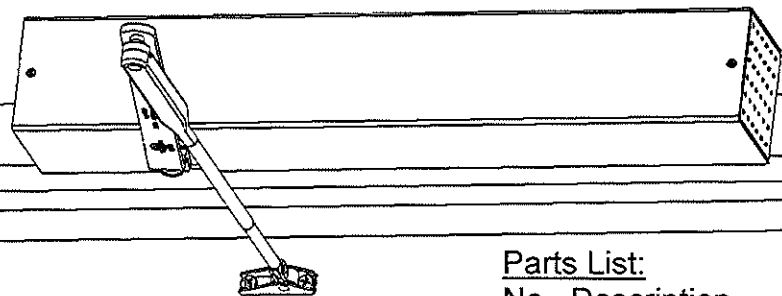


1816 HJ & SFJ,
1816 HJ x DROP PLATE,
1816 SFJ x DROP PLATE

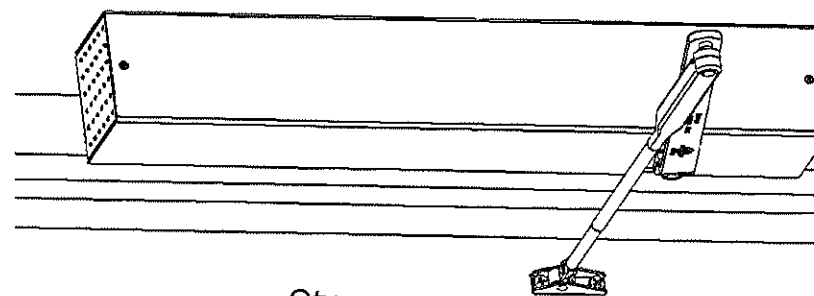
INSTRUCTIONS



DORMA Architectural Hardware
Reamstown, PA 17567



Left Hand Installation



Right Hand Installation

Parts List:

No.	Description	Qty
1)	Cover	1
2)	Cover Screws	2
3)	Main Arm	1
4)	Connecting Arm	1
5)	Rod & Shoe	1
6)	1816 Unit (HJ or SFJ - LH or RH)	1
7)	Combo Screws	5*
8)	Flat Head Wood Screw	2*
8)	Flat Head Machine Screw	2*
9)	Hex Washer Head (HJ ONLY)	1

Swing Free Unit Only:

9)	Socket Head Cap and Washer	1
10)	Bushing	1
11)	Anti Friction Washer	2
12)	Sweep Arm	1

*Drop Installation uses a total of 7 Combo Screws (7).

General Description

Each 1816 HJ & 1816 SFJ unit contains a door closer and hold open solenoid. The unit can be connected to an 1800 series SD (smoke detector) unit for paired door applications. It is a companion to the main unit, and the solenoid de-energizes along with the main unit.

Read the entire instruction sheet prior to installing and refer to NFPA 72E. Standards may be obtained from THE NATIONAL FIRE PROTECTION ASSOCIATION in Batterymarch Park, Quincy, Massachusetts, 02169.

Tool List:

Tape Measure

#3 Cross-Point Screw Driver

#7 Drill Bit & Drill or 13/64" Drill Bit

Center Punch & Hammer

1/2" Box Wrench

1/4-20 Tap & Holder

3/16" Slotted Screw Driver

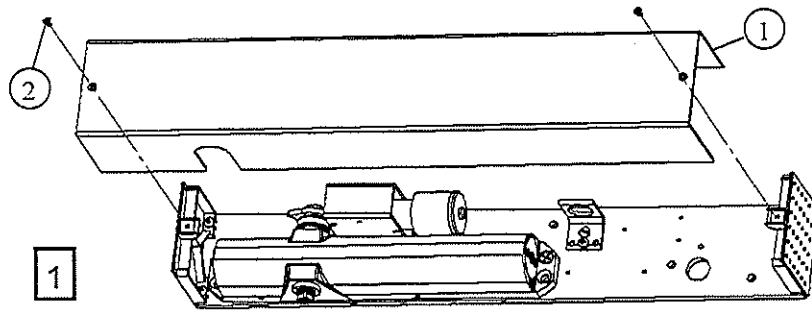
10" Adjustable Wrench

5mm Hex Wrench



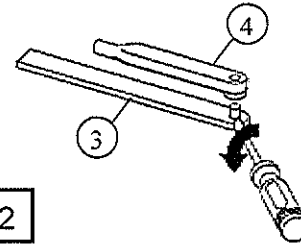
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ATTENTION!!! Before you begin the installation of your 1800 series unit, make sure you have the tools listed above. Make sure you have the correct model unit and hand designation for your application.



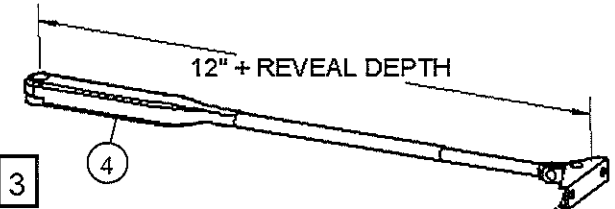
1

Remove the cover (1) by unscrewing the two Phillips screws (2).



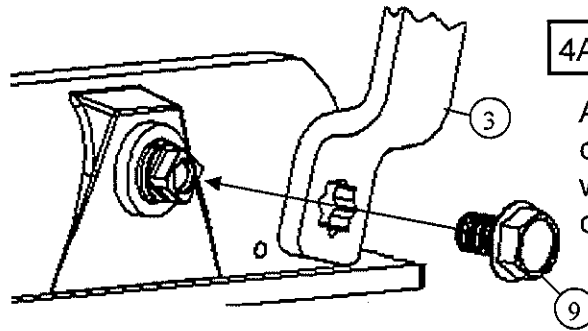
2

Pry apart connecting arm (4) tube from main arm (3).



3

Thread the connecting tube (4) and rod shoe (5) together. Length = 12" + REVEAL DEPTH

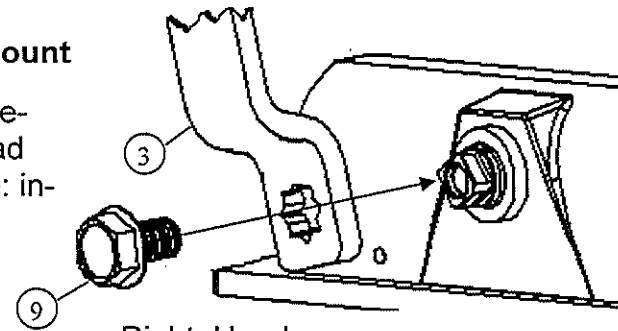


Left Hand

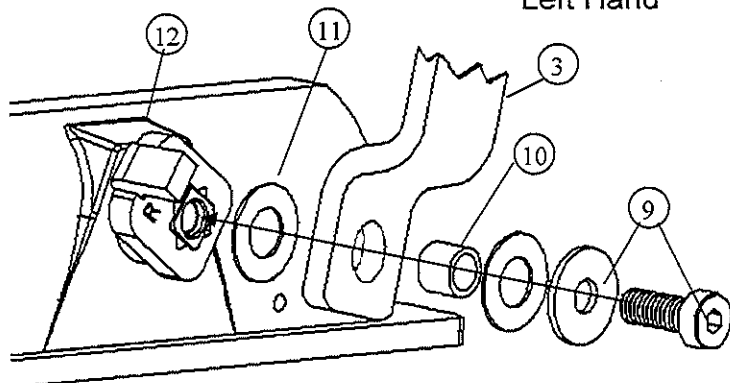
4A Hold Open Jamb Mount

Attach main arm (3) & secure tightly with hex head washer screw (9). Note: indexing by hand of unit.

OR

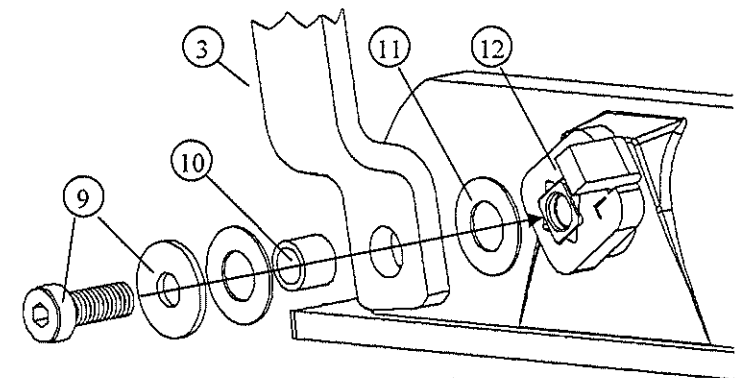


Right Hand



4B Swing Free Mount

Attach swing arm (12). Assemble as shown, inserting the bushing (10) into the main arm (3), applying two anti-friction washers (11) on both sides of the main arm, tightly secure with socket head cap screw and washer (9). Note: indexing by hand of unit.



Technical Notes: CAUTION: Sex nuts are required for attachment of components to unreinforced, wood or plastic faced composite type fire doors, unless an alternative method is identified in the individual door manufacturer's listings. Make sure door efficiently operates prior to installing the closer. When installing main arm attachment observe directions closely. Confirm dead stop degree prior to door and frame preparations.



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 Reamstown, PA 17567

TOP JAMB MOUNT

- 5** Prepare door and frame using the template provided in the back of the instructions.
 Attach unit (6) to frame using 3 combo screws (7) and 2 flat head wood screws (8) or 2 flat head machine screws (8).
 Attach rod & shoe (5) to door with 2 combo screws (7).

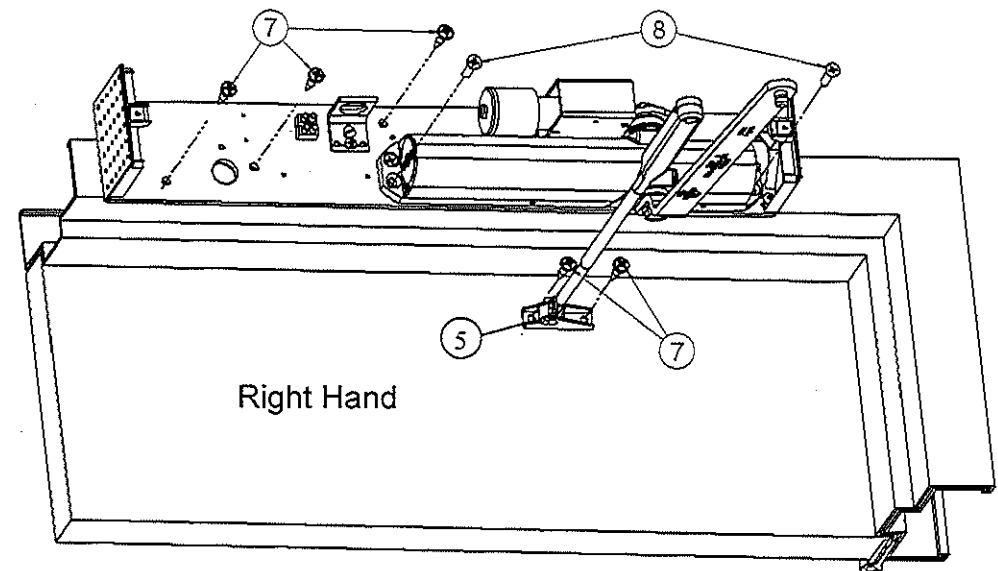
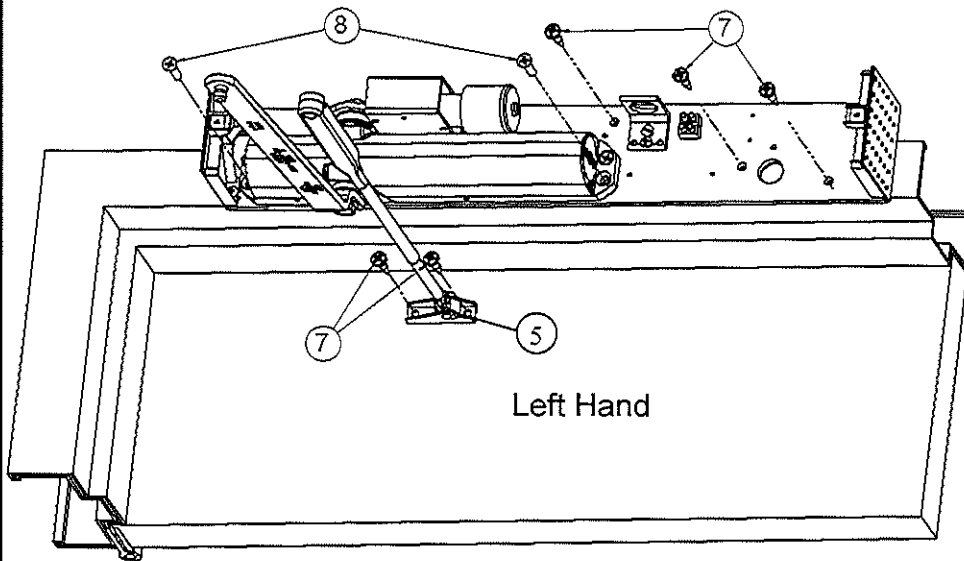
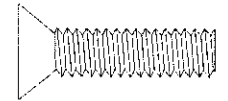
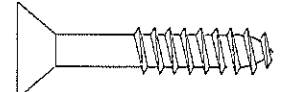
Combo Screw x5



Wood Screw x2 (8)

OR

Machine Screw x2 (8)



- 5A** Standard closing power foot orientation shown above, for 15% more closing power invert shoe 180 degrees



5B



Left Hand Right Hand

Technical Notes: CAUTION: Sex nuts are required for attachment of components to unreinforced, wood or plastic faced composite type fire doors, unless an alternative method is identified in the individual door manufacturer's listings. Make sure door efficiently operates prior to installing the closer. When installing main arm attachment observe directions closely. Confirm dead stop degree prior to door and frame preparations.



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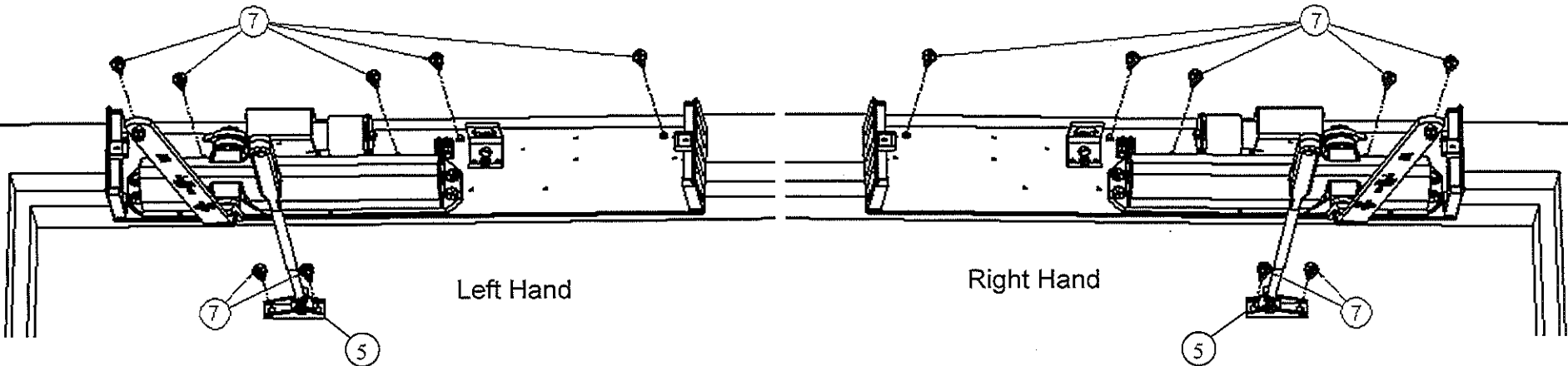
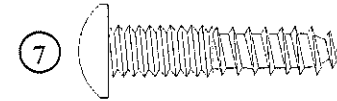
TOP JAMB MOUNT X DROP

5 Prepare door and frame using the template provided in the back of the instructions.

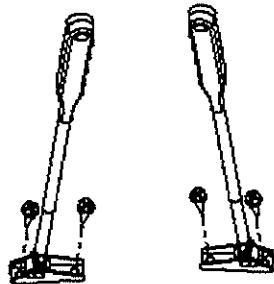
Attach unit (6) to frame with 5 combo screws (7).

Attach rod shoe (5) to door with 2 combo screws (7).

Combo Screw x7



5A Standard closing power foot orientation shown above, for 15% more closing power invert shoe 180 degrees



Left Hand Right Hand

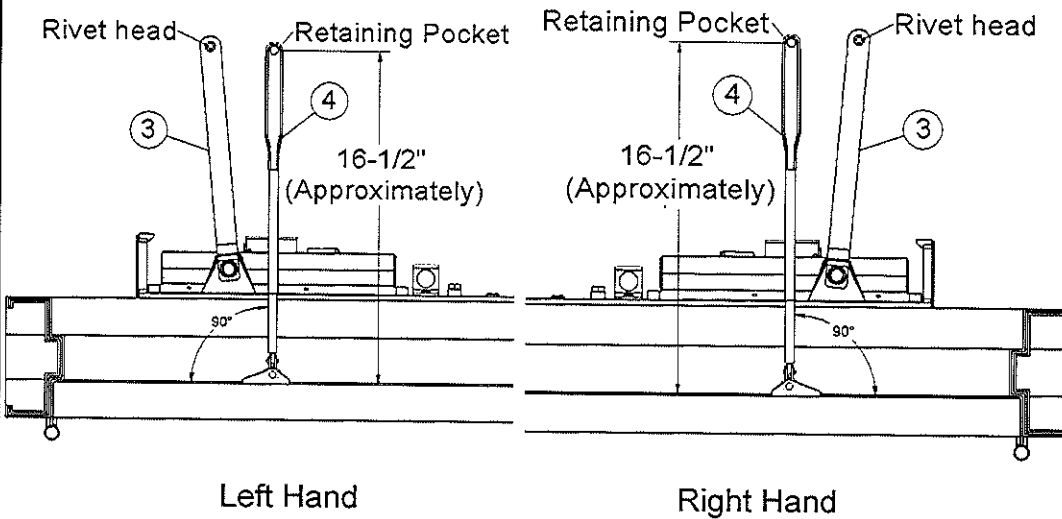
ELECTIRCAL SPECIFICATIONS *

Voltage input 24VAC, 24VDC or 120VAC Optional +10% -15%
 Amperage draw for on solenoid: 24VDC - .150A, 24VAC - .185A, 120VAC - .04A



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6 Preload main arm (3) by rotating approximately 10 degrees and press rivet head into the retaining pocket on the connecting arm (4).

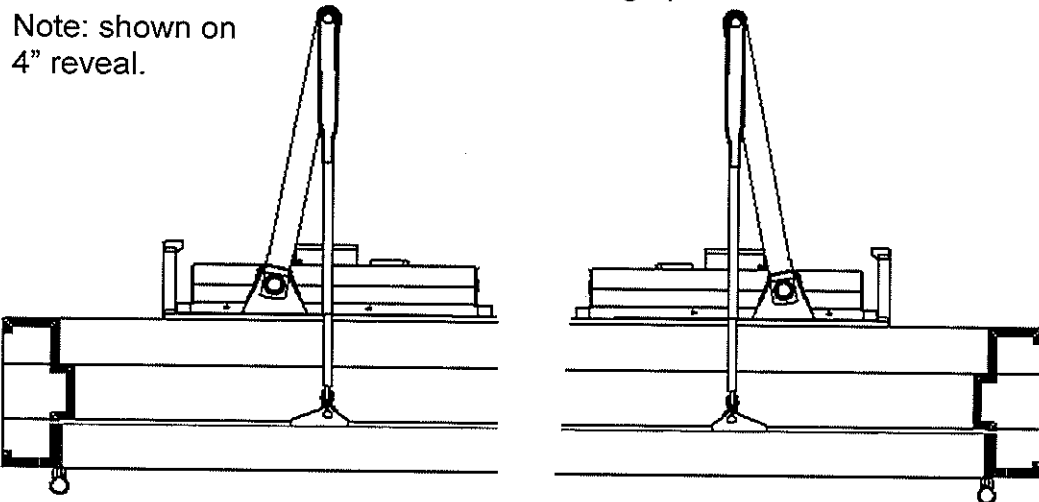


Left Hand

Right Hand

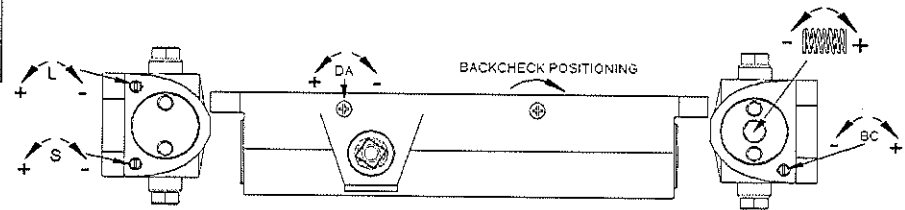
Note: views looking up

Note: shown on 4" reveal.



7 Performance Adjustments:

- Be sure closer has appropriate spring power prior to making any closer speed adjustments.
- Door should close in 3 to 6 seconds from 90 degrees
- Do not back valves out beyond closer casting surface.
- Check closing sweep (S) and latch (L) speed; adjust as necessary.
- Backcheck position will advance approximately 15 degrees by placing backcheck "position" valve in the "on" position (fully clockwise).
- Check delay action (D) function if supplied.
- Ball bearing hinges or pivots should always be used.

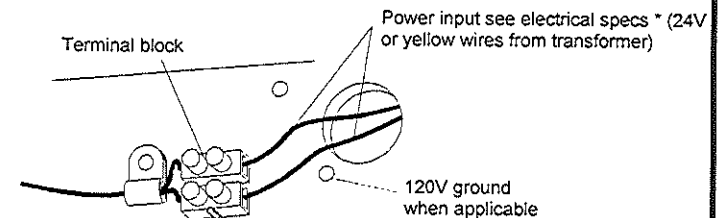


Door Width		Adjuster Full Turns	Spring Size	ULC LABELED UNITS ONLY Max. Door Weight
Exterior	Interior			
-	2'-6" (762)	-6	2	100
2'-6" (762)	3'-0" (914)	0	3	125
3'-0" (914)	3'-6" (1067)	+8	4	150
3'-6" (1067)	4'-0" (1219)	+16	5	200
4'-0" (1219)	-	+24	6	250

8 Electrical Connections

Verify voltage marked on unit identification label and connect the two incoming power wires to terminal block.

Note:
 This connection is not polarity dependent.



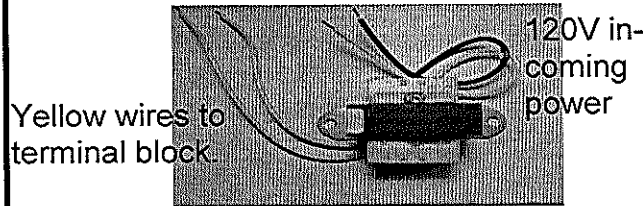
IMPORTANT!!!

The unit must be tested after the installation, by the end user, to assure that the door closer units function properly when the alarm system is activated. The entire fire alarm system must also be tested periodically after the initial installation test. The end user is also responsible for the adjustments and maintenance to retain the system in working order.

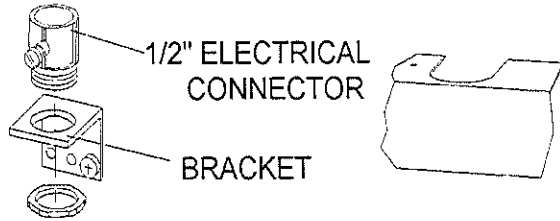


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8A 120V transformer

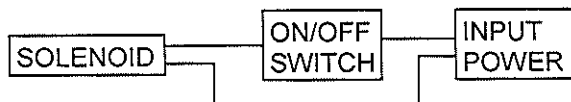


8B Optional surface wiring



Optional surface wiring must be specified when the unit is ordered. The surface wiring bracket is added for installation of the 1/2" electrical conduit connector and the cover is notched to accept the conduit.

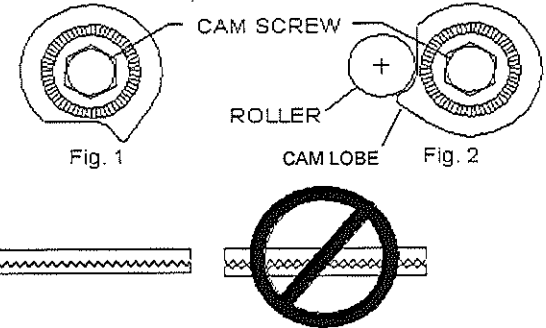
8C Optional ON/OFF Switch



1. Wire ON/OFF switch as shown above.
2. Push button will cut power to the hold open solenoid; the door will close.
3. Pushing button a second time will engage power to the hold open solenoid allowing the door to be held open.
4. The push button is accessible by inserting a small cylindrical object thru the hole in the end cap.

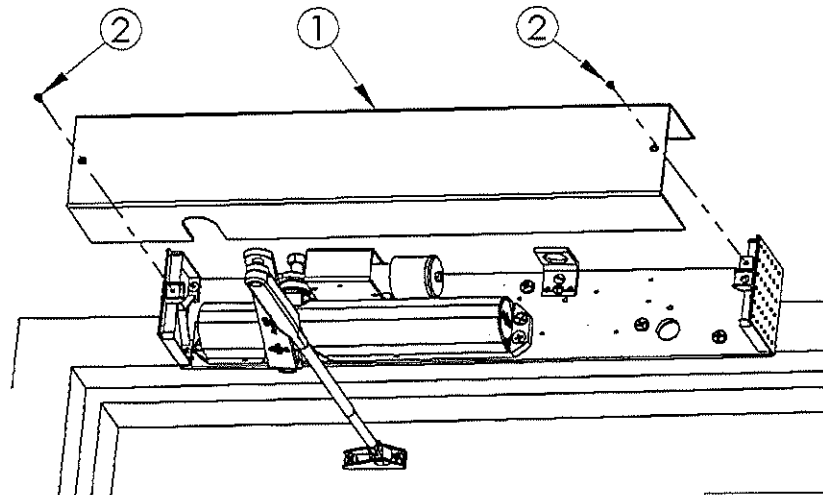
9 Set Hold Open Position:

1. Open the door to factory preset hold open position at approximately 90 degrees.
2. Loosen cam screw so the cam moves freely. (Fig. 1)
3. Move door to the required hold open position.
4. Turn cam so that the cam lobe is resting against the roller in the plunger. Tighten cam screw securely. (Fig. 2)



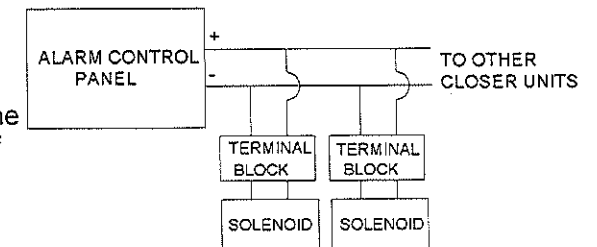
CAUTION: Be sure cam teeth mesh with mating part

10 Attach the cover (1) by securing the two cover screws (2).



Note:

When installing as a companion unit, to a smoke detector unit, use 24VAC/VDC only. To test a non-detector unit; trip the test switch of the main closer detector, as explained in the Smoke Detector Test Procedure, include with those types of units. After tripping the test switches both the main detector unit and non-detector unit will release and the doors will close. Resetting the test switch will allow the units to return to standby condition.

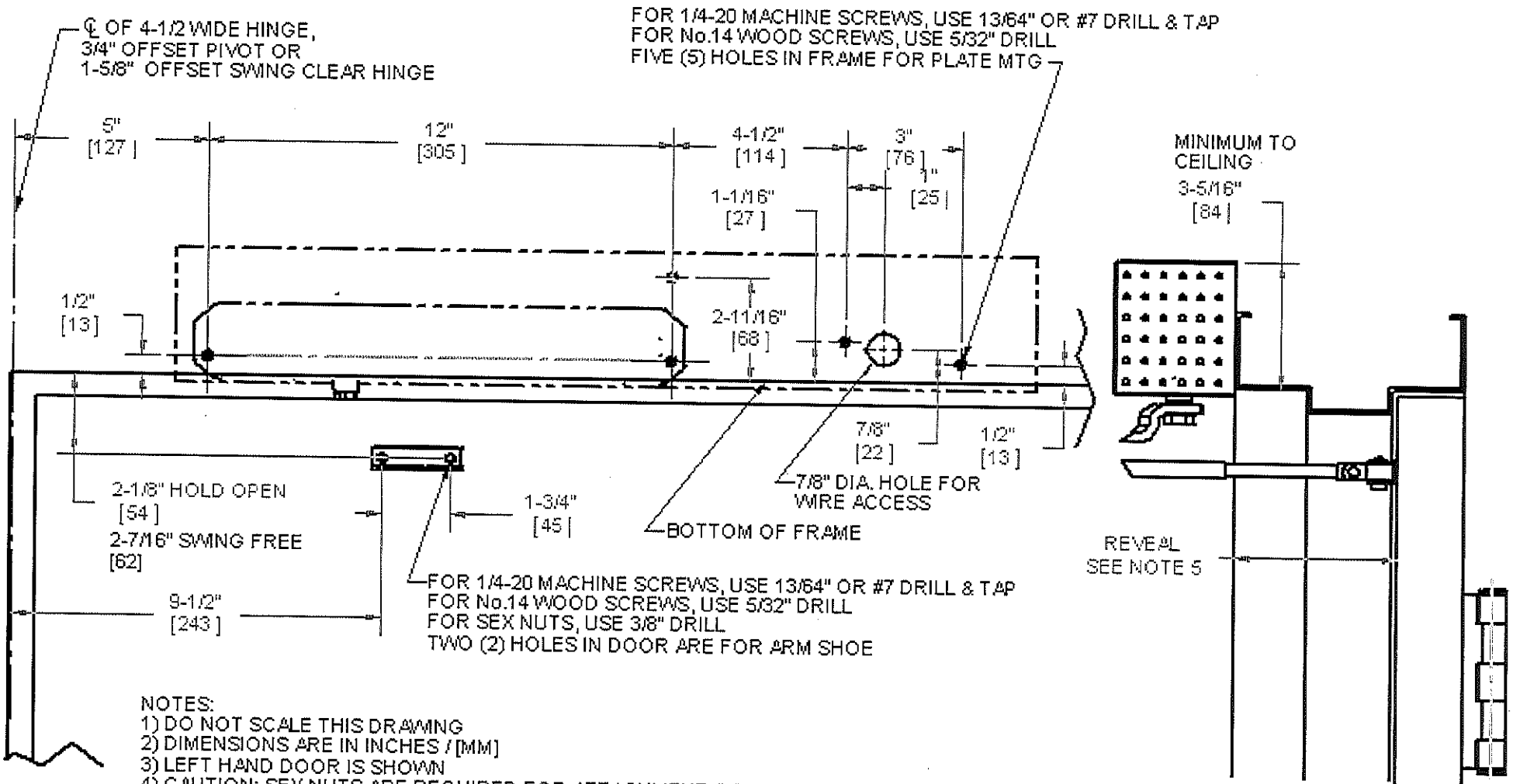


DOOR CLOSER MODELS:

1816 HJ x DROP PLATE, 1816 SFJ x DROP PLATE, 1816 HJ SD x DROP PLATE, 1816 SFJ SD x DROP PLATE



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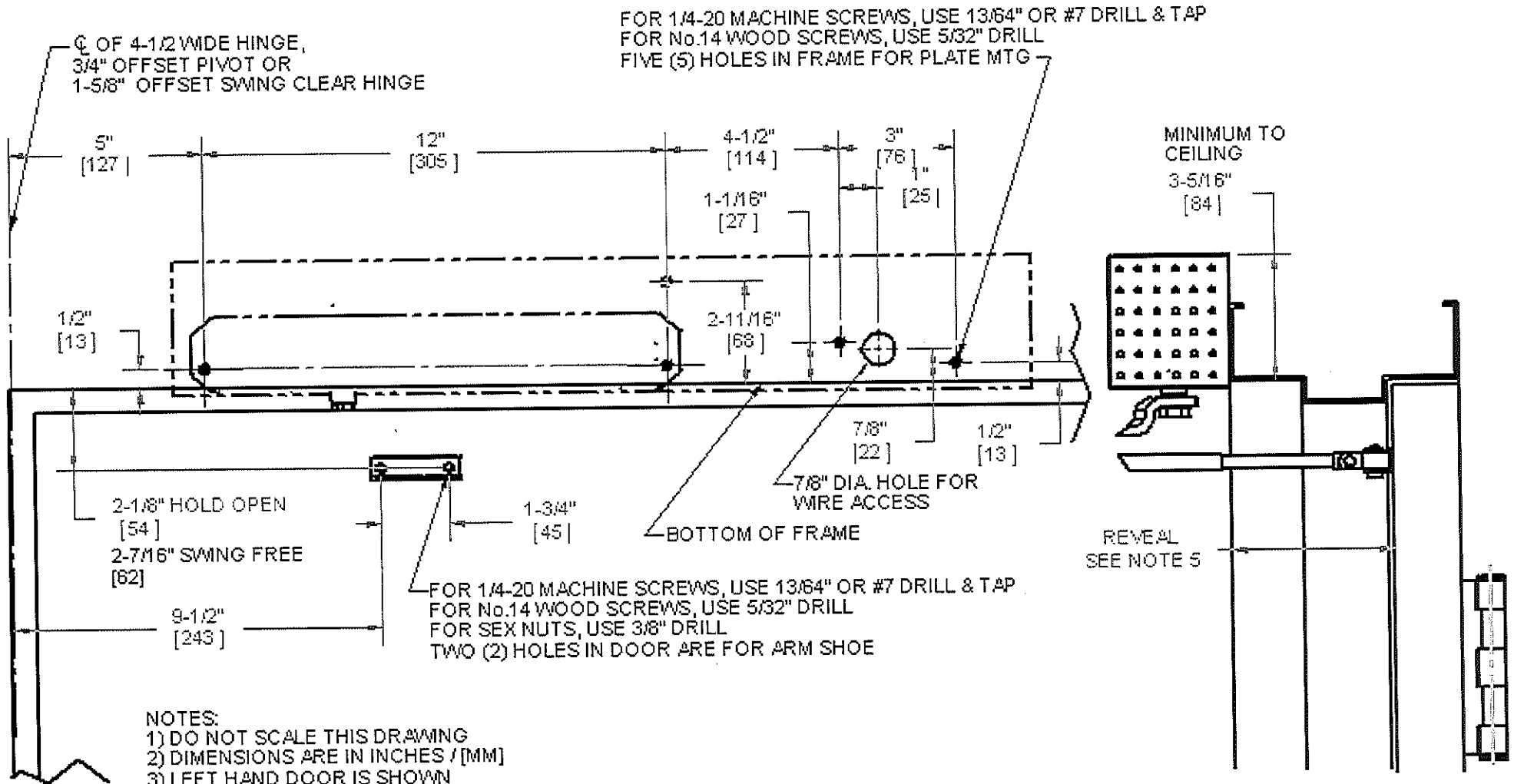


- NOTES:**
- 1) DO NOT SCALE THIS DRAWING
 - 2) DIMENSIONS ARE IN INCHES / [MM]
 - 3) LEFT HAND DOOR IS SHOWN
 - 4) CAUTION: SEX NUTS ARE REQUIRED FOR ATTACHMENT OF COMPONENTS TO UNREINFORCED DOORS AND TO WOOD OR PLASTIC FACE COMPOSITE TYPE FIRE DOORS, UNLESS AN ALTERNATIVE METHOD IS IDENTIFIED IN THE INDIVIDUAL DOOR MANUFACTURER'S LISTINGS.
 - 5) SPECIAL TOP JAMB ARM REQUIRED FOR DEEPER REVEALS, SEE CATALOG FOR ARM No.

**DOOR CLOSER MODELS:
1816 HJ, 1816 SFJ, 1816 HJ SD, 1816 SFJ SD
TOP JAMB INSTALLATION (PUSH SIDE MOUNT)**



DORMA Architectural Hardware
Reamstown, PA 17567



- NOTES:
 1) DO NOT SCALE THIS DRAWING
 2) DIMENSIONS ARE IN INCHES / [MM]
 3) LEFT HAND DOOR IS SHOWN
 4) CAUTION: SEX NUTS ARE REQUIRED FOR ATTACHMENT OF COMPONENTS TO UNREINFORCED DOORS AND TO WOOD OR PLASTIC FACE COMPOSITE TYPE FIRE DOORS, UNLESS AN ALTERNATIVE METHOD IS IDENTIFIED IN THE INDIVIDUAL DOOR MANUFACTURER'S LISTINGS.
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