

R Y T E C

Fast-Fold[®] Pneumatic Door

Installation Manual



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INTRODUCTION

The Rytec® Fast-Fold® Pneumatic Door is an air-operated, low-maintenance industrial door. The information contained in this manual will allow you to install, operate and maintain the door in a manner that will ensure maximum life and trouble-free operation.

If you have any questions that have not been covered in this manual, contact your local Rytec representative or the Rytec Customer Support Department at 1-800-628-1909.

The installation of your Rytec Fast-Fold Pneumatic Door is not difficult providing the following procedures are adhered to. Any unauthorized changes in procedure, or failure to follow the steps as indicated, will automatically void our warranty. Any changes in the working parts, assemblies, or specifications as written, that have not been authorized by Rytec Corporation, will also cancel our warranty. The responsibility for the successful operation and performance of this door then becomes yours.

DO NOT INSTALL, OPERATE, OR PERFORM MAINTENANCE ON THIS DOOR UNTIL YOU HAVE READ AND UNDERSTOOD THE INSTRUCTIONS CONTAINED IN THIS MANUAL.

If you have any questions, call your Rytec representative or the Rytec Customer Support Department at 1-800-628-1909. Always refer to the door serial number when calling the representative or Rytec Customer Support Department. The serial number plate is located on one of the side tubes.

NOTE: The wiring connections and wiring schematics shown in this manual are for general information only. A wiring schematic is provided with each individual door specifically covering the control box and components of that door.

HOW TO USE MANUAL

Throughout this manual, the following key words are used to alert the reader to potential hazardous situations, or situations where additional information for successfully performing the procedure is presented:

WARNING

WARNING is used to indicate the potential for personal injury if the procedure is not performed as described.

CAUTION

CAUTION is used to indicate the potential for damage to the product or property damage if the procedure is not followed as described.

IMPORTANT: IMPORTANT is used to relay information **CRITICAL** to the successful completion of the procedure.

NOTE: **NOTE** is used to provide additional information to aid in the performance of the procedure or operation of the door, but not necessarily safety related.

INSTALLATION—TOOLS AND EQUIPMENT REQUIRED

INSTALLATION

TOOLS AND EQUIPMENT REQUIRED

1. Socket and wrench set
2. 1/2-inch diameter concrete anchor bolts
(See “ANCHORING METHODS” on page 4.)
3. 1/2-inch diameter threaded rod
(See “ANCHORING METHODS” on page 4.)
4. Two ladders (taller than the door opening height)
5. Forklift
6. Carpenter’s or spirit level (4-foot long minimum)
7. Carpenter’s square
8. Rotary hammer drill
9. 1/2-inch diameter masonry drill bits
10. 3–4-foot bar clamps
11. Hammer and mallets
12. Crowbar or prybar
13. Assorted hand tools (pliers, tape measure, etc.)
14. Assorted shim stock
15. Water level, line level or transit
16. Utility knife with blades
17. Double-sided tape (for attaching shims to wall)

ADDITIONAL REQUIREMENTS

Labor and Site Requirements

1. Two installers.
2. An electrician is required for making all electrical connections.
3. 100% accessibility to the door opening during the entire installation process. No traffic should be allowed to pass through the opening while the door is being installed.

Forklift Requirements

1. A forklift supplied by the customer, dealer, or installer is mandatory for the safe and proper installation of this door. The forklift should have:
 - 2,000-pound lift capacity
 - minimum height ability — door height, plus 12 in.
 - side-shift capability (desired)

Electrician’s Responsibilities

NOTE: For complete details on the responsibilities of the electrician, refer to the schematic for your particular door. That schematic was shipped inside the control panel. See “ELECTRICAL CONNECTIONS” on page 15 for details on the electrical requirements of this installation.

1. Mount Rytec control box.
2. Provide and mount fusible disconnect.
3. Run incoming power wires to fusible disconnect.
4. Run power wires from fusible disconnect to Rytec control box.
5. Mount and wire all activators as required.

Provide conduit from control box to floor if loop activator is used.

Air Supply

IMPORTANT: Air supply MUST be clean and dry.

NOTE: See “AIR LINE RECOMMENDATIONS (NON-LUBRICATED)” on page 14 for details on the air line requirements of this installation.

Air supply, capable of supplying 1 cfm per door cycle at 90 psi, needs to be available at door control box. Customer or contractor to provide air supply and piping.

FLOOR LOOP REQUIREMENTS

If a floor-loop activator was ordered and shipped with your Rytec Door, the following additional items will be required to install the activator.

NOTE: For complete floor-loop installation instructions, refer to the manual that was shipped with the activator.

1. Concrete saw (with water cooling attachment).
2. Water supply and garden hose (for concrete saw).
3. Wet/dry shop vacuum.
4. 200–500 feet of 16 gauge, 19 strand, type XLPE, copper, crosslink polyethylene jacket wire (or equivalent). The length of wire is determined by the size of the loop.
5. Bondo P606 flexible embedding sealer (or equivalent) — required to fill grooves in floor. For cold temperature sealing applications, Bondo P610 speed set must be added to the P606 to ensure proper curing of the floor.

FILL-IN MATERIAL REQUIREMENTS

Some applications may require the use of pullouts to gain clearance of existing obstructions. The following fill-in materials may be required:

- 16-gauge hot-rolled sheet steel.
- 2-in. x 2-in. x 3/16-in. angle.

GENERAL ARRANGEMENT OF DOOR PARTS

Figure 1 shows the location of the major components of your Rytec Fast-Fold Pneumatic Door. This illustration should be used as reference only and should not be used as part of the installation instructions.

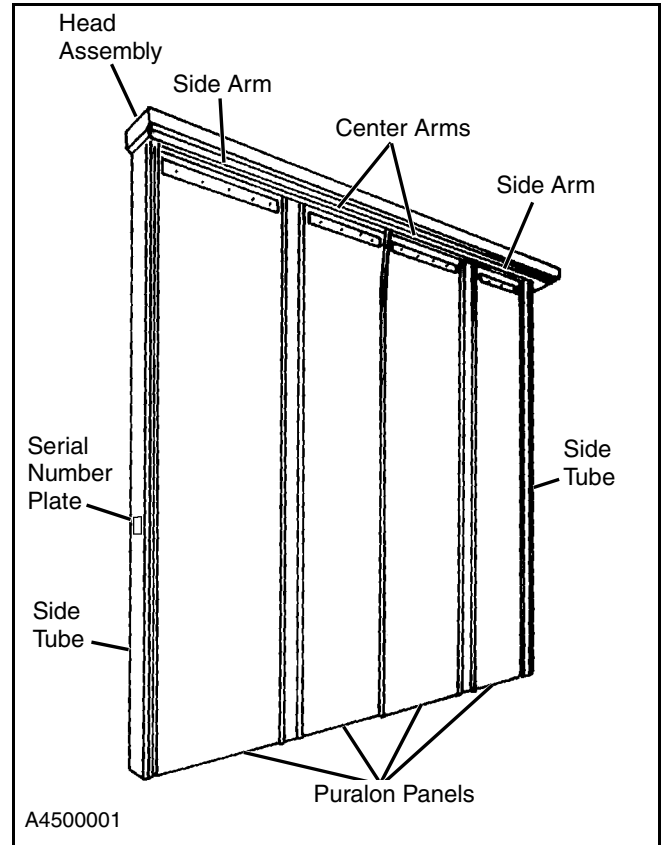


Figure 1

INSTALLATION—ANCHORING METHODS

ANCHORING METHODS

Correct anchoring of the door to the wall is important for smooth and safe door operation. The wall material should be strong enough to support the door and anchors. Figure 2–6 show the most common anchoring methods; use the method that best fits your application. All anchoring hardware and material are the responsibility of the door owner and/or installer.

If you have any questions, call your Rytec representative or the Rytec Customer Support Department at 1-800-628-1909.

NOTE: Use 1/2-inch diameter expansion shell or stud-type anchors for concrete or brick walls, or 1/2-inch diameter through bolts for brick walls or other applications where expansion bolts are not applicable.

Concrete or Brick Wall (Figure 2)

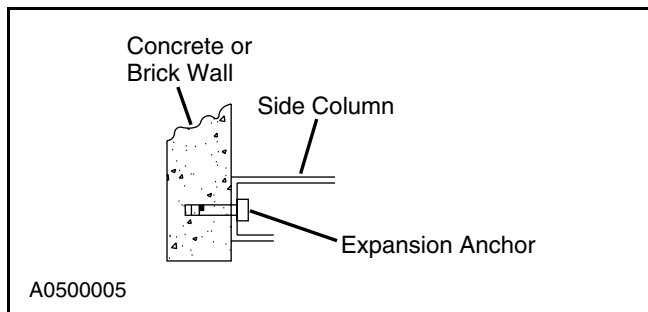


Figure 2

Wood or Brick Wall (Figure 3)

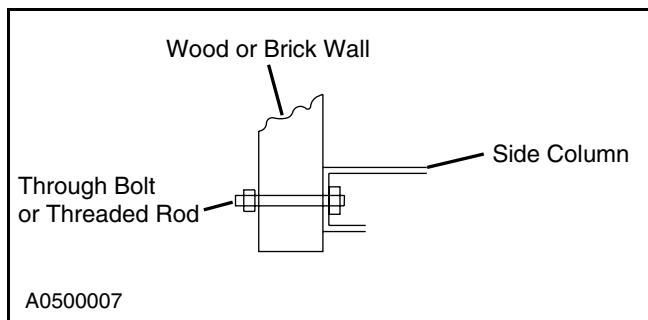


Figure 3

Insulated Walls (Figure 4–6)

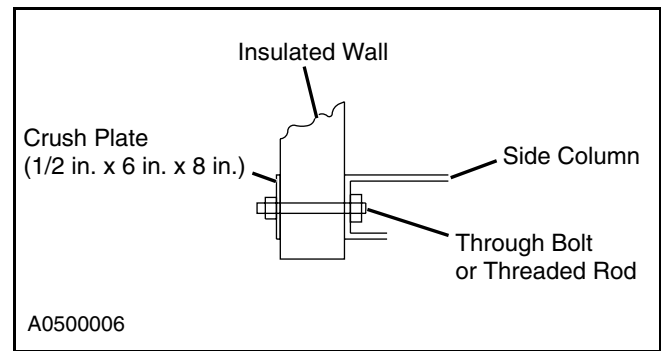


Figure 4

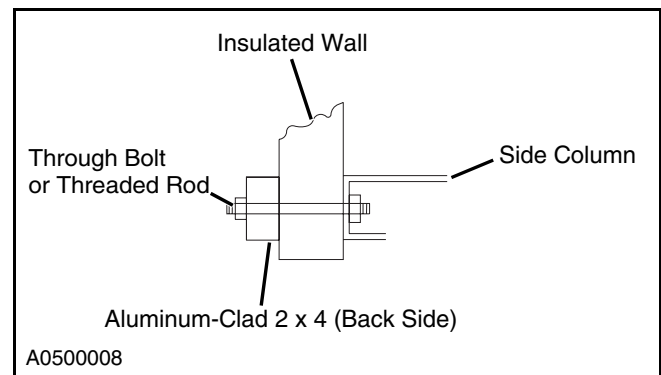


Figure 5

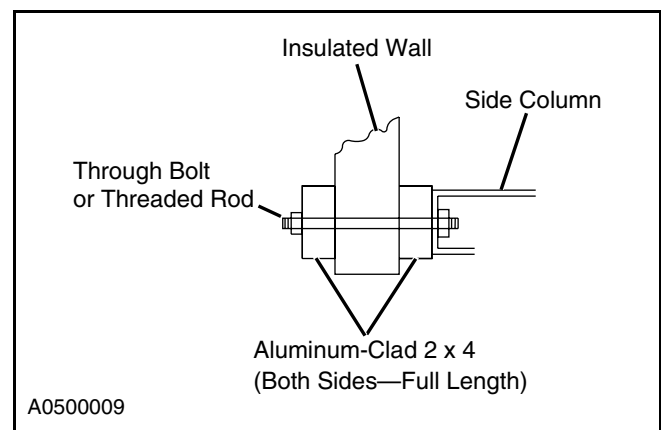


Figure 6

UNCRATING

Your Rytec Door has been crated to allow minimal handling during installation.

The Puralon® material has been placed in a flat position, on a shelf in the top of the crate. They are in a preassigned assembly order. This has been done for ease of installation. When the Puralon material is removed from the crate, it should be stored flat.

CAUTION

Storing or rolling the Puralon incorrectly may damage the Puralon. This can cause problems with the way the door panels seal.

LOCATING SIDE TUBES

NOTE: Accurate measurement is critical to correct door installation. Verify all measurements before installing components.

1. Measure the door opening width in inches. Divide the width by two to obtain the centerline dimension. Mark the floor at the centerline. (See Figure 7.)
2. Measure the head assembly to determine the overall length.

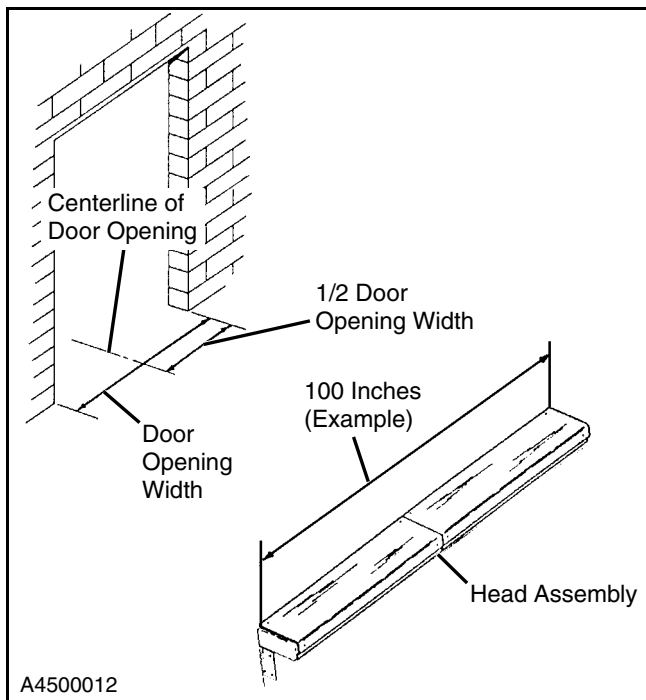


Figure 7

3. Measure out to each side of the door opening centerline 1/2 of the overall length of the head assembly minus 2-13/16 inches. Mark the floor and wall on each side of the door opening at that dimension. (See Figure 8.)

Example:

Overall Head Length: 100 inches

100 inches divided by 2 = 50 inches

50 inches minus 2-13/16 inches = 47-3/16 inches

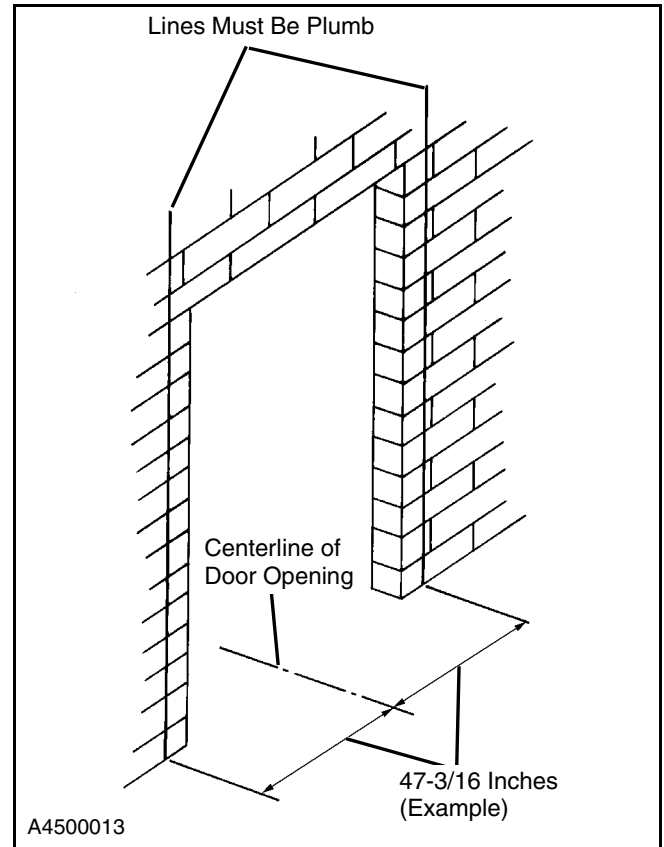


Figure 8

4. Check the floor on each side of the door opening for level. If one side is higher than the other, shimming will be required under the low side.

Figure 9 and Figure 10 show recommended methods that can be used to ensure a level side tube installation.

NOTE: If the floor is more than 2 inches out of level, contact the Rytec Customer Support Department before proceeding with the installation.

INSTALLATION—INSTALL SIDE TUBES

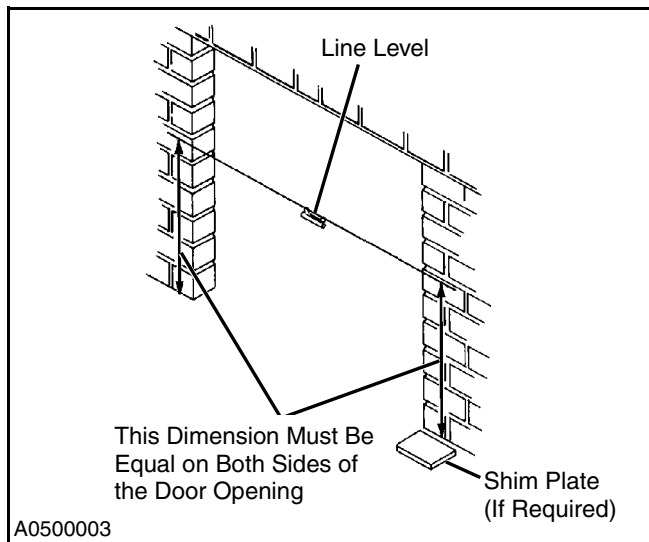


Figure 9

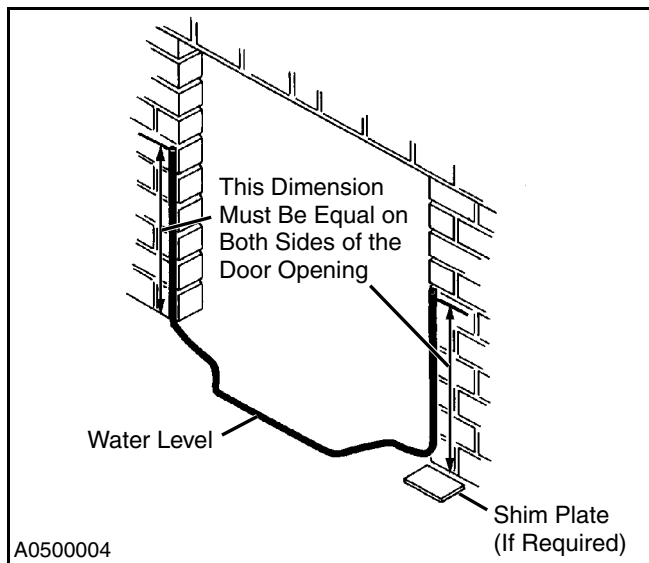


Figure 10

INSTALL SIDE TUBES

CAUTION

It is critical that the side tubes are mounted level and square to the wall and floor, both vertically and horizontally. A 4-foot level and carpenter's square are recommended for this procedure.

The use of bar clamps to hold the side tubes during installation is recommended, as these hold the tubes securely in place while allowing slight movement of the tubes during the installation of the head assembly.

NOTE: There are left and right side tubes.
(See Figure 11.)

Use 1/2-inch expansion shell or stud-type anchors for concrete walls and through bolts or threaded rods for brick walls and other applications where 1/2-inch anchors are not applicable. All anchoring hardware and material is the responsibility of the door owner and/or installer. (See "ANCHORING METHODS" on page 4.)

1. Mount the right side tube perpendicular to the floor as shown in Figure 11. The outside edge of the tube is located on the line drawn on the wall.

NOTE: Shim under the side tube, as required, if the floor was not level as checked in step 4 of "LOCATING SIDE TUBES" on page 5.

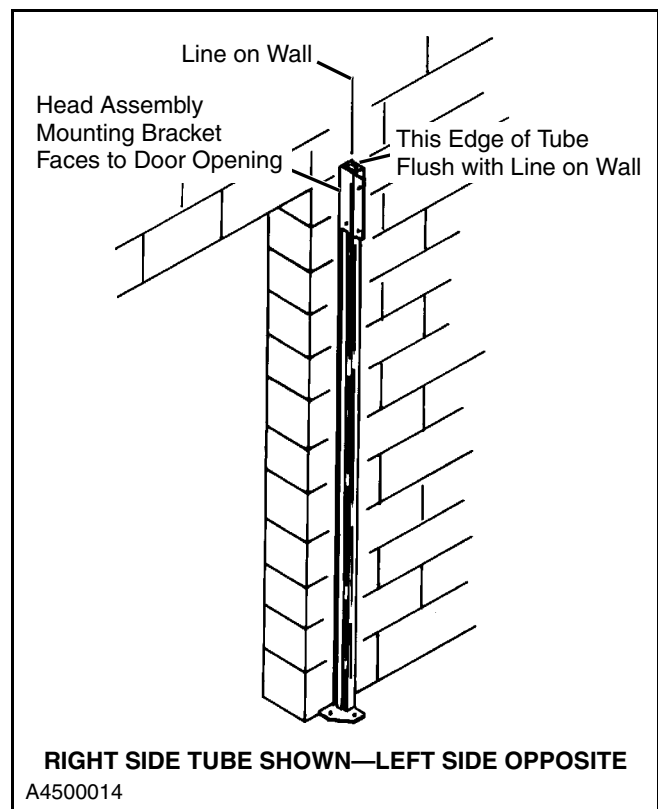


Figure 11

NOTE: DO NOT tighten anchors at this time. The side tubes will have to be adjusted when the head assembly is installed.

2. When the side tube has been positioned properly, anchor the side tube to the floor using appropriate anchors. (See Figure 12.) (See "ANCHORING METHODS" on page 4.) Anchor holes have been provided in the side tubes.

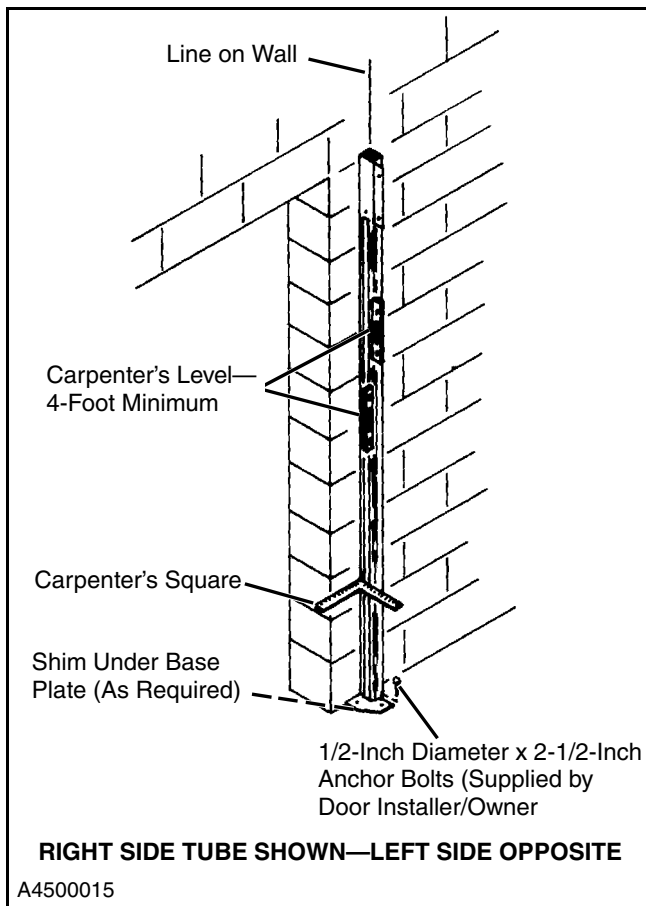


Figure 12

3. Mount the left side tube to the wall using the same procedure as outlined in steps 1 and 2.

INSTALL HEAD ASSEMBLY

1. Remove covers prior to installation.

WARNING

The head must be securely fastened to the forks of the lift-truck during installation of the head to the side tubes. Failure to fasten the assembly properly can result in damage to the head and/or personnel.

DO NOT remove the forklift support from the head until it has been securely fastened to the side tubes and the head and tubes have been securely fastened to the building wall.

CAUTION

Use care when handling the head assembly to ensure that the weather seal and arms are not damaged.

2. Move the arms to the full-open position.
3. Remove the head from the crate using a forklift or other suitable means. Secure the head to the forks using clamps or other suitable method. (See Figure 13.)

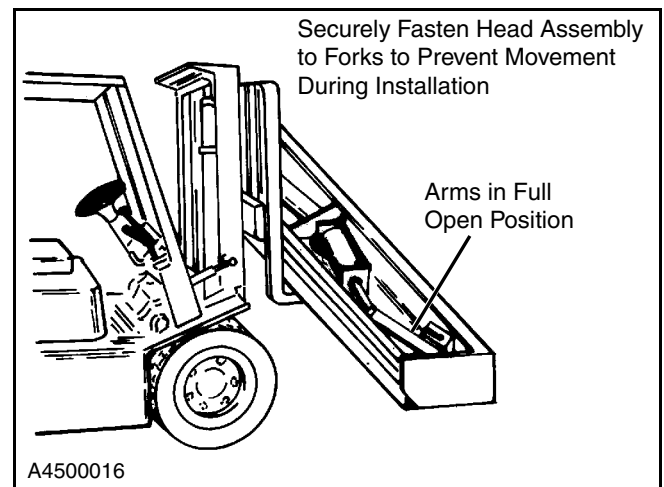


Figure 13

4. Lift head assembly into position between the top sections of the side tube assemblies.
5. Slide the lower bolts on the sides of the head assembly into the holes in the side tube brackets and fasten the head assembly to the side tubes with 1/2-13 serrated-flange hex nuts. Install 1/2-13 x 3/4-inch serrated-flange hex bolts into the upper mounting holes and tighten. (See Figure 14.)

INSTALLATION—INSTALL HEAD ASSEMBLY

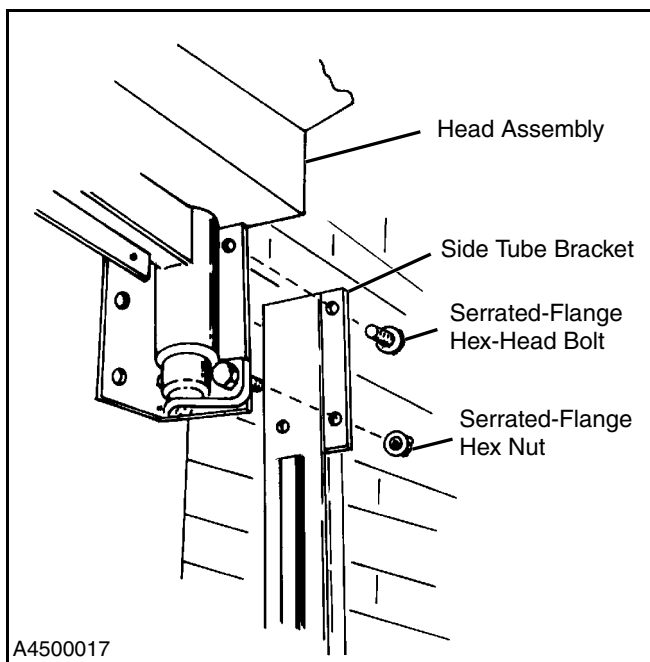


Figure 14

NOTE: Make sure the side tubes are plumb before the head assembly is anchored to the wall.

6. Anchor the head assembly to the wall as shown in Figure 15.

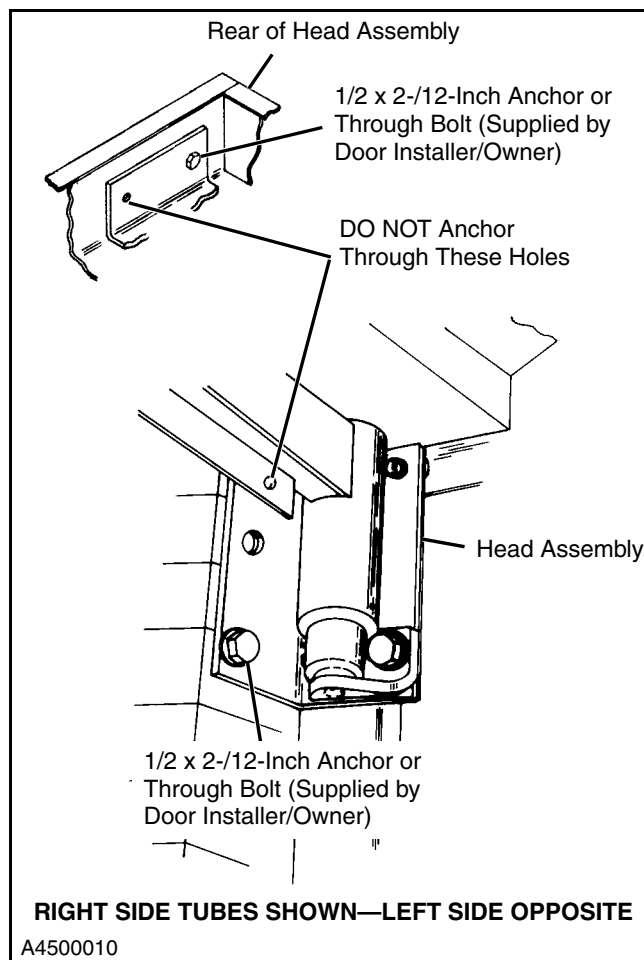


Figure 15

7. Tighten the anchors securing the side tube anchor plates to the floor. If shims were used under the anchor plates, make sure they are in place and secure.

INSTALL PANELS

⚠ CAUTION

Storing or rolling the Puralon incorrectly may damage the Puralon. This can cause problems with the way the door panels seal.

NOTE: The panels are numbered from left to right, facing the front of the door. Each panel is marked with a position number. The panels must be installed by the assigned position numbers. The clamp flange assemblies, used to fasten the panels to the side tubes and center arms, also have been marked. (See Figure 16 and Figure 17.)

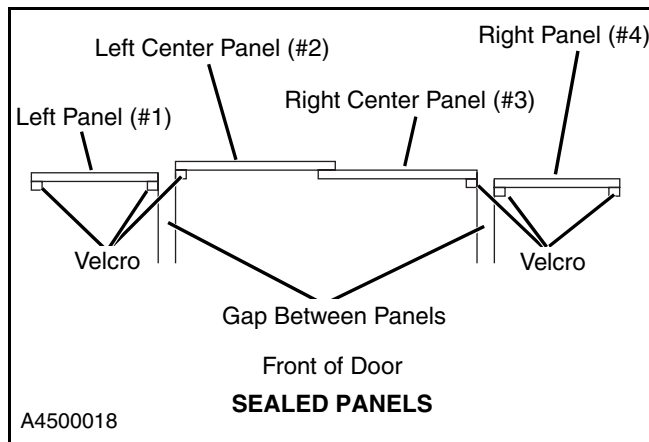


Figure 16

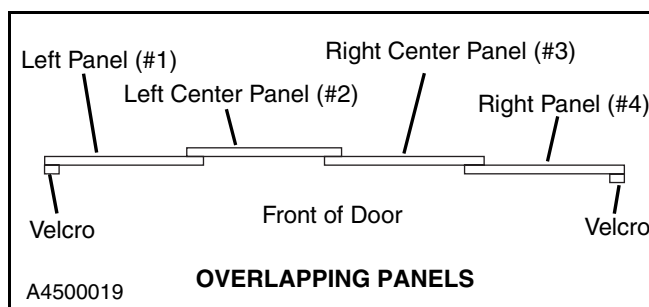


Figure 17

1. Insert the studs on the right end clamp flange (#4) through the holes in the upper edge of the right end panel (#4). (See Figure 18.)

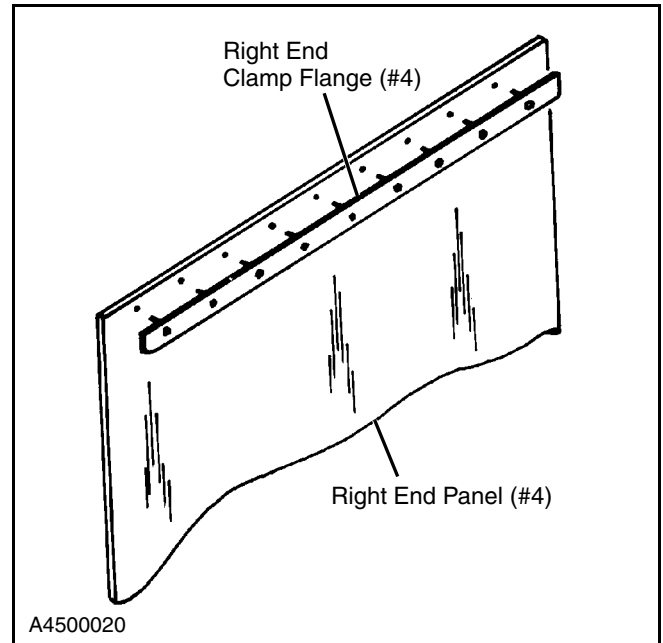


Figure 18

2. Attach the panel and clamp flange to the right side arm with 5/16-18 serrated-flange hex nuts provided with the door. (See Figure 19.)

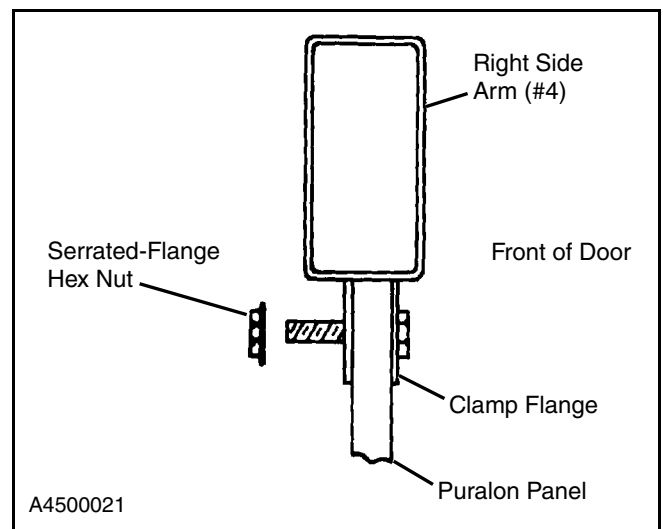


Figure 19

3. Mount the left end panel (#1) using the same procedures as outlined in steps 1 and 2.
4. Insert the right center clamp flange (#3) through the right center panel (#3). (See Figure 20.)

INSTALLATION—TRIMMING THE BOTTOM OF THE PANELS

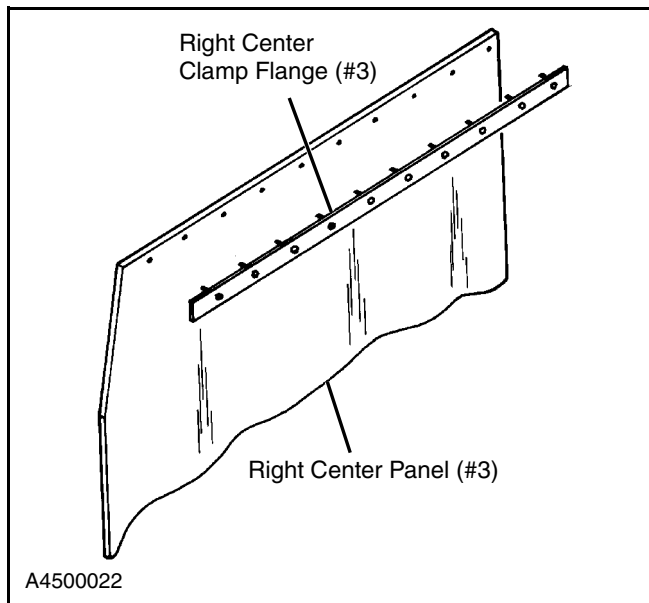


Figure 20

5. Attach the right center panel and clamp flange to the center arm with 5/16-18 serrated-flange hex nuts provided with the door. (See Figure 21.)

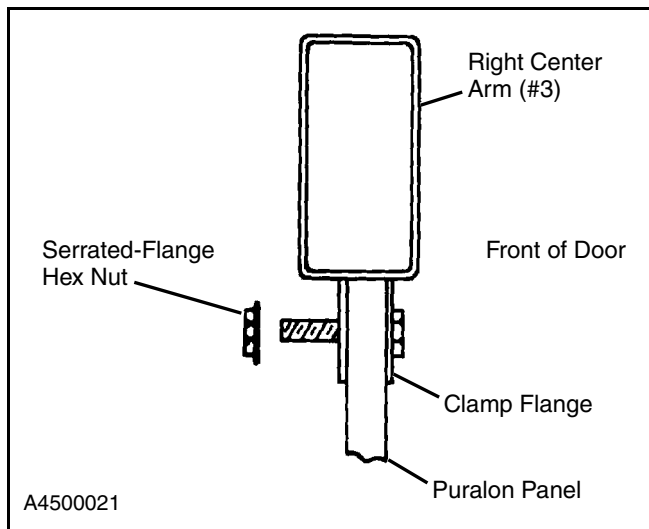


Figure 21

6. Mount the left center panel (#2) using the same procedures as outlined in steps 4 and 5.

TRIMMING THE BOTTOM OF THE PANELS

CAUTION

Failure to trim the bottom of the panels will cause the panels to drag on the floor. This can cause door sealing problems.

NOTE: To make cutting the Puralon easier, pull the excess material away from the knife blade. This will allow the blade to move freely through the material.

Using a utility knife, trim the bottom of all the panels to within 1/4 inch of the floor. (See Figure 22.) The panels may stretch after the initial installation. Allow the panels to hang for at least 24 hours and recheck gap. Trim as required.

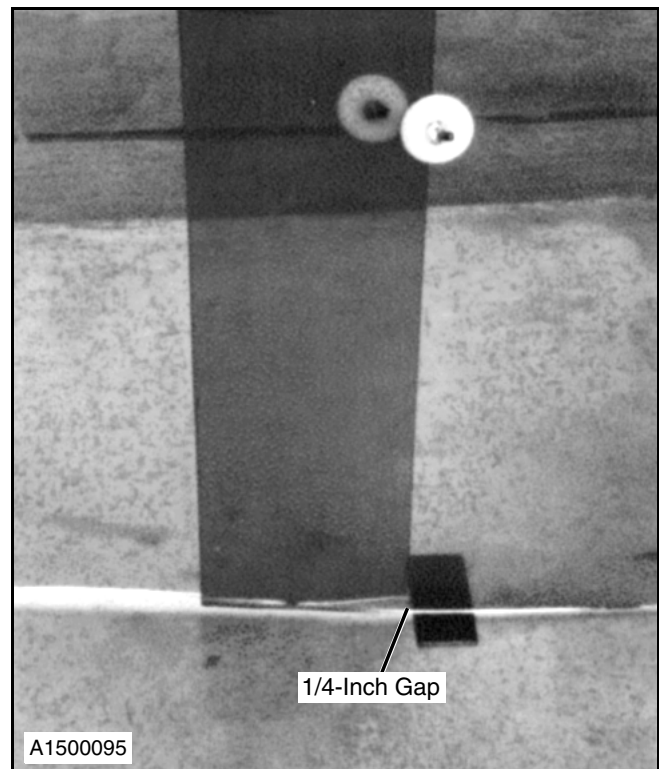


Figure 22

KNOB AND TIE INSTALLATION (ROPE TIE DOORS)

1. Make sure the door is completely closed.
2. Determine how many rows of knobs and rope ties are required for the door and their location from the following chart. The distance shown is from the floor.

Door Height (Feet)	Dim. "A" (Inches)	Dim. "B" (Inches)	Dim. "C" (Inches)
6	24	48	—
7	24	60	—
8	24	72	—
9	24	72	—
10	24	72	—
11	24	72	—
12	24	72	120

3. Mark the position of the holes for the knobs on the panels. Each panel has a straight edge and an edge with a 45° cut at the top. Measure from the straight edge to locate the pair of holes. (See Figure 23.)

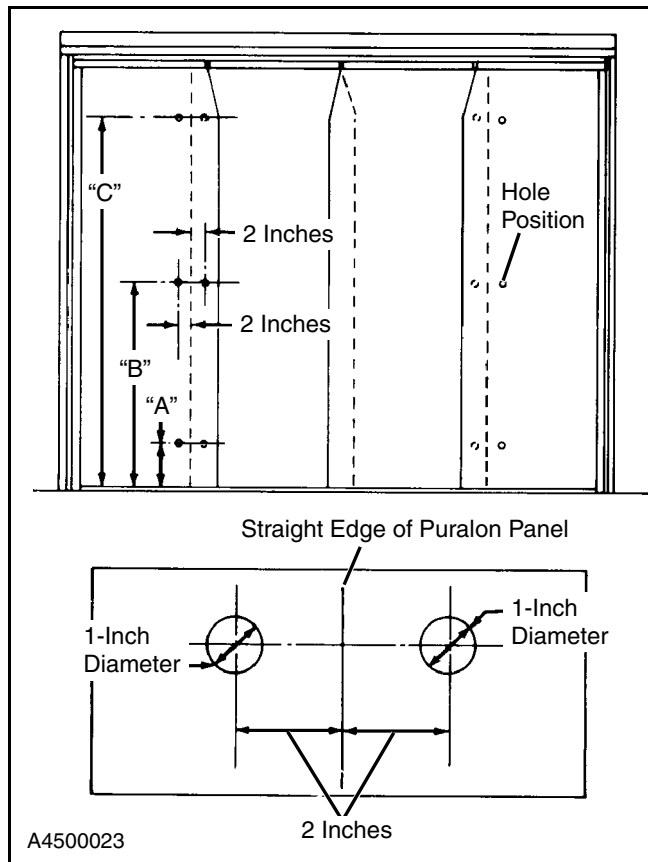


Figure 23

NOTE: The distance between the edge of the Puralon panel and the center of the 1-inch diameter holes is 2 inches.

4. Drill 1-inch diameter holes in the panels. Use a hole saw or wood spade bit. The holes should be drilled from the front of the door. (See Figure 24.)
5. Insert the small end of the knob(s) into the holes from the front of the door. Press into place. (See Figure 24.)

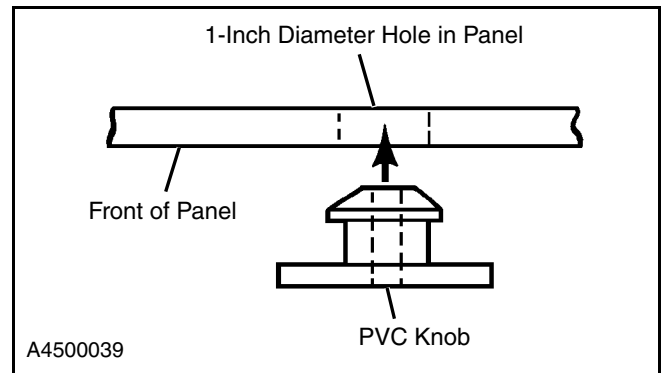


Figure 24

6. Tape approximately 1/2–1 inch of both ends of the rope supplied with the door.
7. Install a crimp close to one end of the rope. Lock it in place by crimping the two sides with a side cutter or other suitable tool.
8. Tie a knot next to the crimp.
9. Insert the end of the rope without the knot through the wide face of the first knob. To make tying the second knot easier, the first knob should be the one under the panel overlap. Run the rope through the knob beside it from the hinge side and pull the rope tight. (See Figure 25.)

INSTALLATION—KNOB AND TIE INSTALLATION (ROPE TIE DOORS)

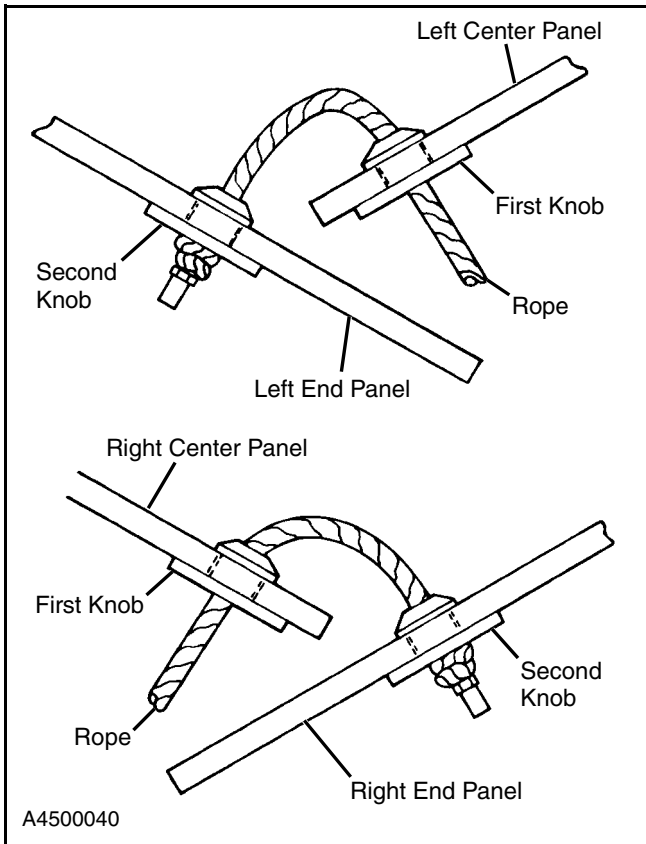


Figure 25

10. Hold the rope taut and tie a knot close to the wide face of the second knob. There should be very little slack in the finished rope tie assembly. (See Figure 26 and Figure 27.)

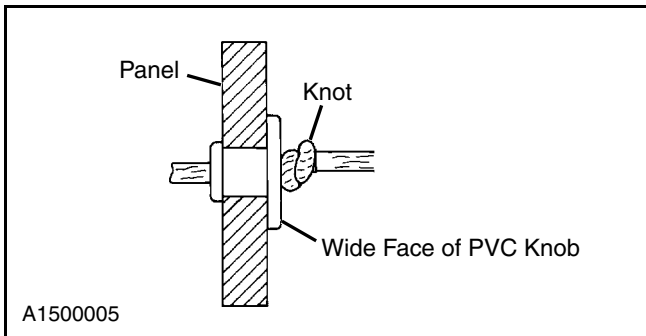


Figure 26

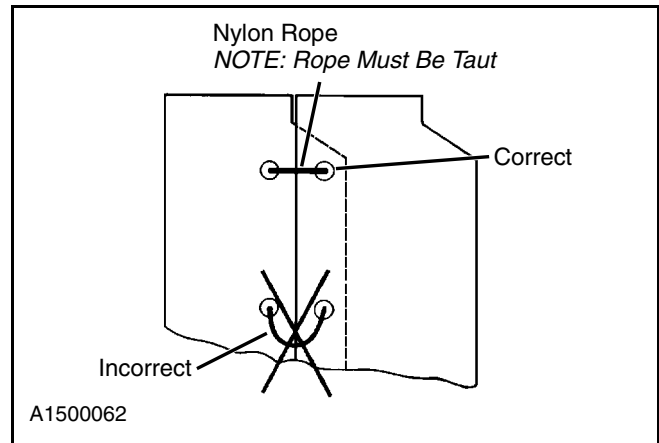


Figure 27

11. To prevent the rope from fraying, tape a section of the rope after the knot and cut in the center of the tape.
12. Install a crimp next to the knot. Lock the crimp in place by crimping the two sides with a side cutter or other suitable tool. (See Figure 28.)

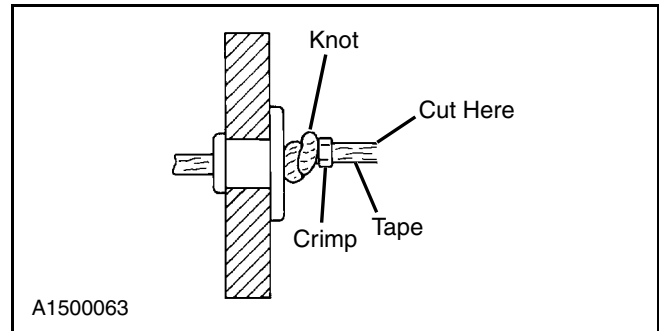


Figure 28

13. Repeat these steps for each set of knobs. Figure 29 shows a completed set of knobs, rope, and crimps.

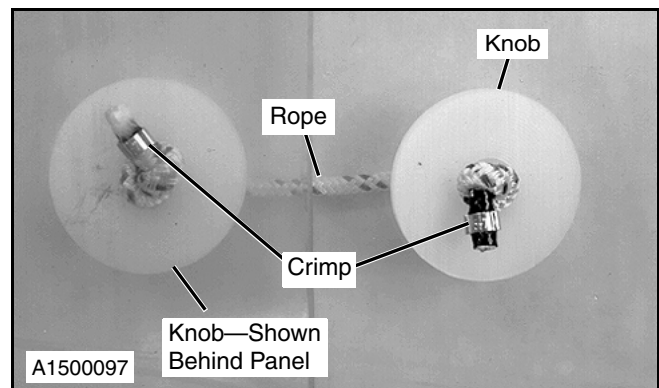


Figure 29

14. Cut a slight bevel, about 4 inches long, on the edge of the Puralon panel where the nylon rope contacts the Puralon. (Figure 30 shows a complete assembly.)

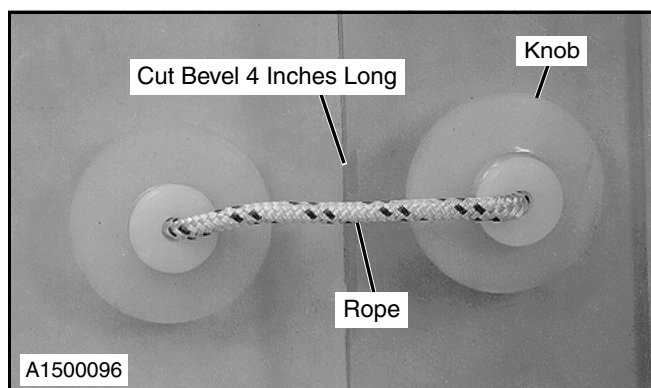


Figure 30

SIDE SEAL INSTALLATION

NOTE: Side seals are seals that close the area between the outside Puralon panels and the side tubes.

1. The side Hypalon seals are factory installed on the side tubes. Attach the side Hypalon seals to the end Puralon panels.
2. Install the UHMW strips to the bottom of the side seals using three 1/4-20 x 1/2-inch round-head slotted screws. (See Figure 31.)

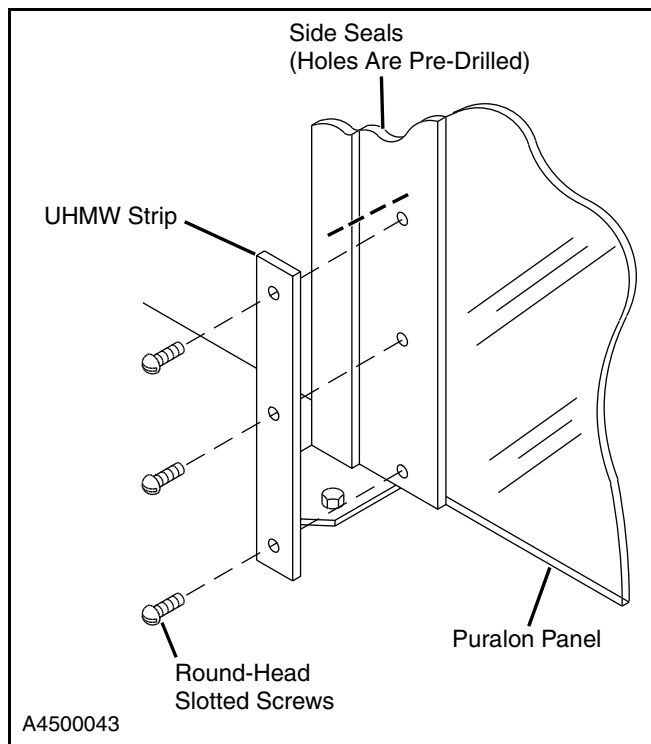


Figure 31

HYPALON SEAL INSTALLATION (DOORS WITH SEALED PANELS)

NOTE: Center seals are seals that close the area between two adjacent Puralon panels.

1. Locate the center Hypalon seals.
2. Attach the Hypalon seals to the edges of the Puralon panels. The Velcro™ strips on the panels should match the strips on the Hypalon seals. Start installing the seal at the bottom and work up. (See Figure 32.)

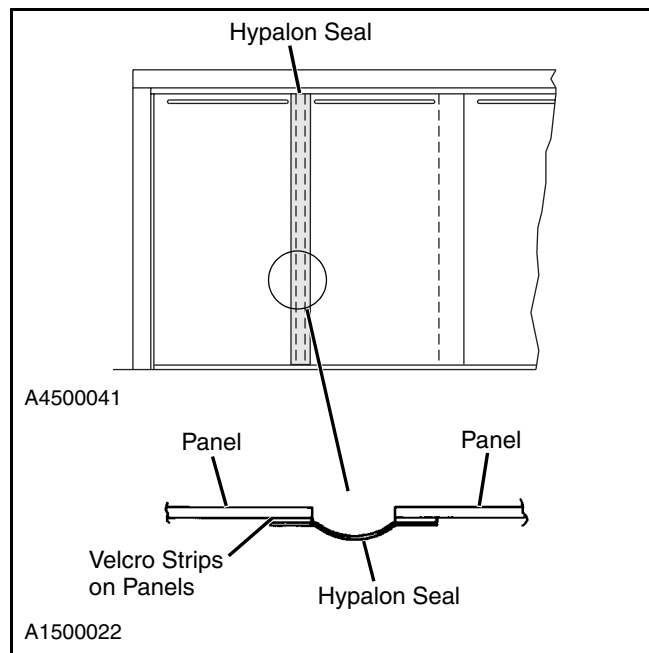


Figure 32

PANEL CLEANING

Once the panels and seals are in place, clean the panels with general household surface and glass cleaner. Avoid scratching the panels by using a clean, soft cloth.

INSTALLATION—AIR LINE RECOMMENDATIONS (NON-LUBRICATED)

AIR LINE RECOMMENDATIONS (NON-LUBRICATED)

Figure 33 shows recommendations for the incoming air supply to the filter/regulator.

Air Header: For best results, the air header should be installed around the building with a 1/4-in. per 10-foot slope to allow water to drain.

Air Drop: The air drop should come from the top of the air header (air supply line) to prevent moisture and other contaminants from entering the door filter/regulator.

ON/OFF Valve: Allows the air supply to the door filter/regulator to be turned off to perform service.

Drip Leg: Collects water and other contaminants. Recommended size is three times the diameter of the air drop line.

Automatic Water Dump (Optional): Drains moisture collected in the drip leg.

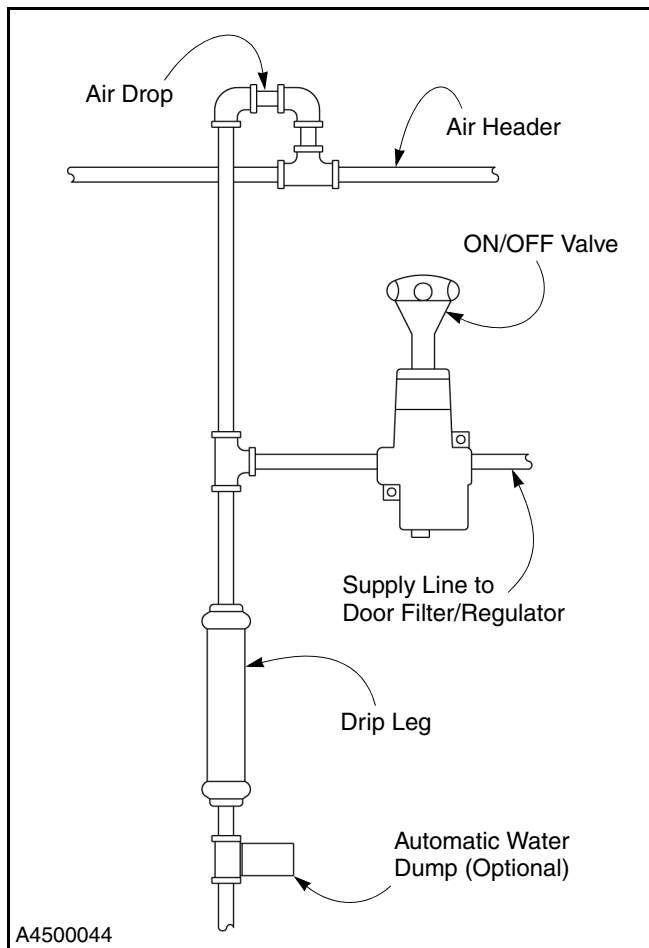


Figure 33

AIR LINE



Failure to provide clean and dry air supply may cause problems with:

- Cylinder or valve operation.
- Door operation.
- Premature plugging of the filter.

NOTE: The control panel should have been mounted prior to the installation of the door. If the control panel was not installed, see "ELECTRICAL CONNECTIONS" on page 15.

The air supply must be capable of supplying 1 cfm per door cycle at 90 psi.

Example: A door cycling twice per minute requires 2 cfm at 90 psi.

1. Connect the line from the air supply to the filter/regulator mounted on the right side of the control panel. (See Figure 34.)
2. Remove the plastic cap covering the automatic water drain. (See Figure 34.)

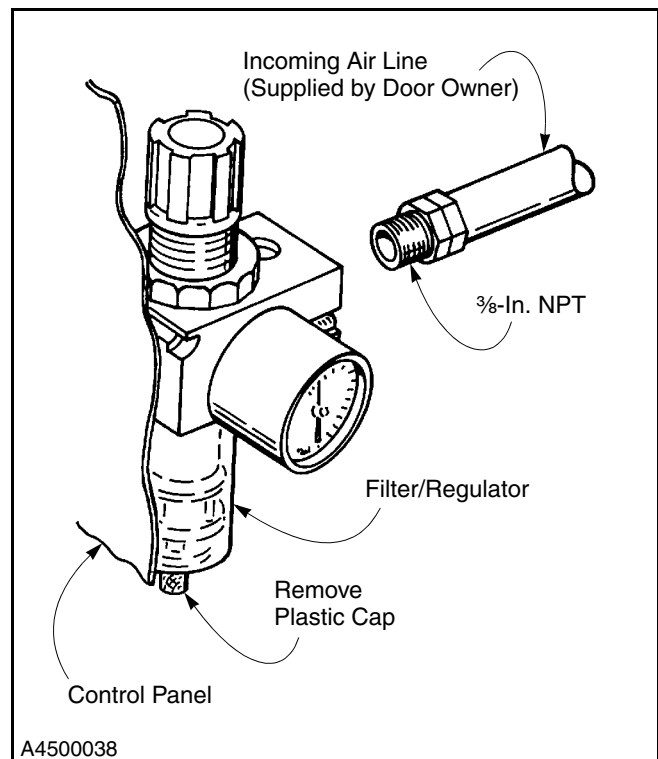


Figure 34

3. Attach the air lines, which were supplied with the door, to the fittings on the left side of the control panel. (See Figure 35.)
4. Run the air lines from the control panel to the fittings on the underside of the head assembly. The line from the upper fitting connects to the fitting at the rear of the header. The line from the lower fitting connects to the front fitting. (See Figure 35.)

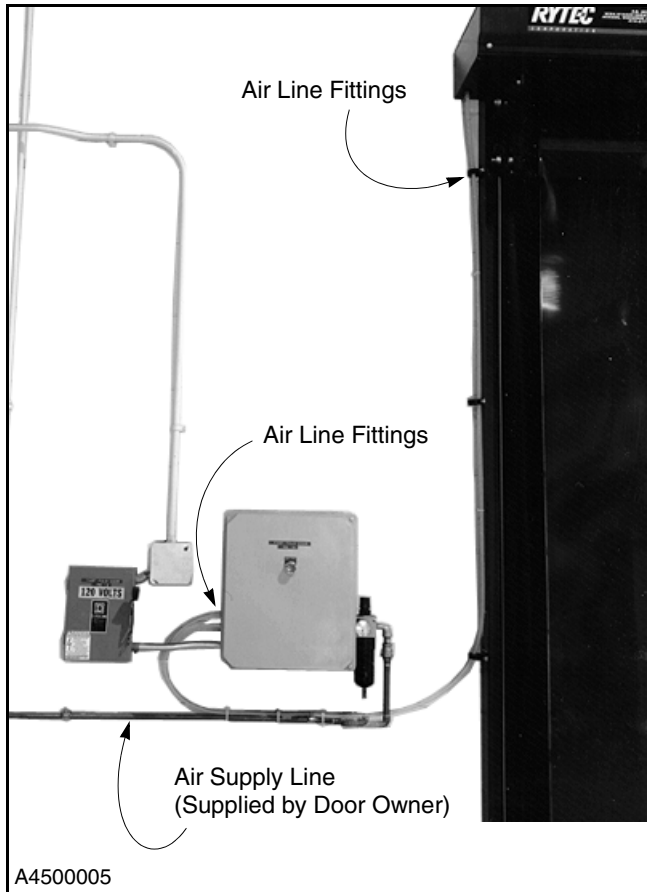


Figure 35

ELECTRICAL CONNECTIONS

1. Locate the Rytec control panel and fused disconnect as shown in Figure 36.

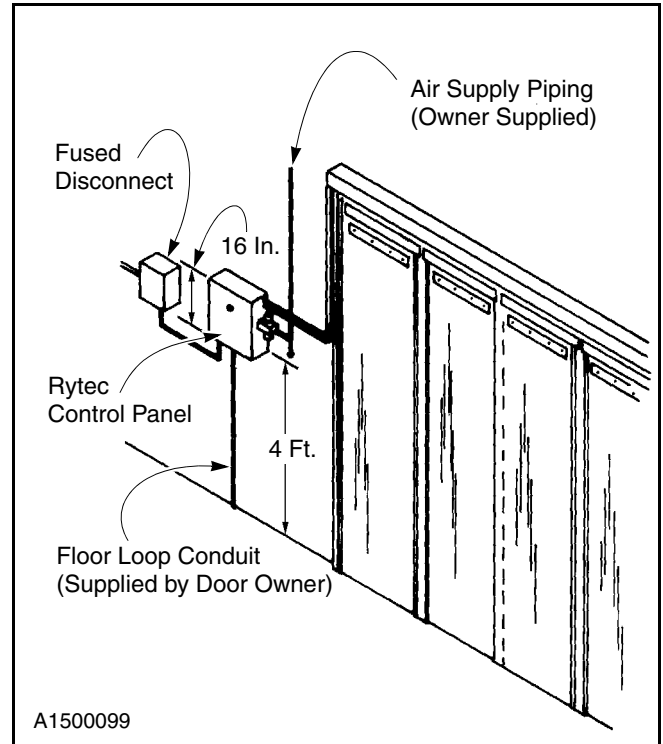


Figure 36

⚠ WARNING

The disconnect must be in the **OFF** position and properly locked and tagged before performing the following procedure.

All electrical wiring must meet all applicable codes and must be installed by a qualified electrician.

WIRING NOTE: All wiring from the fused disconnect to the control panel is provided by the customer, installer, or the electrician. All wiring and conduit must meet all local and state codes. Wires provided with the door are labeled with terminal or contact numbers.

All conduit entering the control panel must enter from the side or bottom of the box. **DO NOT** install conduit in the top of the control panel.

INSTALLATION—DOOR START-UP AND ADJUSTMENTS

Protect control panel components from metal chips when installing the conduit. Seal the conduit connection in the control panel, particularly if the conduit entering the panel is coming from an area with a different temperature than the area containing the control panel.

The electrical connection information and wiring diagram in this manual are for general information purposes only. Due to varying requirements for individual customers, a wiring diagram has been prepared for your installation. That diagram was shipped inside your control panel and must be used for this installation.

2. Connect the power supply wires from the fused disconnect to terminals L1 and N.
3. Connect momentary contact activators (i.e., push button, pull cord, radio, etc.) as follows: (See Figure 37.)

For non-automatic operation: Connect activator to terminals 1 and 3. One momentary connection will open the door and another will close the door.

For automatic operation: Connect activator to terminals 15 and 16. A momentary connection will open the door and the timer will close the door.

4. Connect maintained contact activators (i.e., floor loop, photo eye, or motion detector), to terminals 15 and 16. A maintained connection will open the door and the timer will close the door. (See Figure 37.)

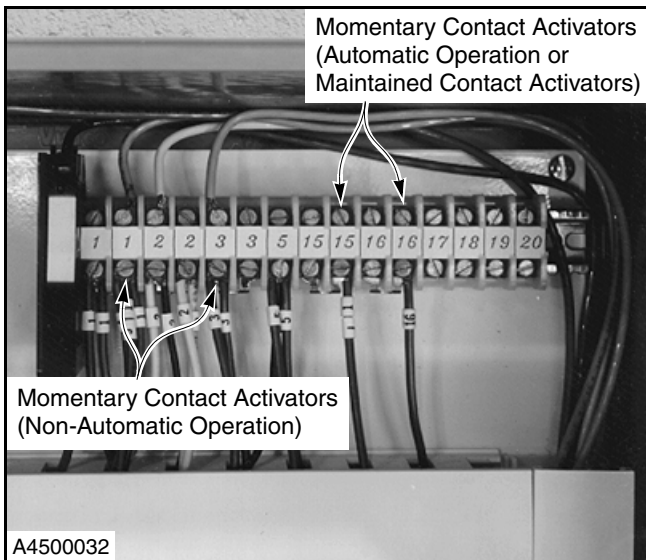


Figure 37

5. When wiring is complete, replace the fuses in the fused disconnect.

DOOR START-UP AND ADJUSTMENTS

Your Rytec Fast-Fold Pneumatic Door was tested and adjusted at the factory prior to shipment. However, due to varying conditions at each installation site, operation of the door should be checked prior to putting it into daily operation.

WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

Pressure Adjustment

NOTE: The initial air pressure setting may be adjusted to fit the customer's application.

Set the gauge on the air regulator, which is located on the right side of the control panel. Normal setting is 50 psi.

(See Figure 38.)

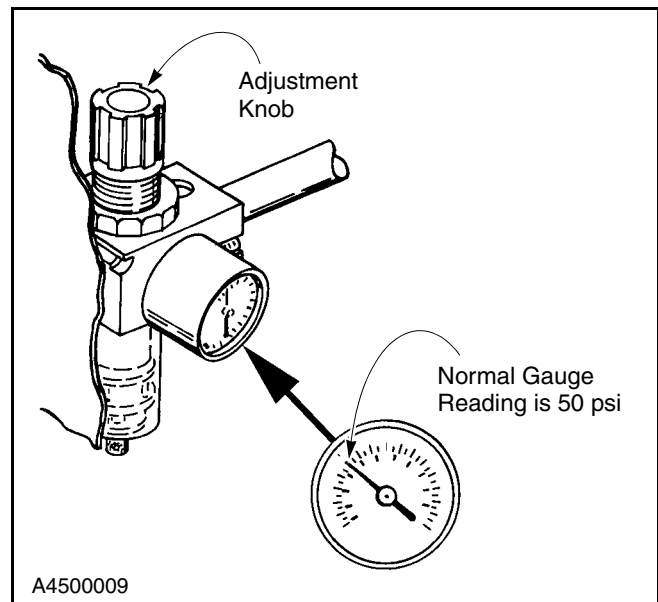


Figure 38

NOTE: The door is designed to open when power is turned off. Reverse the air lines connecting the control panel to the head if the door closes when power is turned off.

Door Opening Speed Adjustment

The opening speed for the door was preset at the factory. If a faster or slower opening speed is desired, turn the adjustment screw on the quick exhaust valve. The quick exhaust valve is located in the head assembly. (See Figure 39 and Figure 40.)

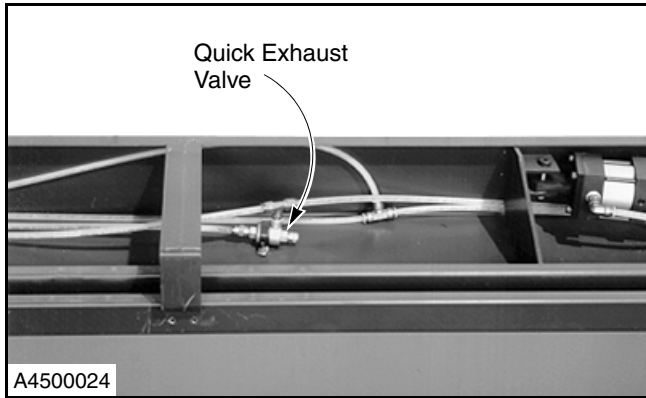


Figure 39

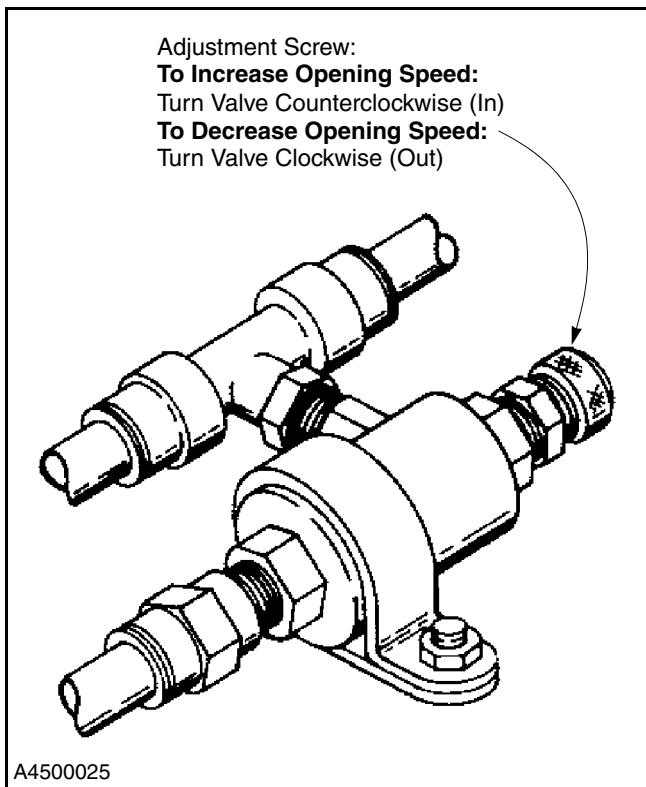


Figure 40

Door Closing Speed Adjustment

The closing speed should be set at the time of installation to suit customer requirements. Normal closing speed is approximately four to five seconds. If adjustment is required, adjust the valve located on the bottom of the control panel. (See Figure 41.)

To increase closing speed: Turn valve counterclockwise (in).

To decrease closing speed: Turn valve clockwise (out).

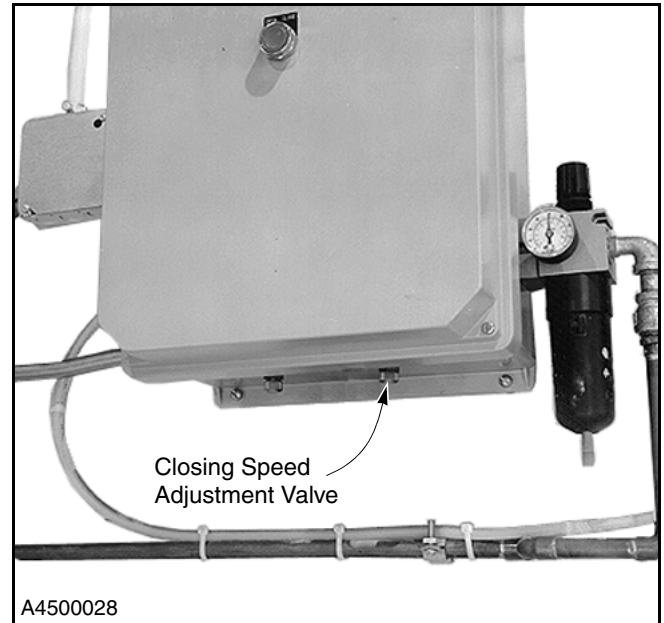


Figure 41

INSTALLATION—DOOR START-UP AND ADJUSTMENTS

Door Cushion Adjustment

This door is designed with a cushioning feature to slow the door travel approximately 12 in. from the full-open and closed positions.

If the door panels do not slow down as they reach the last 12 in. of travel, adjust the screws located at the rod end (opening) and pivot end (closing) of both cylinders as follows. (See Figure 42 and Figure 43.)

NOTE: Adjust screws in ¼-turn increments.

To decrease travel speed: Turn screw clockwise (in).

To increase travel speed: Turn screw counterclockwise (out).

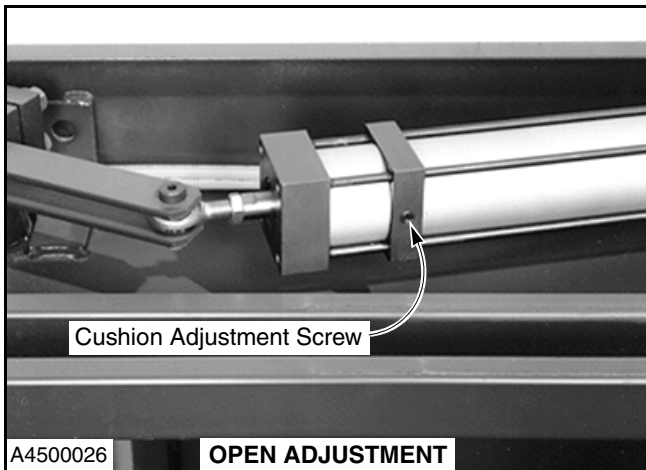


Figure 42

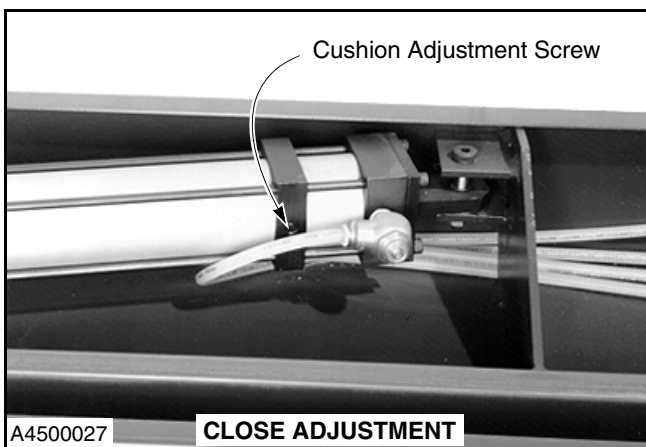


Figure 43

Lag Control Adjustment

The left panels of the door should close approximately one second slower than the right panels. This will prevent the leading edges of the center panels from binding as the door closes.

Adjust the lag adjustment screw located at the rear of the left air cylinder, as required, to achieve the proper closing speed. (See Figure 44.)

NOTE: Adjust screw in ¼-turn increments.

To decrease travel speed: Turn screw clockwise (in).

To increase travel speed: Turn screw counterclockwise (out).

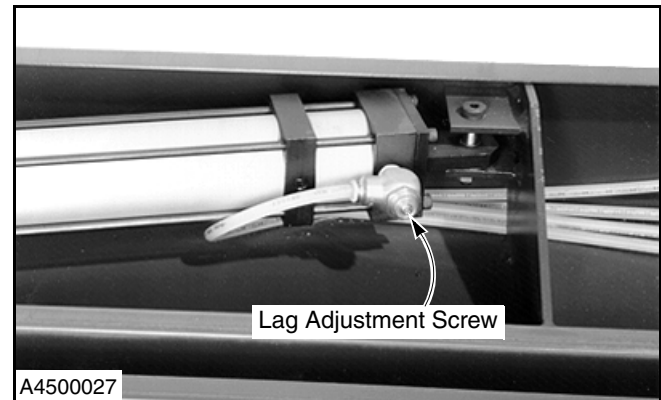


Figure 44

Setting Time To Close

WARNING

The disconnect must be in the OFF position and properly locked and tagged before performing the following procedure.

The Rytec control panel is equipped with a timer to automatically close the door if optional automatic opening and closing devices are installed (i.e., radio control, floor loop, etc.). If automatic closing devices are not installed, setting of the timer is not required.

1. Turn off power to the door.
2. Open the control panel cover.

- Turn the timer dial to the desired close delay setting. (See Figure 45.)

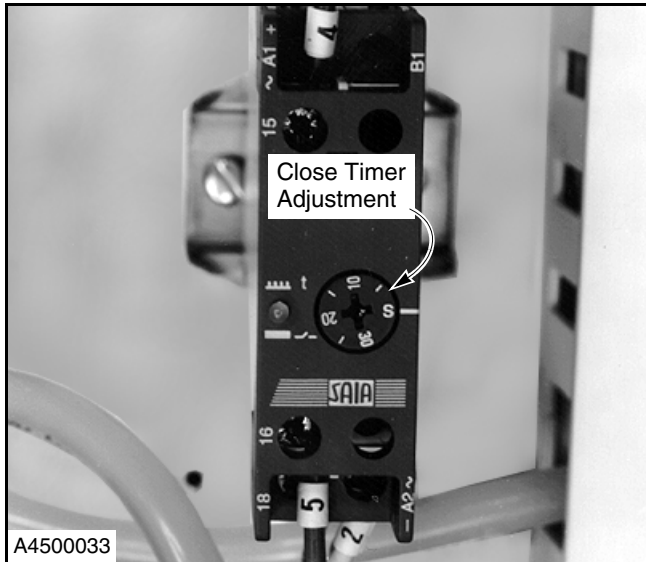


Figure 45

NOTE: The actual appearance of the timer may vary from that shown.

- Close the control panel cover.
- Turn on power to the door.

HEAD ASSEMBLY COVERS

Attach the head assembly covers to the head assembly with the self-drilling and tapping screws provided with the door. (See Figure 46.)

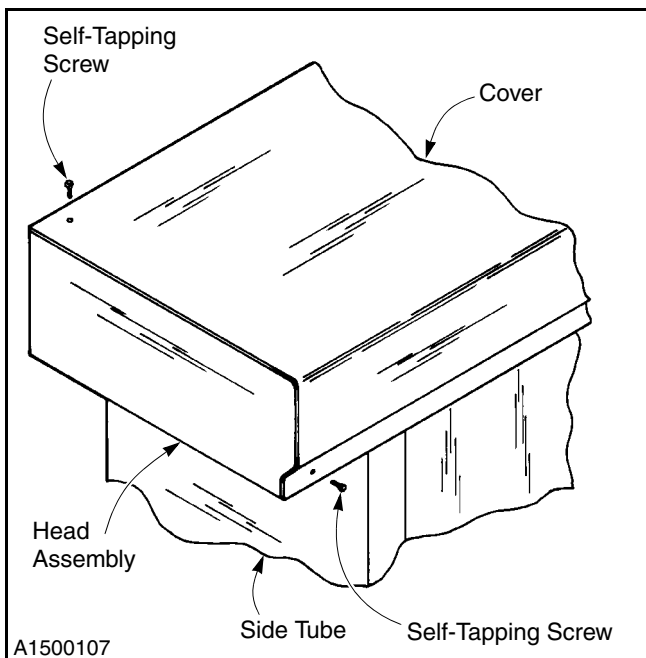


Figure 46

UPPER SEAL INSPECTION

The upper seal has been installed at the factory. Check to see that the seal fits tight against the center and side arms. (See Figure 47.)

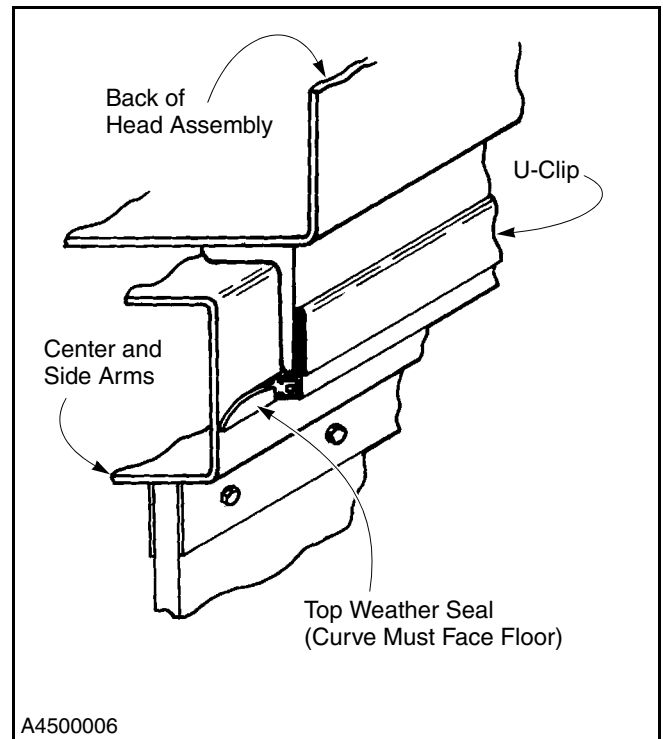


Figure 47

NOTE: Make sure the curve in the seal faces toward the floor.

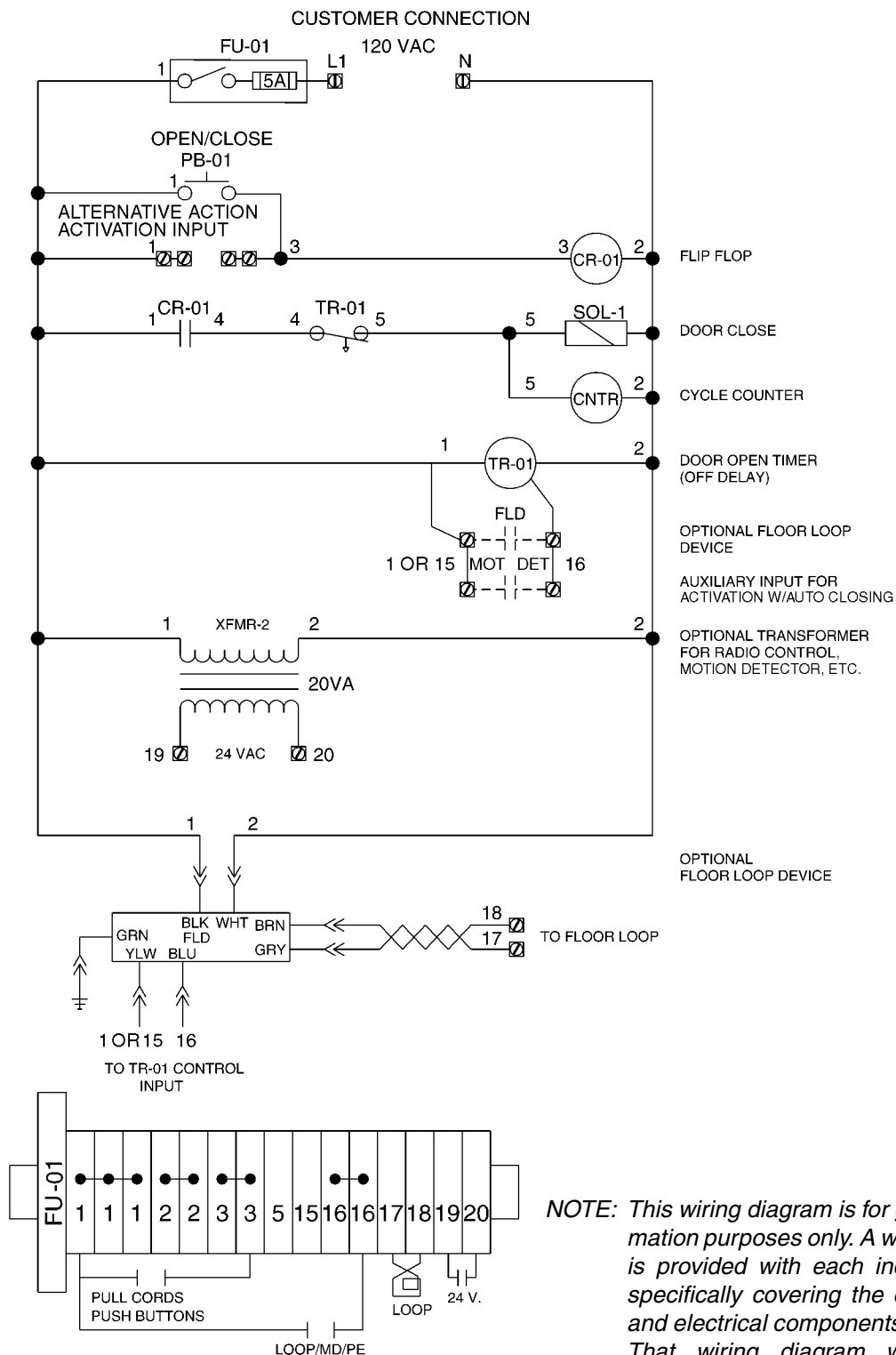
DOOR SEALING

Caulk the side tubes and the head assembly where they meet the wall of the building.

WIRING DIAGRAM—CONTROL PANEL

WIRING DIAGRAM

CONTROL PANEL



NOTE: This wiring diagram is for general information purposes only. A wiring diagram is provided with each individual door specifically covering the control panel and electrical components of that door. That wiring diagram was shipped inside the control panel and it must be used for this installation.

A4500046

Figure 48

FINAL CHECKS

NOTE: Check all of the following door components and systems once the door panel has been cycled at least 20 times.

Head Assembly: Check that all mounting hardware is in place and tight.

Door Panels: Check that all door panels are installed properly, hang straight, and travel smoothly as described in “INSTALL PANELS” on page 9. Make sure all hardware is in place and tight.

The panels should be kept trimmed to within ¼-in. of the floor as described in “TRIMMING THE BOTTOM OF THE PANELS” on page 10. Because the panels can stretch over time, failure to keep them trimmed to length could result in a door that seals poorly.

Knobs and Rope Ties: All knobs and rope ties should be installed correctly as described in “KNOB AND TIE INSTALLATION (ROPE TIE DOORS)” on page 11.

Seals: All seals should be installed correctly, as described in “SIDE SEAL INSTALLATION” on page 13.

Air Lines and Fittings: All air line connections and fittings must be tight and free of leaks.

Electrical Connections: All control panel internal connections must be tight.

Air Pressure Adjustment:

NOTE: The initial air pressure setting may be adjusted to fit the customer's application.

Check regulator gauge for proper pressure setting. The normal air pressure setting should be 50 psi.

Door Opening Speed Adjustment: The opening speed has been preset at the factory. If a different door opening speed is desired, see “Door Opening Speed Adjustment” on page 17.

Door Closing Speed Adjustment: Check door operation. The door should close within four or five seconds. If a different door closing speed is desired, see “Door Closing Speed Adjustment” on page 17.

Door Cushion Adjustment: Check door operation. The door panels should slow down as they reach the last 12 in. of travel (opening and closing). If adjustment is required, see “Door Cushion Adjustment” on page 18.

Lag Adjustment: Check door operation. The left panels should close approximately one second slower than the right panels. If an adjustment is required, see “Lag Control Adjustment” on page 18.

Timers: Automatic timers must be set to ensure the door closes properly.

Activators: Check the operation of all installed activators. Operate and adjust as specified by manufacturer.

Caulk: Ensure the side tubes and head assembly are caulked where they meet the wall of the building.

