is marked SAG ADJ. (sag adjustment), on the end of the TorqueMaster™, until the door is aligned square in opening.
   - Turn counter-clockwise to raise handle side of door.
   - Turn clockwise to lower the handle side of door.

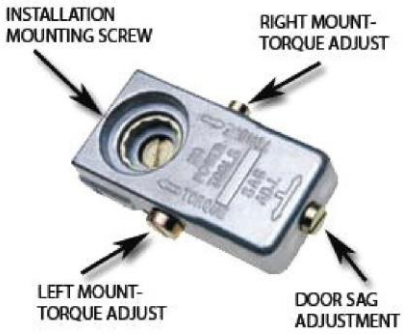


Figure 16 TorqueMaster Assembly

NOTE: DO NOT use power tools when adjusting the TorqueMaster™.

Removing and Replacing the Door Rail Plastic Cover

1. Insert the end of a slot head screwdriver in between two plastic cover ends at the edge of cut. Refer to Figure 17 .

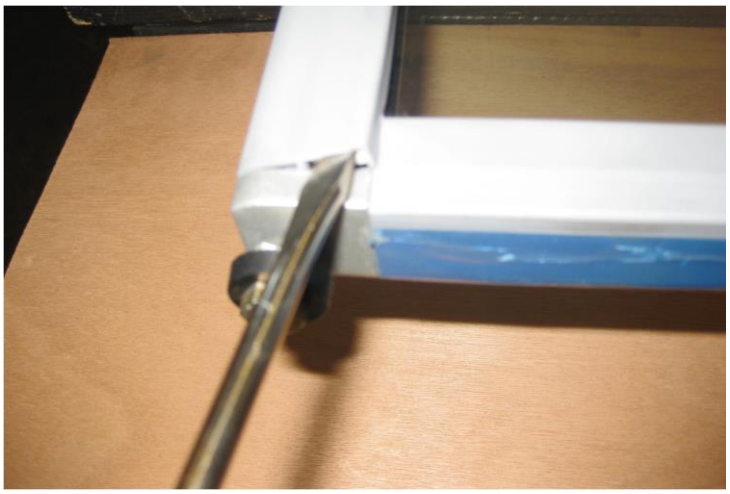


Figure 17

2. Carefully twist the screwdriver to loosen the corner of the plastic cover lip from the door rail.

3. Continue to pry the plastic cover from the door rail until the entire end of the plastic rail is disengaged. Refer to Figure 18 .

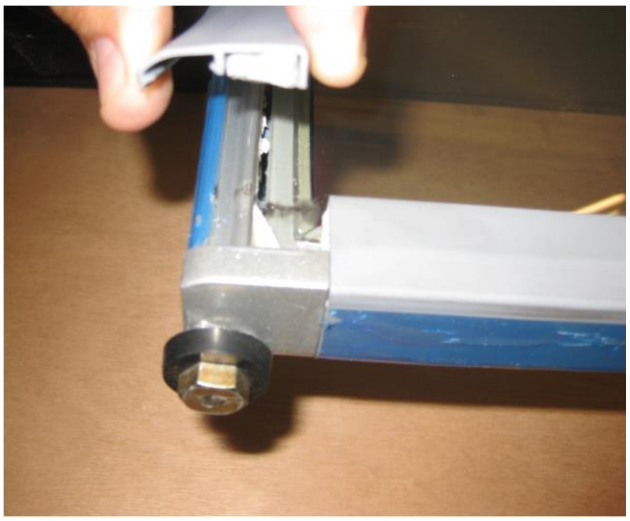


Figure 18

4. Pull the plastic cover up and out of door rail grooves until the entire plastic cover is removed from the door rail.
5. Repeat Step 2 through Step 4 to loosen and remove the three remaining plastic covers.

Install New Replacement Plastic Covers

1. To install the new, replacement plastic covers, begin by aligning the replacement plastic cover evenly onto the door rail.
2. Insert the outer edge of the plastic cover into the outside groove of one of the door rails. Refer to Figure 19 .

Figure 19

3. Push the plastic cover down and inward, toward the center of the door. Refer to Figure 20 .

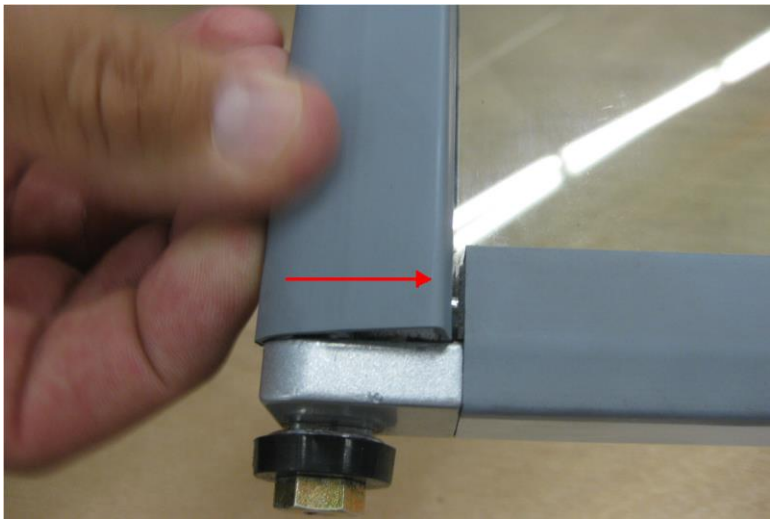


Figure 20

4. Slide along the entire length of the plastic cover while firmly applying pressure against it. Continue applying pressure down along the length of the entire door rail, inserting both the outside lip and the inside lip into the door rail grooves simultaneously. Refer to Figure 21 .

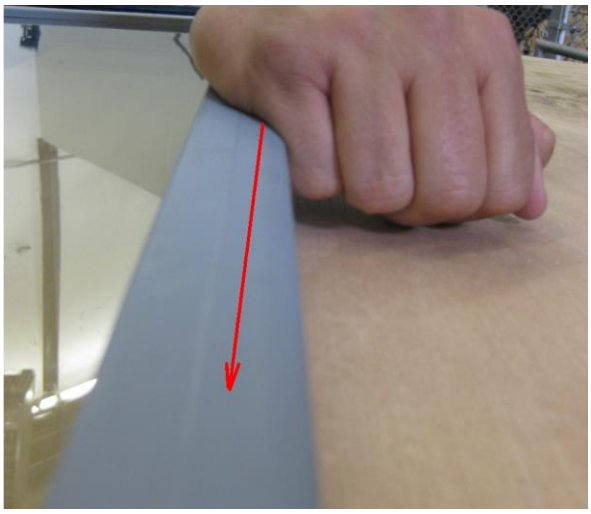
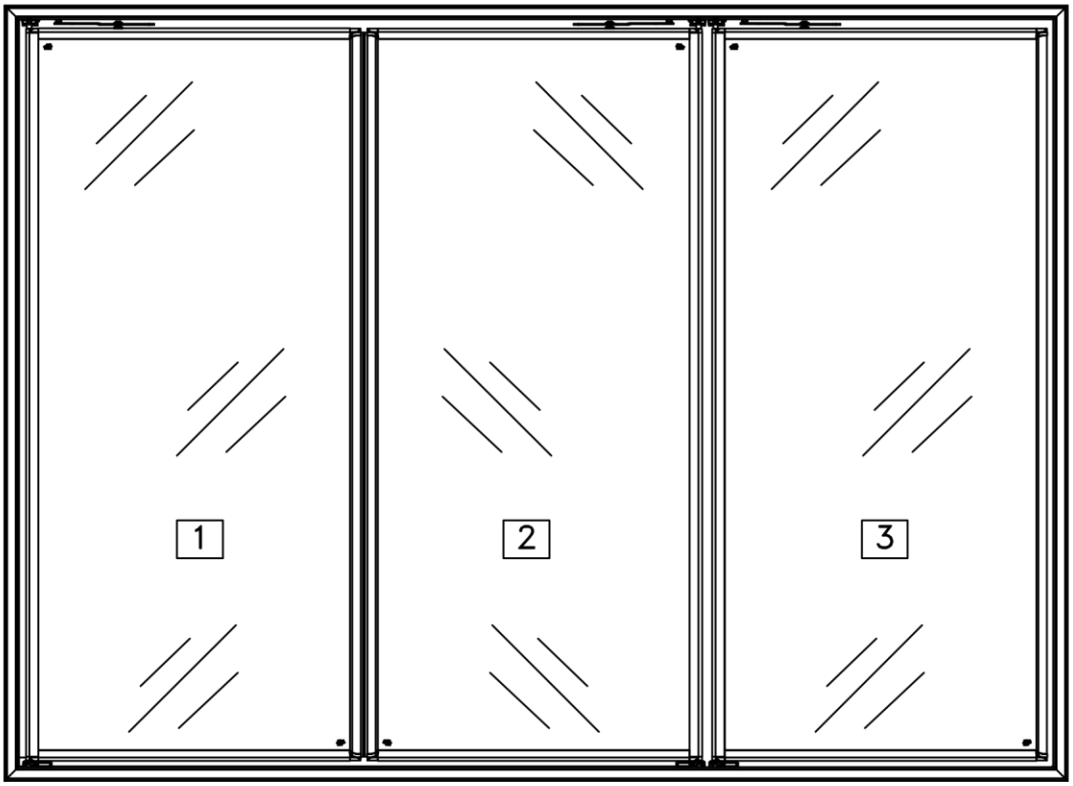


Figure 21

NOTE: Carefully tap the plastic cover using a plastic or rubber mallet with deliberate strokes, outward and away from the glass, may help seat the lips of the plastic cover into the grooves of the door rails. .

5. Check the entire plastic cover and confirm that both the inside and outside lips are fully inserted into the door rail grooves.
6. Repeat this procedure, aligning each straight edge, with the corner pieces until all four plastic covers are properly installed onto door rails. Refer to figure **(Figure 21)** .
7. Confirm that each plastic cover is fully installed and the straight cut edges are properly aligned with the corner pieces


Handle wiper
together on even
number of doors
Handle wiper
not required on
single or odd doors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APPENDIX A - Preventative Maintenance Guidelines

Introduction

This guideline provides information required to perform recommended and required preventative maintenance to the Anthony doors and frame.

Routine Preventative Maintenance

The following provides information needed to safely perform regular periodical preventive maintenance. Regular preventative inspections will maximize the longevity of your Anthony products. These simple tasks will go a long way in ensuring optimal performance. Depending on maintenance being performed you may need to shut down the door or kill all power to the doors. Refer to your specific door model Installation Manual on how to disengage power. The use frequency of doors will vary from location to location, and the frequency in routine for preventative maintenance will vary for everyone depending on the amount of traffic.

For Anthony products used in harsh or extreme ambient conditions, it is recommended that these inspection intervals be performed on a more regular basis. When issues are found please refer to your specific model's installation and service manual for detailed information on how to replace and re-order needed parts or contact your Anthony representative.

Periodical Inspection Recommendations

Action	Store Conditions	Description
Preventative Inspection	Normal Conditions	Once each quarter (every 3 months)
	Harsh Conditions	Once a month (every 30 days)
Cleaning	All Conditions	Once a month (every 30 days)

Note: These are recommendations based on historical data of other Anthony door products and can vary depending on location, store conditions, store traffic, and other unknown variables.

Recommendations

Here is an outline of standard recommend Preventative Inspection criteria:

- **Freezer/Cooler Temp & Defrost Settings –**
  - Regularly inspect and ensure that ambient conditions are correct*
  - Ensure HVAC vents do not blow directly on doors
  - Avoid direct evaporator air impingement on the cooler/freezer door. This can be achieved by ensuring shelves are always fully stocked.
  - The cooler/Freezer must be regularly inspected for air leaks this can affect the temperature
  - Visually inspect box penetrations and adjoining surfaces: the use of a flashlight is helpful

**Refer to the values that pertain to your specific Door Model for Operating Condition values that are required for optimal door performance.*

- **Frame & Door** – Regularly ensure to check for wear/tear on frame and door this can include:
  - Ensuring that warning labels and product identification labels are all intact
  - Ensure all Bezels are intact and not damaged
  - Ensure that Vents are clean and allow maximum Airflow
  - Ensure all plastic backs are secured and undamaged
  - Handles are secured to the door
  - Ensure the door is opening to the angle of 87°
  - Rails are intact, not broken, and securely in place

- **Door/Frame Hinging Pin & Receptacle Area –** Regularly ensure to check for wear/tear all hinging parts include:
  - Inspect that the Hinge Pin is properly connected with the frame receptacle, **DO NOT** remove the factory installed dielectric grease from the Hinge Pin assembly to ensure the proper function
  - Inspect that the Hinge Pin and receptacle are rust/corrosion free, and there is an adequate amount of Dielectric Grease present
  - If when replacing or servicing Door and it is removed from the Hinge Pin receptacle, ensure to re-apply dielectric grease before installation of the door
  - Anthony recommends applying a minimum of three (3) grams per door Hinge Pin receptacle of its High-performance Dielectric Grease (Refer to the specific door model's installation manual for more detailed instructions on how to apply)
    - Anthony P/N: **98-25497-0001** (approximately 100 grams, sufficient for up to 30 door receptacles).
    - Anthony P/N: **98-25497-0002** (approximately 3 gram packet, sufficient for up to 1 door receptacle).
  - Replace any broken or damaged Hinge Pin and ensure to apply an adequate amount of Dielectric Grease
  - Visually and mechanically Inspect Hold-Open Arm, Screw, and Spacer for wear/tear/damage and that Screw is secure

- **TorqueMaster™ –** To check the TorqueMaster™ is functioning correctly open each door and ensure that the tension makes the door close smoothly and gently on its own. If the door closes either too slowly or rapidly the issue can be fixed by adjusting that Torque Master™ refer to the "Torque Master™ and Sag Adjustment" section for details. If after adjusting the issue is still present the next step is to replace the Torque Master™, refer to the specific door model's installation manual for detailed instructions on replacing.

- **Gaskets –** When inspecting gaskets ensure that they are sealing properly along the entire perimeter of the door. Also, ensure that the gasket is properly inserted into the door plastic grove. Inspect and ensure gaskets are free of cracks, tears, deformities, and hardening.

Cleaning Routine

List of Items that should be cleaned during monthly cleaning routine:

- **General Cleaning** – Regularly clean by wiping down the frame, door rails, bezels, and gaskets by checking for food debris, dust, and other foreign objects that may prevent the door from closing correctly. Use non-abrasive cleaning apparatus (i.e., microfiber cloth) when wiping down frame and door rails.

- **Cleaning Inside Door Glass*:** To clean door glass on the inside of the door. We recommend the following cleaners:
    - Windex® Original
    - Windex® Vinegar
    - Fantastik®
    - Formula 409®
    - MicroClean Professional APC®

NOTICE	
	***Note – Any cleaner used or listed here MUST be Ammonia Free. Only use cleaners on glass portion of the door. Using harsh chemicals on PVC or ABS plastic portions of door may damage material.***

Troubleshooting

PROBLEM / ISSUE	PROBABLE CAUSES / FIXES	FINAL REMEDY
Condensation on Door Glass, Door Rail, or Frame	Fan to Door Proximity too small	Install air deflector
	Evaporator fans blowing cold air directly onto glass/frames	
	Shelves not fully stocked	Stock merchandise
	Door/gasket seal malfunction	See “Insulation or Air Leaks”
	Store conditions (temperature and relative humidity) outside required	Adjust HVAC / Dehumidifier settings to meet required
	Cooler/freezer temperature set too low	Adjust cooler/freezer temperature to design specified
Condensation in between Glass Panes	Seal compromised cause loss of gas or vacuum (check by cleaning the glass on merchandise and customer sides)	Replace door
Rust/Corrosion on Hinge Pin	Excessive moisture from ambient/store conditions	Add Dielectric Grease to Hinge Pin Receptacle Replace Hinge Pin/ add adequate amount of Dielectric Grease
Ice buildup inside Freezer	Air infiltration Box/frame not sealed according to Anthony instructions	See “Insulation or Air Leaks”
Door not closing or sealing	Check gasket to ensure proper installation	Replace gasket
	Check the gasket for damage	
	Check Hold-Open	Replace Hold-Open
	Check TorqueMaster torque (plumb)	Replace TorqueMaster2
	Check TorqueMaster sag	
	Check Frame/Door is square	
	Check Plastic covers on rails	Replace Plastic Covers
	Check Plastic covers on frame mullions	
No Power to Frame	Check Power Supply	Adjust energy controller to Full-On Replace Power Supply Replace Energy/Humidity Controller Replace Hinge Pin Replace wiring
	Check energy/humidity controller	
	Check hinge pin connections	
	Check glass wire connections	
	Check hinge pin wiring	
Low Voltage	Check main voltage	Adjust energy controller to Full-On Replace Frame heater wires
	Check humidity controller	
	Check the Amp draws to the heater wires in the frame	
Door/Gasket Seal - Malfunction	Check gasket	Replace gasket Replace hinge pin Replace TorqueMaster
	Check door mount	
	Check Door is square and level	
Frame not Square or Plumb	Frame not properly shimmed	Use correct Shim to level frame Use rubber mallet to adjust frame plumb within 1/16”
	The frame should be square to within 1/16”	
	The frame should be plumb within 1/16”	
Insulation or Air Leaks	Frame must be properly shimmed, level, and plumb	Seal gaps with approved NSF-approved Food Grade Silicone Sealant per Quick Installation Requirements Guide.
	Ensure encapsulated blue board insulation is present (Thermal Frame with Low Temp and NT High Humidity applications only)	
	Use RTV-108 NSF Approved Silicone Caulk to fill the perimeter of the frame on the refrigeration side (inside the case) and at all frame joints as required so there are no air gaps.	
	Use RTV-108 NSF Approved Silicone Caulk to fill the perimeter of the frame on the refrigeration side (outside the case) and at all frame joints as required so there are no air gaps.	
	Ensure Gap between frame and refrigeration does not exceed 1/8”, gaps larger than 1/8” will require additional shimming to reduce gap size before sealing	
	Ensure all electrical conduits are properly sealed to prevent moisture and air from migrating into the box, use RTV-108 NSF Approved Silicone Caulking if necessary	

PROBLEM / ISSUE	PROBABLE CAUSES / FIXES	FINAL REMEDY
Glass condensation	No Power	Check power supply Check humidity controller Check Hinge Pin connections Check glass wire connections Check Hinge Pin wiring
	Low voltage	Check main voltage Check humidity controller
Door/Frame Rail Condensation	No Power	Check power supply Check humidity controller Check hinge pin connections Check door wire connections Check frame wire connections
	Low voltage	Check main voltage Check humidity controller hinge pin
	Door seal malfunction	Check gasket Check door mount wiring
Door saw-toothed	Door or frame not square	Square door to 1/16” Adjust TorqueMaster sag Replace worn hinge pin socket Facility or case not level Frame not properly shimmed Hold-open binding/damaged
Lamp inoperative	Power switch OFF	Turn power switch ON
	Lamp burned-out	Replace lamp
	Lamp failure	Check socket mounting Check socket/lamp connection Check ground wire connection
	Incorrect lamp	Replace with correct lamp
	Ballast failure	Check wire connections Replace ballast
	Incorrect ballast	Replace ballast
	Incorrect wiring	Check ground wire connection Reconfigure wiring Replace wiring
Lamp intermittent or dimming	Incorrect voltage	Match lamp voltage to circuit Match ballast to circuit voltage
	Lamp cover failure	Check cover installation Check mullion lens installation Replace lamp cover
	Defective wiring	Check & replace wiring
	Defective LED Fixture	Replace LED Fixture

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Document Revision History

Revision History

Revision	Date	Name	Comments
A	November 4, 2010	Swatstein	Released
B	July 14, 2022	E.Chavez K.Holst	Added APPENDIX A. See ECN 18520

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