

**STANLEY**

Security Solutions

# Precision D-4990 Low Energy Door Operator Product Overview



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**phi**<sup>TM</sup>

# BACKGROUND

- Low Energy Door Operators are not required by the *Americans with Disabilities Act* but can help make facilities more accessible for people with physical disabilities
- The D-4990 Low Energy Operator is being manufactured by Stanley Access Technologies and marketed as a Precision Hardware product
- The D-4990 is **not** being marketed as a Stanley Door Closer product so that it will not be confused with low energy operators that Stanley Access Technologies sells and installs
- The D-4990 utilizes the SAT Magic Force operator to open the door and a Stanley D-4550 door closer to close the door

With Low Energy Operators, Safety Rails and Presence Sensors are not needed **IF THE OPERATOR IS INSTALLED AND ADJUSTED CORRECTLY.**



Motion detectors, presence sensing devices and pressure pads that will cause the door to open **MUST NOT BE USED.**

## \*Excerpted from ANSI/BHMA A156.19-2007

- **KNOWING ACT:** Consciously initiating the powered opening of a low-energy door using acceptable methods including: wall or jamb-mounted contact switches such as push plates; the action of manual opening (pushing or pulling) a door, and controlled access devices such as keypads, card readers, and keyswitches.
- **LOW ENERGY POWER OPERATED DOOR:** A door with a power mechanism that opens the door upon receipt of a knowing act activating signal, does not generate more kinetic energy than specified in this Standard and is closed by a power mechanism or by other means (such as the use of a hydraulic door closer or spring mechanism).
- **POWER ASSIST DOOR:** A door with a power mechanism that activates by pushing or pulling the door, reducing the opening resistance of a self closing door to allow easier manual opening of the door. If the opening force on the door is released, the door shall come to a stop and either immediately begin to close, or begin to close after a predetermined time.
- **PUSH-PULL ACTIVATION:** A door where the user pushes or pulls a door equipped with a Low Energy Power Operator to activate a mechanism, causing the door to go through a complete cycle of automatic opening, hold open time delay, and closing (“Push and Go”).

## \*Excerpted from ANSI/BHMA A156.19-2007

- **OPENING TIME:** Doors shall be adjusted so that the opening time to back-check or 80 degrees, whichever comes first, must be 3 seconds or longer as prescribed in ANSI A156.19 Table I, plus Table II.
- **TIME DELAY:** The doors shall be field adjusted to remain fully open for not less than 5 seconds.
- **CLOSING TIME:** Doors shall be field adjusted to close from 90 degrees or fully open to 10 degrees in 3 seconds or longer as prescribed in ANSI A156.19 Table I, plus doors should be field adjusted to a minimum of 1.5 seconds from 10 degrees to fully closed.
- **FORCE AND KINETIC ENERGY:** The force required to prevent a stopped door from opening or closing shall not exceed a 15 pound force applied 1 inch from the leading edge at any point in its travel. In the event of a power failure to the operator, doors shall open with a manual force not to exceed a 15 lbf to release a latch, 30 lbf to set the door in motion and 15 lbf to fully open the door.
- The **KINETIC ENERGY** of a door in motion shall not exceed 1.25 lbf-ft. Table I provides speed settings for various widths and weights of doors for obtaining results complying with this paragraph.

\*Consult ANSI/BHMA A156.19-2007 for exact wording and specifications.

# DOOR FORCE GAUGE



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## DOOR FORCE GAUGE



When checking for the opening force generated by the motor, place the tip of the gauge on the pull-side door 1" away from the leading edge, and activate the operator.

When checking for manual opening force place the tip of the gauge on the push-side of the door 1" away from the leading edge and slowly push the door open with the gauge.



## DOOR TIME TABLES – LOW ENERGY

(From A156.19 Table I & II)

**Table I: Minimum Opening Time to Backcheck or 80 degrees, which ever occurs first, **AND** the Minimum Closing Time from 90 degrees to Latch-Check or 10 degrees.**

“D” Door Leaf Width - Inches (mm)	“W” Door Weight in Pounds (kg)					TABLE I
	100 (45.4)	125 (56.7)	150 (68.0)	175 (79.4)	200 (90.7)	
<b>30 (762)</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>3.5</b>	
<b>36 (914)</b>	<b>3.0</b>	<b>3.5</b>	<b>3.5</b>	<b>4.0</b>	<b>4.0</b>	
<b>42 (1067)</b>	<b>3.5</b>	<b>4.0</b>	<b>4.0</b>	<b>4.5</b>	<b>4.5</b>	
<b>48 (1219)</b>	<b>4.0</b>	<b>4.5</b>	<b>4.5</b>	<b>5.0</b>	<b>5.5</b>	

Time From Backcheck (Open check) to Full-Open Position (TABLE II)		
Backcheck at 60 degrees	Backcheck at 70 degrees	Backcheck at 80 degrees
<b>2 seconds to full open</b>	<b>1.5 seconds to full open</b>	<b>1 second to full open</b>

**TOTAL OPENING TIME = TABLE I + TABLE II**

\*Consult ANSI/BHMA A156.19-2007 for exact wording and specifications.

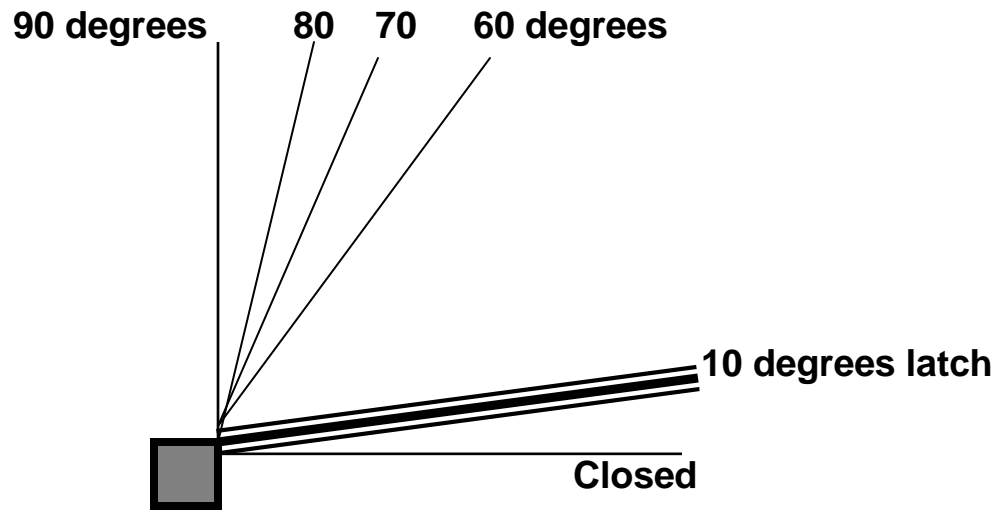


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Minimum opening time to Back-check or 80 degrees whichever comes first, and minimum closing times to latch.

DOOR WIDTH LEAF - INCHES	100LBS	125LBS	150LBS	175LBS	200LBS	250LBS	300LBS	350LBS
30"	3.0	3.0	3.0	3.0	3.5	3.5	4.0	4.5
36"	3.0	3.5	3.5	4.0	4.0	4.5	5.0	5.5
42"	3.5	4.0	4.0	4.5	4.5	5.0	6.0	6.0
48"	4.0	4.5	4.5	5.0	5.5	6.0	6.5	7.0

For doors weighing over 200 lbs.



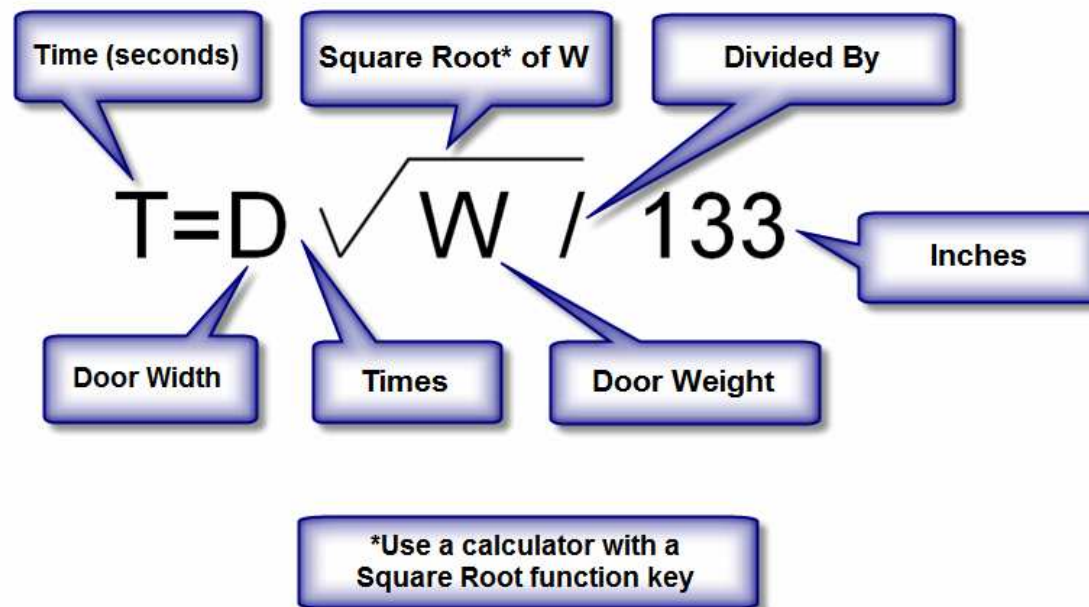
$$T = D \sqrt{W / 133}$$

T = Time, seconds  
D = Door width, inches  
W = Door weight, lbs.

\*Consult ANSI/BHMA A156.19-2007 for exact wording and specifications.

## FORMULA FOR HEAVY DOORS

For doors that are heavier than 200 lbs. we must use the formula shown below to calculate the Time to Backcheck and the Closing Time from 90° to 10°.



**T = Time in seconds** (this is what we are trying to find)

**D = Door Width (inches)**

**W = Door Weight (pounds)**

\*Consult ANSI/BHMA A156.19-2007 for exact wording and specifications.

## FORMULA FOR HEAVY DOORS

### Example:

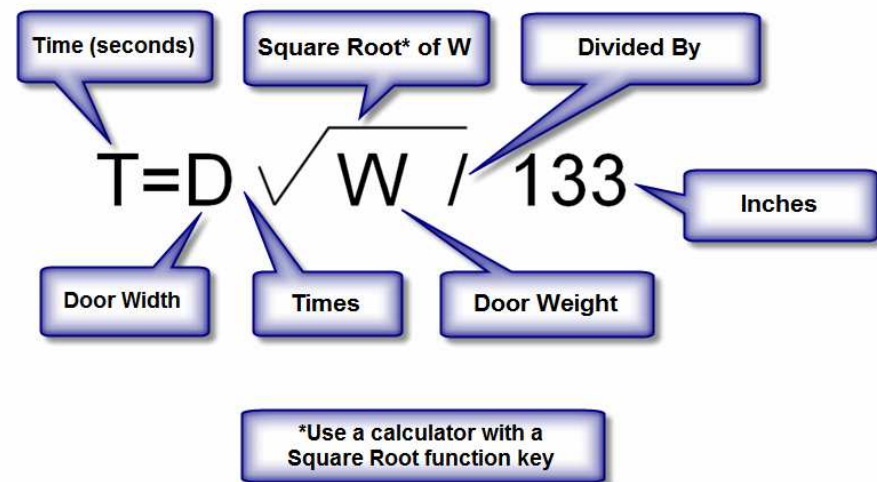
Our door width is 36". Our door weight is 250 lbs. To calculate the Opening Time to Backcheck (or 80°) and the Closing Time from 90° to 10° we must first find the square root of our door weight. The square root of 250 lbs. is approximately 15.81. Divide 15.81 by 133. This number is approximately .119. Multiply .119 by the 36" door width. This brings us to the number 4.28 (rounded). 4.28 is our time, in seconds. This number needs to be rounded up to the nearest half second. 4.5 seconds is the number we are looking for.

$$4.28 = 36 \sqrt{250 / 133}$$

4.5 = Time in seconds

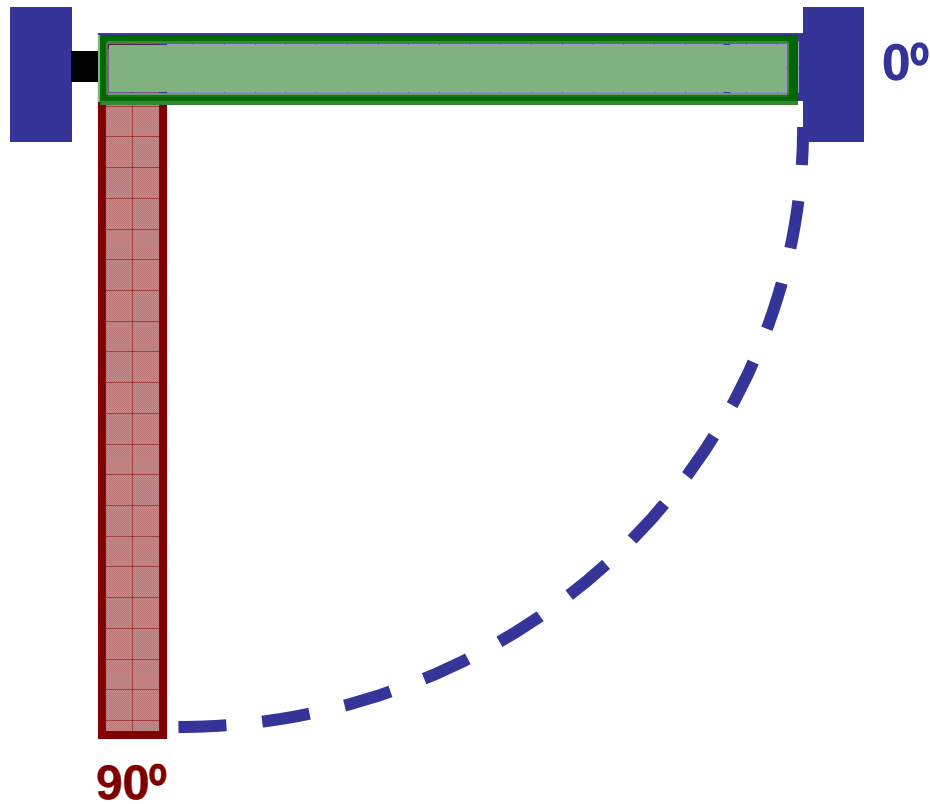
36 = Door Width (inches)

250 = Door Weight (pounds)



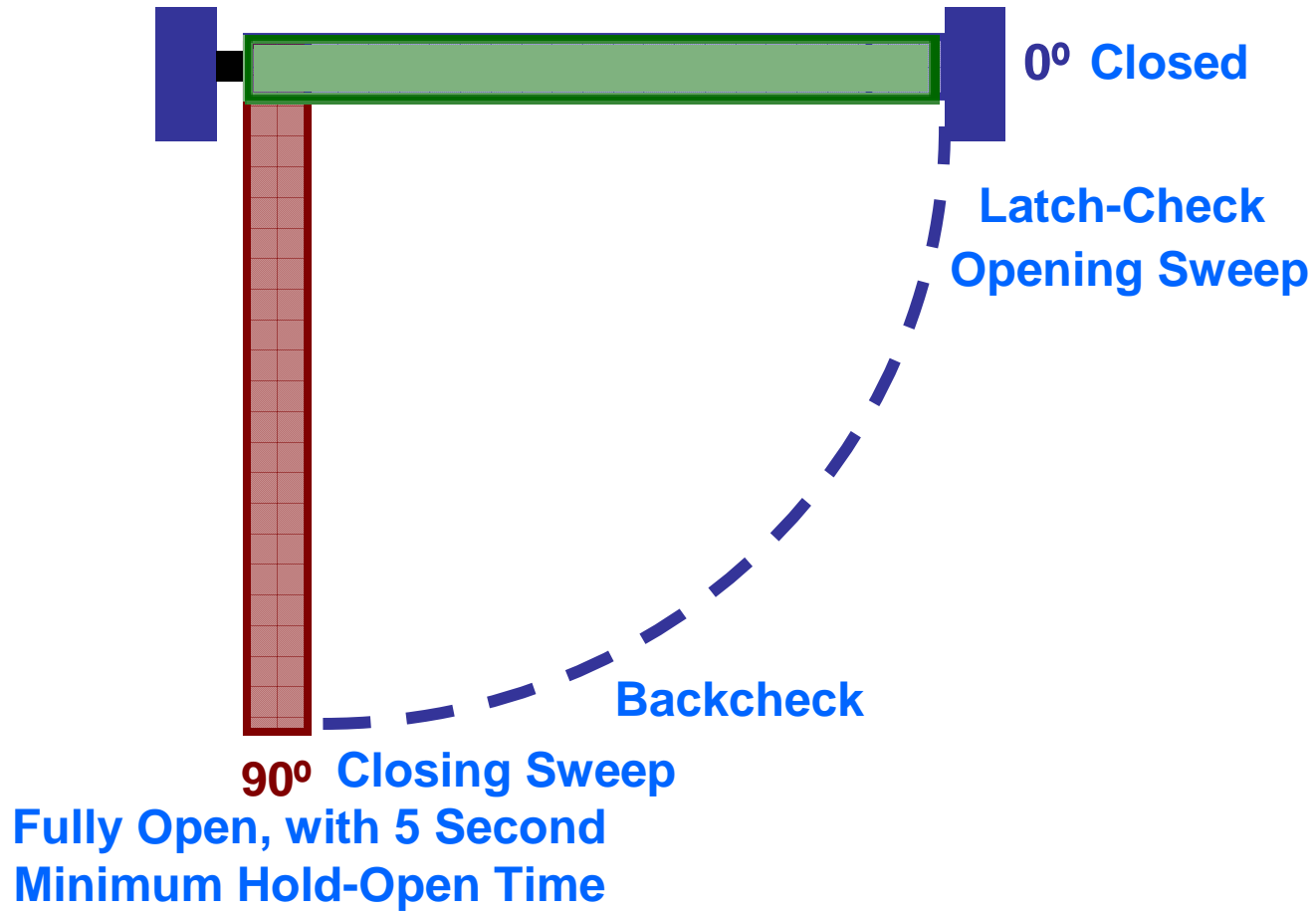
\*Consult ANSI/BHMA A156.19-2007 for exact wording and specifications.

# FULL CYCLE – LOW ENERGY POWER OPEN DOOR



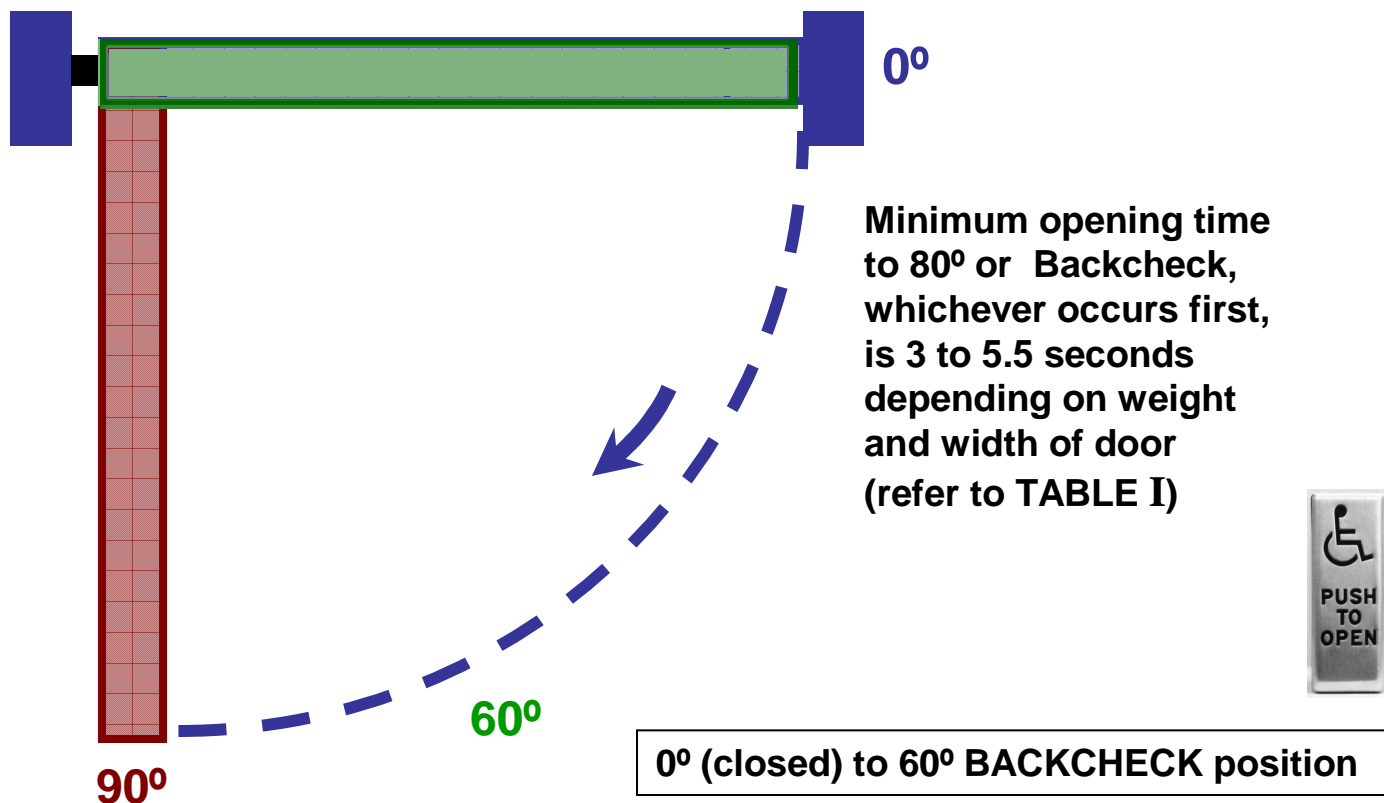
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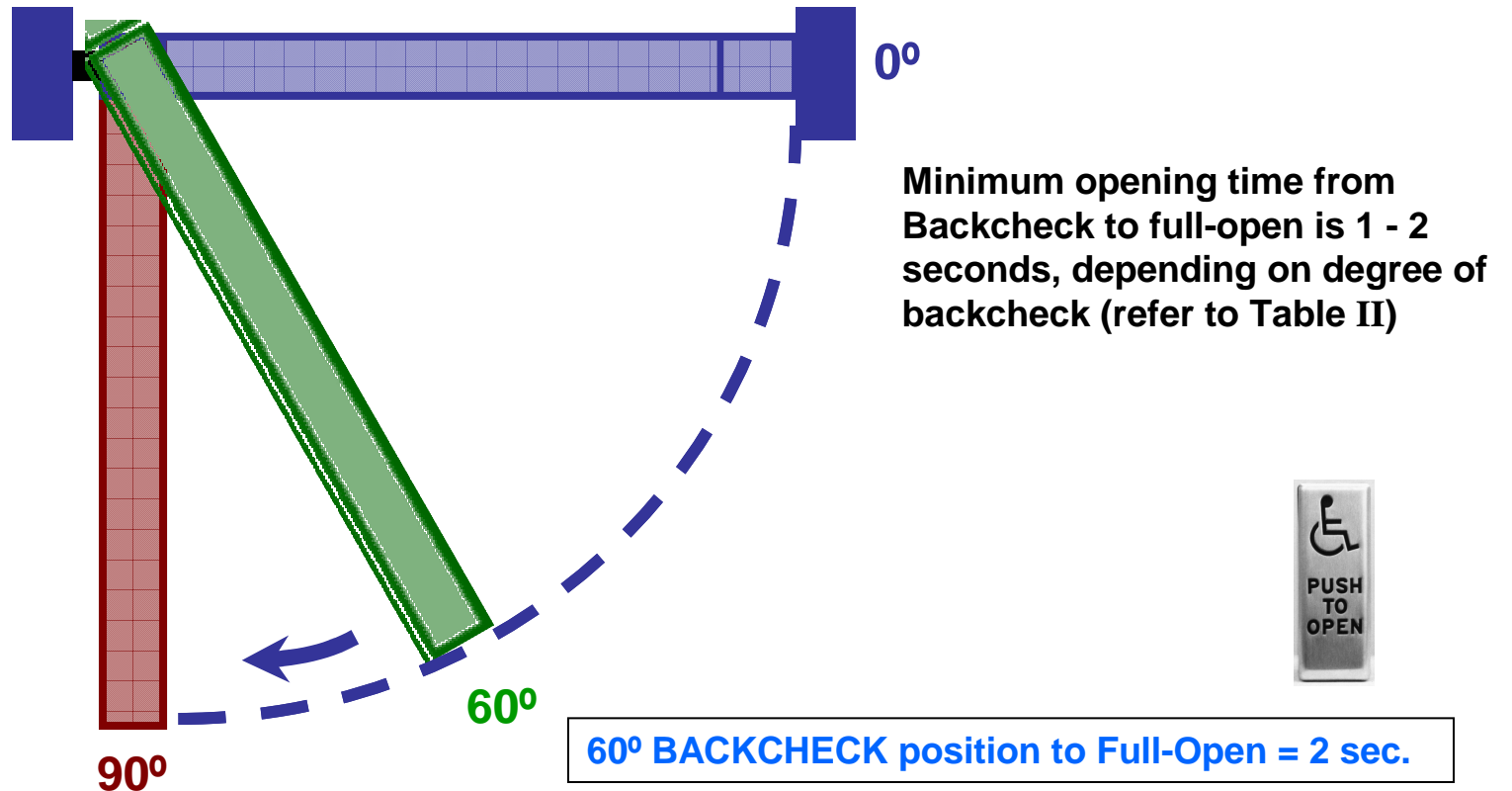
# OPENING TIMES – LOW ENERGY POWER OPEN DOOR



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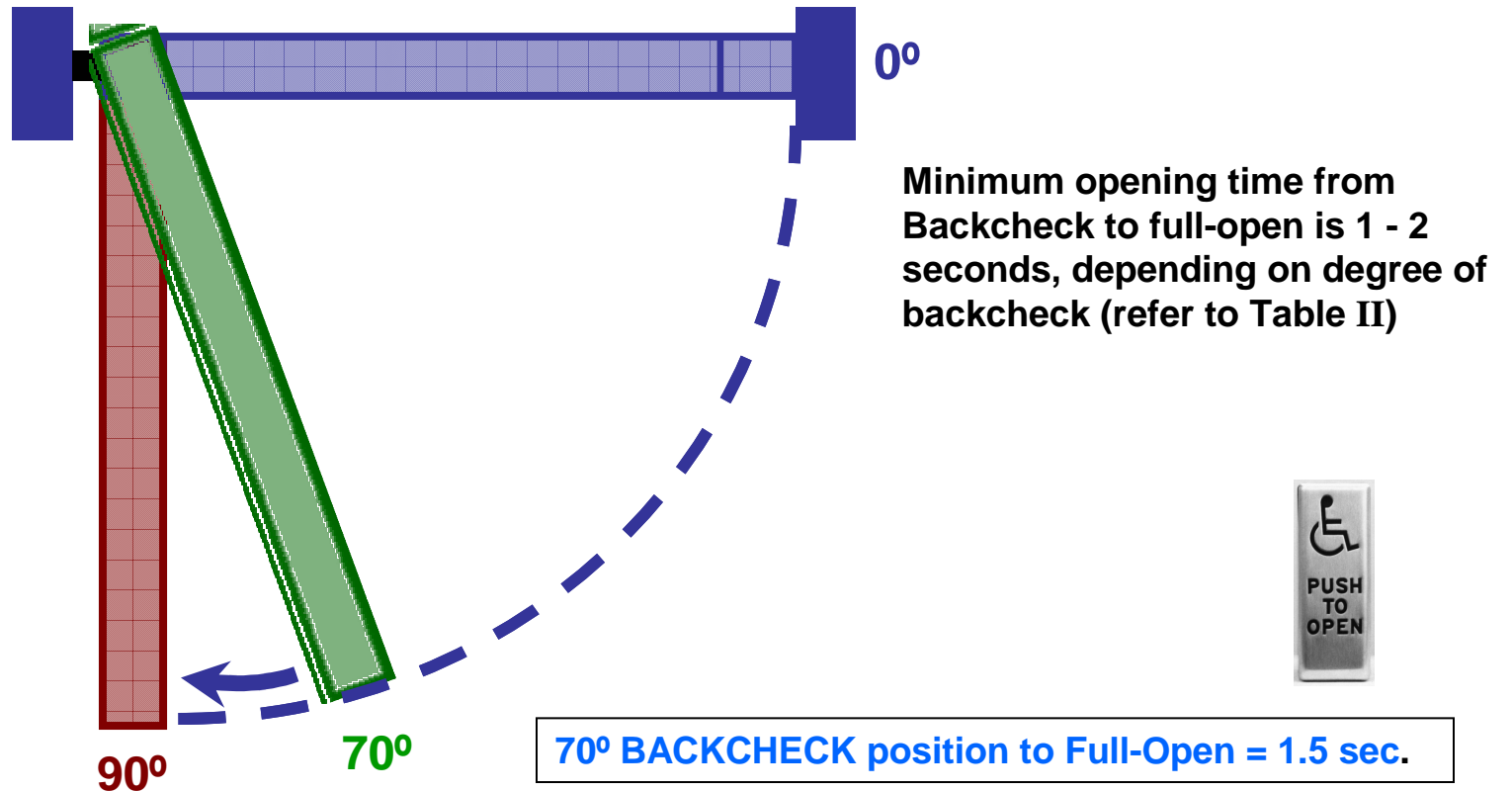


# OPENING TIMES – LOW ENERGY POWER OPEN DOOR



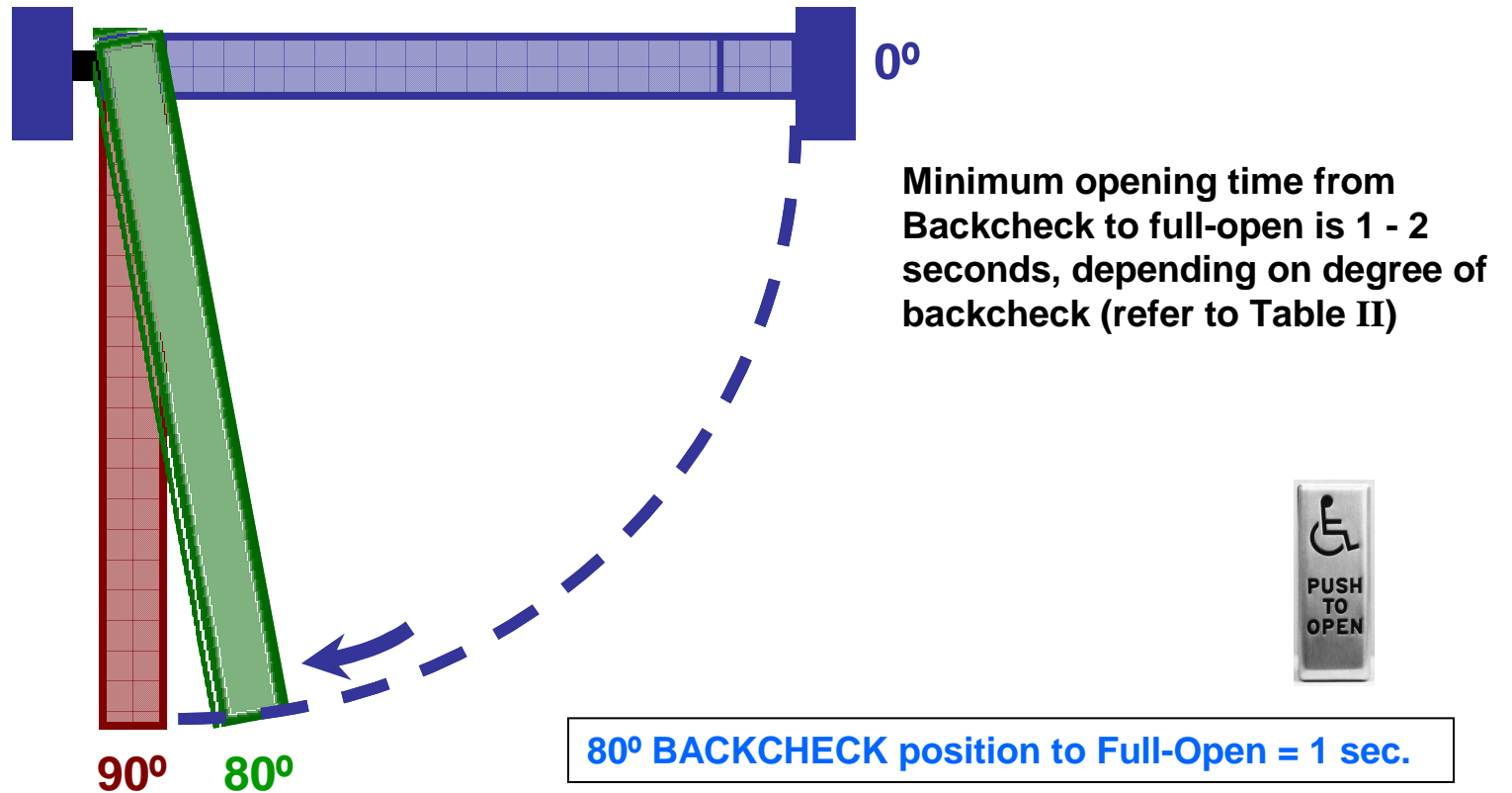
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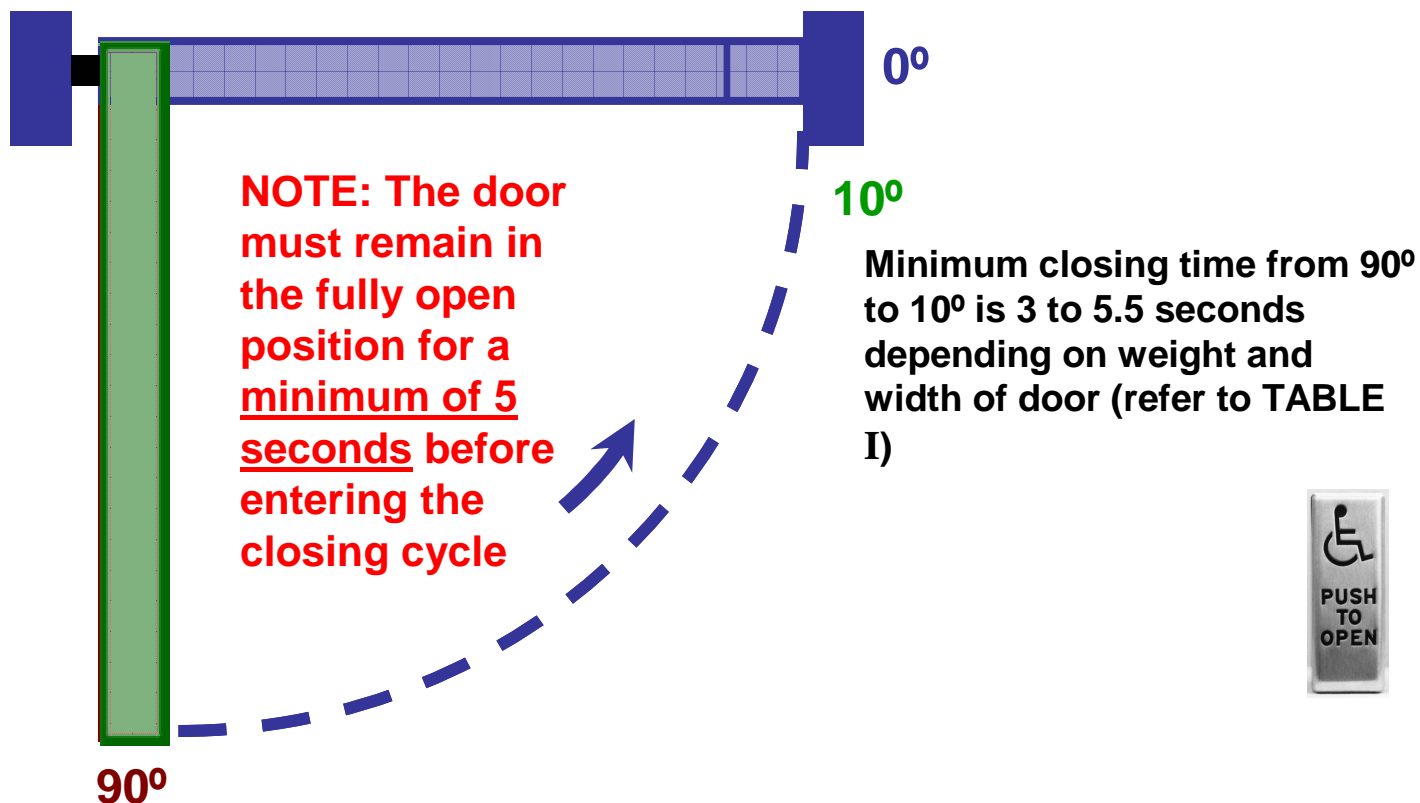
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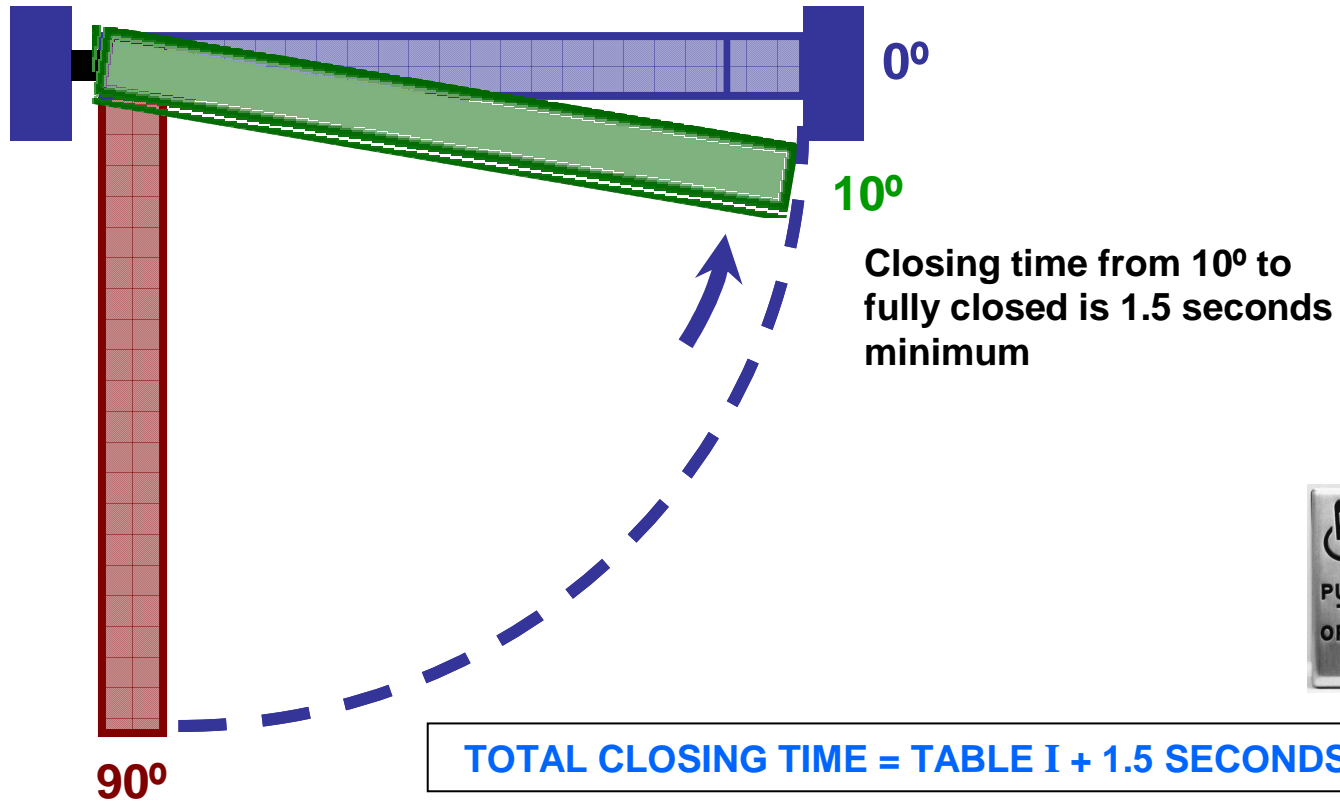
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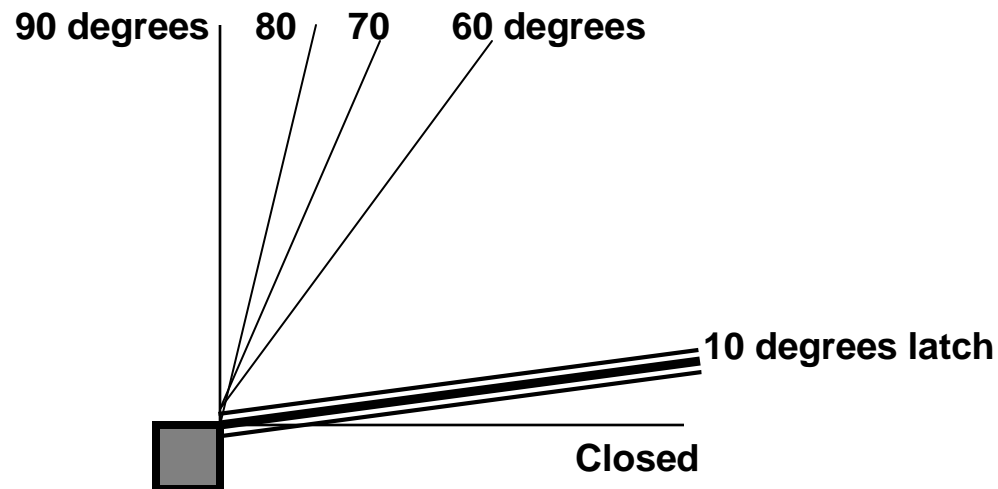
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42 (1067)	3.5	4.0	4.0	4.5	4.5	
48 (1219)	4.0	4.5	4.5	5.0	5.5	

	DOOR WIDTH	30"	36"	42"	44"	48"
80°	Back-check/INCHES 10 degrees	5-3/8"	6-3/8"	7-1/2"	7-7/8"	8-1/2"
70°	Back-check/INCHES 20 degrees	10-3/4"	12-3/4"	15"	15-3/4"	17"
60°	Back-check/INCHES 30 degrees	16-1/8"	19-1/8"	22-1/2"	24-1/2"	25-1/2"

To determine the backcheck angle, put the door into a 90° (full open) position and measure back toward the latch, taking into account the door width, and mark the floor with tape or chalk (*Take measurements from the outside leading edge of door*).



## SIGNAGE – LOW ENERGY DOORS



**MUST BE VISIBLE FROM BOTH SIDES OF ALL DOORS COVERED BY ANSI A156.19**



**MUST BE VISIBLE FROM SIDE OF DOOR USING PUSH PLATE. BOTH SIDES IF TWO WAY TRAFFIC.**



**WHEN USING PUSH and GO FOR ACTIVATION, SIGNAGE MUST BE VISIBLE ON BOTH SIDES OF DOOR.**

**“Doors shall be equipped with signs visible from either side, instructing the user as to the operation and function of the door. The signs shall be mounted 50” +/- 12” from the floor to centerline of the sign.”**



# DAILY SAFETY INSPECTION



The image shows a vertical yellow label with a black header containing the Stanley logo and the text 'Stanley Security Solutions'. Below this, the title 'DAILY SAFETY CHECK' is centered. The main body of the label contains four bullet points providing instructions for daily safety inspections.

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### DAILY SAFETY CHECK

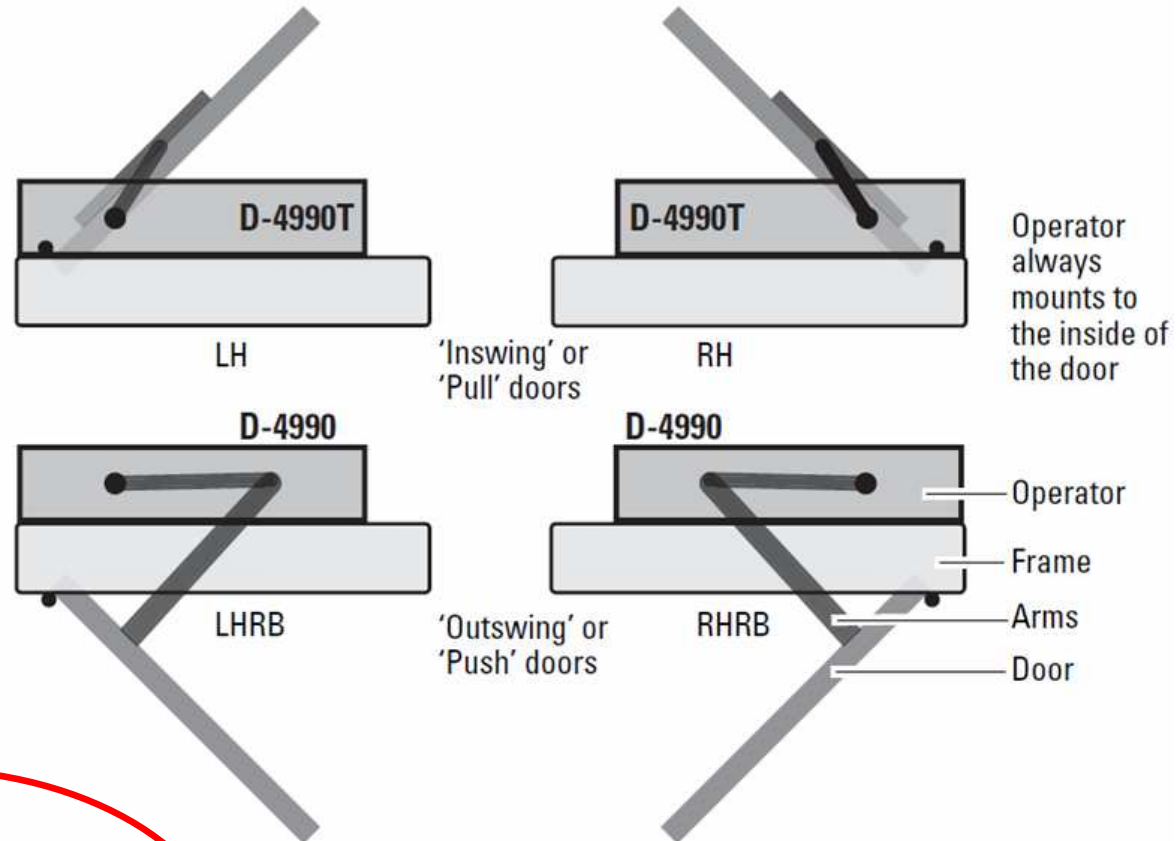
- For your customer's safety and your own protection, use the Daily Safety Check Sheet for proper safety procedures. If you need a copy, call your local Stanley distributor.
- Test the doors daily & after any power outage. Verify operation of all sensors and/or mats.
- Check the condition of the glass, safety decals, rails, finger guards, door pivots and mat moldings.
- If there are any problems, **DISCONTINUE DOOR OPERATION IMMEDIATELY!** Notify your local authorized Stanley distributor for repair.

Daily safety check label provided by Stanley should be applied to a jamb on the interior of door at eye level.

# SAFETY FIRST

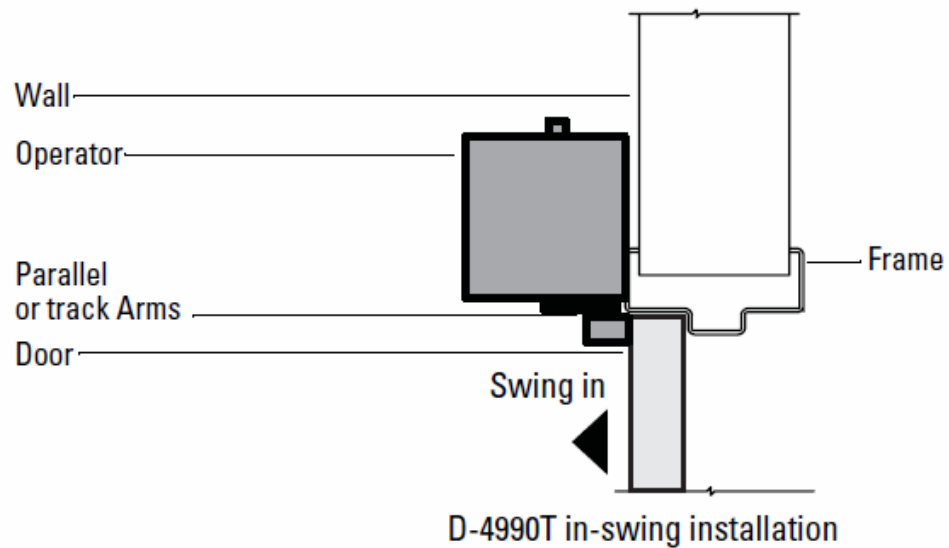
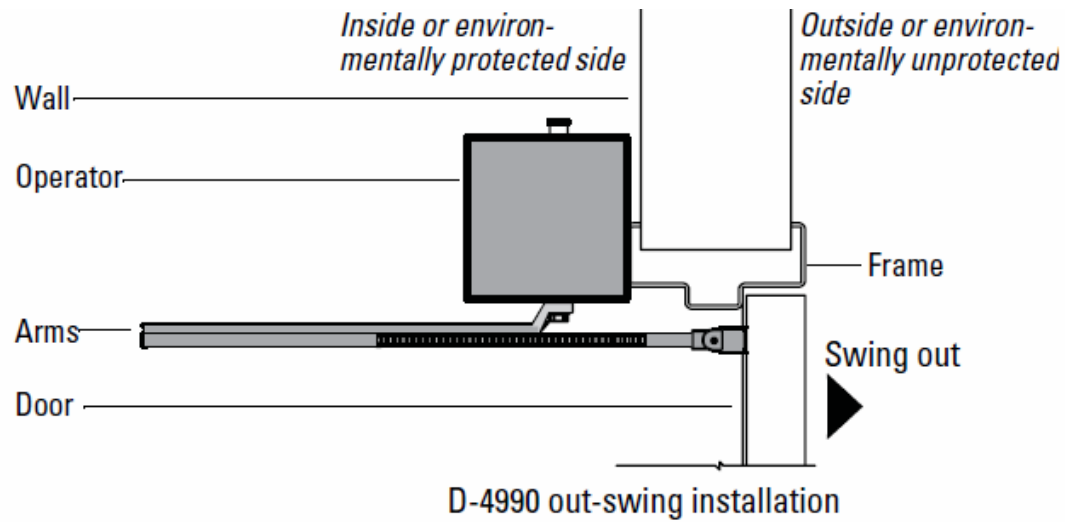
- Block off your work area and lock the door if possible
- When fully wired, 110 Volt AC current is present in the operator
- 110 Volts AC can injure or kill you
- High voltage electrical connections should be made by a qualified, licensed electrician
- Consult your local code compliance officials prior to starting the electrical portion of the work

# PRIMARY APPLICATIONS

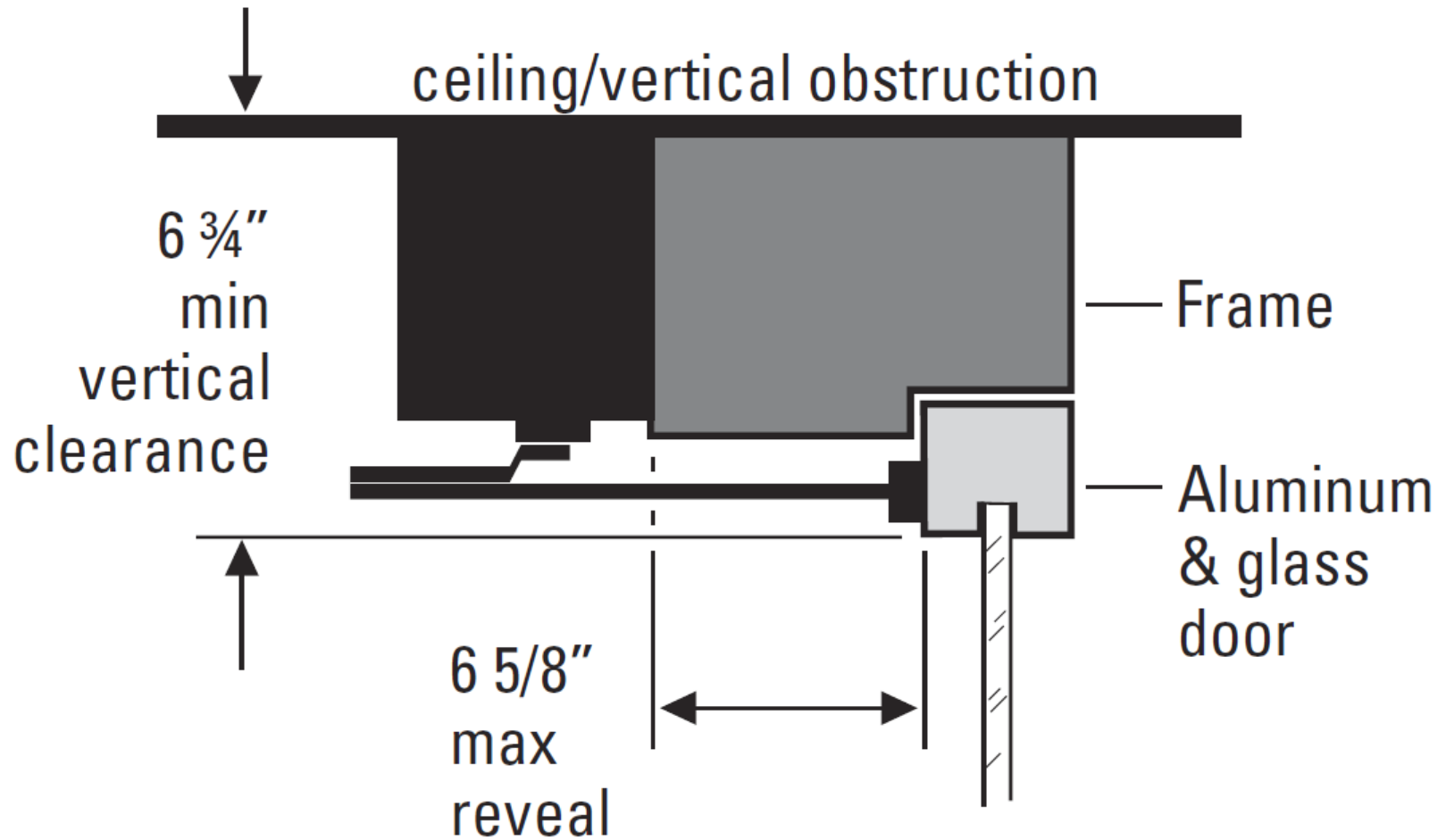


Approximately 90% of low energy door operators are installed on outward swinging doors.

# PRIMARY APPLICATIONS



# MINIMUM INSTALLATION REQUIREMENTS



## MINIMUM INSTALLATION REQUIREMENTS

- The D-4990 must be installed on the interior side of the building.
- The door can weigh no more than 350 lbs.
- The door can be no more than 48 in. wide.
- If there is a manual closer, it must be removed or made inoperable.
- The door must be in good working order. The hinges must work properly; the door must swing freely through its entire range.
- The frame must be made of 16 gauge welded steel or better; or the mounting surface must be masonry; or additional support must be provided behind the operator.
- For an outswing door, the reveal must be in the range of 0 – 6 5/8 in. For an inswing door the reveal must be 0 in.
- Power for the D-4990 should be installed before starting the installation of the operator.

# MINIMUM INSTALLATION REQUIREMENTS

## MOUNT THE PUSH PLATES OR OTHER ACTUATORS

The type of actuator that you are installing will determine the installation procedures. See the manufacturer's instructions that came with the product.

Make sure to follow the ANSI/BHMA A156.19 requirements regarding the placement of actuators:

### **ANSI/BHMA A156.19 requires that the actuator switch:**

- “...*be activated by a knowing act.*” See the glossary of terms for a complete definition, but in summary, the operator must be activated consciously. It must not open without the person's initiating.
- be located within one to five feet from the door, but never more than 12 feet.
- must remain accessible from the swing side when the door is open.
- not to be located in a position where the user would be in the path of the moving door.
- be mounted so the user is in full sight of the door when activating the switch.
- have an installation height of a minimum of 34 in. (864 mm) and a maximum of 48in. (1219 mm).



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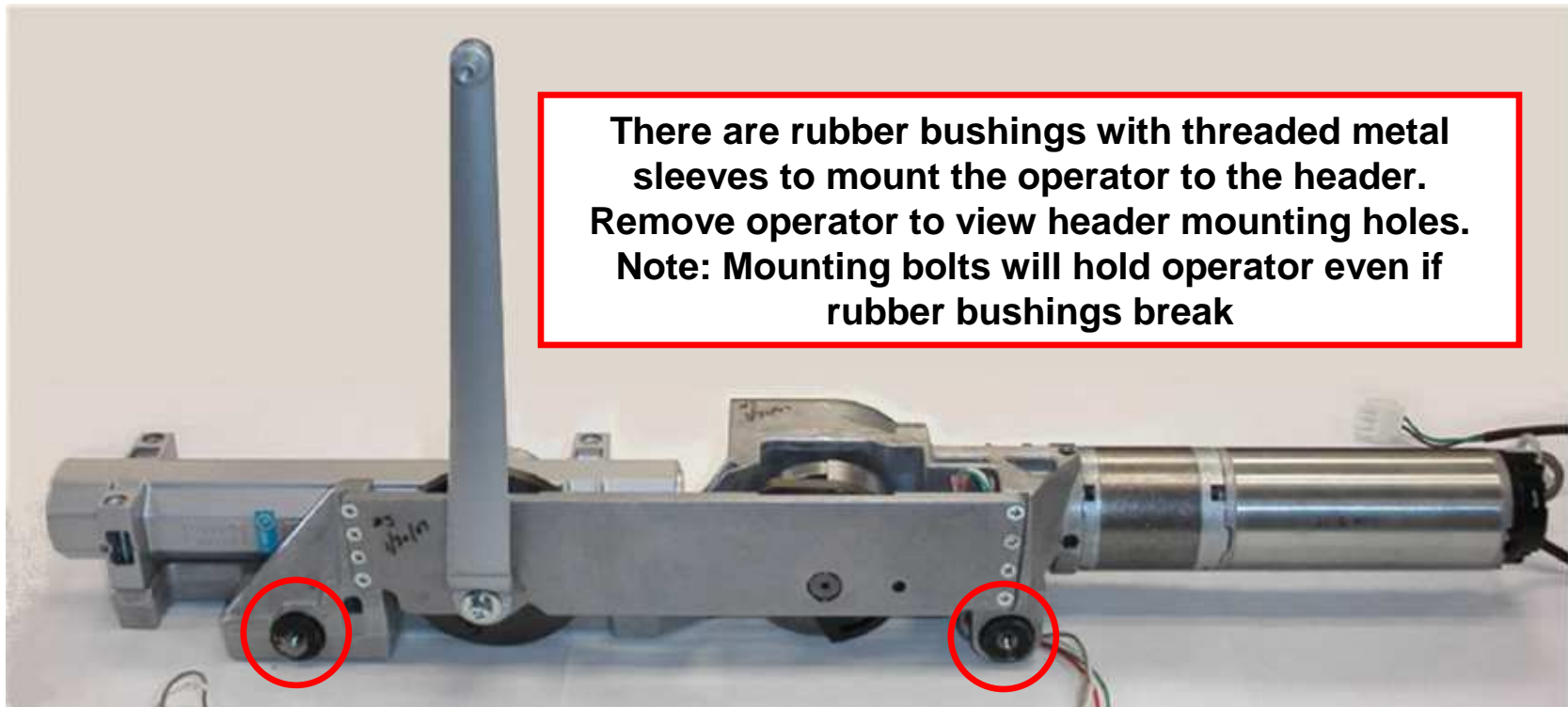
# INSTALLATION



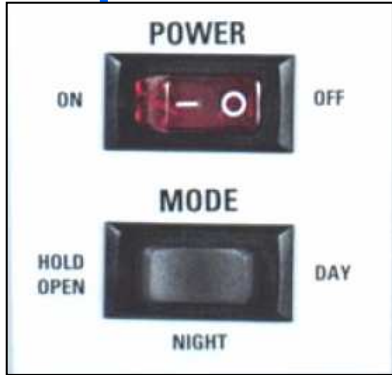
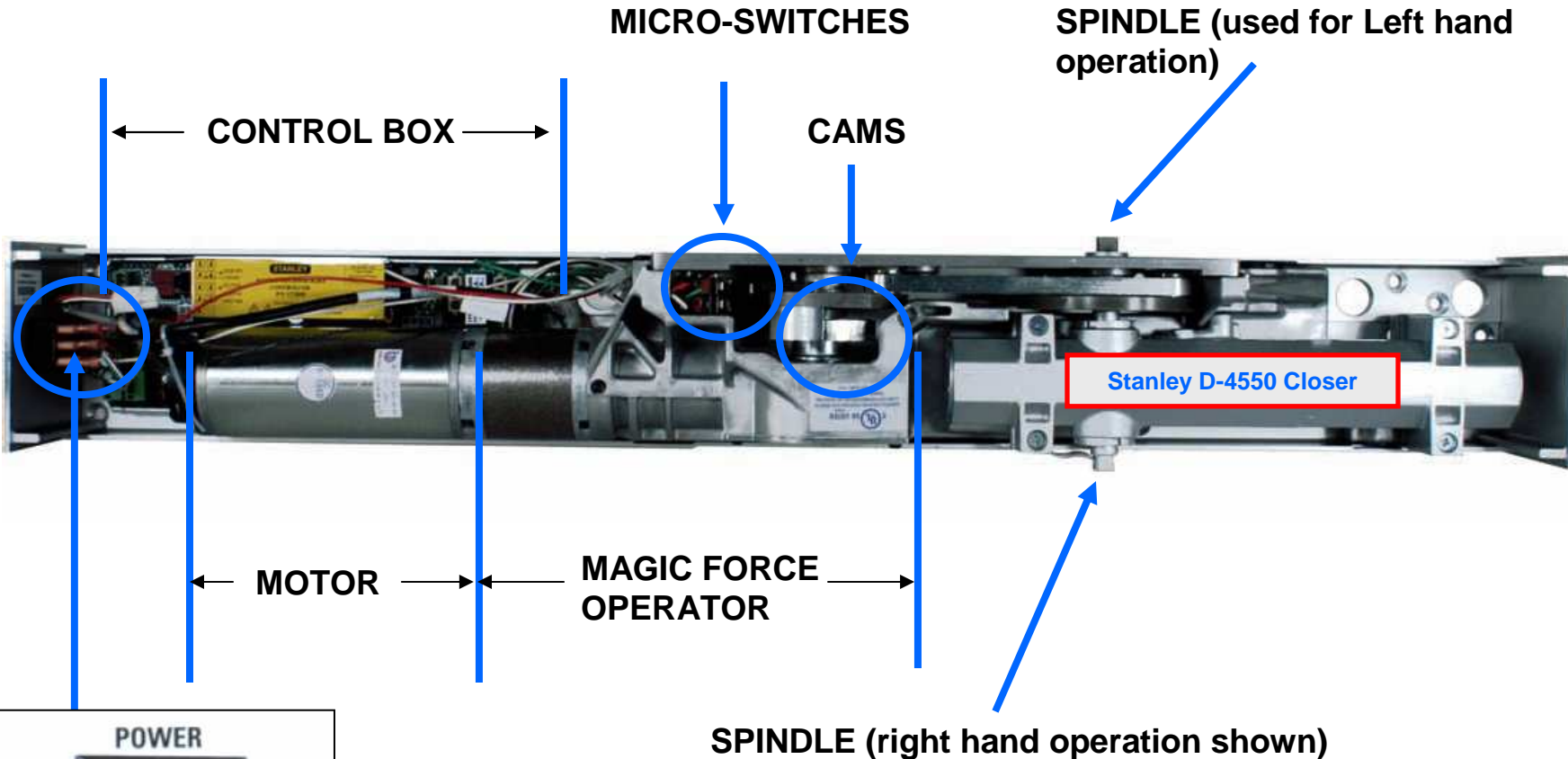
Pre-drilled wire chase holes provided across header back

Mount header to edge of hinge side tube for support (Left hand header shown).

Drill and tap  $\frac{1}{4}$ -20 holes across bottom of header, (top rail of frame) and up the hinge side as shown.



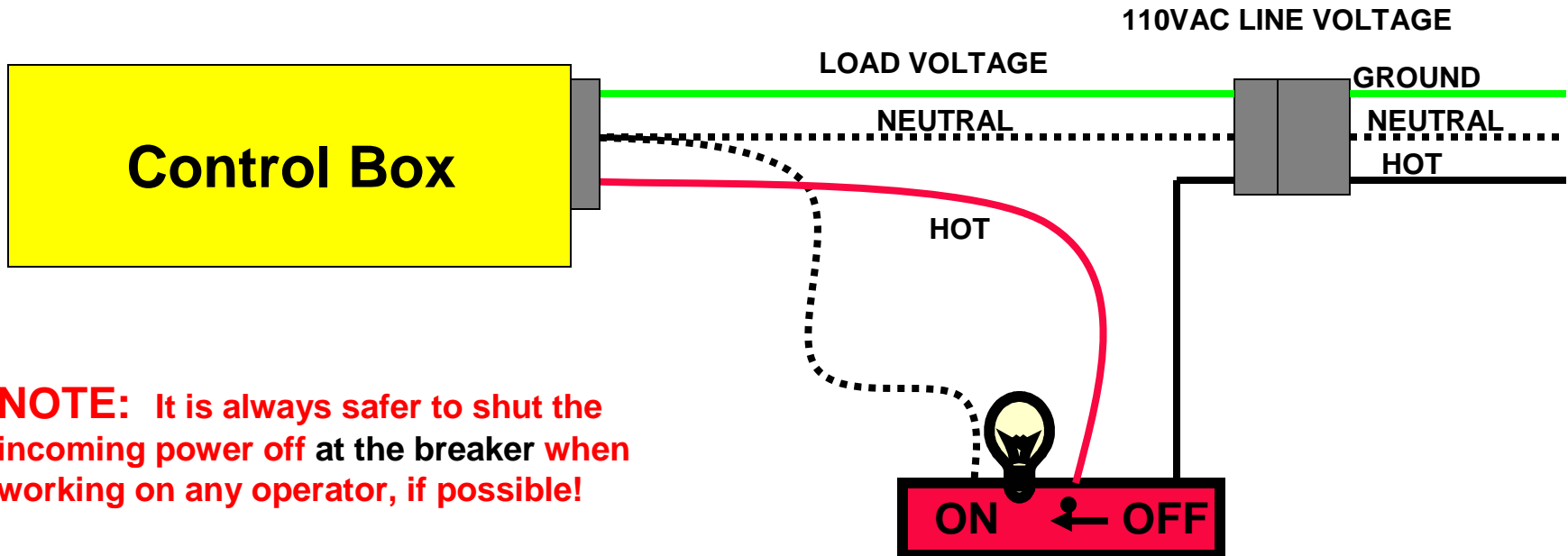
There are rubber bushings with threaded metal sleeves to mount the operator to the header. Remove operator to view header mounting holes. Note: Mounting bolts will hold operator even if rubber bushings break



**FUNCTION & POWER SWITCHES**

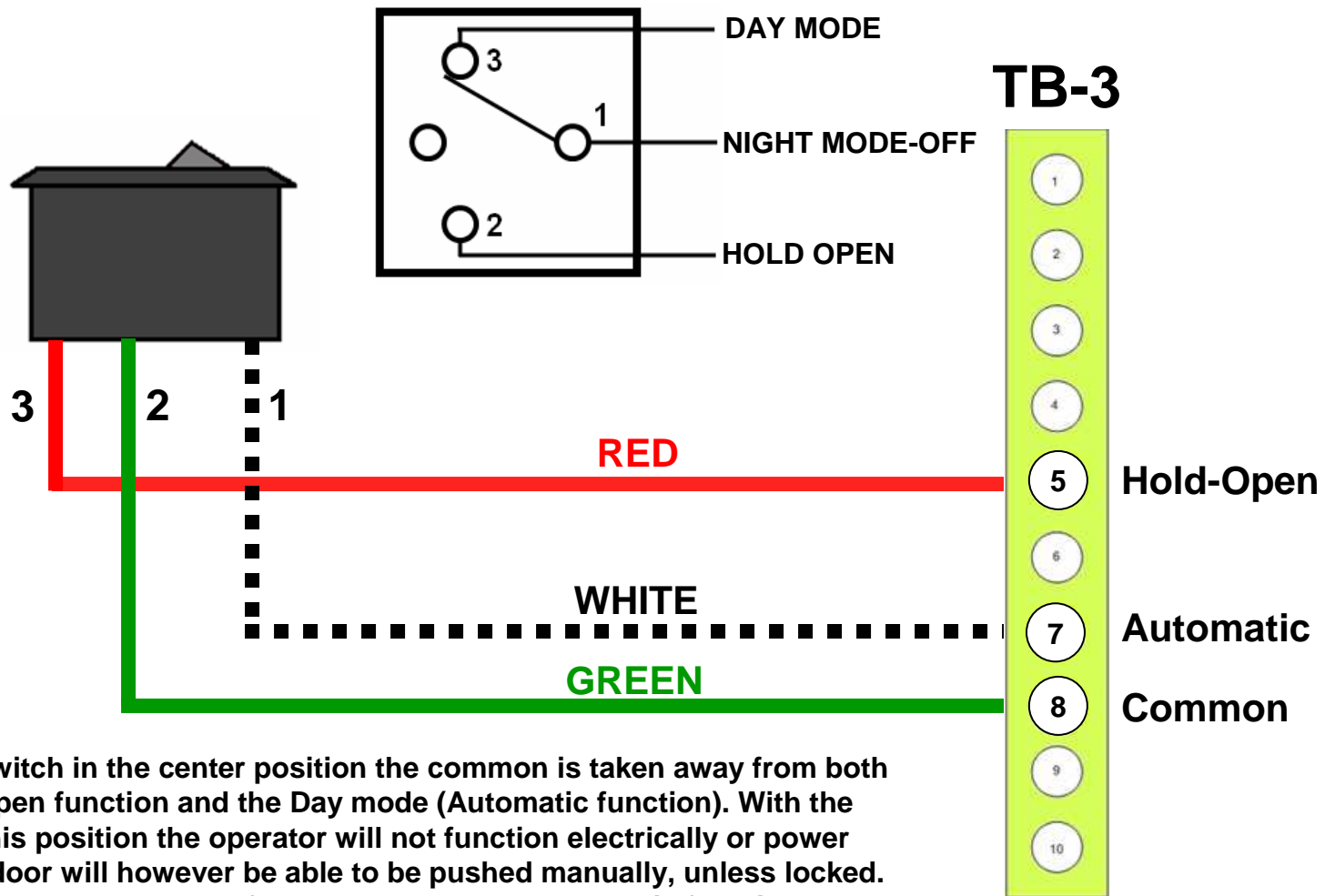
# ON / OFF SWITCH

The ON/OFF switch, that is used to cut off or supply 110VAC to the door, is similar to the on/off wall switch you use to turn the lights on and off in your home. We take incoming line voltage and run the **Ground** and Neutral lines directly to the control box. We also take the neutral and run it to the On/Off switch LED. We take the Hot wire from the line and run it to the switch and run a lead from the switch to the control. This way we can cut off the voltage to the door locally to work on or shut the door down if needed. The neutral wire to the switch will illuminate the LED when the switch is bypassing the hot wire from the line to the control. We can then see if the power is on by looking at the light.



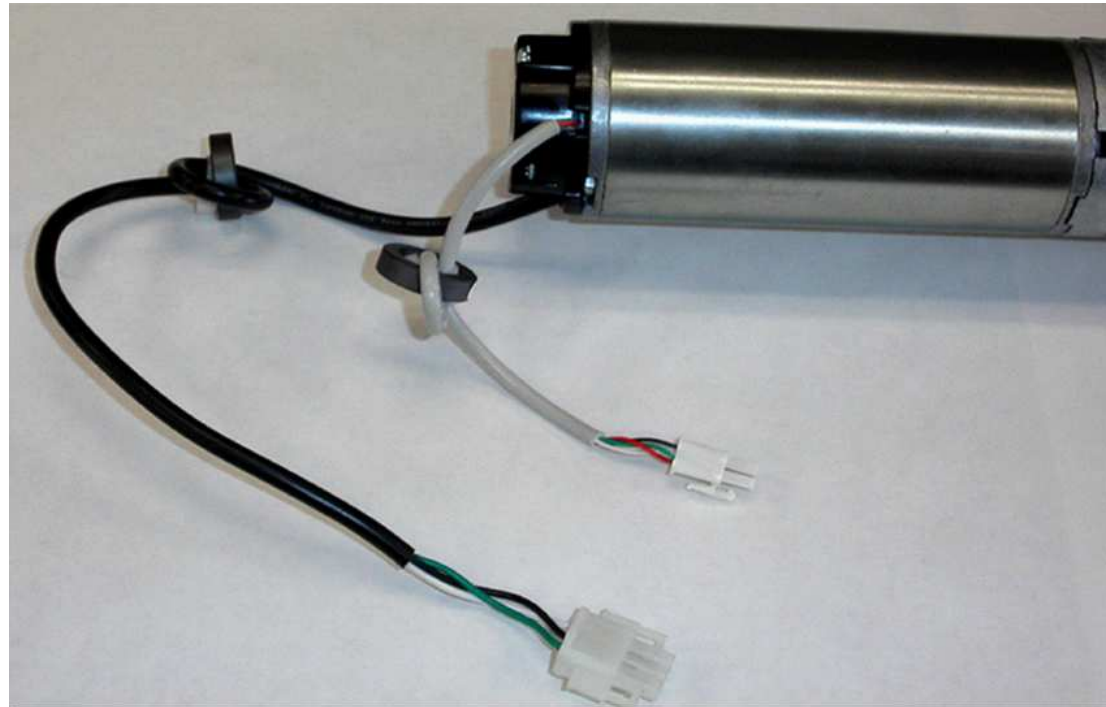
**NOTE:** It is always safer to shut the incoming power off at the breaker when working on any operator, if possible!

# OPERATING MODE ROCKER SWITCH



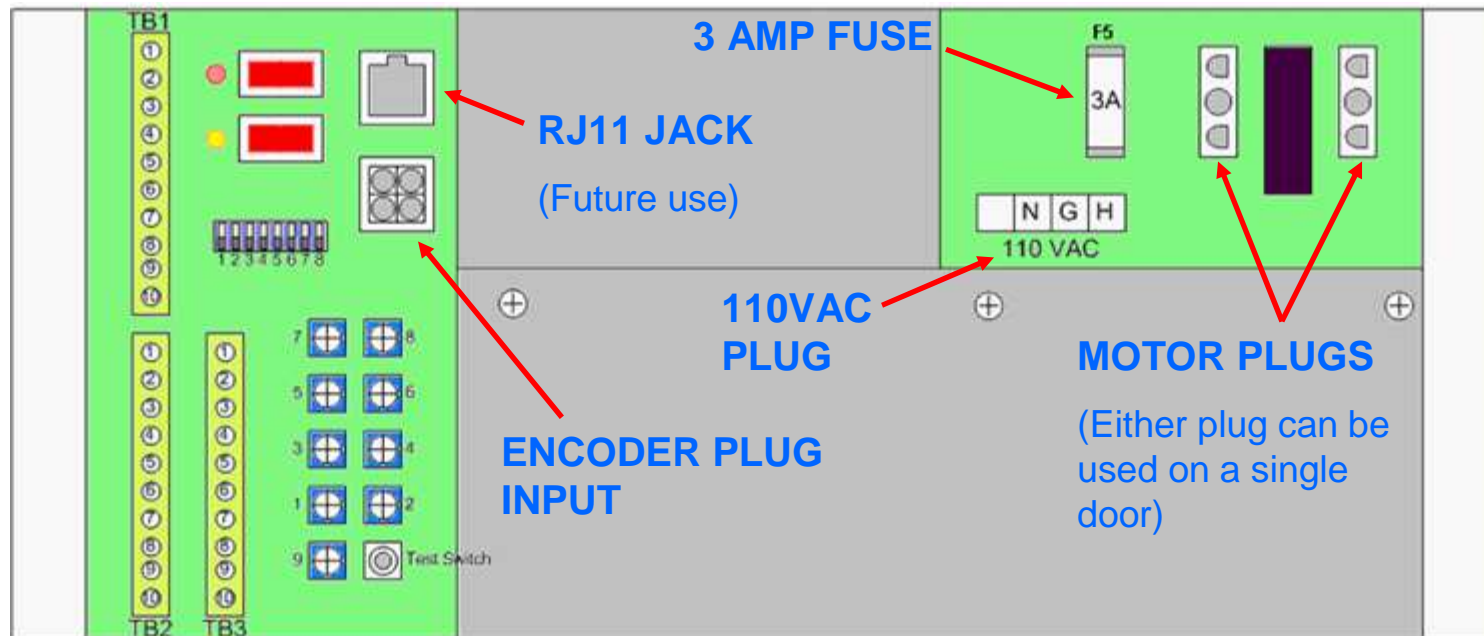
With the switch in the center position the common is taken away from both the Hold- open function and the Day mode (Automatic function). With the switch in this position the operator will not function electrically or power open. The door will however be able to be pushed manually, unless locked. With the common allowed to feed to Day mode, the door will function normally with push plates or Push and Go. With the switch in the Hold-open position, the door will open to 90 degrees and stay there until the switch is moved to another position.

# CONTROLLER & PLUG-IN CONNECTORS



# PLUG-IN CONNECTORS

**ENCODER:** This is a combination of a magnet rotating on the shaft at the end of the motor, and Hall effect transistors that send pulses to the control every time the motor turns. When the door is powered up it will open slowly and allow the encoder and processor to count the pulses from fully closed to fully open. These pulses are used to indicate when a door should go into backcheck or when its at its open limit.





# PLUG-IN CONNECTORS

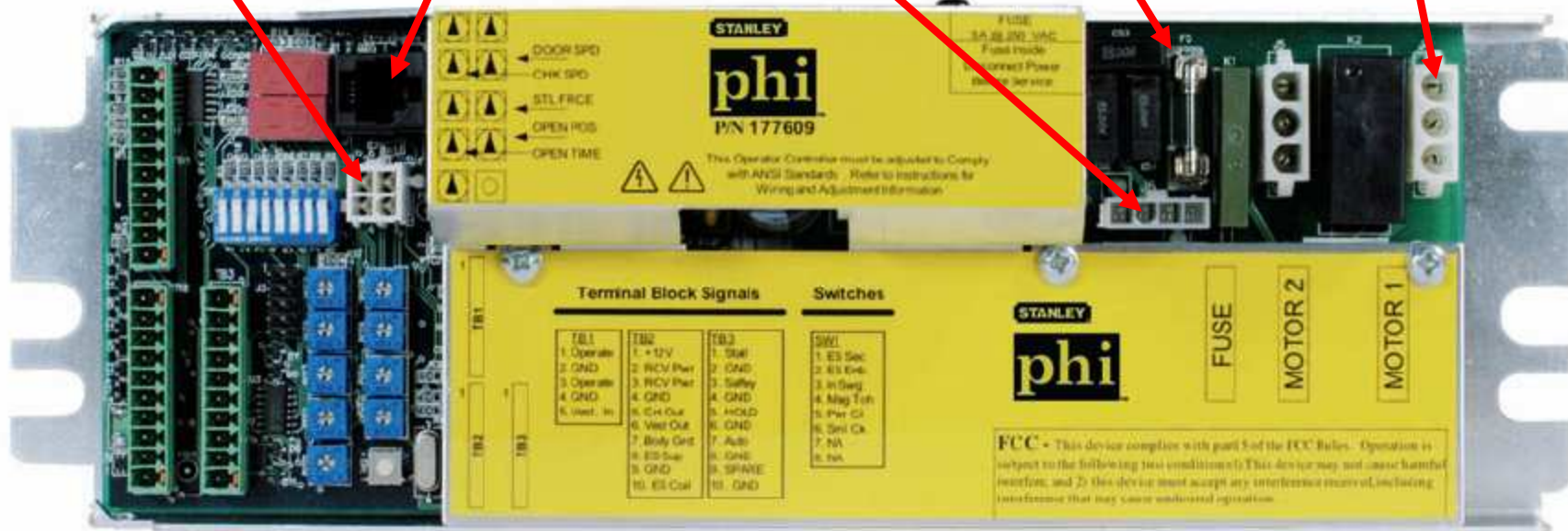
ENCODER PLUG  
INPUT

RJ11 JACK  
(Future use)

110VAC  
PLUG

3 AMP FUSE

MOTOR PLUG



**ENCODER:** This is a combination of a magnet rotating on the shaft at the end of the motor, and Hall effect transistors that send pulses to the control every time the motor turns. When the door is powered up it will open slowly and allow the encoder and processor to count the pulses from fully closed to fully open. These pulses are used to indicate when a door should go into backcheck or when its at its open limit.

# TERMINAL BLOCKS

## TB-1

1 – Activate

2 – Common

3 – Activate

4 – Common

5 – Door Closed Position Switch

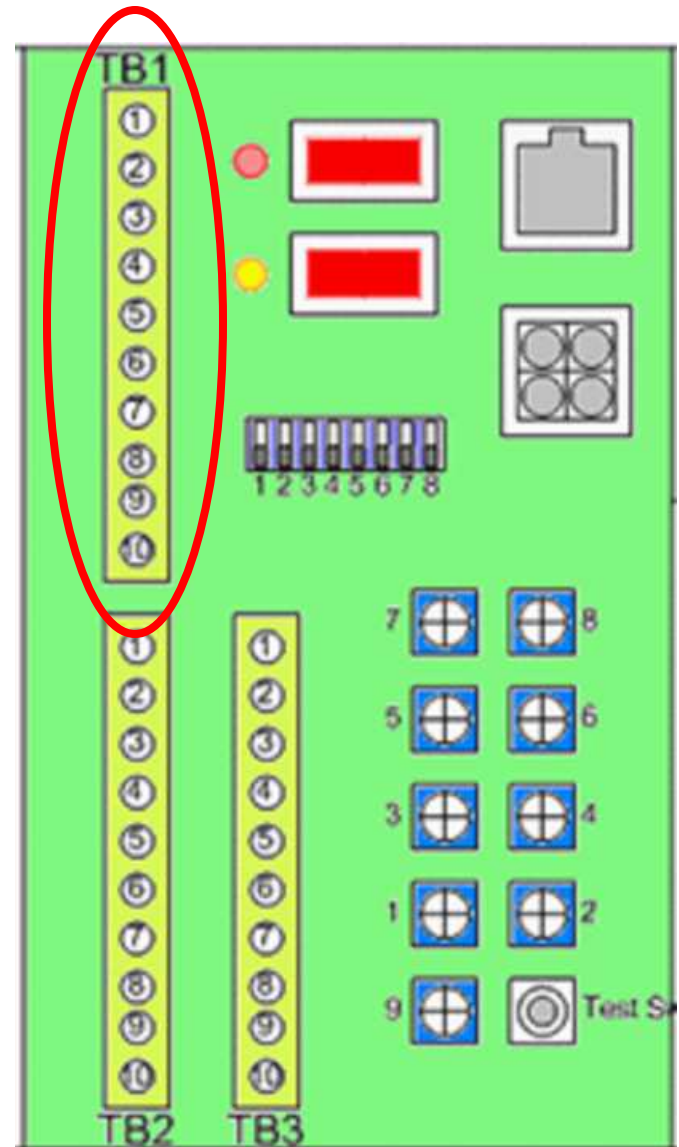
6 – Common

7 – Vestibule IN Entrapment

8 – Common

9 – Push and Go

10 – Common

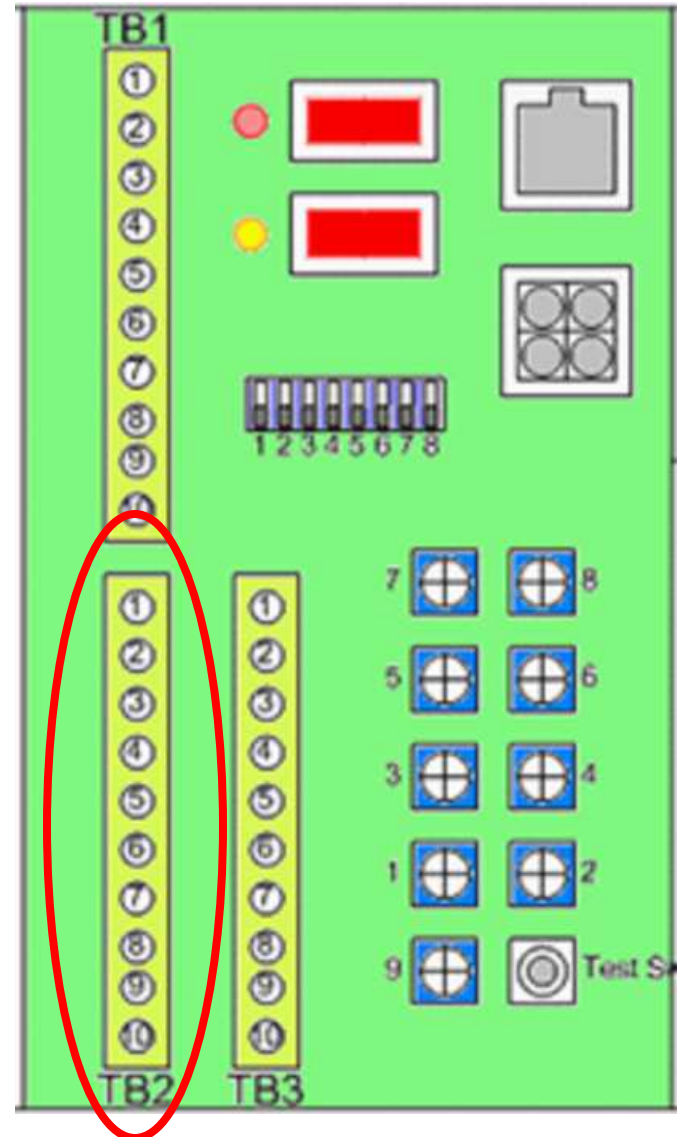




# TERMINAL BLOCKS

## TB-2

- 1 – Future Use
- 2 – AC Power Supply
- 3 – AC Power Supply
- 4 – Common
- 5 – Cycle Counter
- 6 – Vestibule Out Entrapment
- 7 – Not Used
- 8 – Elec. Strike Supply +
- 9 – Common -
- 10 – Lock Coil



# TERMINAL BLOCKS

## TB-3

1 – Swing-Side Stall

2 – Common

3 – Not Used

4 – Common

5 – Hold

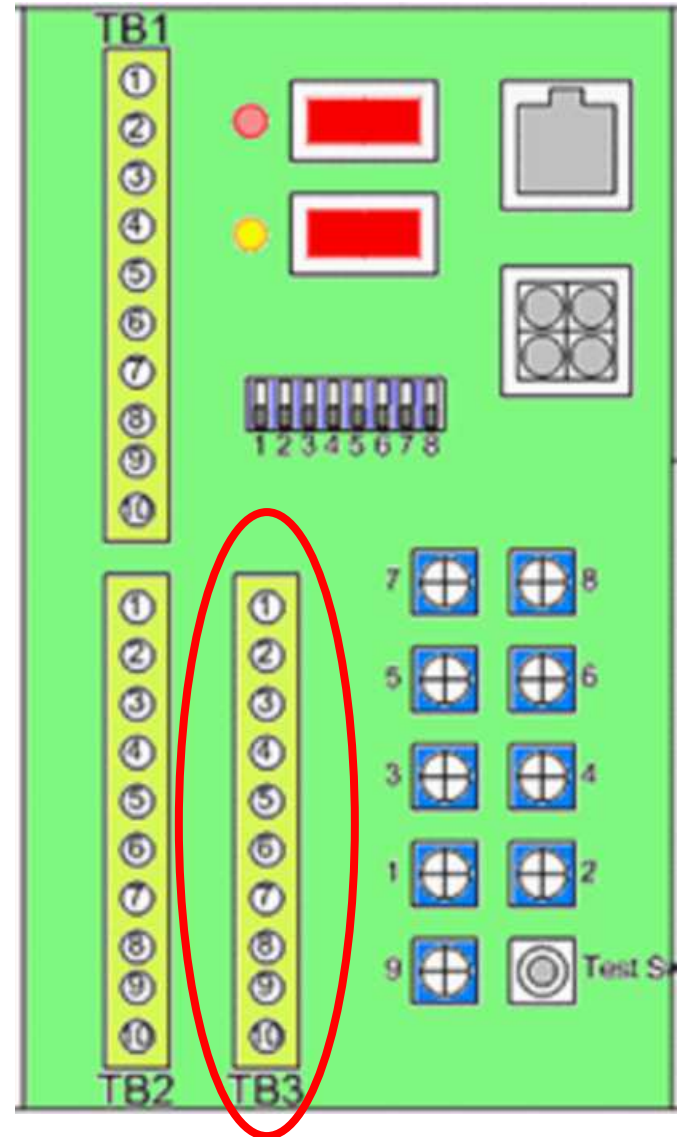
6 – Common

7 – Automatic

8 – Common

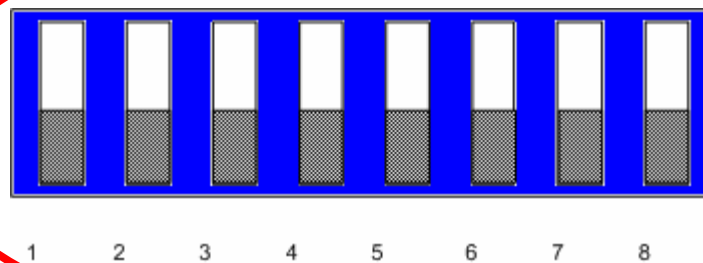
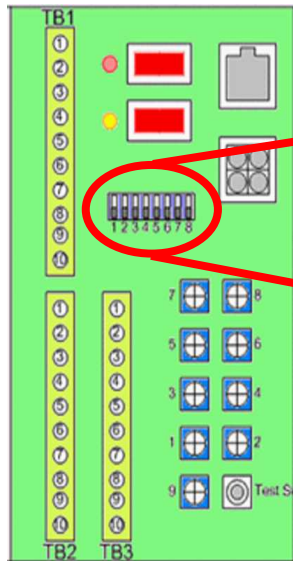
9 – Spare

10 – Common



# DIP SWITCH SETTINGS

1 – Elec. Strike Logic	ON – Fail Secure	OFF – Fail Safe
2 – Electric Strike ON / OFF	ON – Enable Strike Logic	OFF – Disable
3 – Out-swing / In-swing Logic	ON – In-swing	OFF – Out-swing
4 – Push and Go	ON – Push and Go	OFF – Push and Go
5 – Power Close	ON – Enable	OFF – Disable
6 – Not Used		
7 – Not Used		
8 – Not Used		



**All DIP switches are OFF for normal operation**

## DIP SWITCH SETTINGS

- 1 – Elec. Strike Logic: Determines if the strike will be Fail-Safe or Fail-Secure
- 2 – Electric Strike ON / OFF: Turns the strike functionality On or Off
- 3 – Out-swing / In-swing Logic: determines whether the operator while function as In-swing or Out-swing
- 4 – Push and Go: If this option is used, the door will automatically open when the door is pushed or pulled beyond the 10<sup>0</sup> latch-check zone
- 5 – Power Close: The Power Close option will close the door if it remains in the latch-check area for too long
- 6 – Not Used
- 7 – Not Used
- 8 – Not Used

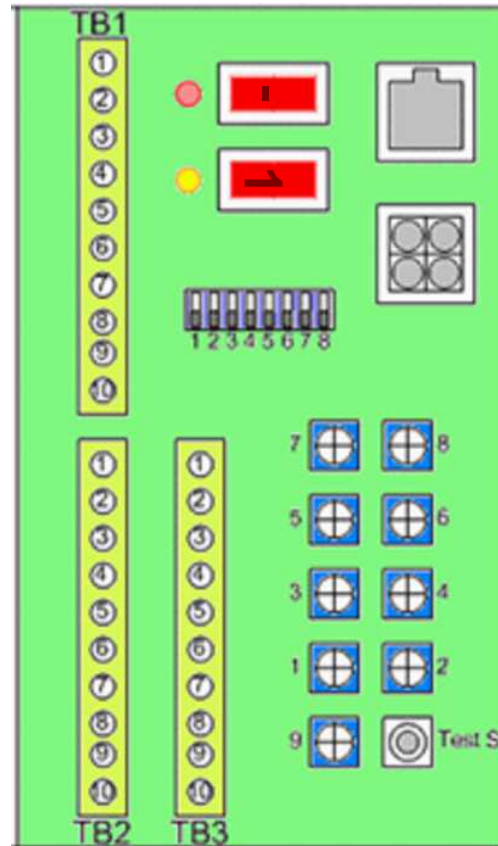
**NOTE: All DIP switches are OFF for normal operation**

# LEDs & DIGITAL DISPLAY

## LEDs

**Red** – This LED will glow when the unit is in Day Mode (On), and during a stall condition.

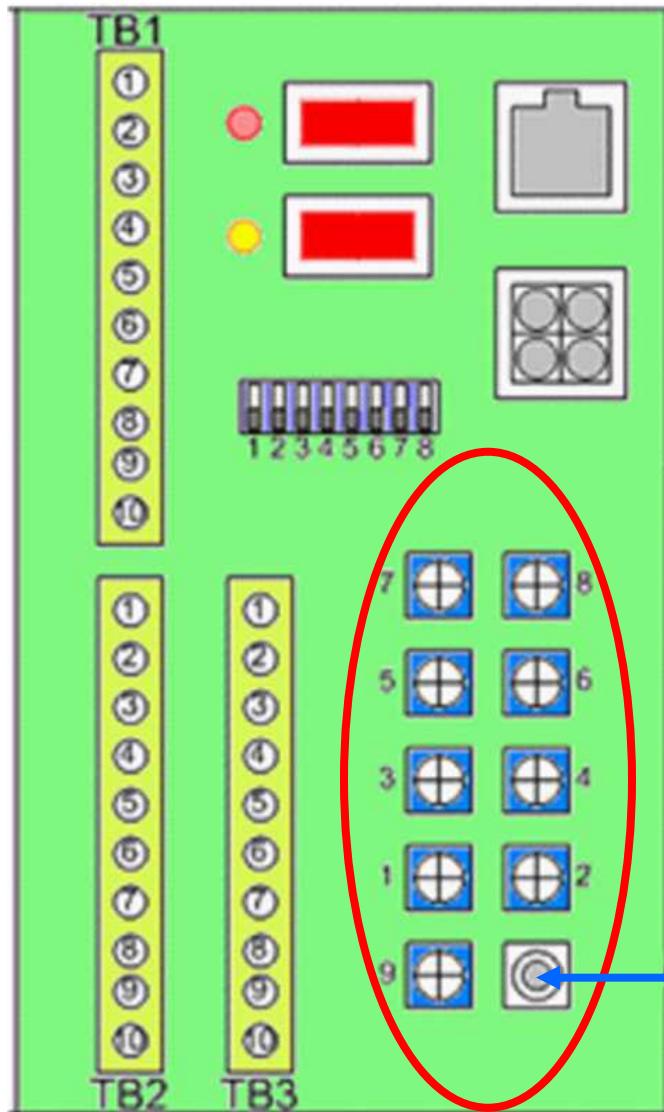
**Amber** – This LED will glow while the unit is sensing an “open request”



## DIGITAL DISPLAY

- 1 Initialization
- 2 Door Closed
- 3 Electric Strike Enabled (DIP switch # 2)
- 4 Door Moving – Opening
- 5 Door Moving Through Backcheck
- 6 Full-Open or Hold-Open
- 7 Door moving – Closing
- 8 Door Obstruction (opening only)

# POTENTIOMETERS & TEST SWITCH



- 1 Hold-open time 0 – 28 seconds (5 seconds minimum, per ANSI A156.19)
- 2 Full open position (approx. 90°)
- 3 Not used
- 4 Stall (hold-open force)
- 5 Backcheck speed (last few degrees of opening)
- 6 Sweep speed (fully closed to start of backcheck)
- 7 Opening torque (opening force) \*
- 8 Not used
- 9 Sequencer (timer used for vestibule applications)

**NOTE: POT # 9 is not in numerical order**

**DEFINITION: Potentiometer (POT):** “resistor connected in series across a voltage source; used to obtain a desired fraction of the voltage”

**Test Switch**

**\*Torque adjustment: Clockwise to Decrease;  
Counter-Clockwise to Increase.**

# POTENTIOMETERS & TEST SWITCH

- 1 **Hold-open time:** The door must remain in the hold-open position at least 5 seconds after the loss of opening signal detection AND after the door arrives at the full open position. The POT is adjustable from 0 to 28 seconds but the hold-open time **MUST NOT be set to less than 5 seconds**. At less than 5 seconds, the door is considered to be a high energy operator and will require several safety devices and installation by an AAADM certified technician.
- 2 **Full open position:** When the door is in hold-open position, it can be adjusted several degrees in or out to obtain the optimum door angle (typically 90°).
- 3 **Not used:** N/A
- 4 **Stall:** Stall is the level at which the power opener and the hydraulic closer provide the same amount of pressure, when the door is in hold-open. Too much stall adjustment uses a lot of extra voltage to keep the door open. Too little stall adjustment and the door will start to creep closed.
- 5 **Open - Check speed:** This setting controls how quickly the door will move in from backcheck to full open.
- 6 **Open - Sweep speed:** This setting will control how quickly the door moves from closed to the backcheck zone.
- 7 **Opening torque:** If the torque setting is too low, the door will not open. If it is set too high, the door will open with more force than is necessary and may exceed the Low Energy Operator standard.
- 8 **Not used:** N/A
- 9 **Sequencer:** The sequencer adjustment allows the technician to adjust the activation time of a second door operator when two operators are used, such as in an outer and vestibule door arrangement.
- 10 **Test Switch:** The test switch operates the door when depressed.

# SETUP & ADJUSTMENT PROCEDURES

## INITIAL SETUP:

- Unlock the door and make sure it is fully closed.
- Turn on power the switch
  - The cams should come around to find their home position
- After finding the home position, the digital display should read “– 2”
- The operator should now be in “normal operation”
  - Adjust check speed, open time, open degree as needed.
- If the operator fails to function, check to make sure all of the DIP switches are set to the OFF position and then push the test switch to confirm proper operation
- If the digital display is flashing and displaying “-”, make sure that the factory-use DIP switch (# 8) is in the off position. Power the unit down and then back on to reset the display.



# SETUP & ADJUSTMENT PROCEDURES

## ELECTRONIC ADJUSTMENT PROCEDURES:

- If the door fails to reach the 90° open position, adjust potentiometer # 2 and retest the operation
  - Repeat this procedure until the correct angle is attained
- If the door fails to stay in the fully open position for at least 5 seconds, adjust potentiometer # 1 and retest the operation
  - Repeat this procedure until the door stays open for at least 5 seconds (required by ANSI A156.19)
- If the door drifts closed when in the hold-open position, adjust potentiometer # 4 and retest the operation
  - The operator should be adjusted so that the door is just beyond drifting shut (**the unit can be damaged if too much stall force is used**).
  - Repeat this procedure until the door no longer drifts
- NOTE: The test switch will cause the door to operate when the function switch is in day or night mode

## SETUP & ADJUSTMENT PROCEDURES

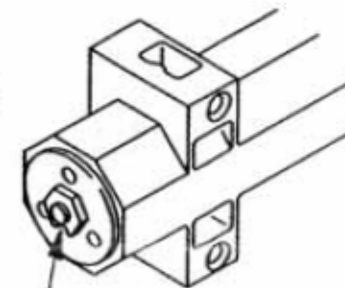
### MECHANICAL ADJUSTMENT PROCEDURES:

All closing functions of the door operator are controlled by the Stanley D-4550 door closer.

Adjustments to closing force, sweep speed and latch speed should be done in accordance with the installation instructions for the D-4550 door closer.

***DO NOT USE MECHANICAL BACKCHECK. It can cause the unit to malfunction.***

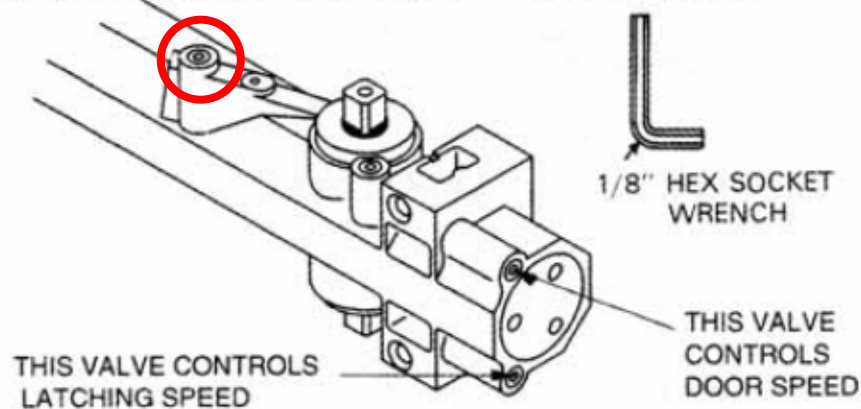
ADJUST SPRING POWER FOR DOOR WIDTH AS INDICATED IN CHART. TO INCREASE CLOSING POWER, TURN SPRING ADJUSTING NUT CLOCKWISE.



SPRING ADJUSTING NUT

### REGULATING DOOR SPEED AND LATCHING SPEED

TURN SOCKET SCREW CLOCKWISE TO SLOW DOWN—OR COUNTER—CLOCKWISE TO SPEED UP DOOR MOVEMENT.

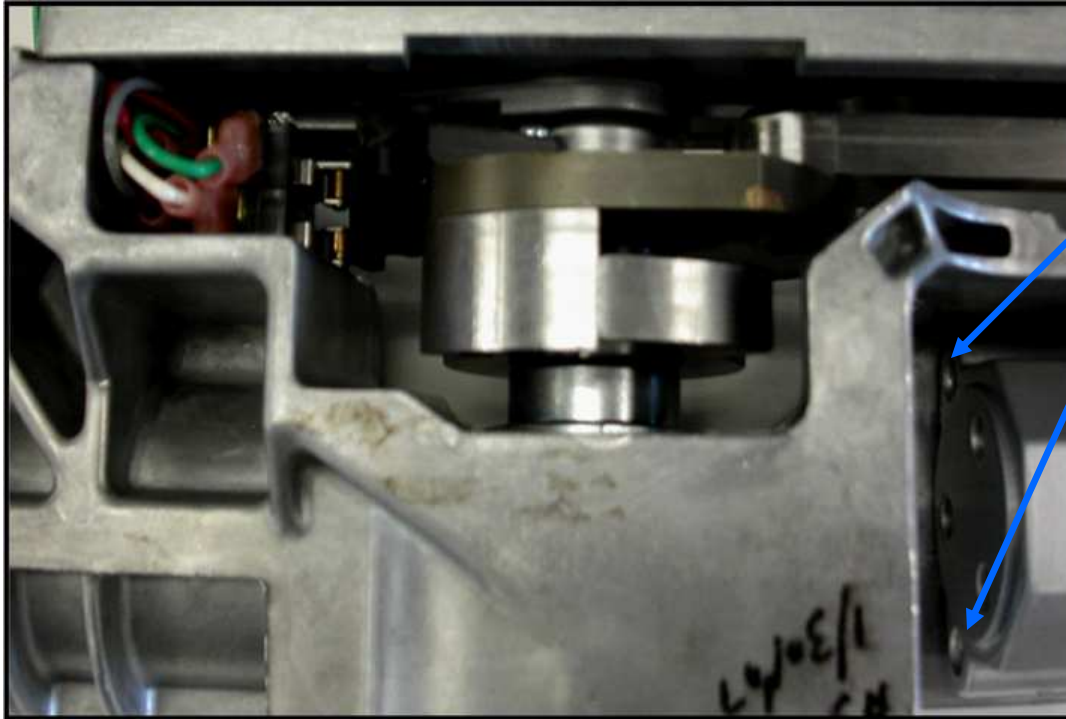


THIS VALVE CONTROLS LATCHING SPEED

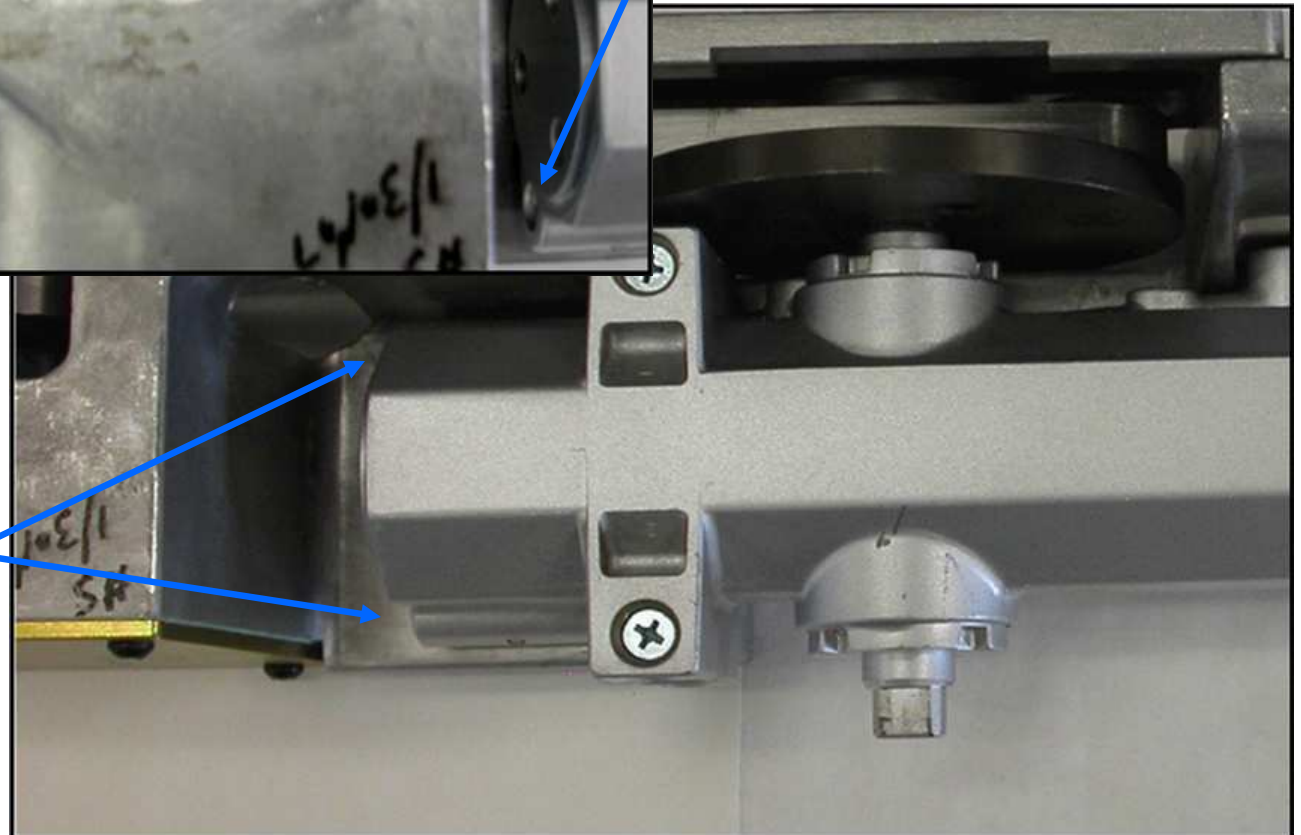
THIS VALVE CONTROLS DOOR SPEED

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**Adjustment Valves**



**Adjustment Valves**

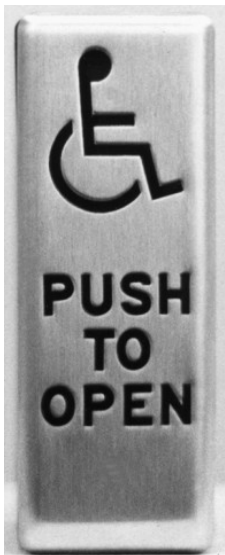
# SAMPLE ACTIVATION DEVICES



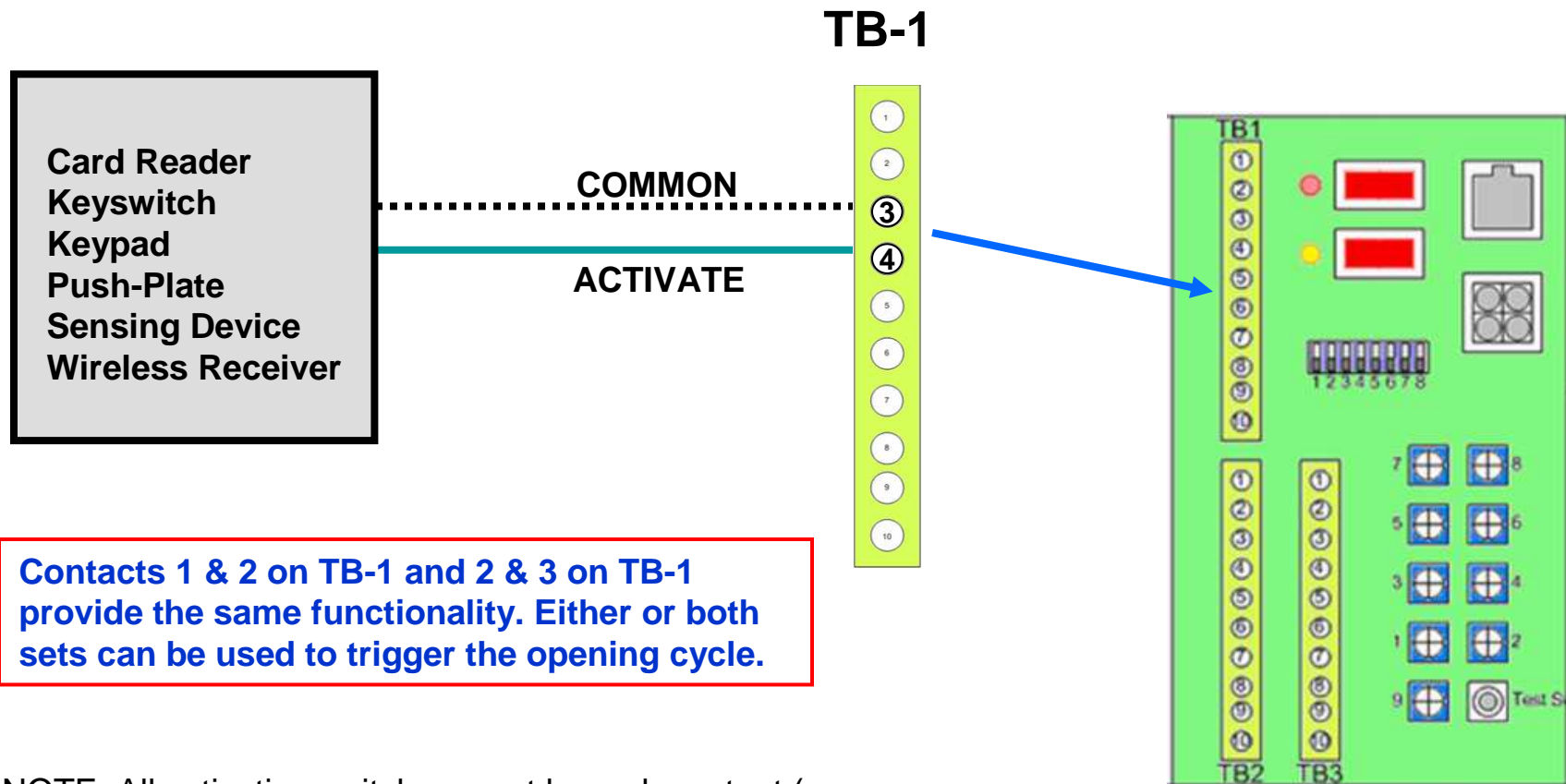
433  
Receiver



433  
Transmitter



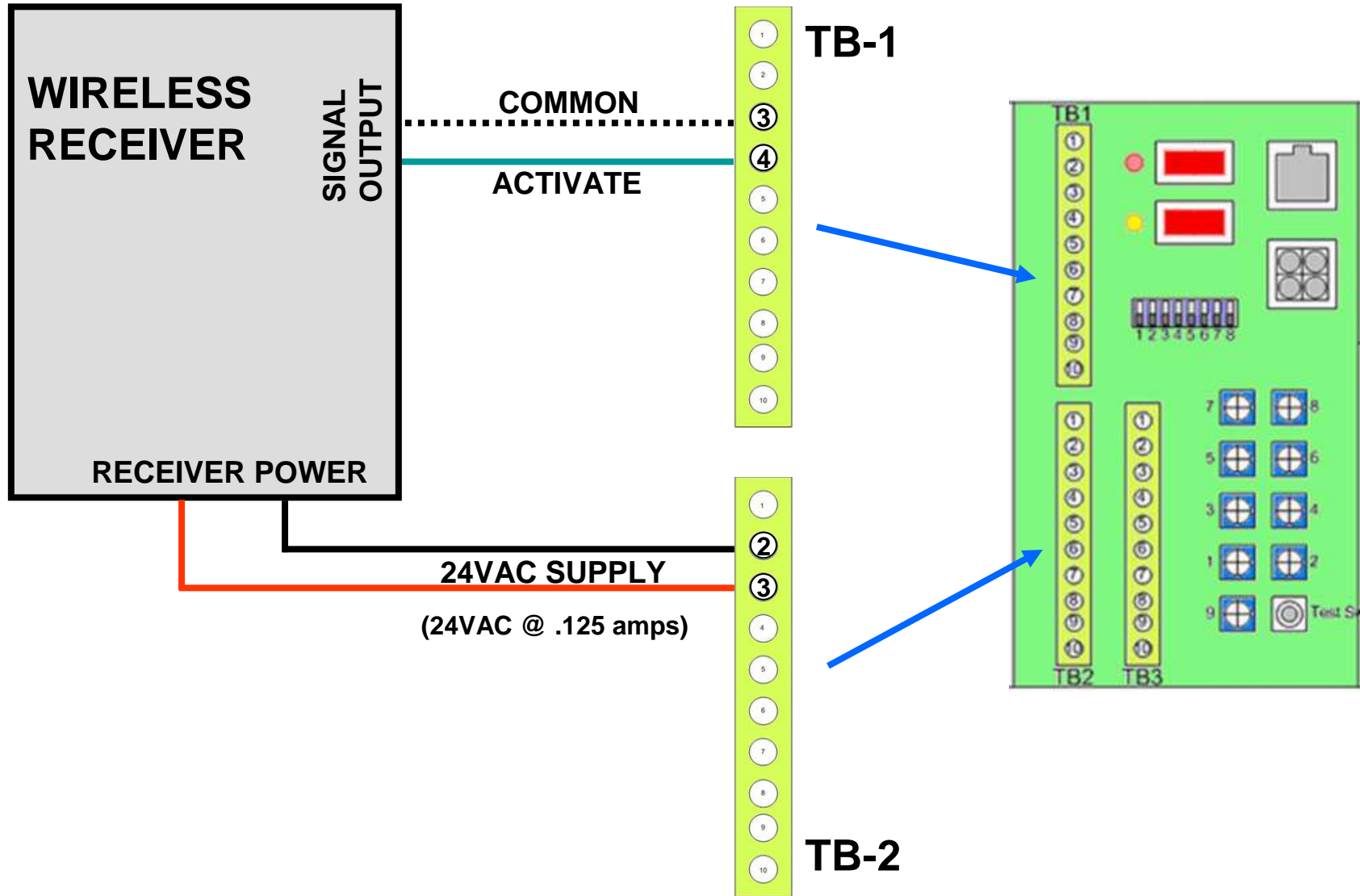
# ACTIVATION INPUTS



NOTE: All activation switches must have dry output (no voltage) contacts to be wired to the control box. Any small amount of voltage will interfere with the control and can cause damage. This is a normally-open circuit that needs a dry-closure to send a signal to the door to activate or open.



# CONTROL MODULE WITH WIRELESS RECEIVER



## WIRELESS RECEIVER



The wireless receiver comes pre-wired with a 30", four conductor cable.

The black and red power wires get connected to the 24 VAC output on TB-2 (terminal 2 & 3).

The green and white wires are connected to the trigger input wires on TB-1 (terminals 1 & 2 or 3 & 4).

## WIRELESS RECEIVER



Dipswitch “1” sets the receiver output for momentary or “latching”.

Dipswitch “2” sets the relay time for either .5 or 10 seconds.

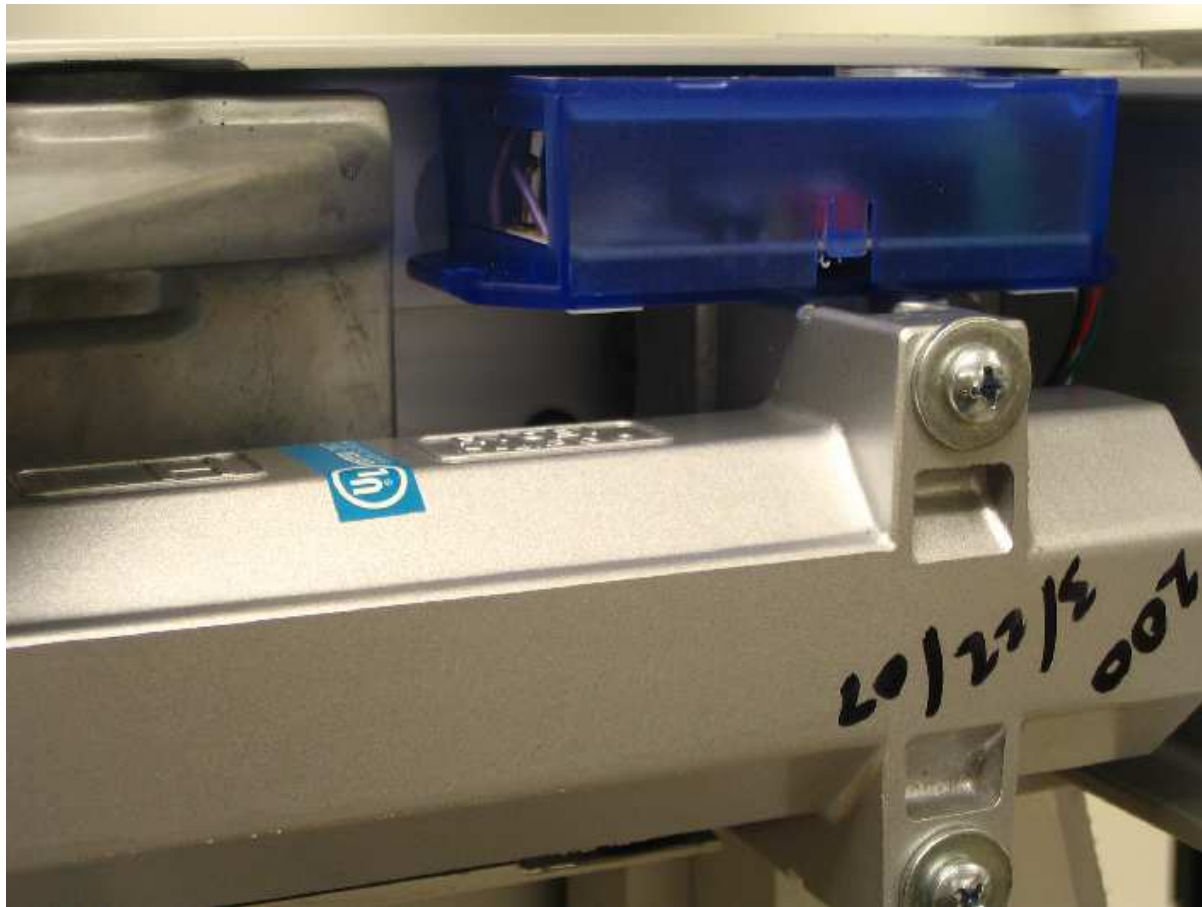
The grey “learn” button is used for programming the receiver to accept remotes. Up to 10 remotes can be programmed in.

The Output LED will glow red whenever it receives a signal from a remote.

The yellow Learn LED is illuminated during the programming process.



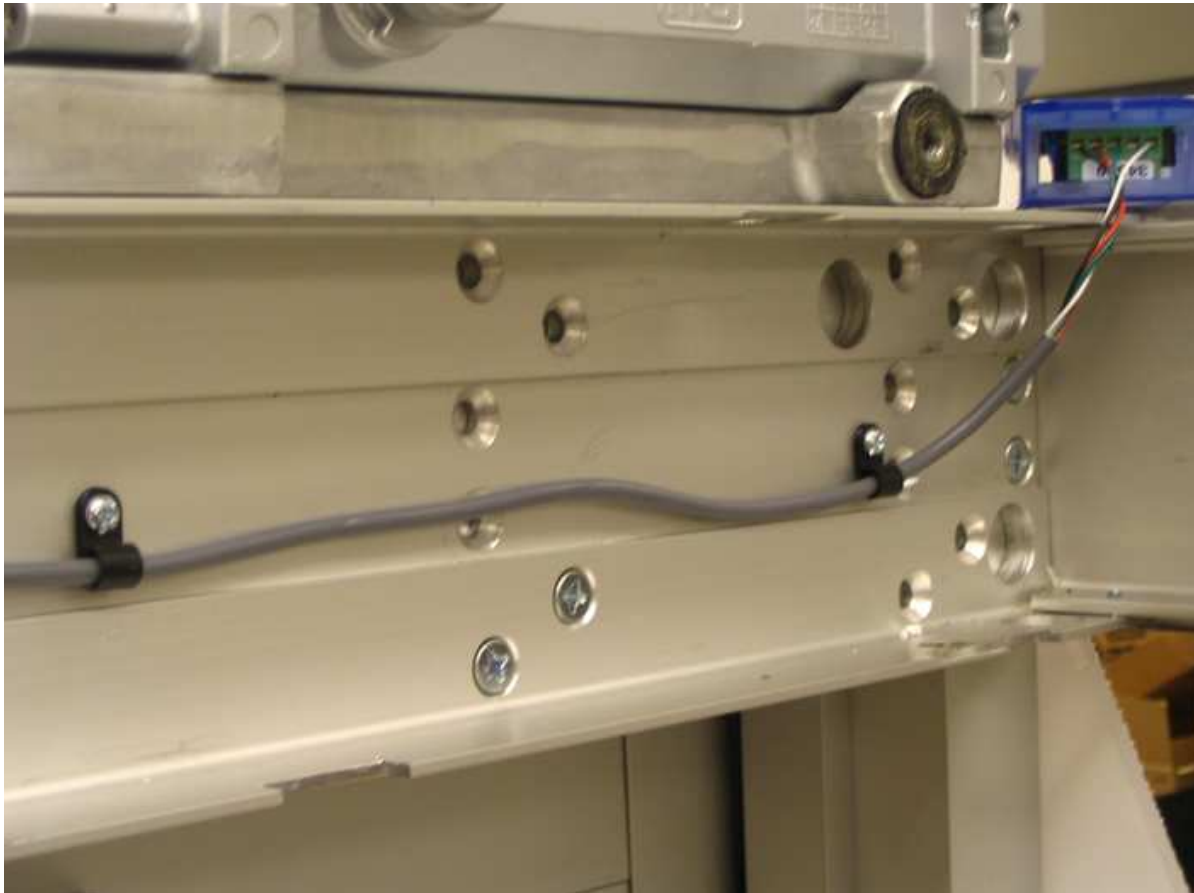
## WIRELESS RECEIVER



A good location for the receiver is in the open space near the door closer body, on the hinge end of the device header.

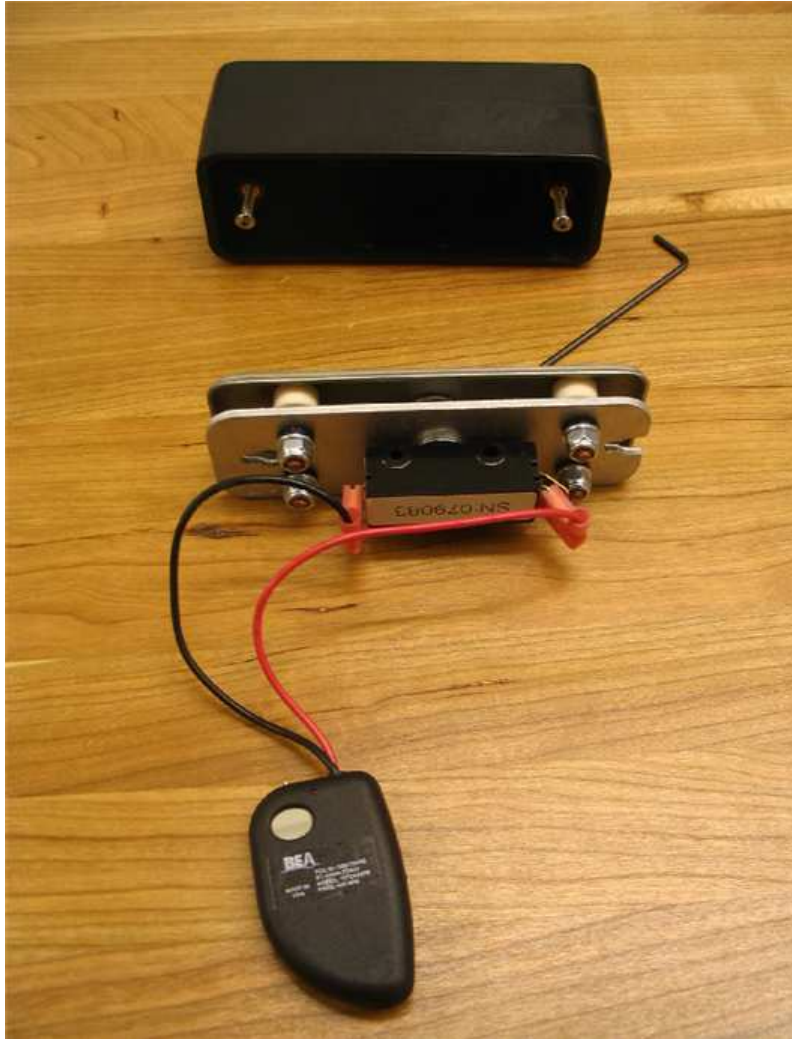
There is not much room anywhere else in the header to install the receiver.

## WIRELESS RECEIVER



Make sure that the wires from the receiver are secured to the back plane of the header. If they are left loose they can get caught in the rotating cam assemblies.

## WIRELESS TRANSMITTER

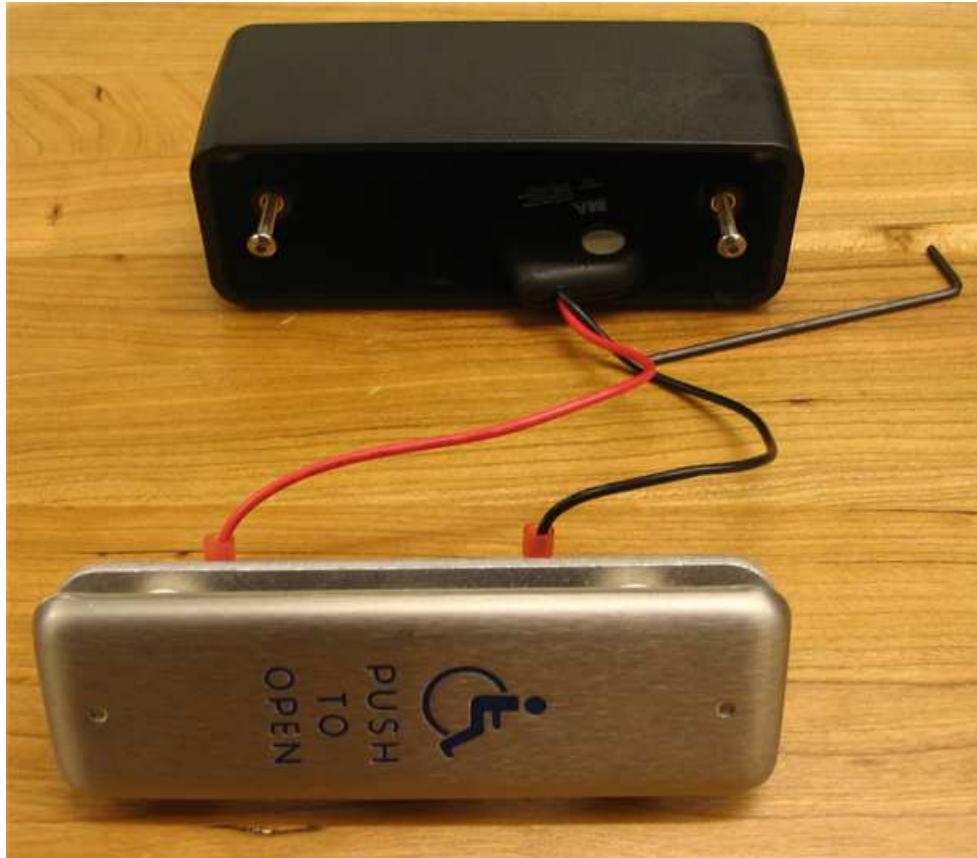


The wireless transmitter can be connected directly to the push plate with the attached leads (use the Common and Normally Open terminals on the push plate switch).

To test the connection press the push plate and check to see if the red LED on the transmitter is illuminated.

If the LED does not illuminate, check the battery, the connection of the leads and if necessary use a multi-meter to check that the push plate switch is functioning.

## WIRELESS TRANSMITTER



There is ample room inside the mullion sized surface box to fit the transmitter.

There is an optional transmitter that uses a external 9 volt battery. It does not fit well into this surface box.

## WIRELESS TRANSMITTER

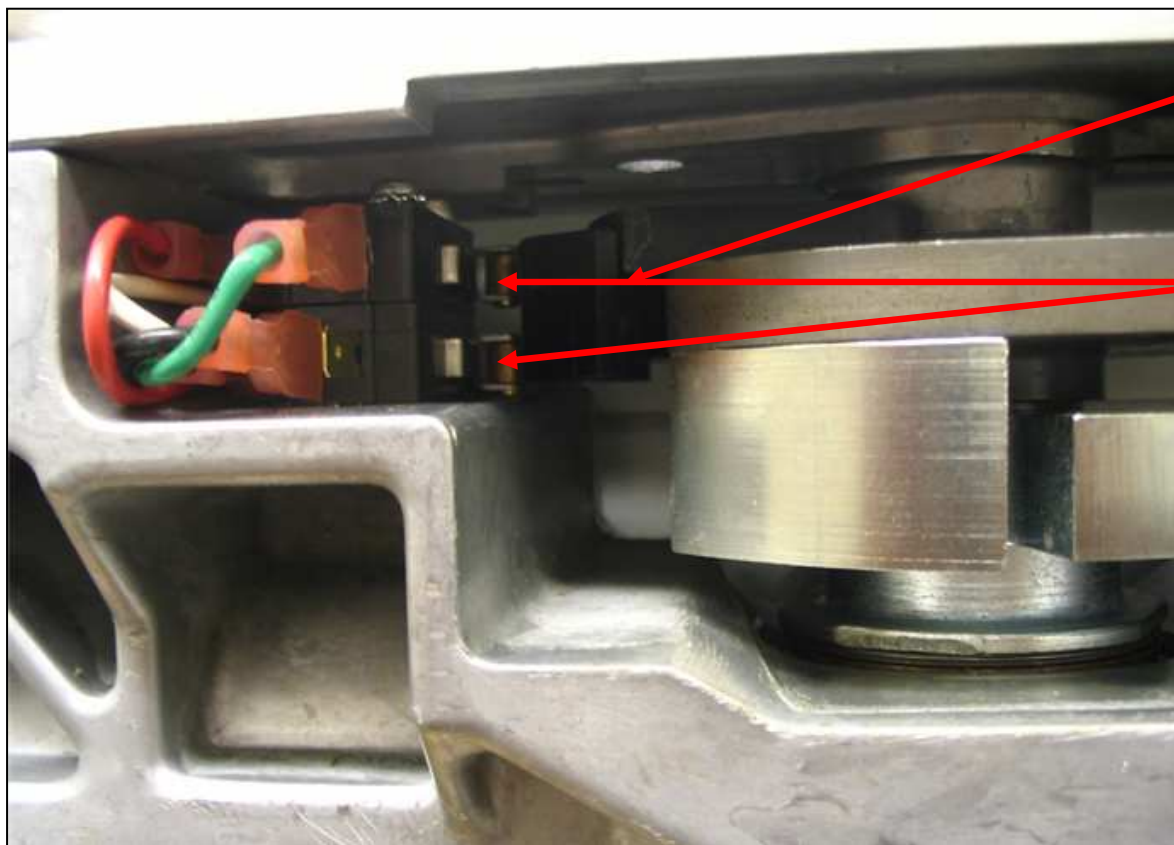


The push-plate attaches to the surface box with concealed screws. Use the supplied hex wrench to tighten the screws down **AFTER** slipping the push-plate onto the raised screws. The screws are accessible through holes in the face of the push-plate.

**NOTE:** If the push-plates will be used outdoors, make sure that the models you are installing are weather-resistant.



## MICRO SWITCHES & CAM ADJUSTMENT



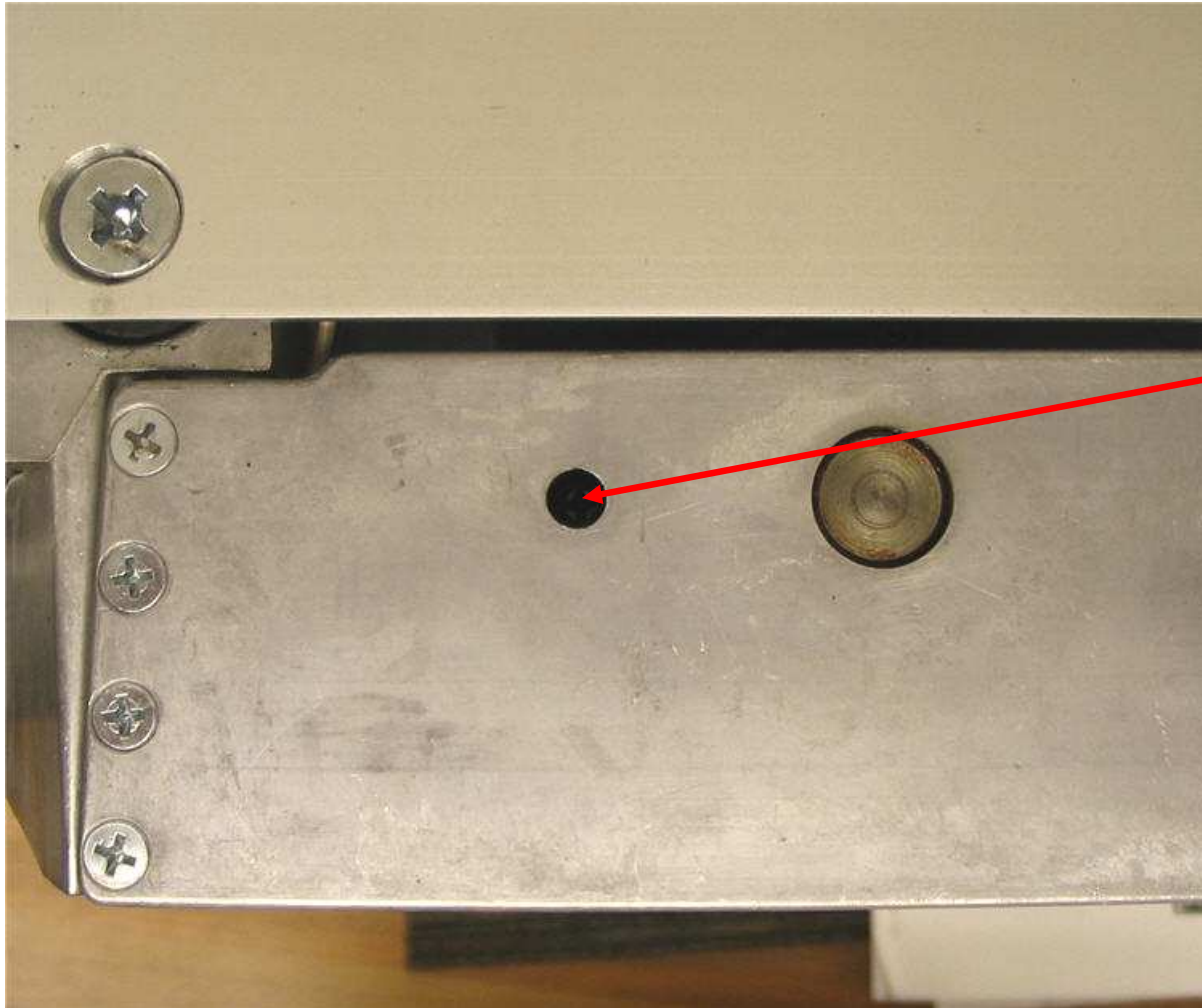
There is a black plastic cam attached to one of the steel cams.

The cam works in conjunction with two micro-switches.

The micro-switches control the Power Close and Push and Go features.

If these features are used, the cam must be adjusted correctly for proper operation.

## MICRO SWITCHES & CAM ADJUSTMENT



There is a small hole in the bearing plate that allows access to the cam adjustment screw.

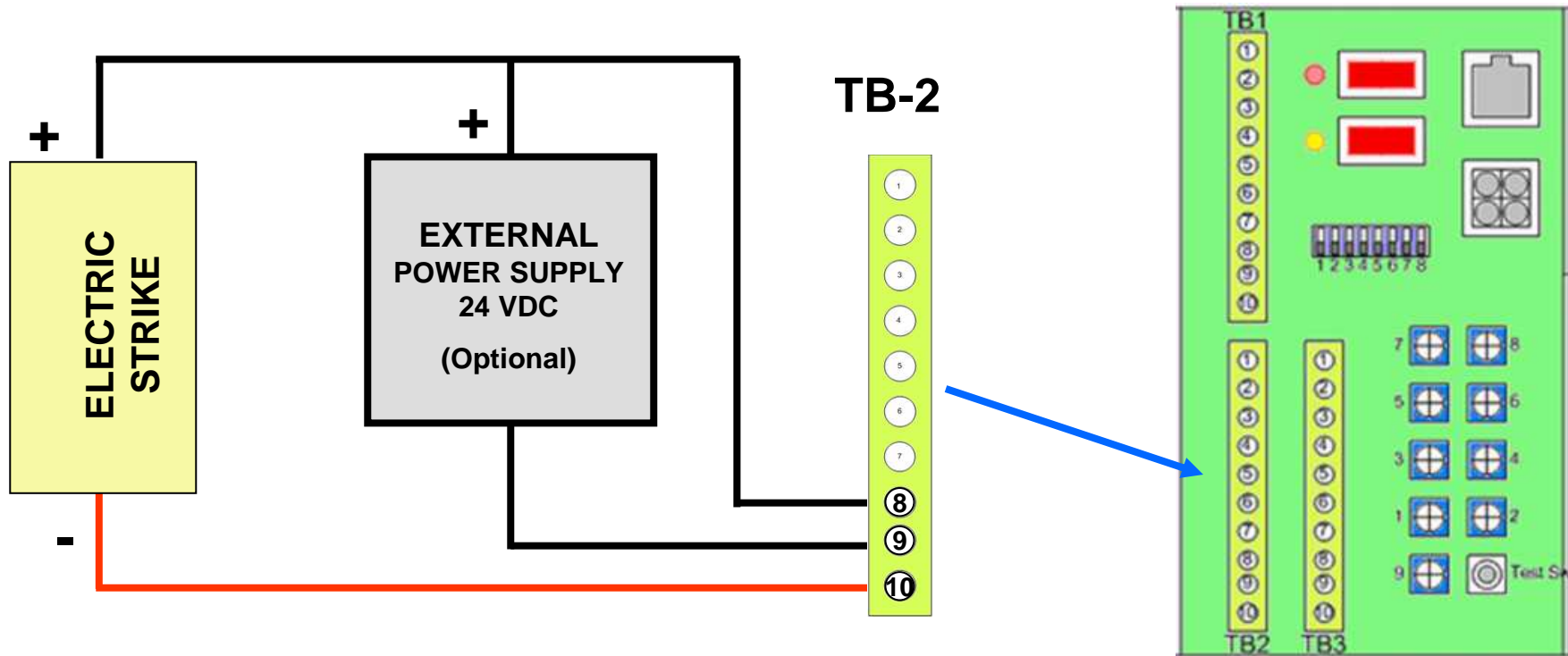
Before installing the closer's forearm on the door, rotate the main arm around until you can see the black Phillips screw through the access hole.

Loosen the screw a little so that the plastic cam can be moved.

Install the arm, then adjust the cam so that you can see the screw through the access hole.

Tighten the screw and test for proper operation.

# COMMERCIAL CONTROL WITH ELECTRIC STRIKE RELEASE



**NOTE: You must set dip switch #1 ON-FAIL SECURE      OFF-FAIL SAFE**  
**Set dip switch #2 ON-ENABLE LOCK      OFF-DISABLE**

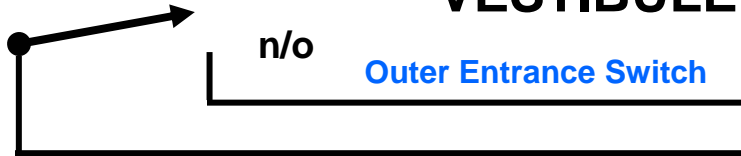




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# VESTIBULE WIRING

common

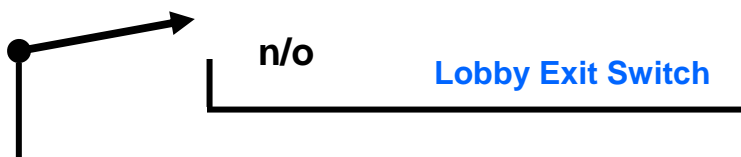


TB-1 CONTROL #1

common



common



TB-1 CONTROL #2

common

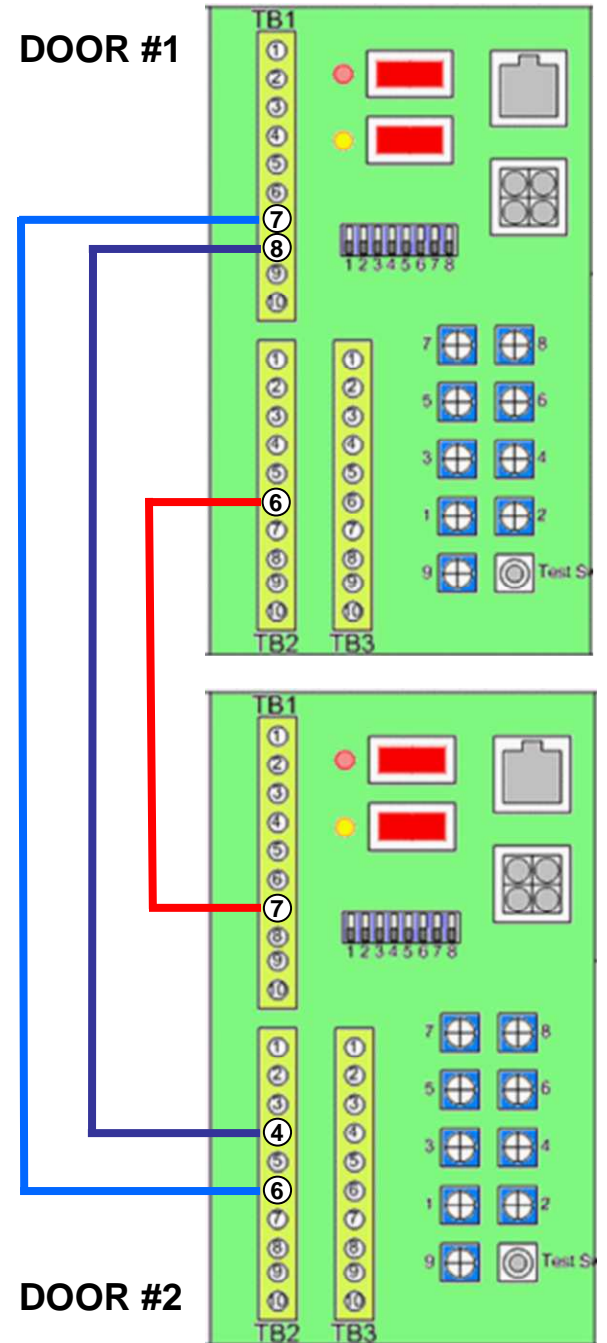


NOTE: The # 9 Potentiometers are the Vestibule timer adjustments.

The 3 Jumpers from Control box #1 to Control box #2 must be installed.

DOOR #1

DOOR #2



## TECHNICAL & PRODUCT SUPPORT

- Product support is handled by the Application Engineers in the Stanley Security Solutions Product Support Group, in Indianapolis, IN
  - 8 AM to 5 PM, Monday – Friday, (Eastern Time)
  - (800) 392-5209
    - Select Option 1; Select Option 1 again; Select Option 2

# D-4990

## Competitor Feature Comparison Matrix

Product	Power Close	Push & Go	Internal ES Power	Internal Sensor Power	Internal Counter *INT *OUT	Electric Strike Ctrl	Vestibule Function	Safety Inputs & Function	Fire Door	Obstruct sense
<b>D-4990</b>	Yes	* Yes	Yes Optional 24VDC PS	Yes 12VAC / 1.0 A	INT – Y OUT - Y	Yes	Yes	Yes	Yes	Yes
<b>LCN 4640</b>	No	No	Yes – 1 Amp (shared)	Yes - 1 Amp (shared)	*INT - N *OUT - Y	Yes	Yes	Yes	Yes	Yes
<b>Norton 5700 LEO</b>	No	No	No	No	*INT - N *OUT - Y	Yes	No	No	Yes	Yes
<b>Dorma ED800</b>	No	Yes	Yes 12V/.5A shared	Yes 12V/.5A shared	INT – N OUT - Y	Yes	Yes	Yes	Yes	Yes

### Notes:

- The D-4990 provides the following **exclusive features**, “Internal Counter”, “Powerful Auxiliary Supply” and “Power Close”.
- Additionally the D-4990 was tested for use on doors weighing up to 350 lbs. NO OTHER manufacturer can make this claim

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**LOW ENERGY  
OPERATOR**

D-4990

STANLEY

**phi**

PRECISION HARDWARE



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