



**AUTOMATIC OPEN/CLOSE DOOR
WITH AUTOMATIC LATCHING SYSTEM**

**OPERATIONS AND MAINTENANCE
GUIDE**

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Introduction

The Automatic Open/Close Door with Automatic Latching System provides a convenient method of entry and exit from an RF-shielded enclosure. The door is powered open by an LCN Electric Auto-Equalizer Model No. 4640 (referred to simply as "Auto-Equalizer" in this manual). When the door is closing, the Moving Strike Plate of the Automatic Latching System pulls the door tightly against the RF Gasket to ensure a leak-proof RF seal.



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• Adjusting the Speed of the Automatic Door

• **SERVICE/MAINTENANCE PROCEDURES**

- Draining the Air Reservoir Tank
- Replacing Damaged Air Tubing
- Replacing the Door Gaskets

OPERATIONS PROCEDURES

Operating the Automatic Open/Close Door

The operation of the PDC Automatic Open/Close Door is very simple. There are multiple Actuator Buttons (see [Figure 2](#)) that open and close the door. To open the door, press one of these buttons. The door stays open until you press one of the buttons again.

Note: Pressing one of the Actuator Buttons while the door is in the process of opening or closing does **not** stop the door. You must wait until the door comes to a rest before pressing one of the Actuator Buttons.

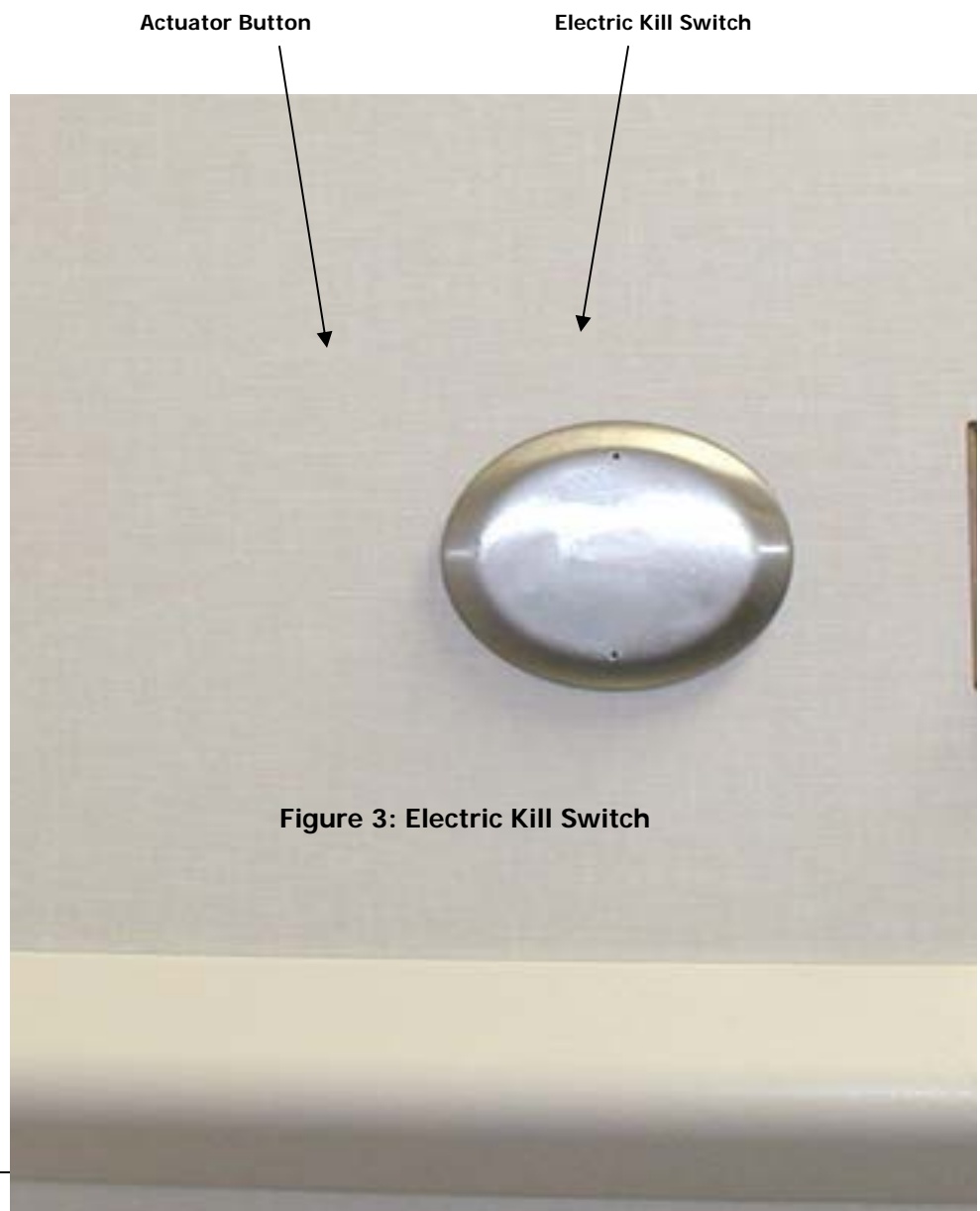
!WARNING! To avoid injury, keep your hands clear of the door frame as the door is closing.



Using the Electric Kill Switch

The Automatic Open/Close Door comes with an Electric Kill Switch that prevents unauthorized or accidental opening of the Automatic Door during a scan or any other time you wish to keep personnel out of the shielded enclosure. To use the Electric Kill Switch, insert the key into the switch and turn it clockwise (see [Figure 3](#)). When the Kill Switch is activated, pressing either of the Actuator Buttons will not cause the automatic door to open.

Radiation Shielding Systems recommends that you always deactivate the Actuator Buttons using the Electric Kill Switch when performing an MRI scan.

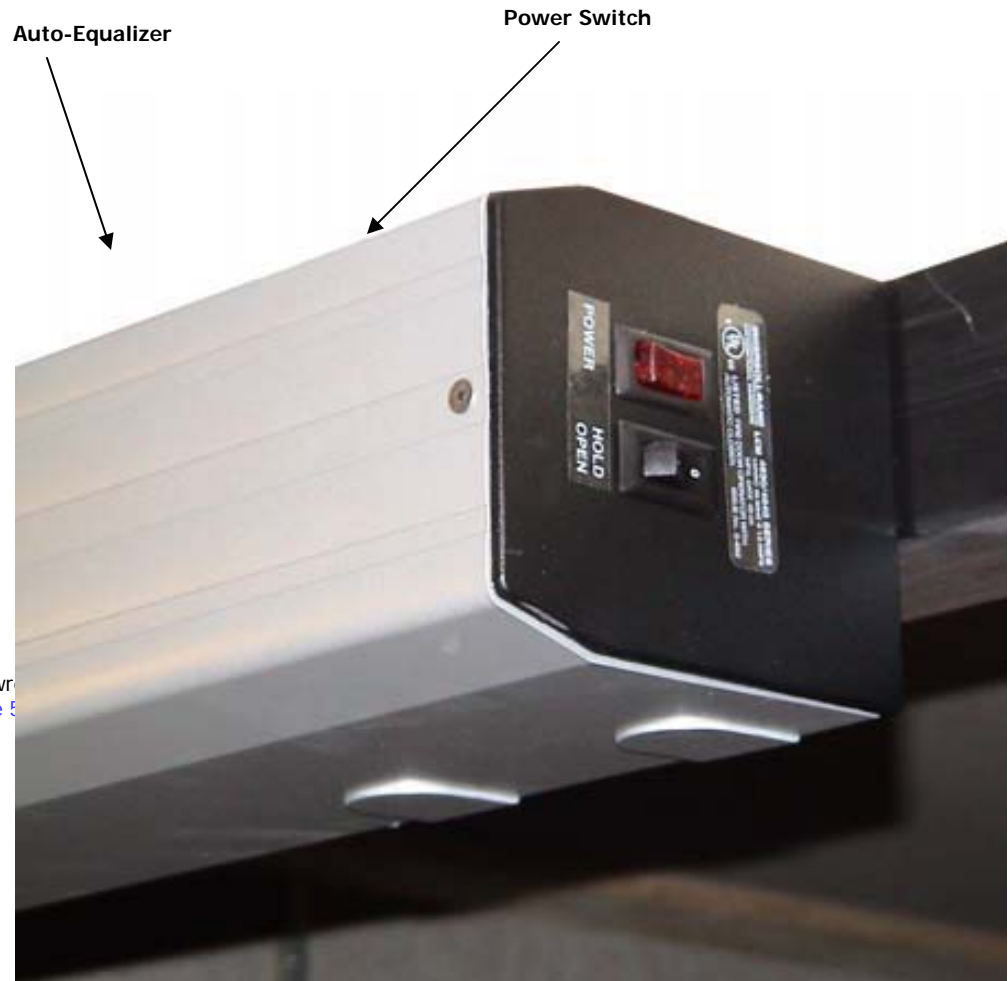


Adjusting the Speed of the Automatic Door

Note: Improperly adjusting the door may lead to closure problems. This procedure should be performed by qualified personnel only. The speed of the Automatic Door is first set during installation. It is not necessary to change the speed of the door before putting it in service.

The speed of the door during its open/close cycle is determined by three different settings: Main Speed, Latch Speed, and Backcheck. The Main Speed is the speed at which the door opens and closes. The Latch Speed is the speed of the door when it comes within a few inches of the latch; the door has to move faster near the latch so that it has enough force to close completely. The Backcheck is the speed of the door as it reaches its fully open position; the door moves slower as it reaches its fully open position because the Auto-Equalizer is applying a brake to the door. If the Automatic Door opens too slowly or closes too rapidly, adjust the speed of the door by performing the following procedure:

1 Turn off the power to the LCN Auto-Equalizer using the switch shown in [Figure 4](#).



2 Using a 3/32" allen wrench, adjust the Auto-Equalizer (see [Figure 5](#)).

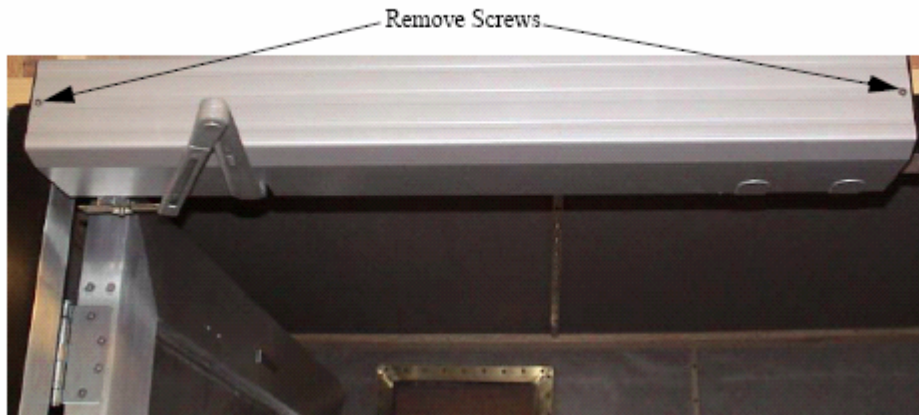


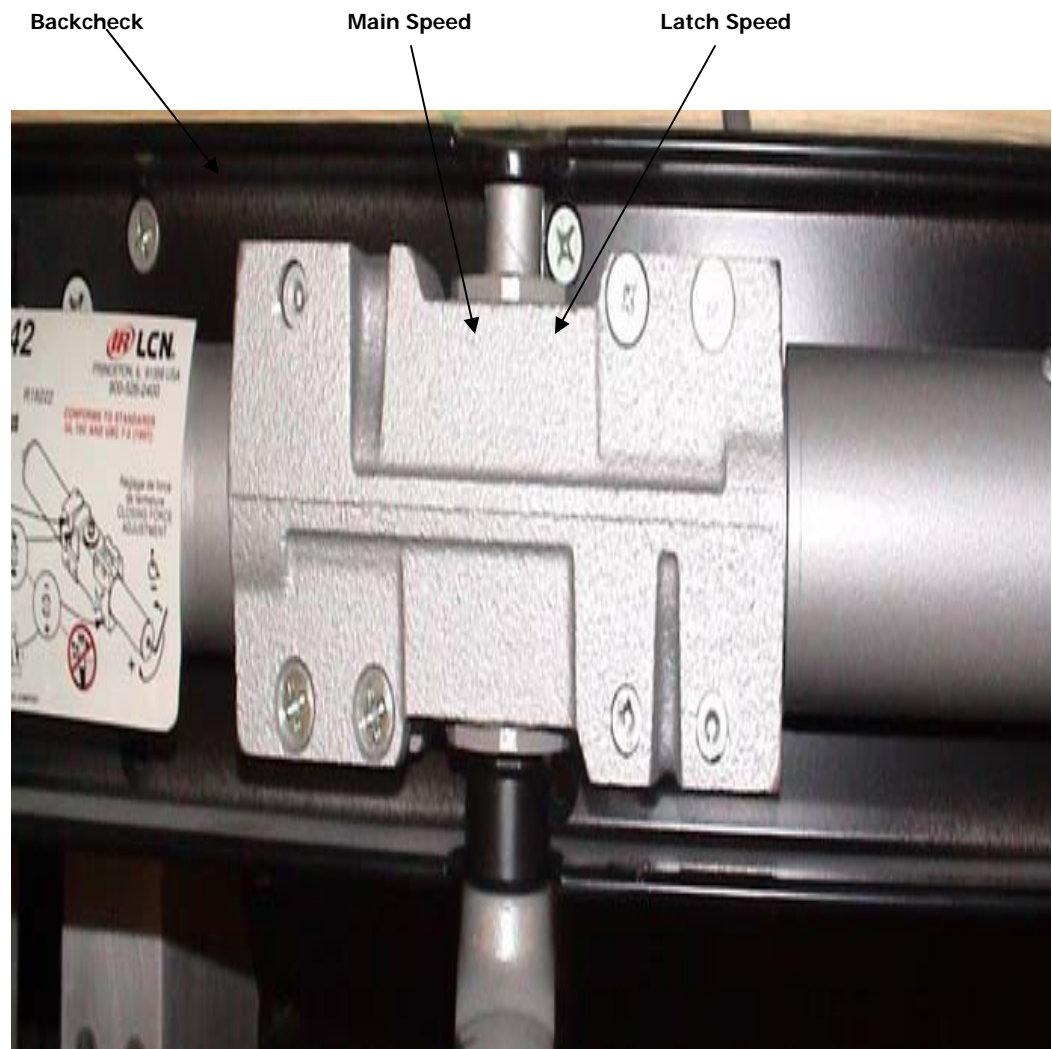
Figure 5: Removing the Cover of the Auto-Equalizer

- 3 Using a 3/32" allen wrench, remove the screw holding the Controller Board to the rest of the Auto-Equalizer assembly (see [Figure 6](#)). Pull the Board out of the assembly.



Figure 6: Removing the Controller Board

- 4 Three Adjusting Screws are now visible: Main Speed, Latch Speed, and Backcheck (see [Figure 7](#)). Turn the Main Speed Adjusting Screw counterclockwise to increase the speed or clockwise to decrease it.



[step 4](#) through [step 9](#) until you are satisfied with the three settings.

- 11 Turn off the power to the Auto-Equalizer.
- 12 Set the Controller Board back into its installed position and replace the screw you removed in [step 3](#).
- 13 Reattach the cover to the Auto-Equalizer.

SERVICE/MAINTENANCE PROCEDURES

Draining the Air Reservoir Tank

The Reservoir Tank of the Air Compressor that powers the Automatic Latching System will gradually collect moisture over time. How often you will need to drain the Reservoir Tank will depend on how often you use your Automatic Door. PDC recommends draining the tank once every week at first. If you get more than 1/2 cup of water when you drain the tank, consider draining the tank more often. If you get only a small amount of water out of the tank when you drain it, you do not need to drain the tank as often.

To drain the Air Reservoir Tank:

- 1 Locate the Drain Valve on the underside of the Air Reservoir Tank (see [Figure 8](#)).



Figure 8: Drain Valve on the Reservoir Tank

- 2 Place a bucket or other container under the Drain Valve to catch the water.
- 3 Turn the Drain Valve counterclockwise and allow the Reservoir Tank to drain completely.
- 4 Close the Drain Valve by turning it clockwise.

Replacing Damaged Air Tubing

The air tubing that carries the air from the Compressor Assembly to the door should last for years without needing to be replaced. Occasionally, however, maintenance accidents or harsh environments can damage a length of tubing and cause an air leak. Replace any damaged tubing with clear Nylon 11 tubing, 1/4 inch outside diameter and a 7/8 inch bend radius. This tubing is available from McMaster Carr of Chicago, IL (Part No. 5548K45).

Note: If you are unsure of the correct way to plumb the Automatic Latching System or how to resolve a repair issue, contact Radiation Shielding Systems before performing any maintenance work.

Replacing the Door Gaskets

Radiation Shielding Systems recommends that the Fabric-Over-Foam Gasket around the door be replaced once every year to avoid deterioration in attenuation. RSS uses a variety of gaskets on their doors (see [Figure 9](#)). When replacing the Door Gaskets, order the correct gasket using the chart below. Instructions for replacing the gasket will accompany the gasket when it ships to you.

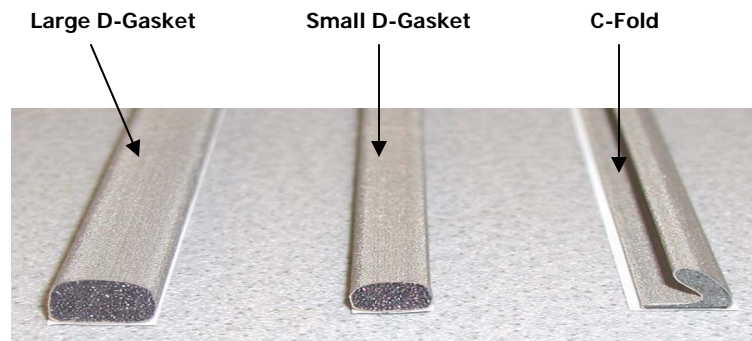


Figure 9: Types of Door Gasket

Gasket Description	RSS Part Number
Large D-Gasket, 85-1/2" Long	275-009
Large D-Gasket, 51" Long	275-010
Small D-Gasket, 85-1/2" Long	275-014
Small D-Gasket, 51" Long	275-016
C-Fold Gasket, 51" Long	275-021