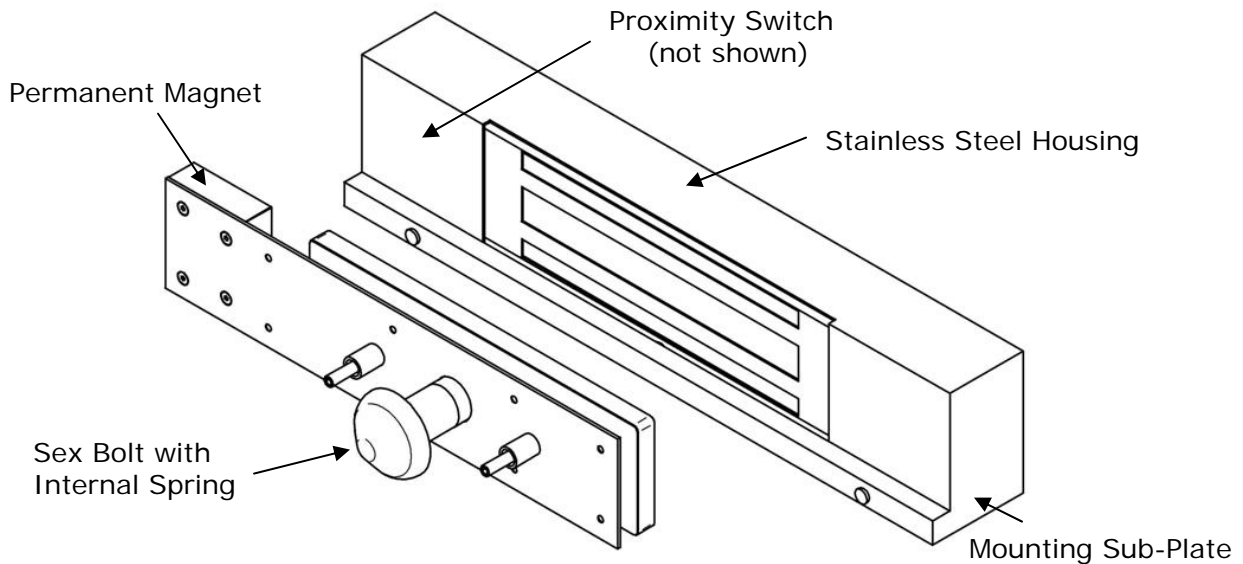


MODEL MXD-32, MXD-62 DOOR MOVEMENT EXIT DELAY INSTALLATION AND OPERATING INSTRUCTIONS



1. DESCRIPTION

The MXD consists of several components which, when **combined with a Magnalock**, will produce **an initiate signal for delayed exit** as controlled by Securitron's XDT logic timer when a person pushes on the door and moves it a modest distance. Use of the MXD permits delayed exit without the need to alter the existing door latch and hardware. The one inch door movement, that it supports, eliminates the potential problem of false triggering. It is also highly tamper resistant in the event to defeat its safety function of allowing people to exit.

The specific components within the MXD "kit" are:

- **Stainless steel housing** covers the magnet body, mounting plate and proximity switch array.
- **Permanent magnet** is affixed to a bracket that mounts behind the strike plate and to the door. As this unit moves away from the proximity array, the array changes states.
- **Sex bolt with internal spring** that permits the door to move away from the strike plate (the strike plate remains secured to the magnet body) so as to create the initiate signal when a person pushes on the door opening it up to one inch.

2. PHYSICAL INSTALLATION

2.1 DETERMINING HORIZONTAL OR VERTICAL MOUNT AND APPLYING TEMPLATE

The MXD can be mounted **horizontally** under the frame header or **vertically** along the frame. Once you have **selected the orientation** for your installation, apply the template to set your mounting positions. Position the fold in the template along the edge the door stop makes with the door surface so that the sub-plate portion of the template extends on to the door stop and the strike/permanent magnet bracket portion extends on to the door surface. If you have a **swing through type aluminum frame glass door**, there is no door stop so you simply position the template fold line on the edge between the door surface and frame stile. In planning your installation for this type of door, a special consideration comes into play. First, before drilling any holes, you want to **be sure that the aluminum door rail is wide enough to support the sex bolt**. The MXD sex bolt is 1" (25.4mm) diameter which is much thicker than normal magnetic lock sex bolts. This type of door is made with extrusion widths which vary widely but some are so narrow that you can only mount the MXD sex bolt when you are using the model 32 lock. Some others will accept a model 62 lock but only when you are using the offset strike. To determine in advance whether your door and the Magnalock that you intend to use will accept the MXD sex bolt, just hold the template so that you can visually see the center point of where the sex bolt will go into the door rail. Assure yourself that a 1" diameter hole around this point will not strike the glass or any support rods internally. If you have an aluminum frame glass door **with a blade stop**, see the next section as the template is used differently. The template will work on horizontal or vertical mounts and on left hand

or right hand doors but be sure that the edge of the template is flush to the corner of the door frame stop for best mounted appearance.

The template will indicate the positions of the holes location as well as the holes diameters. This depends on which Magnalock type is being used. Note that if the **door stop is narrow**, you may need to add a filler plate to create a wide enough mounting surface for the sub-plate.

2.2 TEMPLATE USE ON AN ALUMINUM FRAME GLASS DOOR WITH BLADE STOP

A **blade stop is so narrow** (around 1/8") that nothing can be mounted on it. You cannot place the folded edge of the template in the corner made by the stop and door surface as you will not be mounting on the stop. You will be mounting the sub-plate **adjacent to the stop** directly on the frame extrusion. To use the template, cut it with a scissors along the fold line. To mark the strike plate/permanent magnet bracket holes, open the door slightly and insert the template behind the blade stop until it just touches the door frame. Allow the door to fully close to capture the template. Accurately punch your mounting holes for the strike plate/permanent magnet bracket just as if the blade stop was not present.

To mark the holes for the sub-plate, you will use the other half of the template. Measure the distance from the door surface to the surface of the blade stop and "subtract" that distance from the template half by either cutting the template or re-folding it. The distance is usually around 3/8" (9.5MM) but it will vary from door to door depending on the thickness of the blade stop and the spatial point at which the door is closed.

An alternate method for mounting the sub-plate dispenses with the template half and uses the sub-plate as its own template. To employ this method, close the door and measure back at each end of the bracket area, from the surface of the door past the blade stop **5/8" (16MM) for a model 32 Lock or 9/16" (14MM) for a model 62 Lock**. Draw a line between the two points. **Align the front edge of the sub-plate to this line** to achieved the correct backset. To set the lateral position of the sub-plate, move it away from the frame corner about 1/8" (3MM). This will allow the housing cover clearance. Mark and drill the mounting holes for the sub-plate.

2.3 IF THE DOOR IS THINNER OR THICKER THAN STANDARD

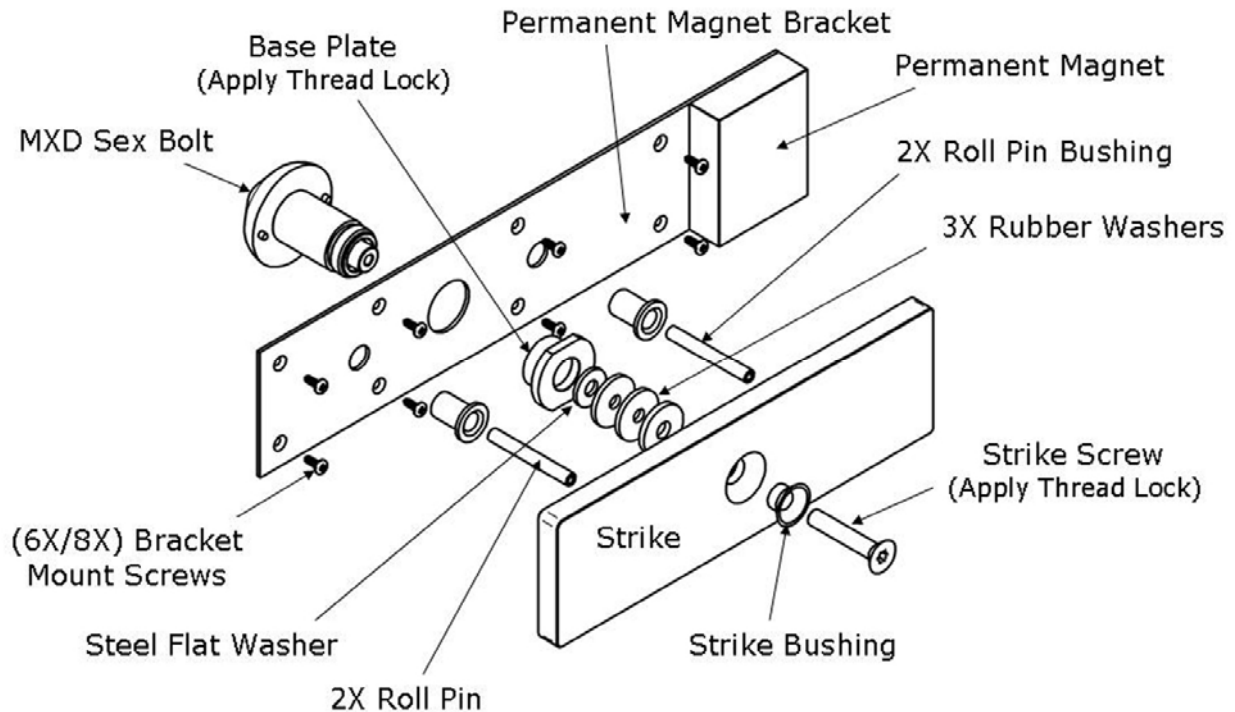
The MXD sex bolt is dimensioned to precisely fit a **1 3/4" (44.5 MM) thick door** which is a common size. If the door is a different thickness, contact the factory. Securitron can supply washers for a thinner door, which go under the head assembly. For thicker doors, the bolt may be partially unscrewed to expand it for use with up to a 2" thick (51MM) door. If you do this, be sure to apply Threadlock provided on the threads. When the bolt is "expanded" to suit a thicker door movement is proportionately reduced. The factory can supply spacers to adapt the bolt to thicker doors while retaining full door movement distance.

2.4 MOUNTING THE PERMANENT MAGNET BRACKET, MXD SEX BOLT AND STRIKE

Note the assembly drawing in Figure 1: After all the holes are drilled from the template is to **install the permanent magnet bracket**. The model 62 version comes with four self tapping screws to hold the bracket to the door and the model 32 version comes with two. Note that this bracket is not handed. It **can be flipped** to place the permanent magnet either to the right or the left to line up with the proximity switch array on the sub-plate. The **proximity switch array can also be transferred to either side** of the sub-plate for flexibility to **maximize wiring options**. In the case of a concrete filled header, for example, the cable can not usually be pulled up into the header. A flex conduit fitting can be attached to either end of the cover and the proximity switch array and permanent magnet pack would then be positioned on the opposite side of the fitting. Mount the MXD sex bolt. The sex bolt includes two pins under the head which will go in two separately drilled holes for anti-rotation. The pins act as their own template. Unscrew the threaded base plate of the bolt and insert the bolt into the 1" hole which you should have previously drilled. Lightly tap the head and the pins to mark the door. Remove the bolt and drill 1/8" (3.2mm) diameter holes for these anti-rotation pins. Reinstall the sex bolt head, **apply Threadlock** on the sex bolt base plate threads and screw on tightly. Install the roll pin bushings into the prepared holes and install the long (2") roll pins into the strike plate. **Do not use the shorter roll pins delivered with the Magnalock**. Then, place the flathead strike mounting screw through its plastic bushing and through the strike plate. On the other side of the plate, push three rubber washers then one steel washer onto the strike mounting screw as shown in Figure 1. To screw this complete assembly into the MXD sex bolt, you have to follow a

special procedure: Apply **Threadlock** onto the strike mounting screw threads and insert the screw into the MXD sex bolt turning in to catch a few threads; pull on the strike plate to compress the spring exposing the shaft; using a vise grip pliers set, hold the shaft on the two flat areas provided while tightening the strike assembly; turn the strike mounting screw a couple of more turns and then re-rotate the strike so that its roll pins again insert into their bushings; finish by tightening the strike mounting screw. Do not over-tighten the rubber washers.

FIG. 1: STRIKE PLATE MOUNTING ASSEMBLY



2.5 MOUNTING THE SUB-PLATE

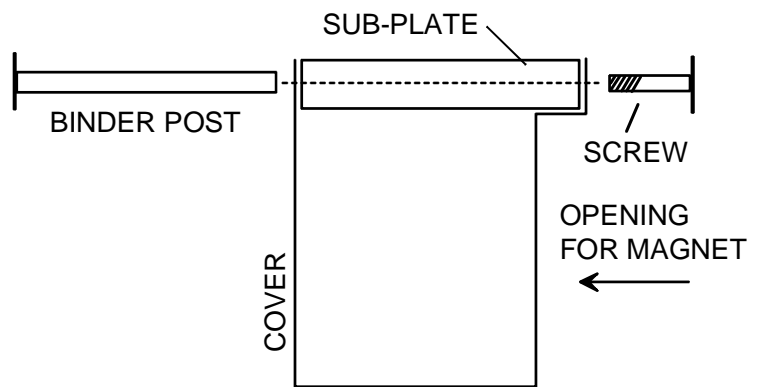
You have been supplied with an array of fasteners and because doors and stops will vary, the selection of fasteners will vary from installation to installation. Note the following points, however: Machine screws into blind nuts are much stronger than sheet metal screws so they should be used for primary mounting with the sheet metal screws in a “helping” role. Review the section on magnet mounting in your Magnalock manual to see how to mount and collapse the blind nuts. Also, note that the hole preparation on the sub-plate allows for the use of flat head or socket cap screws without the need for any washers.

2.6 MOUNTING THE MAGNET BODY AND COVER

As you prepare to mount the magnet body, note that the cable runs along the milled slot and then exits into the space between the sub-plate and cover. Drill a wireway hole to pull the cable into the frame anywhere on or near the sub-plate slot. Then mount the magnet body utilizing the 1 3/4” (model 32) or 2 1/2” (model 62) socket cap machine screws supplied with the housing together with the washers. **Don’t use the machine screws supplied with the Magnalocks** as they are too long. Do use the gold washers (furnished with the Magnalock hardware pack) under the heads of the socket cap screws which mount the magnet body.

Next, **test the installation**. Make sure that the strike plate comfortably contacts the magnet face as the door closes. If it does not, the outward projection of the strike plate should be adjusted by adding or subtracting rubber washers. Next, **verify that the door smoothly opens and recloses the roughly one inch** of movement that is permitted by the spring loaded sex bolt. If the sex bolt appears to “drag”, the door and frame/header may be out of square as can be the case with older buildings. This situation can be alleviated by slightly loosening the magnet mounting screws which gives the magnet some ability to “tip” back into a square condition. Alternately, shims may be placed under the appropriate edge of the sub-plate to square up the installation.

Finally, the cover mounts utilizing the binder posts and matching screws. **Do not mount the cover yet** as you will want to check adjustment of the proximity switch array. **Mounting the cover is the final step** when everything else is complete. When you do mount the cover, the long binder post inserts into the cover and goes through the corresponding hole in the sub-plate. See the drawing to the right. The matching screw secures it. Note that the screw affixes the binder post from the side of the cover that includes the opening for the Magnalock face. This is so the blank head of the post faces away from the door. This reduces the risk of tampering and looks better. If you have an **aluminum frame glass door with a blade stop**, you will have to drill through holes through the blade stop (or remove a small section) to pass the binder posts through for final cover mounting.



3. WIRING THE MXD

The sole purpose of the MXD is to send an **initiate signal** to Securitron's model XDT delayed exit logic timer. The signal is furnished from the two flying leads attached to the proximity switch array on the sub-plate. These two wires are closed when the door is in the normal closed position and they open when the door is pushed open approximately one inch which takes up the slack in the assembly provided by the MXD sex bolt. The leads should be pulled up into the same hole you make in the sub-plate with the Magnalock cable. They connect to terminals "+" and "IN" on the XDT circuit board (see EXD instructions).

4. ADJUSTING THE DOOR MOVEMENT STROKE

When you have finished wiring of the complete door installation, put the door through its delayed exit sequence several times by slowly opening the door to initiate delay. The factory set position of the proximity switch array should allow **considerable door movement prior to the delay** starting. The benefit of this large movement (approximately 1") is the **avoidance of false initiation** through (for example) the door being rattled from the outside or moved by the wind. The movement stroke can be reduced by loosening the screws that hold the proximity switch array to the sub-plate and sliding the array farther from the door. Securitron recommends that this be done only in special situations. Examples would be if the door will not physically move far enough to reliably initiate delay without reducing the stroke because the door is thicker than 1 3/4" and you have not added a spacer to the MXD sex bolt (see Section 2.3.1) or if you deliberately want to mechanically limit the amount of door movement because of high security concerns for that door (you wish to avoid the possible insertion of a crowbar).

5. REDUNDANT OPERATION AND TAMPER PROOFING

The proximity switch array contains three proximity switches for the following reasons. Two are wired such that if **either** switch de-energizes as the permanent magnet is separated from the switch array, the delay initiate signal will be given. This provides redundant reliability of safe egress operation as single component failure will not stop the MXD from allowing egress.

The third proximity protects against a certain type of **tampering**. It is wired such that if another permanent magnet is brought near to it, it will initiate the delay. It is positioned so that it never gets close enough to the permanent magnet pack on the door to trigger. The MXD therefore includes a strong defense against tampering with its safety function. This function should nevertheless be **periodically tested by building management** as maintenance of life safety should be the paramount concern.