

MOUNTING INSTRUCTIONS: 1107xEDR Series Surface Mounted Electro-Magnetic Lock for Out-Swing Doors

READ THOROUGHLY BEFORE INSTALLING REV#0001A

Note: For in-swing (hinge side) door mounting the TJ bracket and hardware kit is required. Refer to Mounting Instructions for TJ1107xEDR.

IMPORTANT: Always handle electro-magnets and armatures carefully. The mating surfaces have been carefully manufactured to provide maximum holding power. Mating surface damage can significantly reduce holding power.

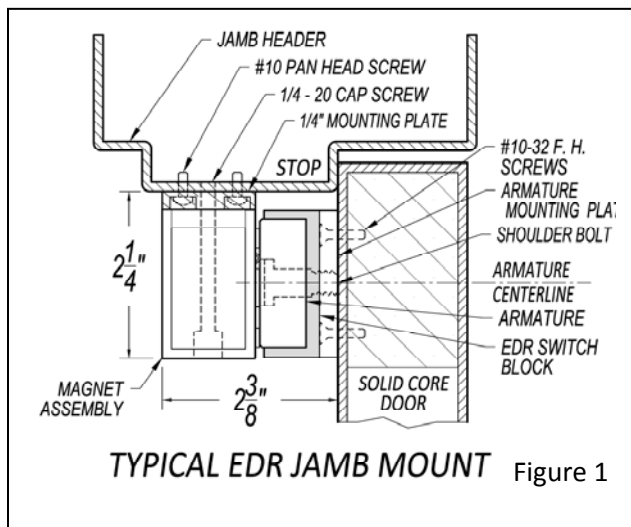
Before starting, make sure the correct drill template is available for the type of installation planned. Door swing and construction, door frame material and configuration must be considered before deciding on the proper mounting kit and method. See the Application Bulletin (attached) for diagrams of typical door configurations and part numbers for spacers, shims and mounting brackets required for each type of installation.

The 1107xEDR Series Electro-magnet assembly mounts firmly and rigidly to the underside of the header on the stop side of the door, while the armature mounts to the face of the door with special hardware that allows enough movement so that the armature can align itself to the magnet face for maximum effectiveness even if it is not perfectly parallel and/or square.

A 2-3/8" wide flat surface is required to mount the 1107xEDR series magnet (see Figure 1).

For installations involving drilling and tapping of hollow metal door frames, the material thickness should be at least 1/8". Sheet metal screws may be used for wood frames and clad frames. For thinly clad doors or wooden doors without sufficient solid backing, a reinforcing plate may be required. See Figure 3.

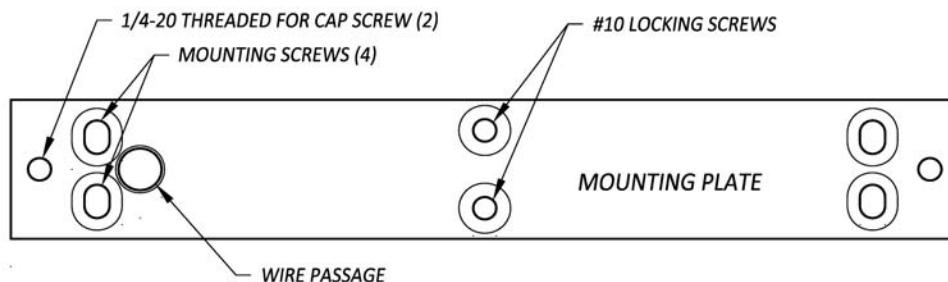
STEP 1) MARK AND DRILL JAMB HEADER & INSTALL THE MAGNET MOUNTING PLATE



It is always a good idea to hold the complete assembly in place before drilling to make sure the placement does not interfere with door operators or coordinators. Magnetic locks should be mounted as close to the latch side of the door as is practical for maximum leverage.

Use the supplied template to mark the door and the jamb for drilling. Depending on the material, size the drill bit for either #10 Sheet Metal screws or for tapping 10-32 machine screws. **Do not prep jamb for the (2) # 10 locking screws at this time**

Use star washers (included) with the screws to prevent loosening over time. The four mounting screws seat in the slotted pocket holes of the mounting plate (Figure 2). Install the screws, but do not tighten fully to allow for adjustment after the armature has been mounted to ensure proper alignment. If a standard filler plate is used (Figure D Page 6), drill clearance holes in the filler plate for the mounting screws. The screws must go through the filler plate and into the frame material. **Do not attach the mounting plate to standard 1" filler plate only.**



If a – **W (wide) filler plate** is used, the mounting plate should be attached directly to the filler plate using the pre-tapped holes, and a clearance hole for wiring. Eliminate any sharp edges that could damage the wire insulation.

STEP 2) INSTALL THE ARMATURE MOUNTING PLATE

The armature mounting plate must be attached to the door before the armature is mounted. Use the template supplied to mark the door for drilling. For metal doors with sufficient material thickness, drill and tap for (4) #10-32 machine screws. For solid core clad and solid wood doors, drill for (4) #10 sheet metal screws.

STEP 3) ARMATURE PREPARATION AND MOUNTING

Insert the two Roll Pin pins into the 3/16" diameter blind holes. The pins act as guides that allow the armature enough movement to conform to the magnet face but prevent it from rotating. Tap the pins gently until they are firmly seated being extremely careful not to mar the face of the armature. See Figures 3 & 4 below.

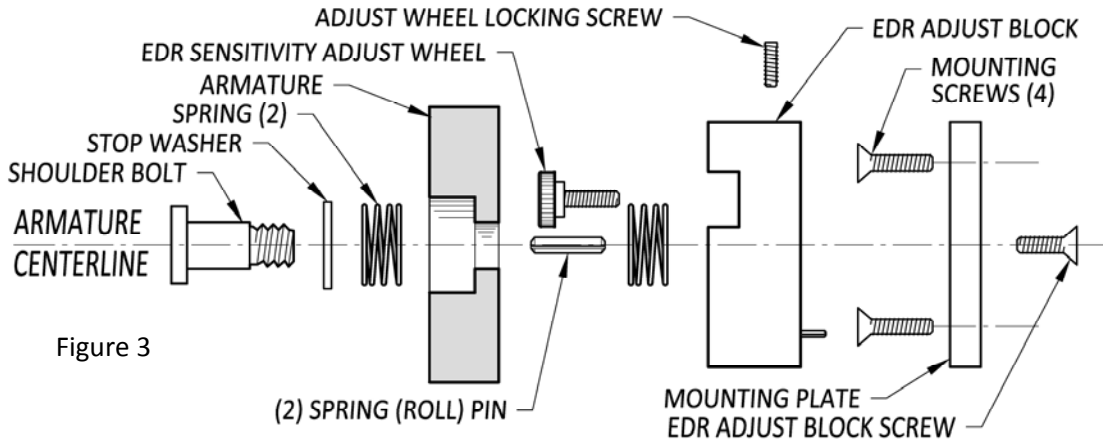


Figure 3

Slide the stop washer and one spring over the shoulder bolt (see Figure 3) and press bolt into armature. Place the other spring over the bolt threads and maintaining pressure against the springs, screw the shoulder bolt into the mounting plate.

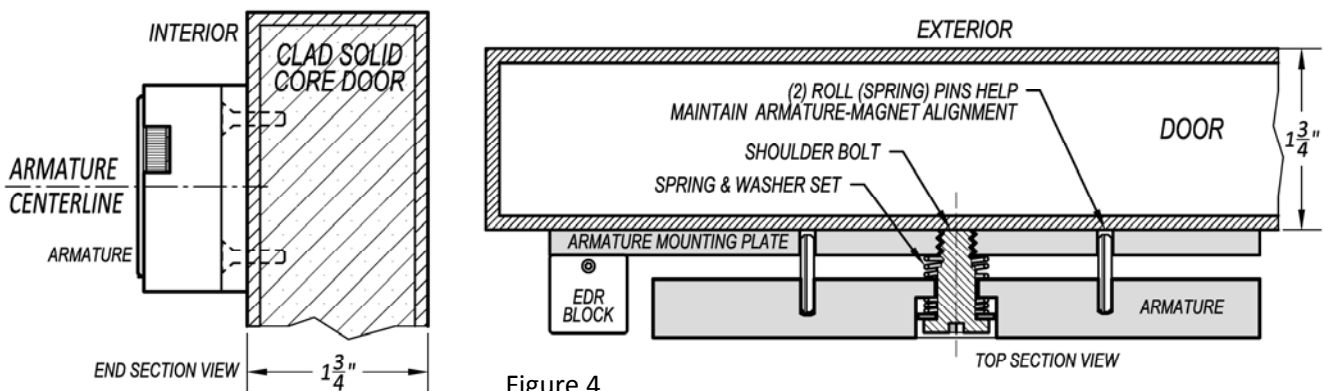


Figure 4

STEP 4) LOCK & ARMATURE ALIGNMENT

Make all electrical connections per figure 5 below. Attach the electro-magnet to the mounting plate using the (2) 1/4" cap screws and split washers, **do not over tighten the cap screws they will need to be removed for final adjustment.** With the electro-magnet energized and the armature fully engaged, position the Lock so that the door is snug against stops mark the position of the lock mounting plate; then **Turn the system off.** Remove the (2) 1/4" cap screws, remove the electro-magnet and fully tighten the (4) screws that hold the lock mounting plate to the header. Using the (2) 3/16" dia. holes in the mounting plate as a physical template prepare the frame for the (2) locking screws. Drill .159 dia. Holes (No. 21 drill) and tap frame for No. 10-32 machine screws, or drill two 11/64" dia. in the frame for No. 10 sheet metal screws. Secure mounting plate with #10 screws and lock washers. **The use of the # 10 locking screws is important.** They provide resistance to shear and rotation, and assure that maximum holding force is developed.

Re-install the electro-magnet using the 1/4" cap screws and check installation and alignment of armature and electro-magnet by opening and closing door while turning system on and off. Armature mounting surface must be in full contact with top and bottom rails of electro-magnet

STEP 5) MAKE ELECTRICAL CONNECTIONS.

The 1107 electro-magnetic lock should be connected to a Class 2 power supply. Leads are connected in series for 24 volt operation (as shipped from the factory) or connected in parallel for 12 volt operation. **For 12 volt operation**, cut the gray wire to make 2 equal lengths, strip back the insulation 3/8" on each lead and connect each gray wire end to the closer blue wire end – see Figure 5 below. **Note: For 12 VDC (parallel coils) the gray wire must be connected to the adjacent blue wire or the magnetic bond will be significantly reduced.**

If the EDR Emergency Door Release option is installed, connect the 20 AWG white and green wires to the EDR lock controller.

If the Door Position Switch option is installed, connect the black 22 AWG wire to the common connection of the access control input for monitoring door status. Then connect either the red wire (for systems requiring normally closed contacts) or the white wire (for systems requiring normally open contacts). Refer to the device manual for details. Typically, Dortronics access control systems look for closed contacts to indicate that the door is secure (closed).

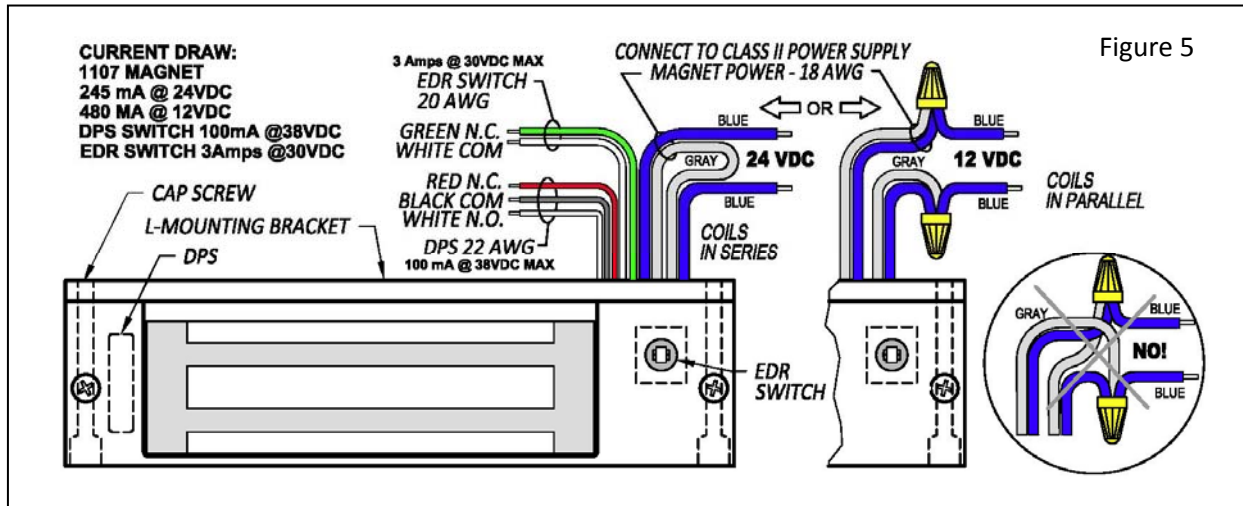


Figure 5

ADJUSTING THE EDR SWITCH SENSITIVITY

After mounting the lock and armature assemblies and making all electrical connections, the EDR activation switch should be adjusted for correct operation. Turn the EDR Adjust Wheel so that the switch contacts are open when the door is closed and unattended. The armature is designed to allow a small amount of play when pressure is applied to the door in the direction of travel. Turn the EDR Adjust Wheel until the switch contacts close when not more than 15 lbs. of force is applied in the direction of travel. Note: Local building codes may differ. It is the installer's responsibility to make sure that all work is in compliance with applicable guidelines.

Once the EDR Adjust Wheel is set correctly, lock the adjustment using the supplied hex key to tighten the set screw.

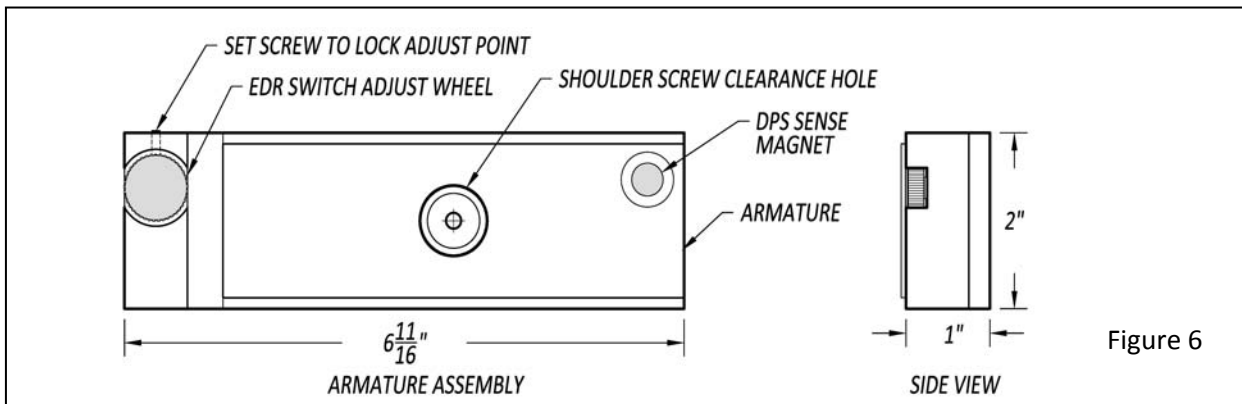
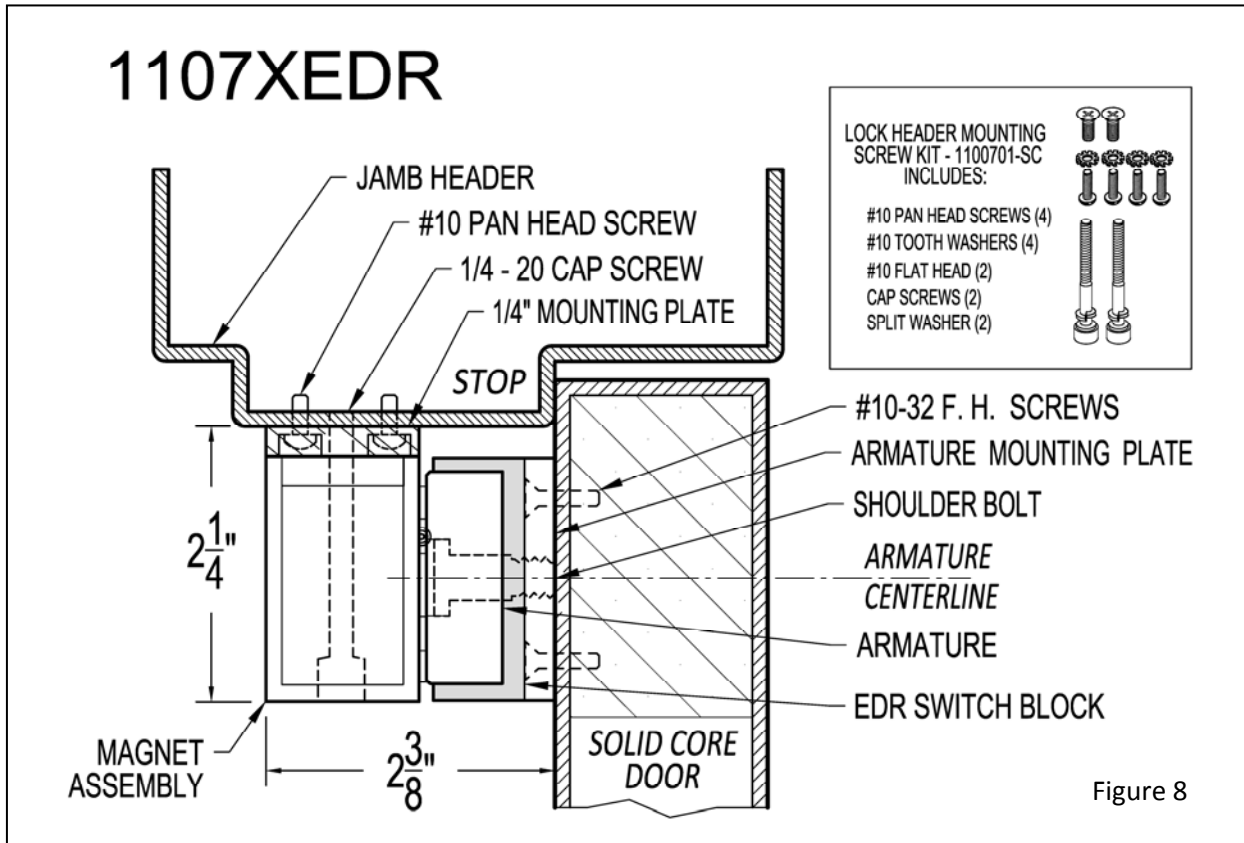
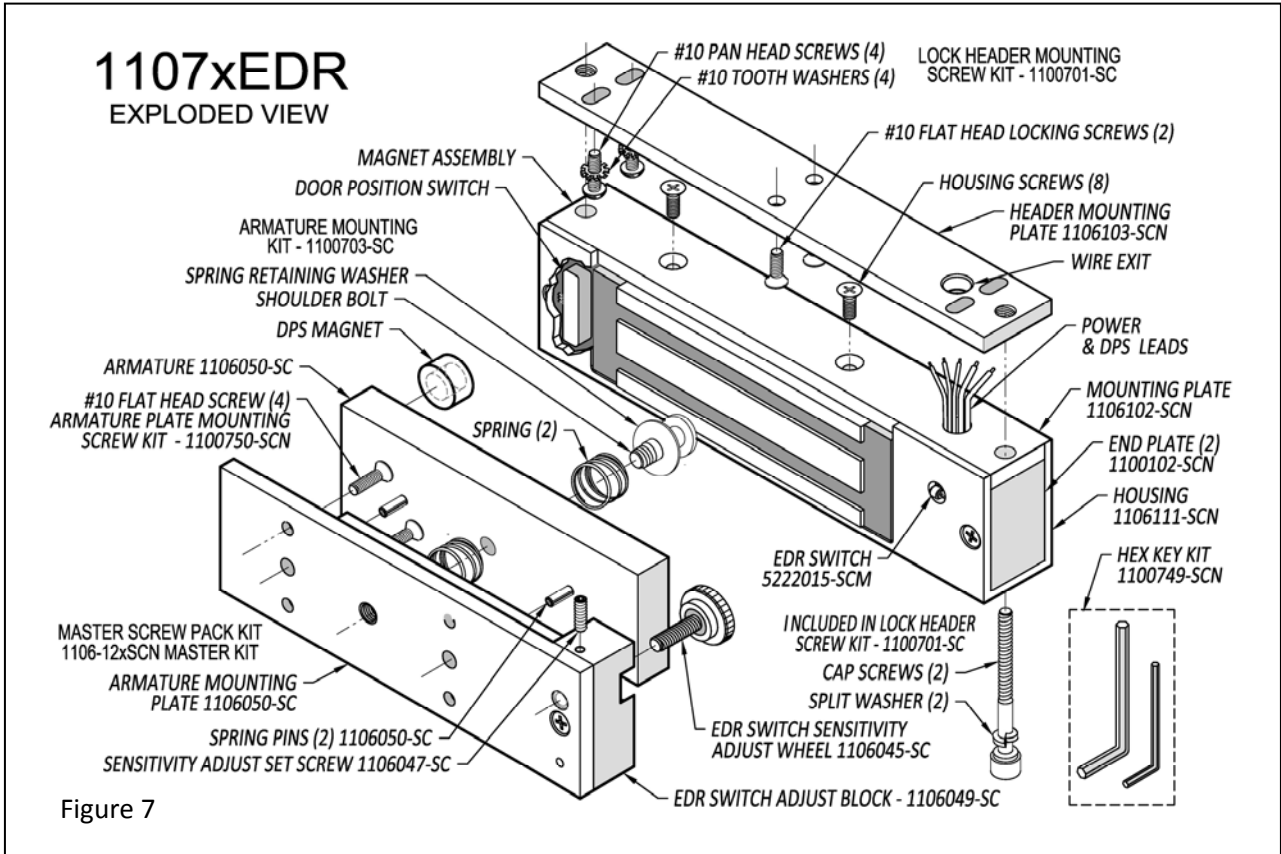
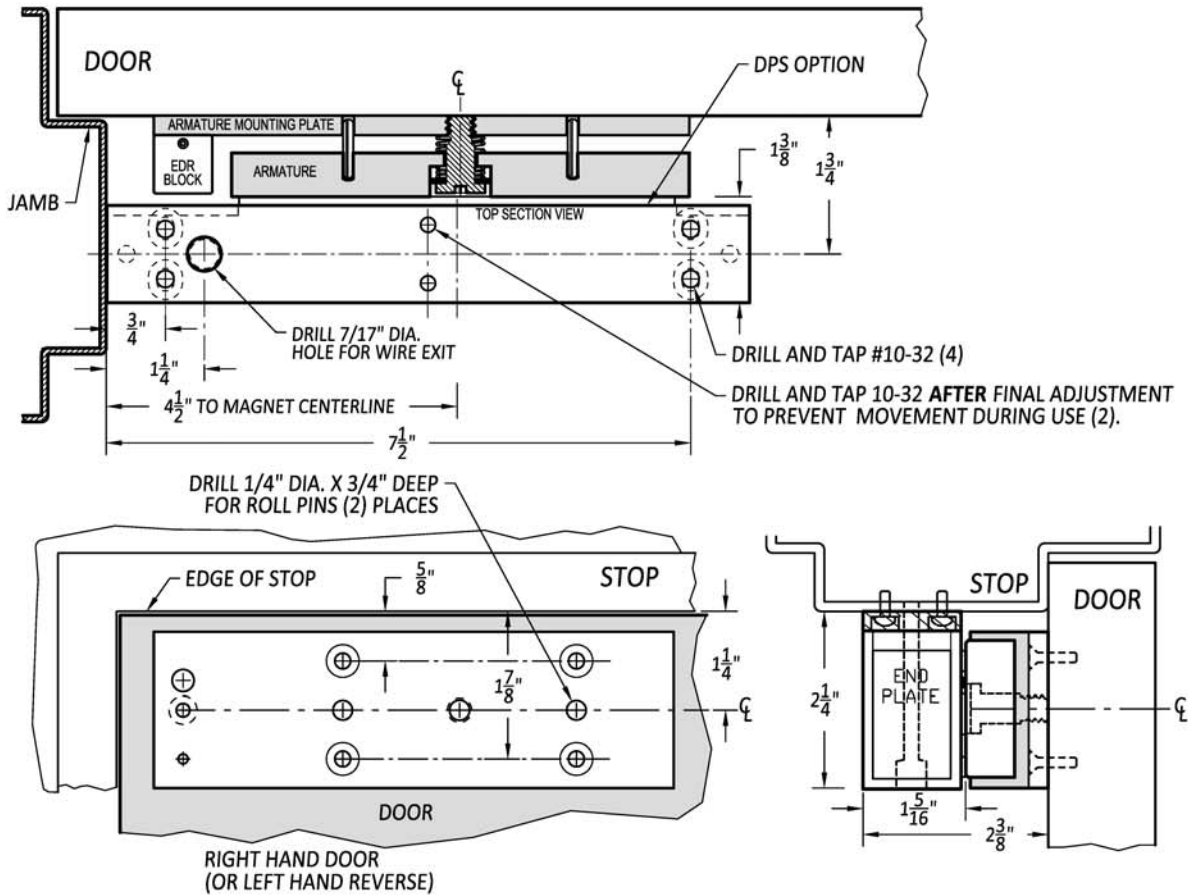


Figure 6



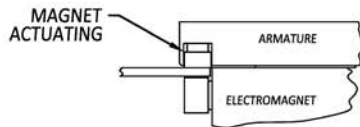


BEFORE INSTALLING, READ MOUNTING INSTRUCTIONS THOROUGHLY!



OPTIONS:

DOOR POSITION SWITCH (DPS)

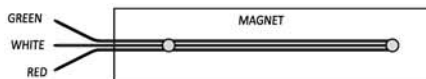


MAY BE AT EITHER END OF ELECTROMAGNET, AND ON EITHER LOCK JAMB OR HINGE JAMB END.

WIRE COLOR	FUNCTON	MODE STATUS WITH DOOR CLOSED & SW ACTUATED
BLACK	COMMON	
WHITE	N.O.	HELD CLOSED
RED	N.C.	HELD OPEN

SPEC: SPDT, .1 AMP @ 38 VOLTS

CONCEALED MAGNETIC BOND SWITCH (MBS)

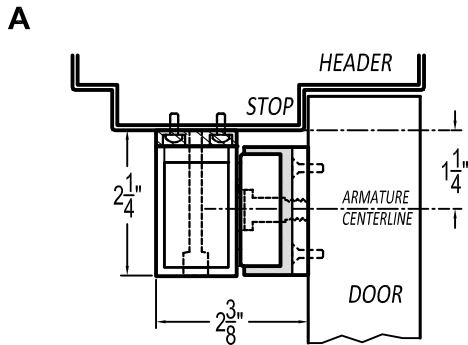


WIRE COLOR	FUNCTON	MODE STATUS WITH DOOR CLOSED & SW ACTUATED
GREEN	COMMON	
WHITE	N.O.	HELD CLOSED
RED	N.C.	HELD OPEN

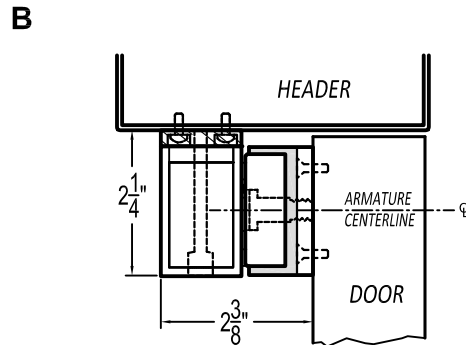
SPEC: SPDT, .1 AMP @ 24 VOLTS

Application Bulletin

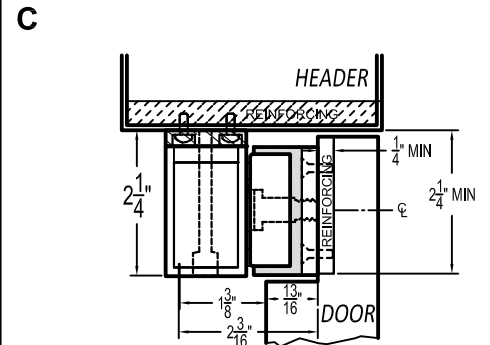
1107xEDR SERIES OUT-SWING DOORS



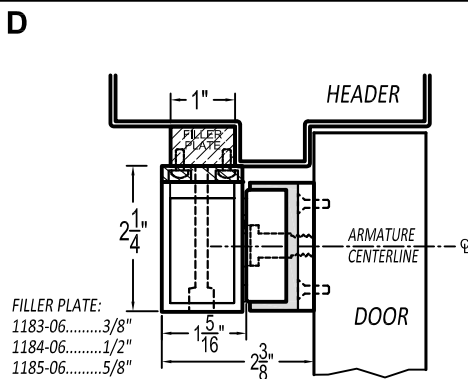
ON FULL WIDTH STOP WITH SURFACE MOUNTED ARMATURE



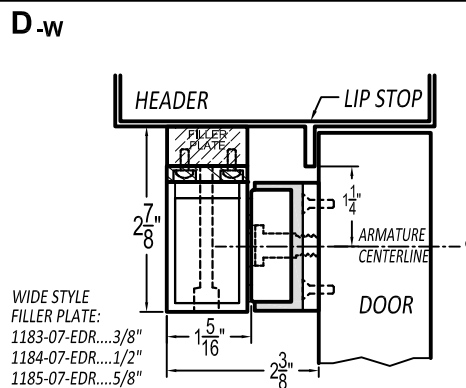
IN CASED OPENING WITH SURFACE MOUNTED ARMATURE



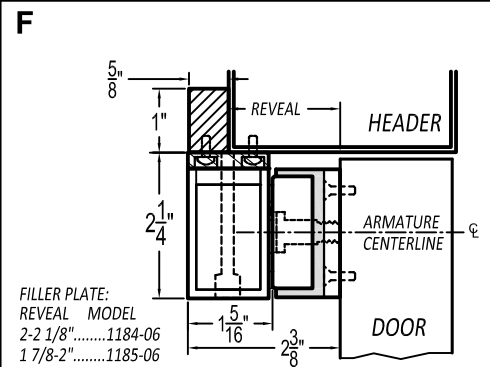
IN CASED OPENING WITH POCKETED ARMATURE



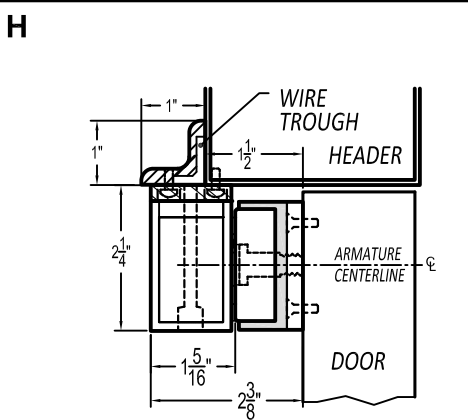
1180 SERIES FILLER PLATE FOR FRAME WITH NARROW STOP



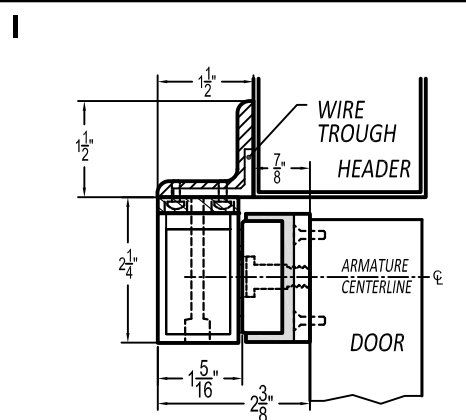
1180-W SERIES WIDE FILLER PLATE FOR FRAME WITH LIP STOP



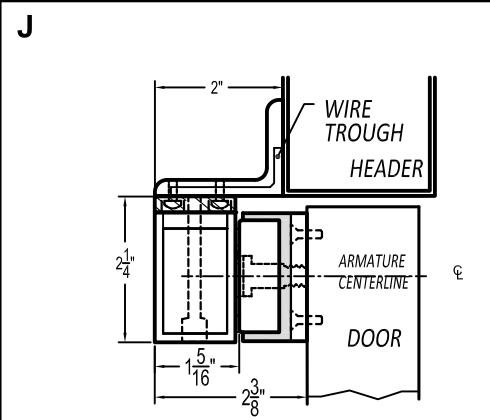
1180 SERIES FILLER PLATE AS HEADER EXTENSION BLOCK



1191-06 ANGLE BRACKET



1192-06 ANGLE BRACKET



1193-06 ANGLE BRACKET



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