



## “Easy Gentleman” Door Operator Installation Instructions on Interior Doors

### SAFETY

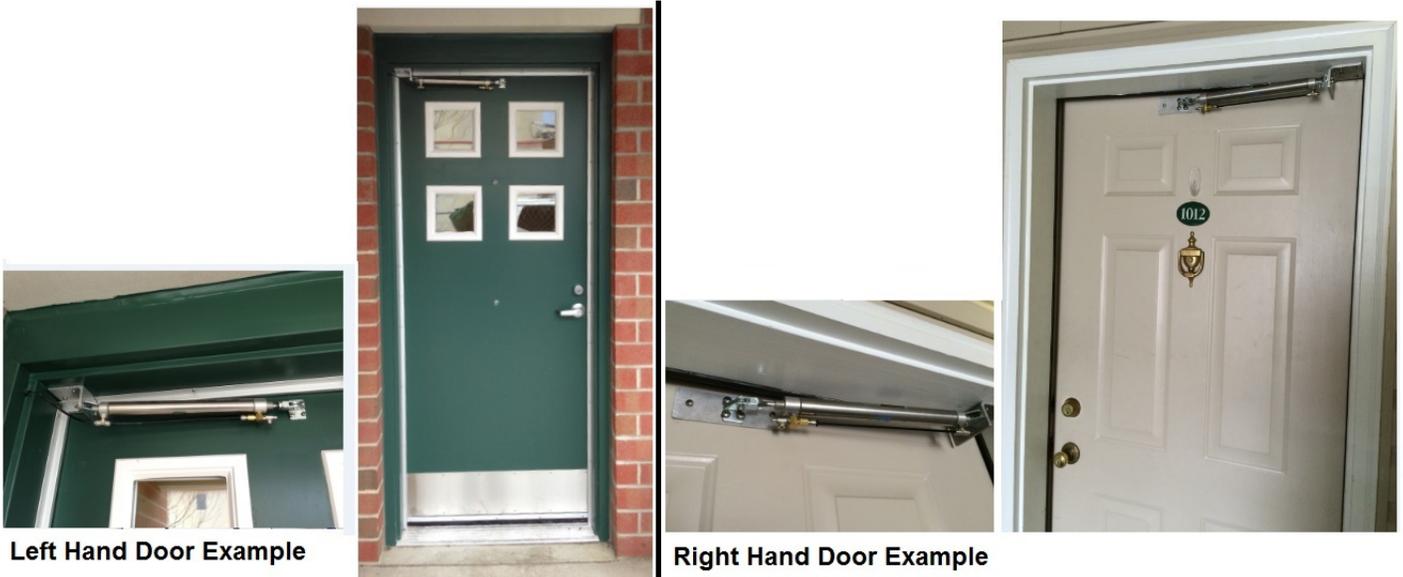
THE EASY GENTLEMAN IS A LOW ENERGY DOOR OPENER. PROPERLY ADJUSTED, THIS OPENER SHOULD EASILY BE STOPPED BY HAND. EXCESSIVE OPENING SPEED OR POWER WILL DAMAGE THE “EASY GENTLEMAN” AND THE DOOR COMPONENTS. THESE ADJUSTMENTS CANNOT BE MADE AT THE FACTORY AND ARE YOUR RESPONSIBILITY TO MAINTAIN SAFE OPERATION.

NOTE: BEFORE INSTALLING THE OPENER, THE DOOR MUST FUNCTION MANUALLY WITHOUT ANY BINDING, SAGGING, LOOSE OR DAMAGED HINGES. REPAIR ANY PROBLEMS BEFORE CONTINUING WITH THIS INSTALLATION!

### WE ALSO RECOMMEND:

- INSTALL A MANUAL DEADBOLT ON THE DOOR FOR ADDED SECURITY.
- SHUT OFF AIR SUPPLY AND UNPLUG THE REMOTE MODULE WHEN YOU WILL BE AWAY FROM THE HOUSE FOR AN EXTENDED PERIOD OF TIME.

NOTE: PHOTOS ARE OF AN ORIGINAL GENTLEMAN; THE MOUNTING INFORMATION STILL APPLIES TO YOUR EASY GENTLEMAN.



Left Hand Door Example

Right Hand Door Example



Figure 1

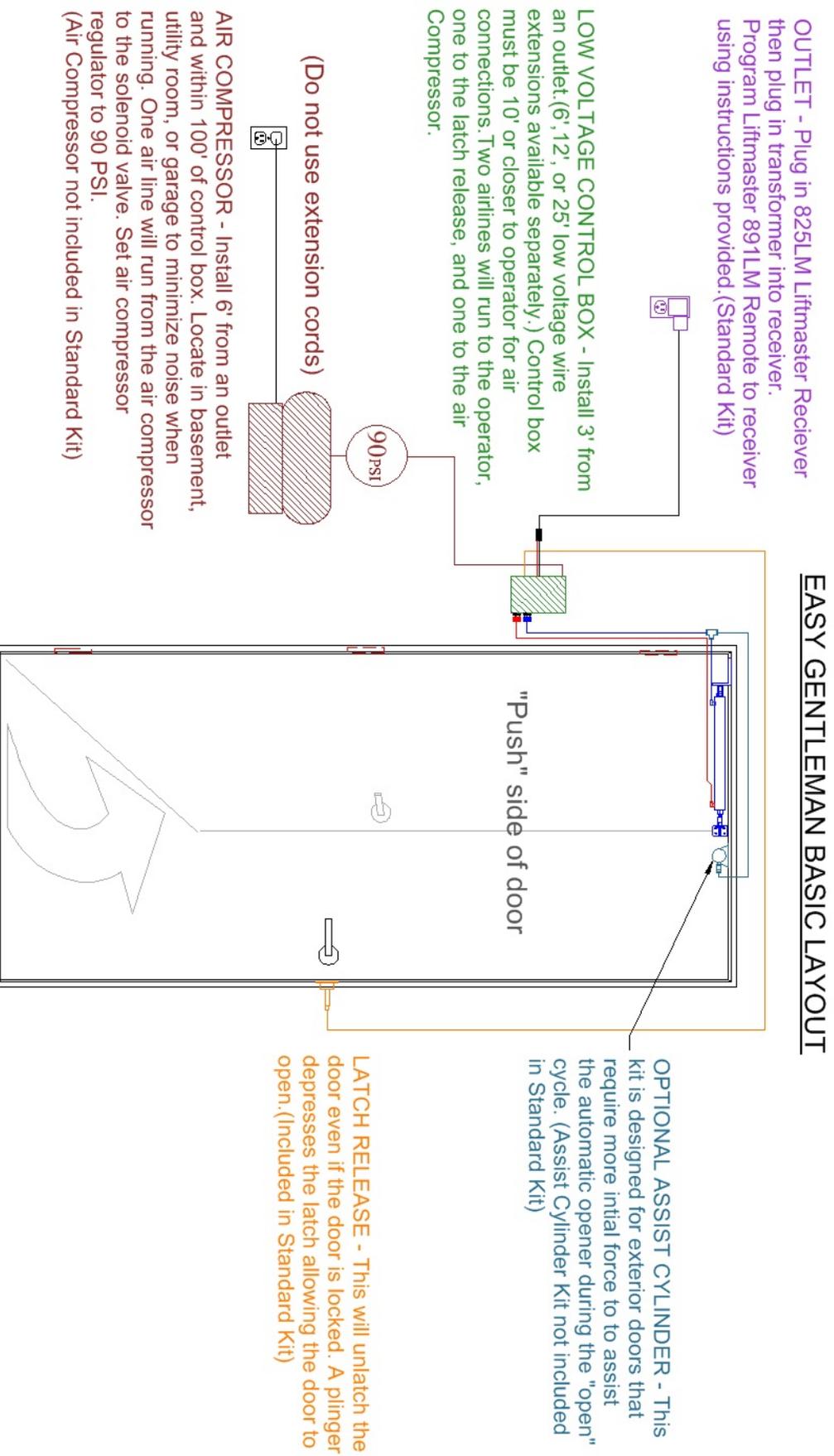


Figure 2 (Left Hand Example)

## 1. GENERAL INFORMATION

### Read all notes in Figure 2 for locating each component.

This product is designed to unlatch and open residential doors remotely while maintaining normal operation. This system allows the door, lock, and existing key to continue to function manually without fear of damage to any of the components in the opening system.

This opener is pneumatic and requires an air compressor (not included) that will provide regulated 90 PSI of air pressure to power the system. Multiple openers can operate from a single air compressor. If there is an existing system, it may be used if it meets the above criteria. **The Easy Gentleman is comprised of many precision pneumatic controls and requires a clean source of air with minimal moisture. Draining the air compressor tank periodically is essential to eliminate moisture in the air.**

**NOTE: DURING INSTALLATION, DO NOT KINK, PINCH, PUNCTURE OR CRUSH TUBING.**

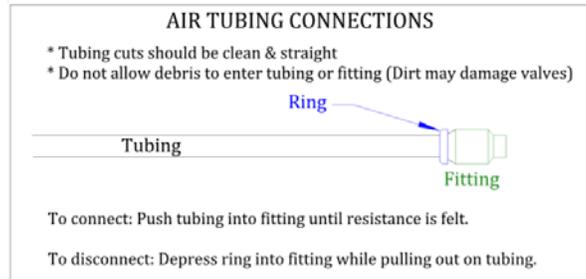


Figure 3

### 3. LATCH RELEASE – Separate instructions begin on page 7 for installing the Latch Release.

A small black plug is included to insert into Latch Release fitting if you are not utilizing the Latch Release option.

### 4. INSTALL DOOR STOP

**CAUTION: IF THE DOOR IS ALLOWED TO SWING PAST 90 DEGREES, THE OPENING CYLINDER WILL BE DAMAGED!**

If the door meets a perpendicular wall and stops with a bumper before 90 degrees, no further action is needed. Otherwise, a hinge pin mounted door stop is included. Install the door stop and adjust to stop the door at slightly less than 90 degrees.

### 5. INSTALLATION HARDWARE

Included with the opener you will find mounting hardware for either wood or metal. The self-tapping screws will work for wood and residential metal doors. Installing the opener on a commercial metal door or jamb requires machine threads (10-32) be tapped into the metal. Use a #21 (0.159") drill bit and then tap thread 10-32. Your local hardware store should stock the thread tap with proper size drill bit as a set.

**NOTE: If the opening has separate wooden door stop moulding, remove a small section to allow the Hinge Side Mount to locate properly.**

### 6. OPENING CYLINDER

**HINGE SIDE MOUNT:** Locating the rear pivot point for the cylinder is very important to insure proper operation. The dimensions are critical to enable the door to open 90 degrees. Note that the cylinder mounting bracket is drilled to accommodate both right and left hand doors.

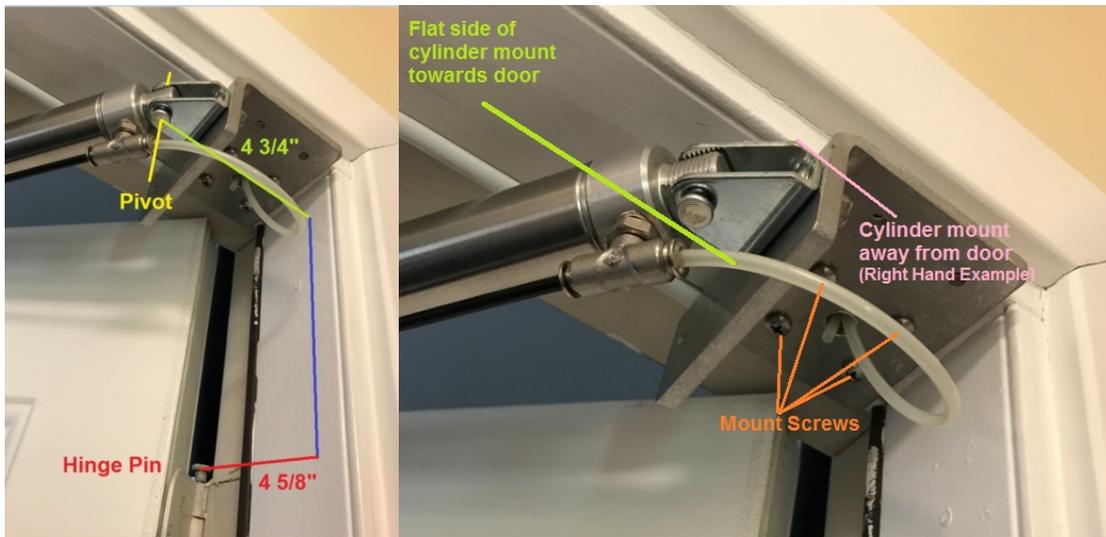
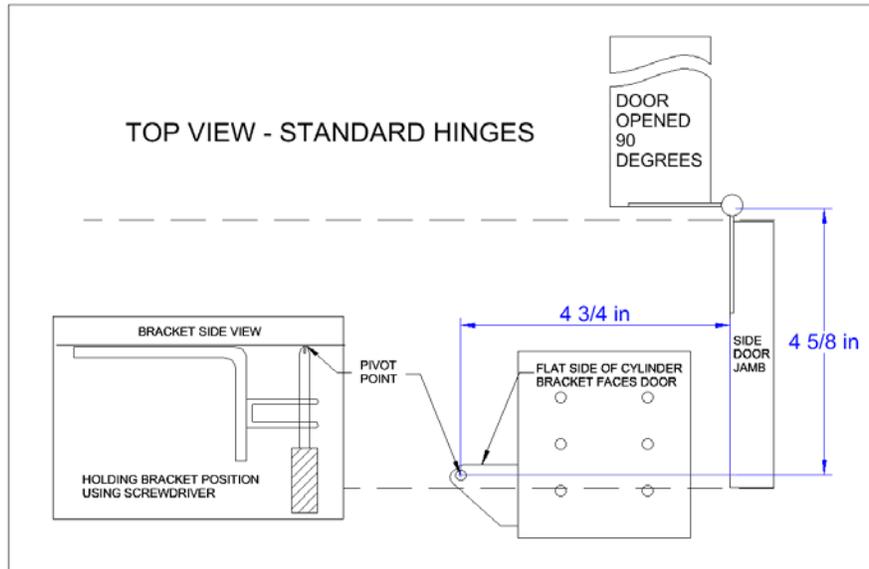


Figure 5 – (Right Hand Example)

**STANDARD HINGES:**

The pivot point is the key to properly installing the mount; the following instructions are for standard hinges:

1. Open door 90 degrees
  2. Measure 4 5/8" from the hinge pin to jamb, extend that point straight up to the corner, then measure out 4 3/4" perpendicular to jamb; this is the pivot point. (Figure 5)
  3. Remove cylinder and pin from mounting bracket.
  4. Using a #2 Phillips head screwdriver, place the screw driver through the bracket pivot point and place tip of screwdriver on the pivot point mark on header. (Figure 6)
  5. Install bracket, parallel to door, while maintaining the correct pivot point position with screwdriver. (Figures 5 & 6)
- Please note: It may be necessary to notch the section of door stop on interior doors to properly position bracket.



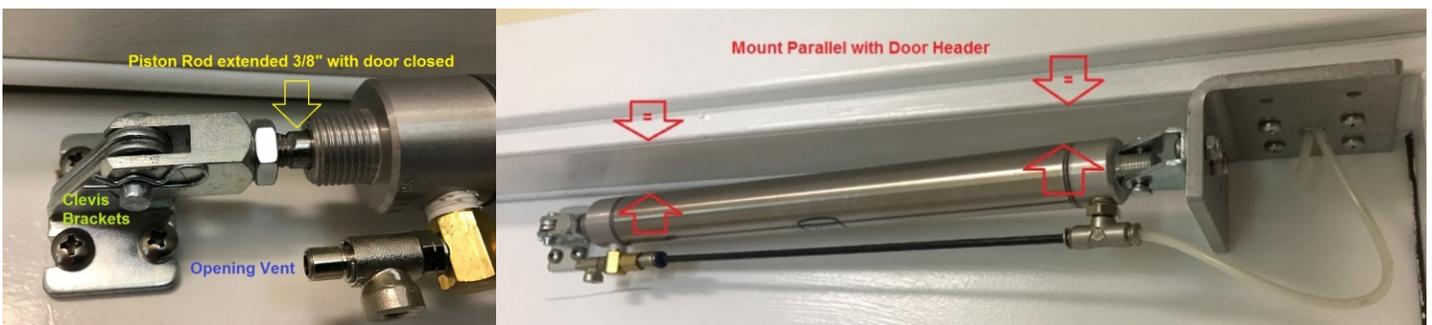
**Figure 6 (Right Hand Example)**

**7. CLEVIS BRACKETS:**

To determine the location of the clevis end bracket, the Hinge Side Mount must be attached to the door frame and the cylinder installed on pivot end bracket. Fully retract cylinder rod retracted into cylinder, then expose the smooth portion (Figure 8) of the cylinder rod slightly (3/8") for clearance with the door fully closed; otherwise the cylinder will bind before the door is closed.

Position the cylinder parallel to the door jamb header. (Figure 8) While holding the clevis brackets against the face of the door, mark the location of one screw hole. Next, holding the bracket on the screw mark, open the door to check for 90 degrees of opening.

Note that some adjustment is possible after installation by screwing the operating rod in or out of the clevis. After determining the correct position for the clevis brackets, remove the plastic film to expose the adhesive tape between the brackets and the face of the door. This will make this attachment much stronger especially if your door is of hollow construction where only two of the mounting screws will bed firmly in solid rail at the top of the door. We also offer a mount reinforcement kit seen in *Figure 1 Right Hand Example*.



**Figure 8 (Right Hand Original Gentleman Example/Easy Gent has 2 airlines)**

**OPTIONAL ASSIST CYLINDER IF DOOR REQUIRES MORE FORCE TO OPEN DUE TO WEATHER-STRIP, HVAC STACK PRESSURE OR HEAVY DOOR:**



**Figure 9 (Left Hand Example)**

This device is used to overcome the holding power of magnetic weather seals, stack pressure, and/or the weight of a heavy door. It mounts on the same side as the opening cylinder, close to the center of the door or within 1 inch of the cylinder bracket. (Figures 2 & 9) Mount the cylinder securely to the door jamb or stop molding. You may reverse the bracket on the cylinder if needed. Connect with tubing and Tee included with Assist Cylinder as shown in Figure 4.

**8. CONTROL BOX:**



**Figure 10**

The unit is preset at the factory (Figure 10); prior to making any initial adjustments, please cycle the unit to judge whether further adjustments are indeed needed. If the opener is too aggressive, adjust by using speed adjustment screws before changing regulator pressures. Keep track of any adjustments you make so you can back-track if necessary.

The factory pressure settings for each regulator are shown in Figure 10. To measure the pressures you must activate the control box with both gauges in each port. We offer a gauge set designed specifically for this purpose, please call to order.

**CAUTION: DO NOT ACTIVATE OPERATOR UNLESS BOTH AIR LINES ARE CONNECTED TO THE CYLINDER!**

Follow the directions below carefully to understand how the unit works and make adjustments as needed.

**ADJUSTMENT:**

There are a total of four possible adjusting points on the control unit, three of which have a direct effect on each other. The sequence in which these adjustments are made is therefore very important. Supply pressure from the compressor should be set to 90 psi minimum.

The instructions below assume the regulators are unscrewed to zero pressure at the start. (Factory Reset / No Gauges)

**Adjustment of opening and closing forces:**

- Step 1: Activate the system using the remote or the manual override. (if equipped)
- Step 2: Increase the pressure at the opening regulator until the door starts to open
- Step 3: Increase the pressure at the closing regulator until the door starts to close.
- Step 4: Slowly increase the pressure at the opening regulator until the door will move to the fully open position.

NOTE: At this point both sides of the cylinder are under pressure but the opening side pressure is somewhat higher, causing the door to open. When this pressure is allowed to decrease to the point where the closing pressure is the greater of the two, the door will close.

**Adjustment of stopping sensitivity:**

Step 5: Deactivate the system. This will allow air to slowly vent at the throttle valve mounted on port # 3 of the opening solenoid valve. (Closing Speed Adjustment Screw) This air must vent fast enough to allow the door to close, but not so fast as to allow the residual pressure in the cylinder and lines to drop below the point required to hold open the closing pilot valve (it requires 10 psi). Make adjustments until the closing door will close at least to the point where the latch touches the strike plate. NOTE: Don't worry if the door closes but does not latch; that is the next step.

**Adjustment of latching force:**

NOTE: For purposes of understanding the operation of the system, assume the following conditions are true:

- When held open, the pressure supplied to the opening side is 31 psi.
- When open, the pressure supplied to the closing side is 20 psi.
- The differential of 11 psi is being used to open and hold open the door

The closing air pilot valve will remain open, supplying 20 psi, as long as the air pressure being exerted in the opening side remains above 10 psi. When the system is deactivated, air is permitted to vent at a controlled rate and slowly lowers the pressure on the opening side. The door will close as the 20 psi closing pressure becomes larger than the diminishing pressure on the opening side. The closing motion of the door itself continually supplies more air to vent, holding the pilot valve open. If the closing motion of the door is stopped, for any reason, including latching, the supply of air that is being vented will be cut off and the pressure on the opening side will drop. When this pressure drops below 10 psi, the pilot valve will close and the entire system will be deactivated. At this point, the maximum closing pressure being supplied is 10 psi; the 20 psi closing pressure minus the 10 psi being used to hold open the pilot valve.

To increase the latching force, increase the pressure on both the opening and closing regulators about ¼ turn. Repeat step 5 if necessary.

NOTE: In this new model, the opening pressure has been increased 5 psi to 36 psi and the closing pressure has also been increased 5 psi to 25 psi. Notice that we have the same differential of 11 psi needed to open the door. At the point where the door stops, the latching force, this differential is now 15 psi; the 25 psi closing pressure minus the same 10 psi required to operate the closing pilot valve.

CAUTION: Do not increase the latching force any more than necessary. This action also increases the force that will be required to stop a moving door if an object or person is encountered.

**Adjustment of opening speed:**

Opening or closing of the throttle valve connected to Opening Cylinder Regulator will speed up or slow down the opening speed. This will have no effect on the previous adjustments.

**Adjustment of the closing speed:**

Slightly opening the (Closing Speed Adjustment Screw) mounted into port 3 of the solenoid valve will permit air to escape more quickly, thereby permitting the door to close faster. Obviously, do not allow air to escape too quickly as the 10 psi closing pressure must be maintained.

To depend on the speed of a closing door, or momentum, to accomplish the latching is crude and dangerous. It does not take advantage of the elegance of this system. The goal is to get the entire system to operate perfectly using the lowest possible differential pressure settings.

**LEAK CHECK:**

After the tubing is connected and the system is operational, check all of the fittings for leaks. Dilute bubble soap or dish washing soap will immediately show any leaks in an activated system by "blowing bubbles". Tighten any fittings that leak and push in hard on any tubing connections that leak. A leak free system will minimize the amount of time the compressor needs to run, prolonging the life of the motor.

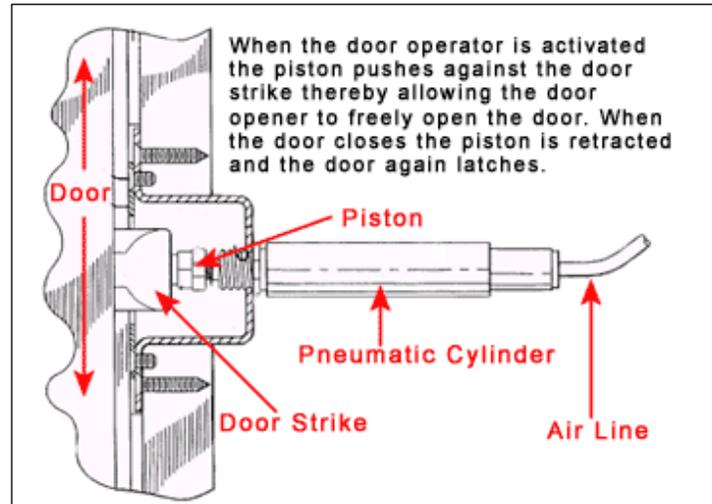
**MAINTENANCE:**

The wireless remote does require fresh batteries to maintain maximum range. If after a period of time the door fails to close completely, coat the strike plate and latch with a water resistant lubricant such as Vaseline or car wax. Friction points such as the hinges and clevis should receive a drop of machine oil about once a year. This system may be used to hold the door open for moderate periods of time without incurring any problems. As electricity is being used while the door is open it is not recommend that this device be used to hold doors open for long periods.

*Thank you for purchasing the "Easy Gentleman Door" Operator!*



### Gentleman Door Latch Release Installation Instructions



**Figure 11**

\* Determine how much if any, the existing strike plate needs to move to allow the existing door to latch perfectly. Mark the location of the new set of holes for the strike plate.

### WOOD JAMB INSTALLATION

1. Remove the existing strike plate.
2. Locate the new strike plate over where the old one was removed. Slight adjustments can be made so the door will latch perfectly.
3. Mark the location of the new mounting holes, preferably with a pilot hole and the outline for recessing the strike plate and latch release flange.
4. Be sure that the holes marked will line the strike plate up for a perfect latch fit as discussed above.
5. Mark the outline of the strike release BOX. (NOTE: DO NOT start to drill yet.) Do this by placing the latch release assembly sideways and mark the outline of the wood to be removed to allow the strike release BOX to recess into the door jamb.
6. Drill 4 holes using 5/8 inch bit in corners of the outline and deep enough to accommodate the strike release BOX.
7. Using a Sharp Wood Chisel, slowly cut out and remove the wood between the holes to leave a rectangular opening of sufficient depth to accommodate the strike release BOX.
8. Drill another 5/8 inch hole in the CENTER of the newly cut rectangular opening. The pneumatic cylinder mounted to the strike release BOX will recess into this hole. NOTE: This hole MUST extend past all framing and into the hollow wall chamber.
9. Trial fit the strike release assembly. Chisel or drill to allow the assembly to easily slide into position.
10. With a sharp chisel, CAREFULLY remove a thin section of wood so that when the latch release assembly is installed with the strike plate the entire assembly will be flush with the door jamb. When properly done this modification should be hardly noticeable.

**CAUTION: THE AMOUNT OF WOOD TO BE REMOVED IS SMALL AND THE DEPTH TO WHICH YOU MAKE THIS CUT WILL DETERMINE THE DISTANCE THE STRIKE PLATE WILL BE FROM THE DOOR EDGE.**

**NOTE: NO MATTER HOW YOU CHOOSE TO ROUTE THE TUBING FOR THE LATCH RELEASE, ALLOW SLACK IN THE WALL CAVITY TO ALLOW SERVICING REMOVAL AND REINSTALLATION.**

11. Drill a 3/8 inch hole in the wall approximately 5 inches from the door jamb face and in line with the hole for the latch release cylinder. This hole must extend into the same hollow wall cavity as the cylinder hole. Its purpose is to accommodate the tubing which will connect to the back of the latch release cylinder. The position of this hole is not critical as long as a common hollow wall cavity is accessed. The location may be adjusted as necessary.

12. "Fish" the tubing from this hole through the hole in the door jamb. A short piece of copper electrical wire works well. A hook or loop bent into the end of the wire may help.

13. Push the tubing firmly into the fitting (Figure 3) on the end of the strike release cylinder, feeling for the tubing to "bottom out". The tubing should insert about 3/8 of an inch into the fitting. Test by pulling backwards on the tubing, it should hold even with a firm tug.

**NOTE: DURING INSTALLATION, DO NOT KINK, PINCH OR CRUSH TUBING.**

14. Push the Strike Release into the prepared cavity (Figure 11) while pulling firmly on the tubing protruding through the wall. Secure the Strike Release with the two new screws provided. Allow slack in the wall cavity by feeding 12 to 18 inches of tube back into the wall cavity to allow servicing removal and reinstallation. After attaching the plate, make sure that the door still latches easily. Make any adjustments to the plate or door as necessary.

## **METAL JAMB INSTALLATION**

**Pre-installation Inspection:** Remove the existing strike plate and inspect the material you will encounter during the installation. If the material behind the jamb is too difficult for you to remove (i.e. concrete and steel or thick steel) discontinue the installation and consider hiring a suitable contractor or installing an electric strike release. Installing an electric strike release will require an Assist Cylinder available from Gentleman Door Automation.

**Additional Items Needed:** You will need to tap and thread the existing strike plate. Before beginning this installation, acquire a 10-32 fine thread tap, #21 drill bit, two 10-32 x 1/4" Pan Head screws, and Locktite to complete steps 4 and 5. Hardware stores often sell thread taps with proper size drill bit in a set.

1. Mark the existing strike plate where the latch currently enters it. This alignment will be critical for proper operation. Remove the existing strike plate.
2. Locate the Latch Release behind the existing strike plate and align it with marks made prior to removing it. You will mount the latch release to the back of the existing strike plate.
3. Mark the mounting holes on the Latch Release onto the back of the strike plate.
4. Drill both holes with a #21 (0.1590) bit and tap 10-32 threads into the strike plate.
5. Apply Locktite to the threads of the machine screws. Attach the Latch Release to the back of the strike plate with the two 10-32 by 1/4" machine screws. If the machine screw threads protrude out of the face of the strike plate, carefully file or grind them smooth with strike plate surface.
6. Remove material behind jamb as necessary to install the Latch Release and route the tubing.

**NOTE: NO MATTER HOW YOU CHOOSE TO ROUTE THE TUBING FOR THE LATCH RELEASE, ALLOW SLACK IN WALL CAVITY TO ALLOW SERVICING REMOVAL AND REINSTALLATION.**

7. Drill a 3/8 inch hole in the wall approximately 5 inches from the door jamb face and in line with the hole for the latch release cylinder. This hole must extend into the same hollow wall cavity as the cylinder hole. Its purpose is to accommodate the tubing which will connect to the back of the latch release cylinder. The position of this hole is not critical as long as a common hollow wall cavity is accessed. The location may be adjusted as necessary.

8. "Fish" the tubing from this hole through the hole in the door jamb. A short piece of copper electrical wire works well. A hook or loop bent into the end of the wire may help.

9. Push the tubing firmly into the fitting (Figure 11) on the end of the strike release cylinder, feeling for the tubing to "bottom out". The tubing should insert about 3/8 of an inch into the fitting. Test by pulling backwards on the tubing, it should hold even with a firm tug.

**NOTE: DURING INSTALLATION, DO NOT KINK, PINCH OR CRUSH TUBING.**

10. Push the Strike Release into the prepared cavity (Figure 11) while pulling firmly on the tubing protruding through the wall. Secure the Strike Release with the two new screws provided. Allow slack in the wall cavity by feeding roughly 8 inches of tube back into the wall cavity to allow servicing removal and reinstallation. After attaching the plate, make sure that the door still latches easily. Make any adjustments to the plate or door as necessary.

## LATCH SUBSTITUTION

If existing latch is of the interior type shown on the drawing, no further action is required. (Figure 12) If existing latch is of the exterior type as shown, it must be replaced with an interior type (i.e. without security pin) of the proper backset.

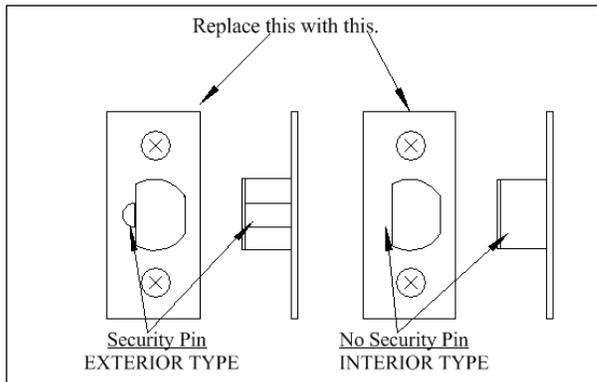


Figure 12



Figure 14

### Additional Information:

Upon examination of the two latches pictured you will notice the presence of a small pin which, when depressed, prohibits the latch itself from being depressed. This pin provides a small measure of security against break-in by offering resistance against movement by a credit card, screwdriver, or similar object. This is exactly what the latch release is designed to do so an exterior type latch is incompatible with this system.

Generally, latches are of two sizes or "backsets". The sizes are designated by the distance from the edge of the door to the center of the doorknob. The two common sizes are 2 3/8" and 2 3/4 inches. If you need to replace the existing latch it must be with one of not only the same manufacturer but also of the correct size or backset.

Please note that some modern latches are of the adjustable type and can be used as either 2 3/8 or 2 3/4 inch sizes. If you understand the previous information and you know the manufacturer of the existing lockset, you can probably buy the correct latch from your local hardware store or trade latches with another door in the house.

If you are still having difficulties, remove the latch and lockset and bring both to your local hardware store or locksmith along with these instructions.

### FINAL ADJUSTMENT

When activated, if the factory setting does not depress the latch to clear the strike plate, unscrew thumb nut gradually to achieve proper clearance. After proper clearance is achieved, use procedure below (Figure 14) to lock thumb nut at the proper position.

**NOTE: WE OFFER A SLIGHTLY LARGER MORE DURABLE BRASS THUMB NUT IF NEEDED. PLEASE CALL 800-525-7078 TO ORDER.**

*Congratulations on installing the Gentleman Door Latch Release!*