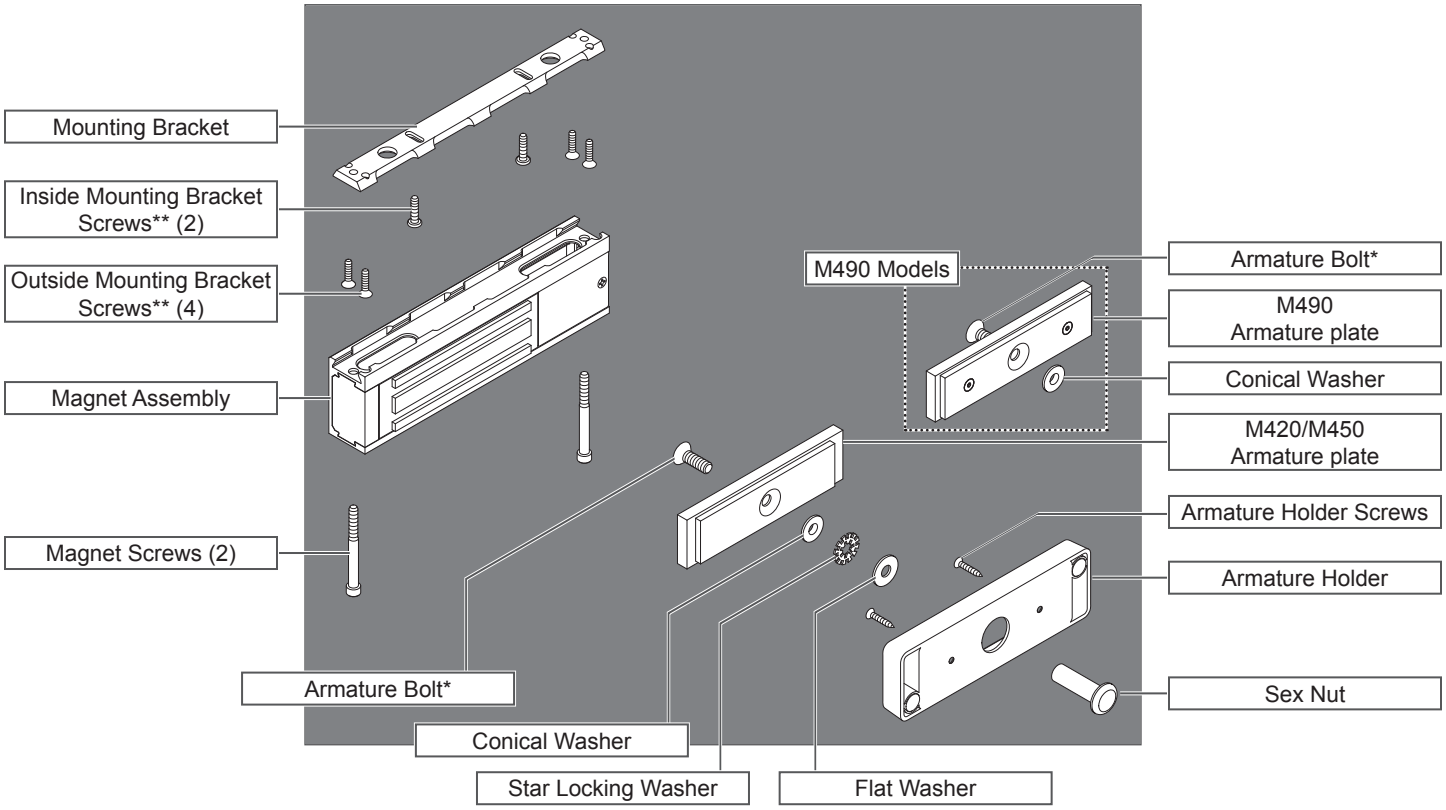
44487296

M400 Series

Single Electromagnetic Locks: M420, M450, M490

Installation Instructions



* M490 Models ONLY: Two armature bolts are included in the package, but only one is used. There will be one left over after proper installation.

** Screws for both reinforced metal and sheet metal are included. Some screws will be left over after proper installation. See individual steps for screw identification.

Features

Automatic Voltage Selection (AVS)
Magnet immediately detects 12VDC or 24VDC when power is connected.

Anti-Tamper Switch (ATS)
An indication is provided should the magnet cover become unsecured from lock.

Magnetic Bond Sensor (MBS)
Detects proper bond between magnet and armature. It can be monitored remotely and locally with an LED.

LED
Provides local indication of MBS status.

Door Position Switch (DPS)
Indicates whether door is open or closed. This feature is used in conjunction with the MBS.

Relock Time Delay (RTD)
Relock time can be changed. Range is 1 - 30 seconds.

Models

M420 (Traffic Control)
UL1034 and 10C/500lb and 3hr rating

M450 (High Security)
UL1034 and 10C/1000lb and 3hr rating

M490 (Max Security)
UL1034 and 10C/1500lb and 3hr rating

Trims

Basic
Auto Voltage Selection (AVS) for 12 or 24VDC

Plus
Basic features + Door Position Switch (DPS), Magnetic Bond

UL Requirements

- Units shall not impair operation of panic hardware mounted on door.
- Units shall not impair intended operation of an emergency exit.
- Units/Models are intended to be connected to UL Listed Equipment, not intended for Burglar or Fire Alarm Initiating or Indicating Devices.
- Ambient Conditions - “For Indoor Use Only”.
- **This device complies with part 15 of FCC rules.**

Operation is subject to following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference received, including any interference that may cause undesired operation. Changes or modifications not expressly approved by party responsible for compliance could void user’s authority to operate equipment.

Electrical Specifications

Model	Amps (12VDC) Per Lock	Amps (24VDC) Per Lock	Holding Force (lbs) Per Coil
M420	0.750	0.380	500
M450	0.750	0.380	1000
M490	0.650	0.350	1500

Warnings and Cautions

WARNING

Warnings indicate potentially hazardous conditions, which if not avoided or corrected, may cause death or serious injury.

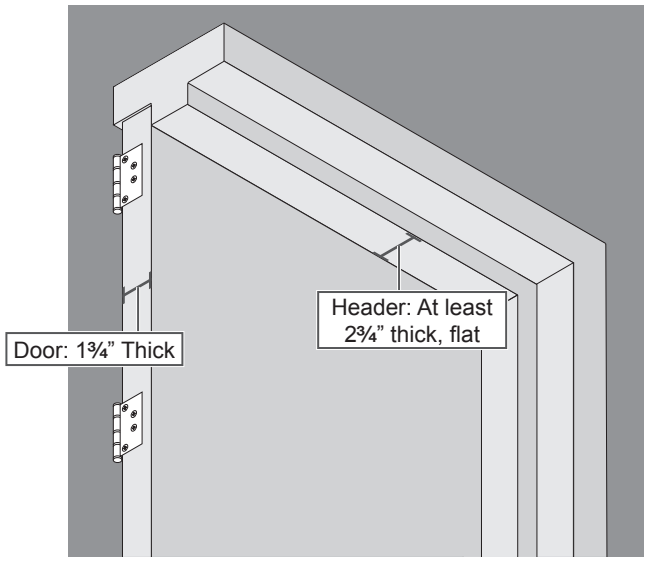
CAUTION

Cautions indicate potentially hazardous conditions, which if not avoided or corrected, may cause minor or moderate injury. Cautions may also warn against unsafe practices.

Caution: Cautions indicate a condition that may cause equipment or property damage only.

Pre-Installation Considerations

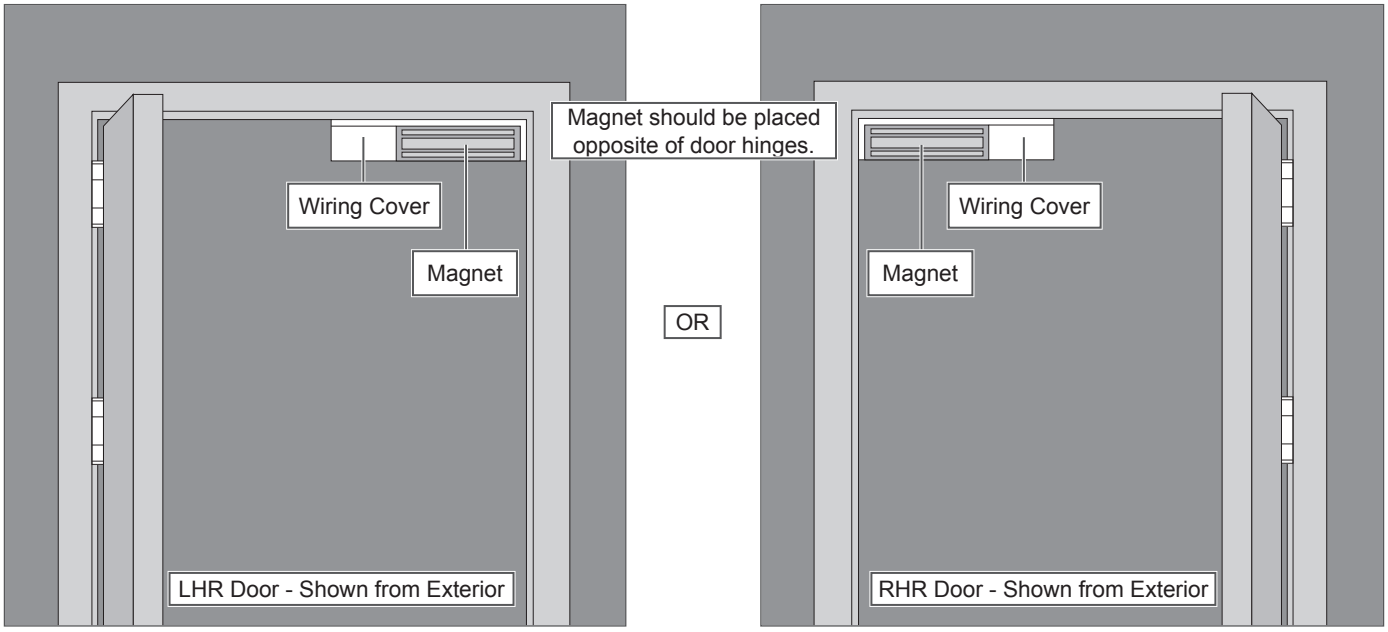
- Use ONLY the hardware provided for mounting this product (NOTE: Non-standard Door thickness may require different sex nut hardware - see specific instructions for required hardware).
- Follow the installation procedure as described in this manual.
- Check door thickness. If the door is not 1¾” thick, a different sex nut will be required. Contact customer service at 1-877-671-7011.
- Check door header. A minimum 2¾” thick, flat surface is needed to securely mount all screws for the magnet. If you do not have the required surface, you will need filler plates and/or angle brackets to properly mount the magnet.
  Contact customer service at 1-877-671-7011.



Lock Installation

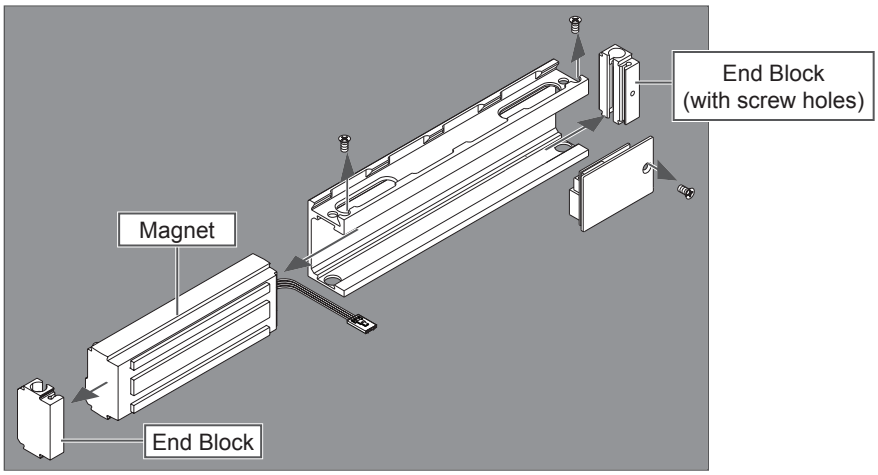
1 Prepare for installation.

1a Determine proper magnet orientation.

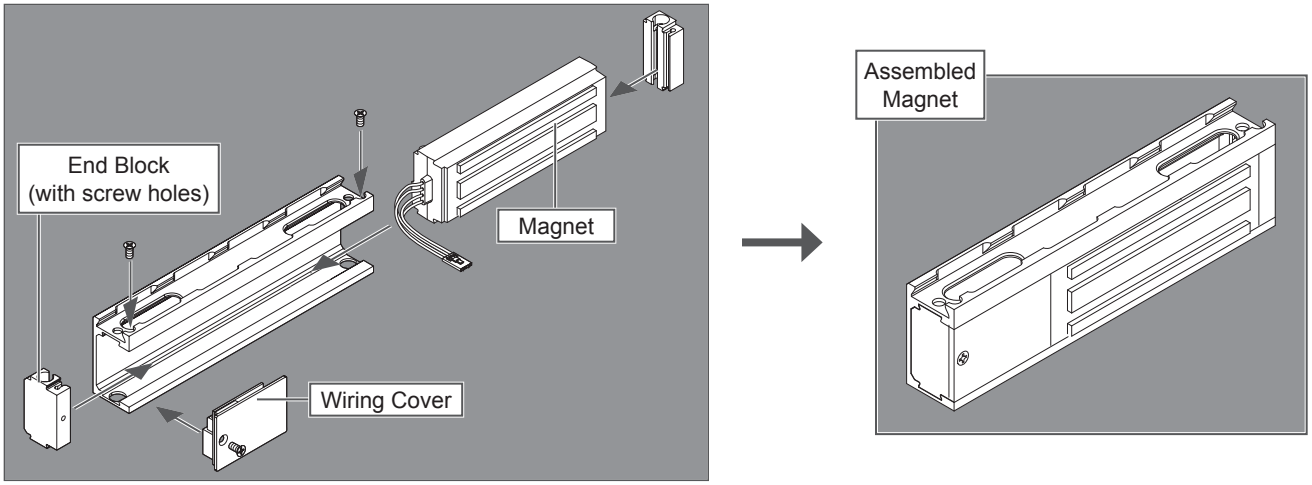


1b Reorient magnet (if necessary).

a. Remove screws, wiring cover and end blocks.

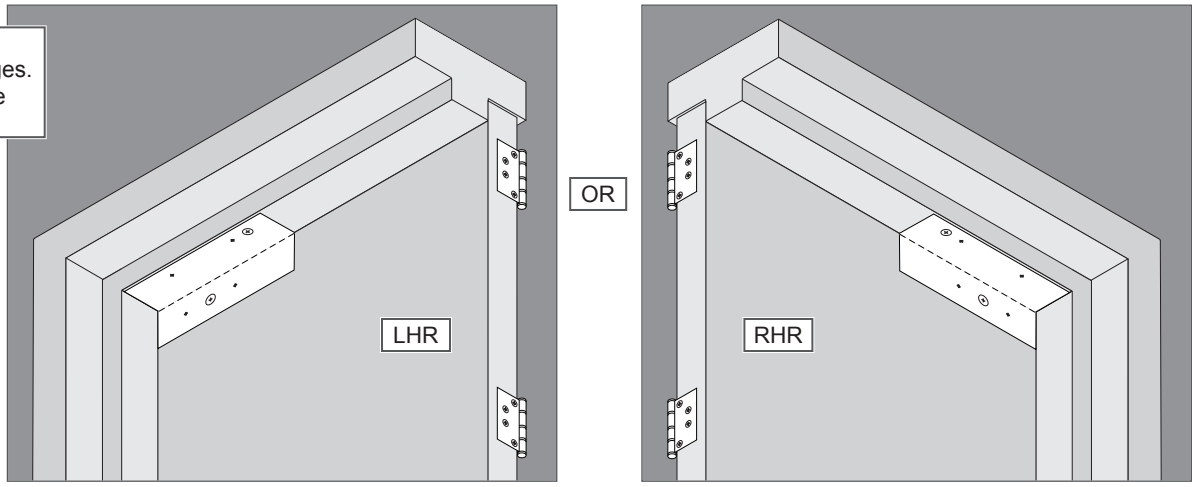


b. Rotate magnet, end blocks and wiring cover as shown, then reassemble.



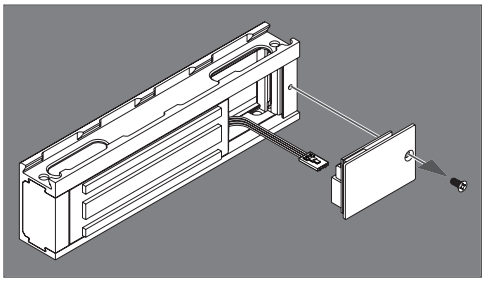
1c Place template and mark holes.

1. Place template on top corner, opposite of hinges.
2. Mark holes and prepare them per template.

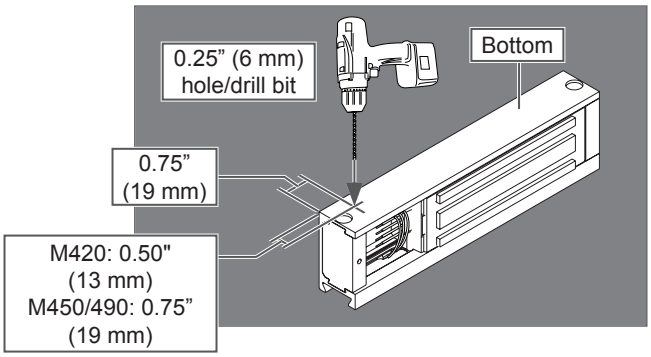


2 Install MBS indicator (optional, plus models ONLY).

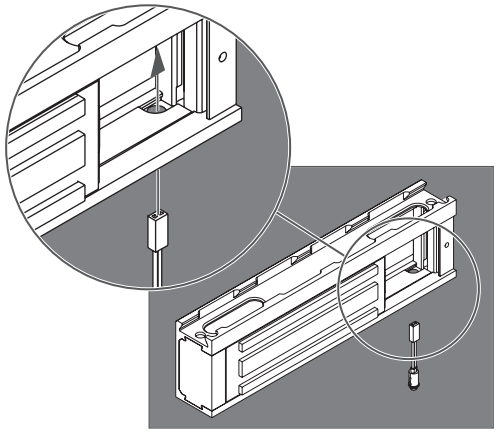
2a Remove cover.



2b Drill hole for MBS indicator.

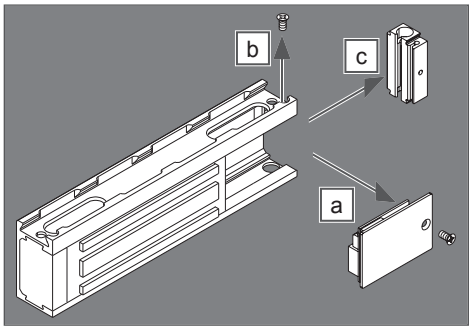


2c Install MBS indicator.

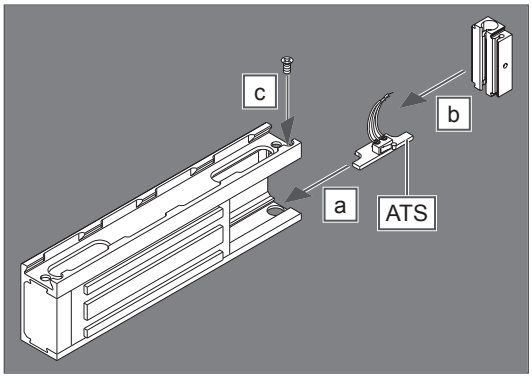


3 Install ATS (optional, plus models ONLY)

3a Remove end block and wiring cover.

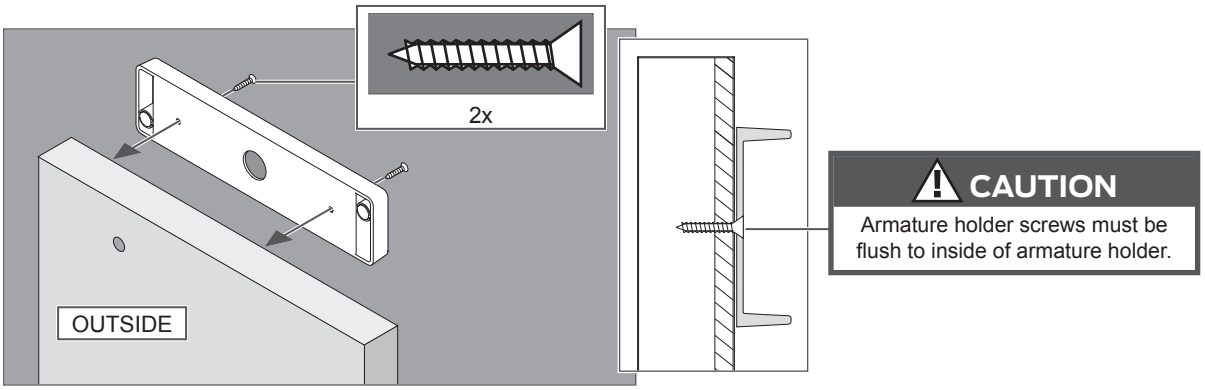


3b Install ATS and Reassemble



4 Attach armature to door.

4a Install armature holder.



CAUTION

Armature holder screws must be flush to inside of armature holder.

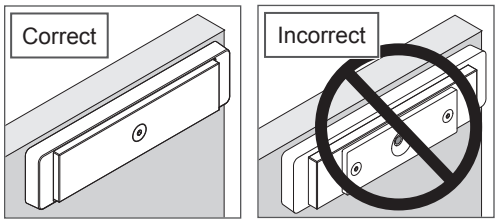
4b Install armature plate as shown for door type (M420/M450 shown).

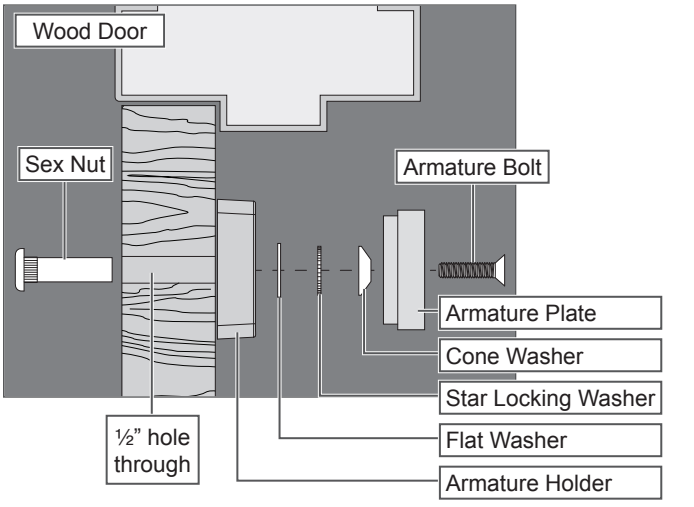
WARNING

Armature bolt must be tightened to at least 120 in.-lbs. for all doors except composite wood doors. For composite wood doors, tighten only to tight and flush. 120 in.-lbs. may damage composite wood doors.

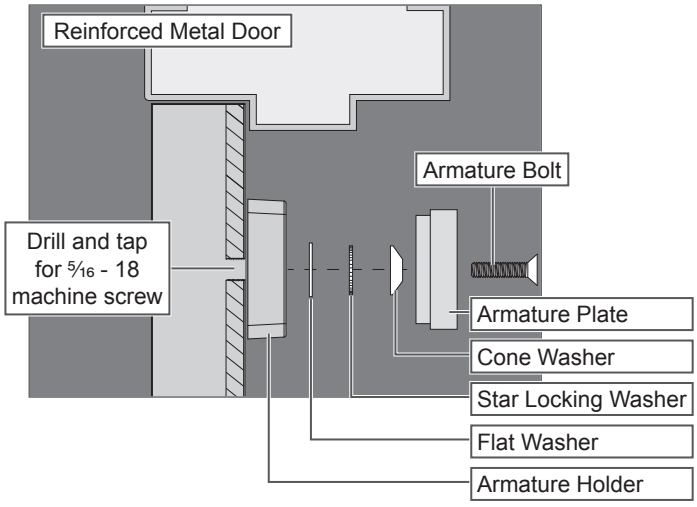
DO NOT back off bolt after tightening! Backing off the bolt after tightening will loosen the thread-locking patch, which may allow the bolt to loosen over time.

The included sex nut is for 1¾" (45 mm) doors ONLY. For other door thicknesses, please contact customer service, 1-877-671-7011. Using the incorrect sex nut for your door thickness will lead to improper function and possible injury.

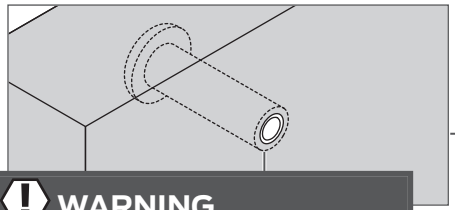




OR

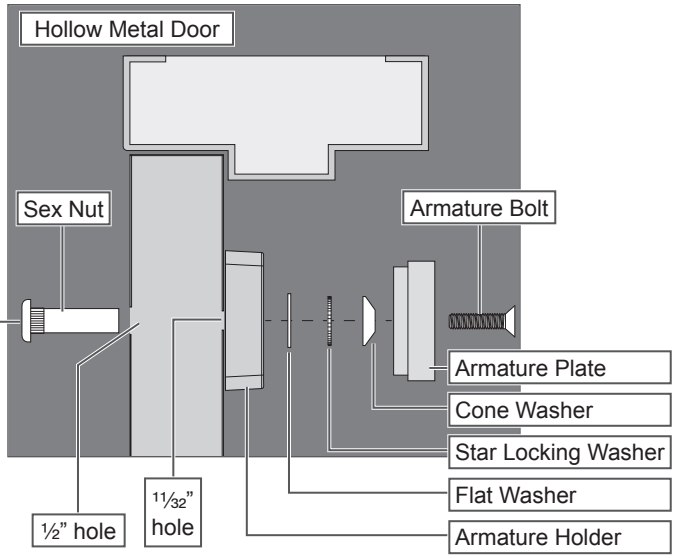


OR



WARNING

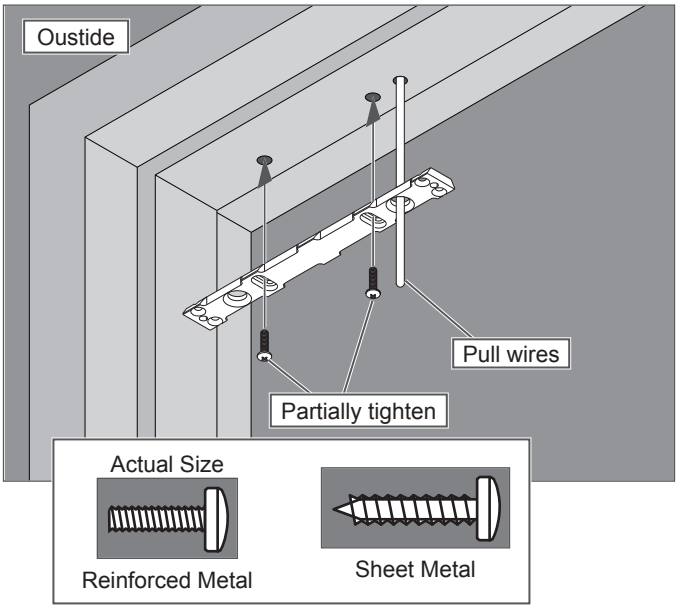
Sex nut must extend all the way through hollow metal door for proper installation. Improper Sex nut or installation may lead to malfunction and injury. Extended lengths available from customer service, 1-877-671-7011.



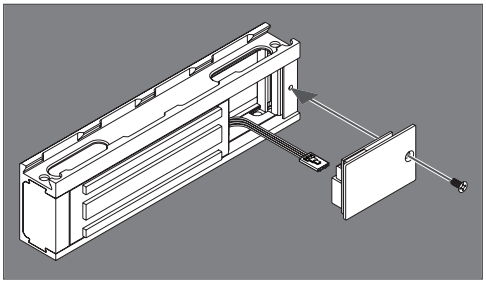
5 Install mounting bracket into frame.

5a Attach mounting bracket temporarily

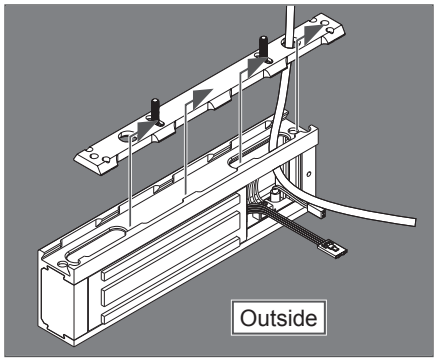
Install two middle screws into slots and partially tighten.



5b Remove wiring cover.

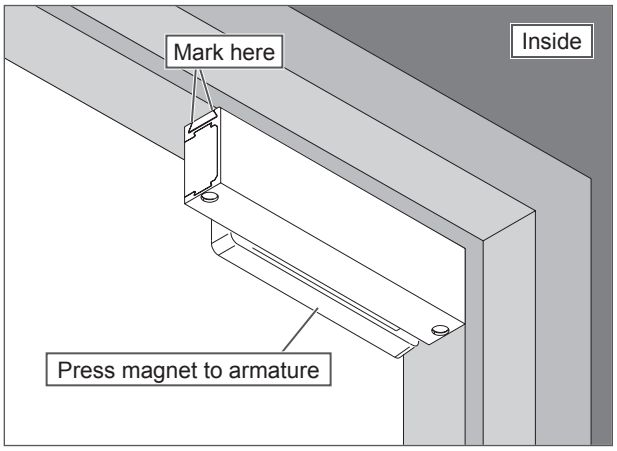


5c Slide magnet onto bracket.



5d Align magnet to armature.

a. Close door.
b. Press magnet to fully engage with armature.
c. Mark bracket location.



5e Fully attach bracket.

a. Remove magnet from bracket.
b. Check bracket alignment with marks.
c. Fully tighten two screws in slotted holes.
d. Drill four (4) remaining holes.
e. Fully tighten all screws.

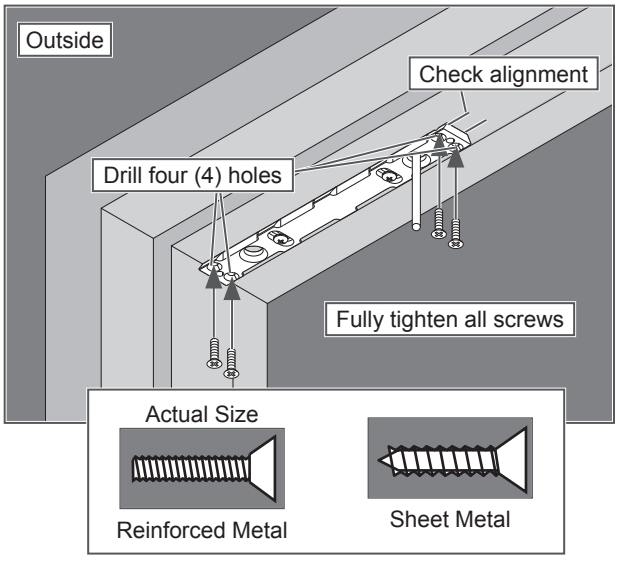
⚠ CAUTION

All four screws MUST be installed for proper operation and safety!

If you do not have enough room to securely fasten all screws, you will need filler plates and/or angle brackets to properly mount the magnet.

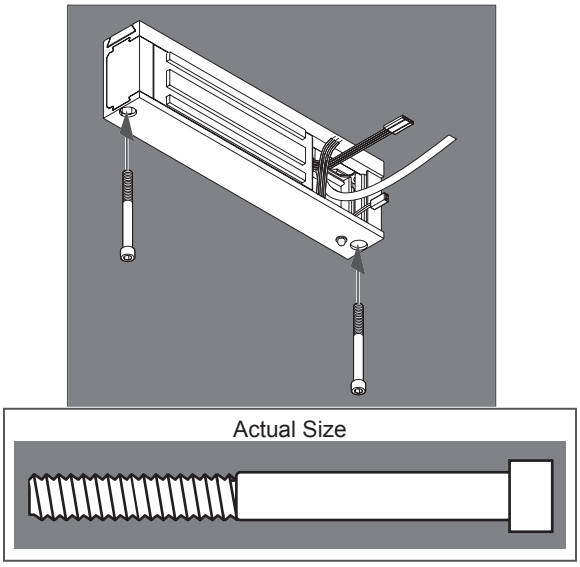
Failure to properly install the screws may lead to injury or property damage.

Contact customer service at 1-877-671-7011.



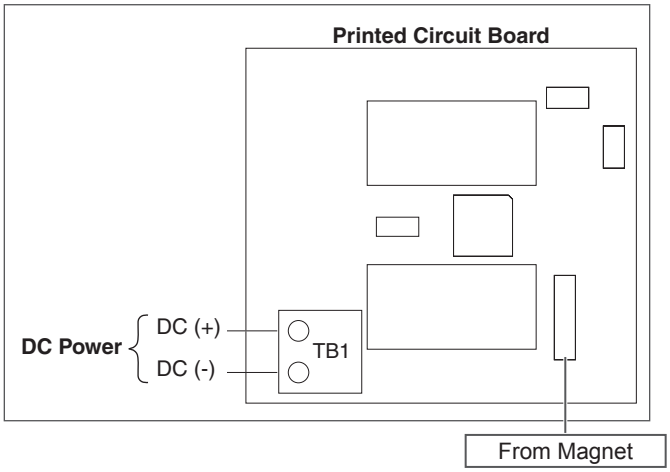
6 Install lock

6a Install magnet and secure with screws

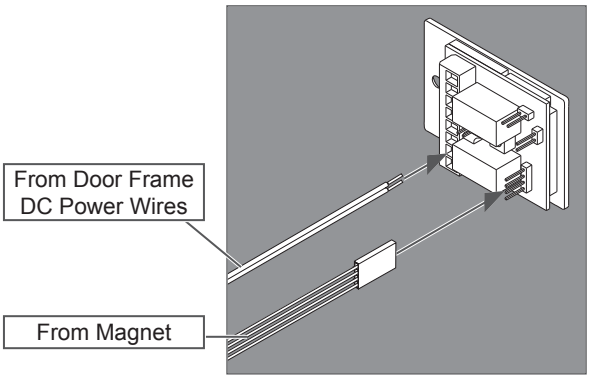


7 Connect wiring to board (standard model)

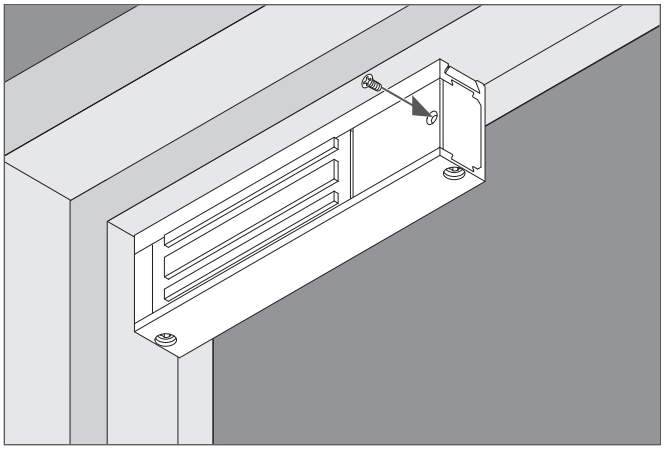
7a Review wiring connections



7b Connect wires to board

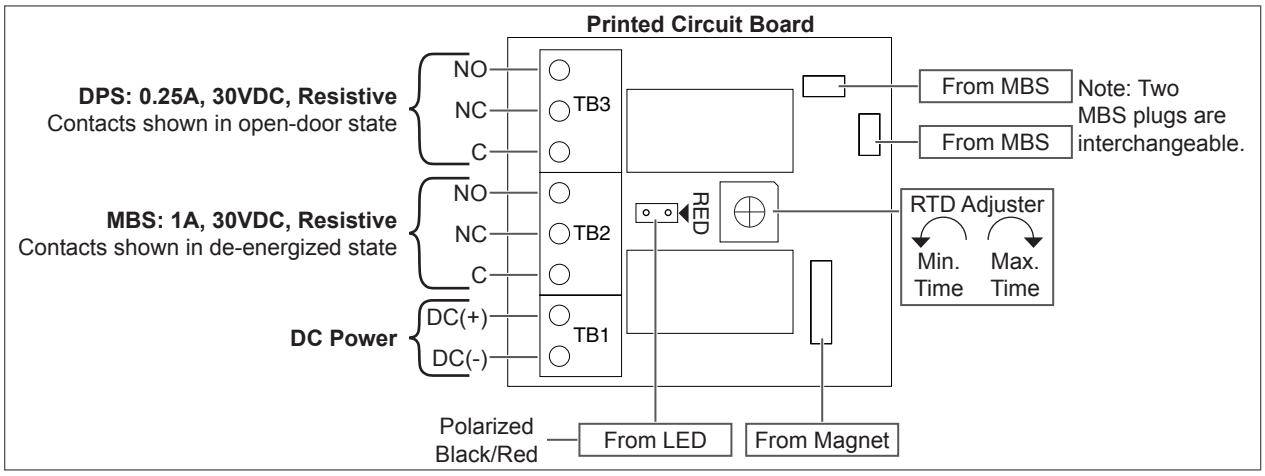


7c Install cover.

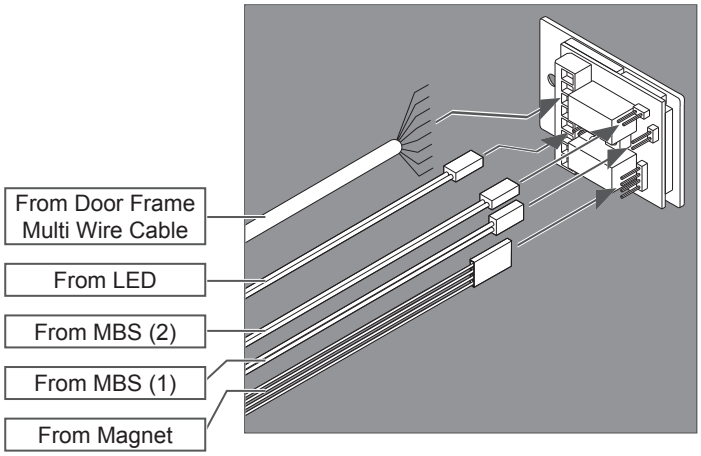


8 Connect wiring to board (plus model).

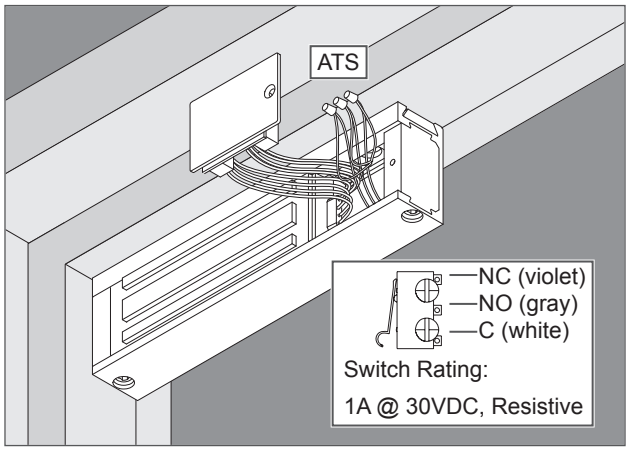
8a Review wiring connections.



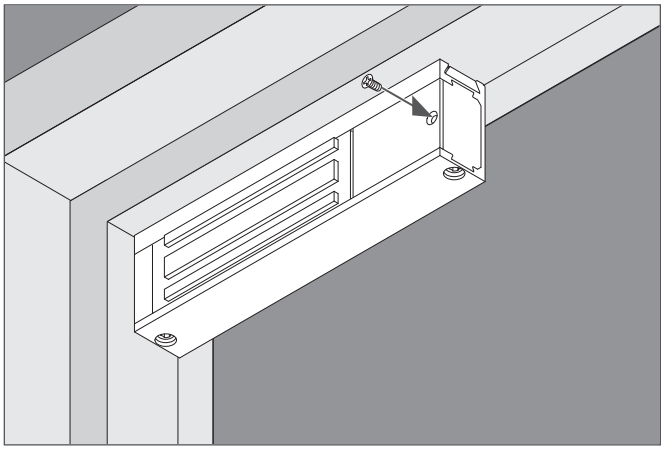
8b Connect wires to board.



8c Connect ATS wires.



8d Install cover.



ⓘ **Note: Some warming of the device under routine operation is normal.**

Customer Service

1-877-671-7011 www.allegion.com/us

ALLEGION

© Allegion 2015
Printed in U.S.A.
44487296 Rev. 11/15-f