



MOUNTING INSTRUCTIONS: 1100 Series Surface Mounted Electro-Magnetic Locking Devices On Outswinging Doors(s)

Model Numbers:

1106, 1110, 1115, & 1120

READ THOROUGHLY BEFORE INSTALLING

Handle electro-magnets and armatures carefully. Any damage to the mating surfaces may significantly reduce holding efficiency.

The 1100 Series Electro-magnet assembly mounts firmly and rigidly to the underside of the header on the stop side of the door. The armature mounts to the face of the door with special hardware for proper floating action to assure total mating with the face of the electro-magnet.

Note: For hinge side of door mounting the TJ Series is required.

Note from applicable template that a 2-1/2" minimum reveal is required for all of the 1100 series to assure rigid mounting of the electro-magnet assembly. If this minimum is not met see Fig. 1 to determine the need for either an 1180 Series Filler Plate or an 1190 Series Angle Bracket. Consult Application Bulletin "Elevation Profiles" for specific part number.

For drilling & Tapping a minimum of 1/8" thick metal is required. If conditions dictate the use of sheet metal screws they should penetrate into a solid wood header, otherwise solid reinforcement should be provided. **Consult factory if necessary for individual mounting applications.**

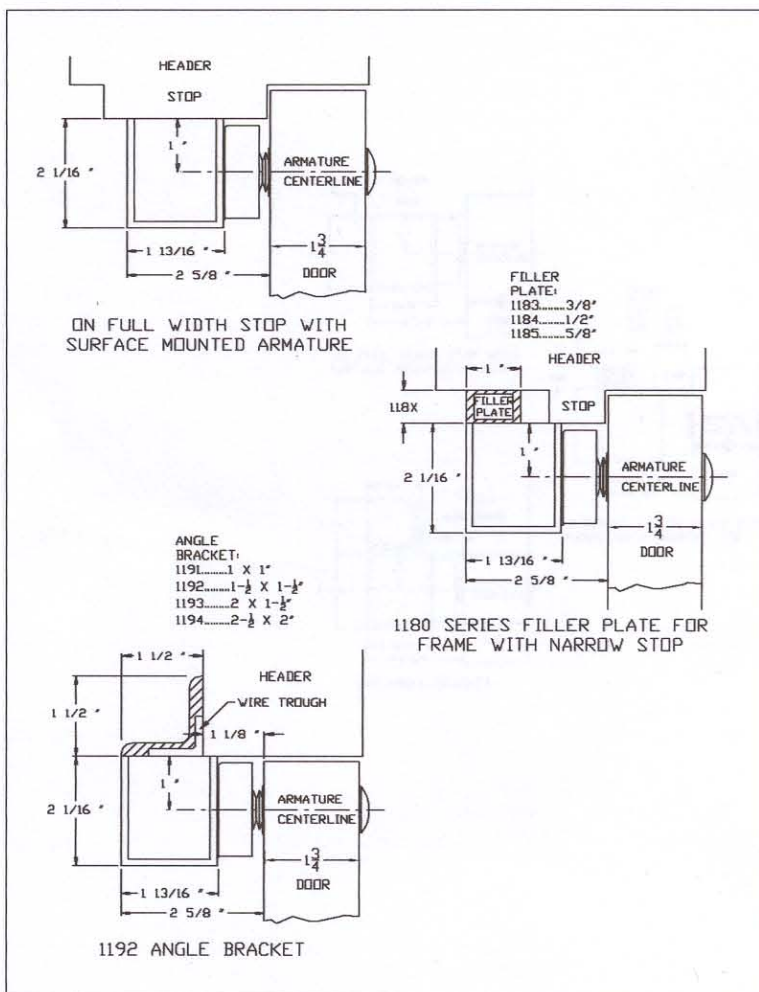
Mark door(s) and frame for drilling in accordance with applicable template dimensions. The 1110 Series is for single out swinging doors, and the 1115 Series and 1120 Series are for pairs of out swinging doors without mullion. All measurements are to be made with door(s) in closed positions.

Follow this 4 step mounting process:

STEP 1) FRAME PREPARATION

Remove housing cover prior to lock installation. Prepare frame for electro-magnetic lock assembly by drilling for #14 Sheet Metal screws for drilling and tapping for 1/4-20 machine screws and external tooth lock washers, (**mount screws through large slotted holes only at this time**) tighten screws enough to hold unit in place, however allowing movement for later adjusting. If a **standard filler plate** is used, drill clearance holes in filler plate for electro-magnet mounting screws. Do not attach mounting plate to 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. Drill clearance hole through filler plate for wiring.

Make all electrical connections in accordance with applicable wiring diagrams, using either wire nuts or crimp connectors to assure good connections. Electro-magnets have color-coded leads to indicate required operating voltages: 24VDC units are the factory default with 2 blue leads, units are field changeable to 12VDC per wiring



STEP 2) ARMATURE PREPARATION FIG 3.

Prepare armature for mounting: Note that armature has two 3/16" dia. Holes open from the back only. Press the two spring pins provided into these holes. Tap pins gently until they are firmly seated in the holes being extremely careful not to mar the face of the armature. Insert one spring washer on 5/16-18 shoulder screw and then insert screw thru armature. Add three conical spring washers over shoulder and flat stop washer. (per diagram enclosed in armature kit)

STEP 3) ARMATURE MOUNTING FIG 2A. THRU BOLT MOUNTING IN HOLLOW METAL DOORS.

(Dimensions shown are for standard 1-3/4" thick doors; contact factory for non standard doors)

Drill 11/32 hole through door. Enlarge hole in outside face to 1/2" for knurled sex nut. BE SURE SPRING PINS pocket and float freely in 1/4" holes in door. If not, remove armature and enlarge holes in door. Insert shoulder screw/armature assembly thru face of door, being sure that spring washers remain over shoulder, and hold firmly against door by pushing directly on head of screw. Insert sex nut from opposite face and assemble. When armature is floating freely, tighten 5/16-18-shoulder screw fully and securely

FIG 2B. THRU BOLT MOUNTING IN SOLID CORE WOOD DOOR, drill $\frac{1}{2}$ " hole through door. Insert shoulder screw/armature assembly thru face of door, being sure that spring washers remain over shoulder, and hold firmly against door by pushing directly on head of screw. Insert sex nut from opposite face and assemble. When armature is floating freely, tighten 5/16-18-shoulder screw fully and securely with 5-32 Allen wrench.

FIG 2C. MACHINE SCREW MOUNTING, door must be properly reinforced to $\frac{3}{8}$ " minimum thickness and structured for 1200 lb. load. Drill and tap thru reinforcing for 1/15-18 machine screw. Insert shoulder screw/armature assembly, being sure that spring washers remain over shoulder and flat washer is between shoulder and face of door. When armature is floating freely, tighten 5/16-18-shoulder screw fully and securely with 5-32 Allen wrench.

CURRENT DRAW:

1106 SERIES	245 mA @ 24VDC 480 MA @ 12VDC
1115 SERIES	290 mA @ 24VDC 580 MA @ 12VDC
1110 SERIES	290 mA @ 24VDC 580 MA @ 12VDC
1120 SERIES	580 mA @ 24VDC 1160 MA @ 12VDC

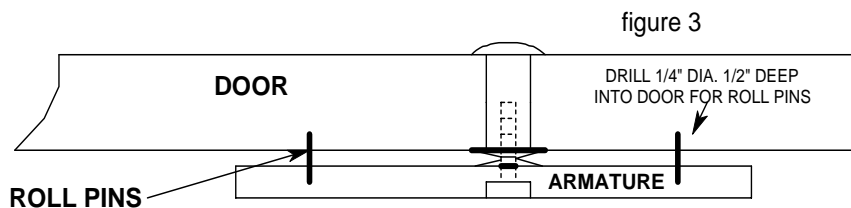
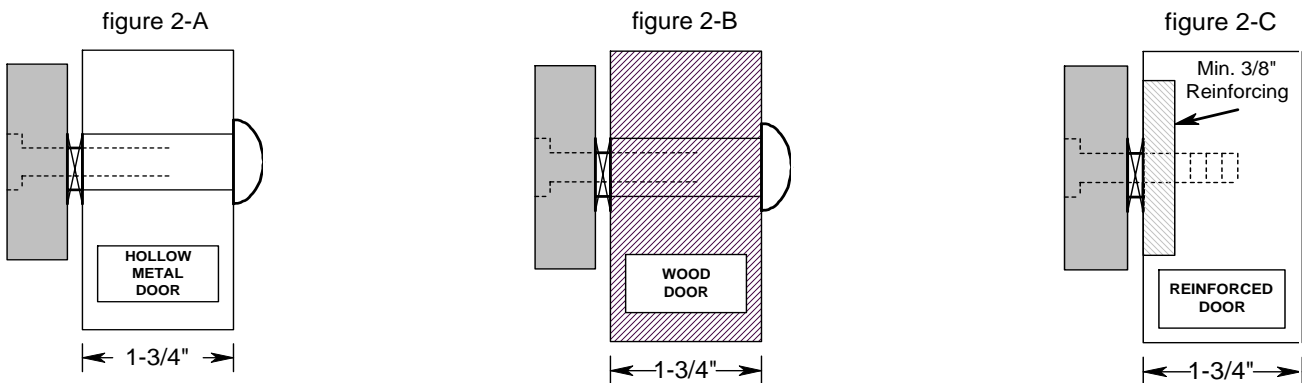
STEP 4) LOCK & ARMATURE ALIGNMENT

With the electro-magnet energized and the armature fully engaged, position the Lock so that the door is snug against stops and then tighten the #14 Sheet Metal Screws or the $\frac{1}{4}$ -20 machine screws securely.

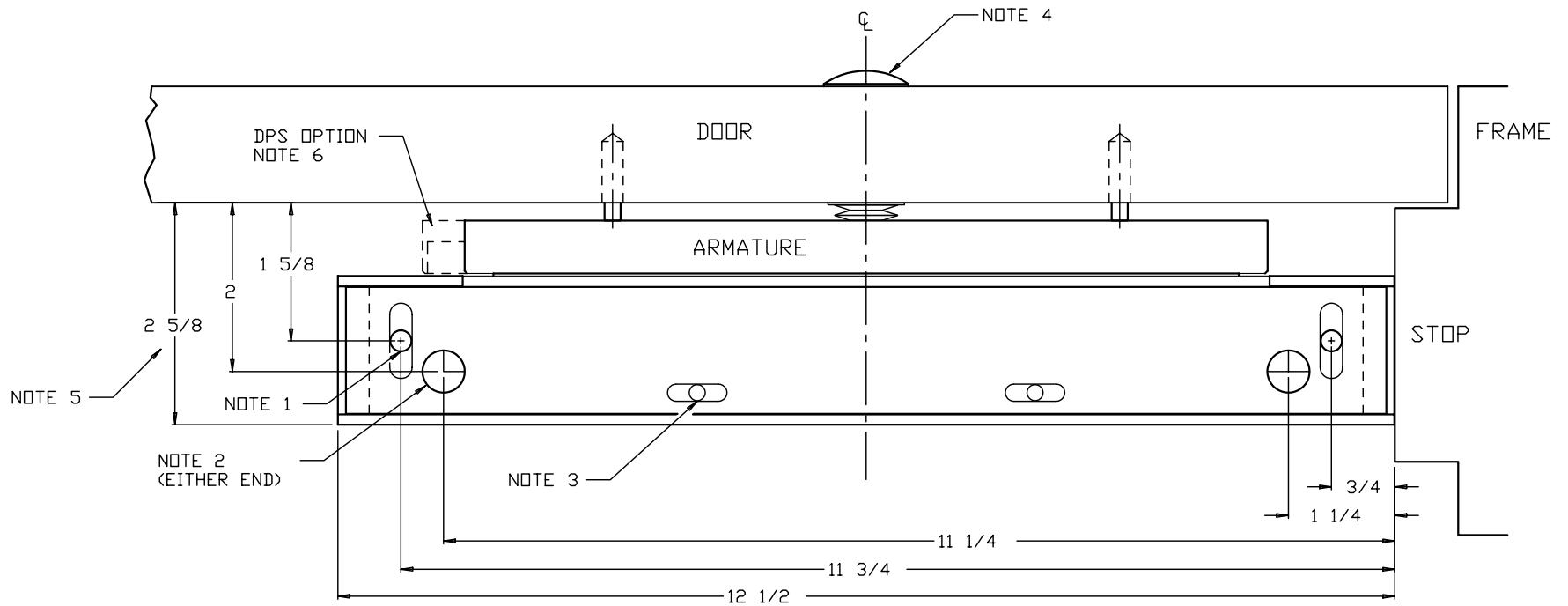
TURN SYSTEM OFF: using the $\frac{3}{16}$ " dia holes in the mounting plate behind the electro-magnet as a physical template, drill two (or four for double electromagnet model 1120). 159 dia. Holes (No. 21 drill) and tap frame for No. 10-32 machine screws, or drill two $\frac{11}{64}$ " dia. Holes (or four for double electro-magnet) in frame for No. 190 sheet metal screws. Secure mounting plate with #10 screws and lock washers.

THE USE OF THESE #10 SCREWS IS IMPORTANT, as they provide resistance to shear rotation and assure maximum system holding efficiency of the system.

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 with center line of armature slightly above center line of magnet as shown on elevation profile drawings. When all checks out satisfactory, replace housing cover.

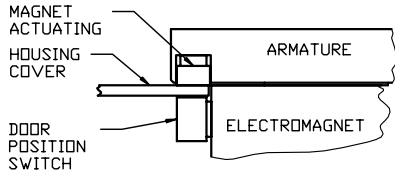


TAP 2 ROLL PINS INTO HOLES IN ARMATURE. MAKING SURE PINS BOTTOM OUT IN HOLES



OPTIONS:

DOOR POSITION SWITCH (DPS)



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

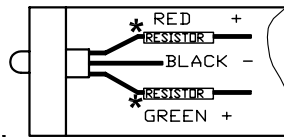
WIRE COLOR	FUNCTION	MODE STATUS WITH DOOR CLOSED & SW ACTUATED
BLACK	COMMON	
WHITE	N.D.	HELD CLOSED
RED	N.C.	HELD OPEN

SPEC: SPDT, .1 AMP @ 38 VOLTS

LED INDICATOR LIGHTS

LED COLOR CHOICE:

R - RED
G - GREEN



* LED IS SET FOR 24VDC OPERATION. FOR 12VDC INPUT CUT OFF RESISTOR

INPUTS:
12 TO 28 VOLTS DC
.03 AMPS @ 24VDC

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NOTES:

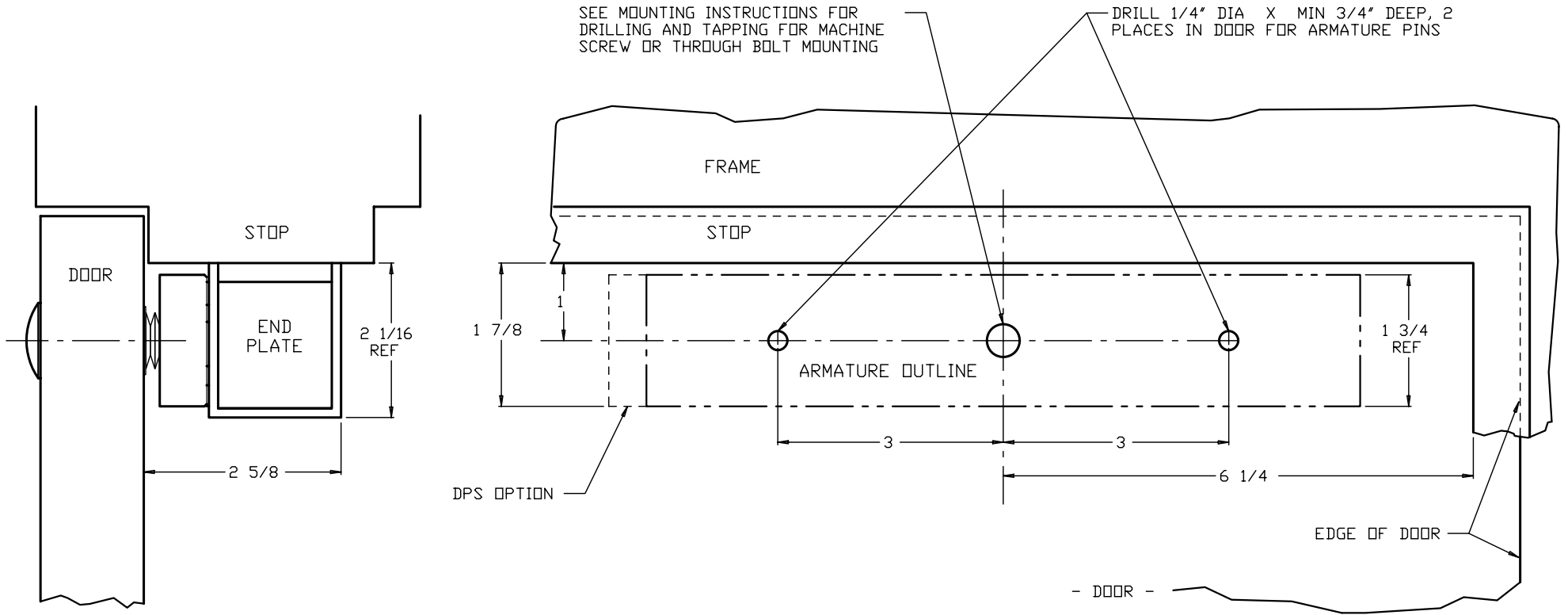
1. DRILL & TAP FRAME FOR 1/4-20 MACHINE SCREW, OR #14 SHEET METAL SCREW. SLOT PERMITS SOME FLEXIBILITY IN HOLE LOCATION, AND HOLE CAN BE CENTERED UP TO 1 15/16" FROM FACE OF DOOR IF NECESSARY FOR THE FIRREST MOUNTING LOCATION.
2. WIRE ACCESS HOLES IN THE MOUNTING PLATE ARE 1/2" DIA. DRILL 9/16" DIA. HOLE IN FRAME AS SHOWN, BREAK EDGES OF HOLE AND CLEAN. IF CONDUIT IS SPECIFIED, MOUNT #1179 BACK BOX, (WITH 1/2" KNOCK-OUTS) TO INSIDE OF FRAME TO FACILITATE PRE-WIRING AND RETAIN ADJUSTABILITY. CONNECTING CONDUIT DIRECTLY TO FRAME AND MOUNTING PLATE WILL NOT ALLOW ADJUSTMENT OF UNIT.
3. ONLY AFTER LOCK HAS BEEN PROPERLY POSITIONED, USE THE REMAINING SLOTS AS A FIXED TEMPLATE TO DRILL & TAP FOR #10-32 MACHINE SCREWS OR #10 SHEET METAL SCREWS IN THE SLOT CENTERS.
4. SEE DETAILED MOUNTING INSTRUCTIONS FOR APPLICABLE DOOR PREPARATION FOR MOUNTING ARMATURE.
5. SEE 1100 SERIES ELEVATION PROFILES (IN 3 RING BINDER) TO DETERMINE NEED FOR AND SELECTION OF 1100 SERIES FILLER PLATE OR 1100 SERIES SOFFIT ANGLE BRACKET.
6. DPS (SEMI CONCEALED DOOR POSITION SWITCH), IF APPLICABLE.

TITLE 1110 SERIES SURFACE APPLICATION ON SINGLE OUTSWINGING DOOR INSTALLATION: LOCK PREPARATION



(NC)	(NC)	(NC)	DRAWN JTF	DATE 3/20/00	SCALE TO FIT	CAD FILE T111002-1_1	DWG. NO.	REV.
REV.	REVISION DESCRIPTION	DATE	APPR. XXX	DATE XX/XX/XX	UNITS INCHES	SHEET 1 OF 2	T111002-1	NC

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M.B.S. OPTION

CONCEALED MAGNETIC BOND SWITCH (MBS)

WIRE COLOR	FUNCTION	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

NOTE:

1. REINFORCING AND STRUCTURING IS REQUIRED TO WITHSTAND 1200 LB LOAD.

TITLE 1100 SERIES SURFACE APPLICATION ON SINGLE OUTSWINGING DOOR: ARMATURE DOOR PREPARATION



DRAWN GSG DATE 3/20/00 SCALE TO FIT CAD FILE T111002-1_2
 APPR. XXX DATE XX/XX/XX UNITS INCHES SHEET 2 OF 2 SIZE A

DWG. NO. T111002-1 REV. A

A	ADDED MBS OPTION INFORMATION	6/6/02
REV.	REVISION DESCRIPTION	DATE

