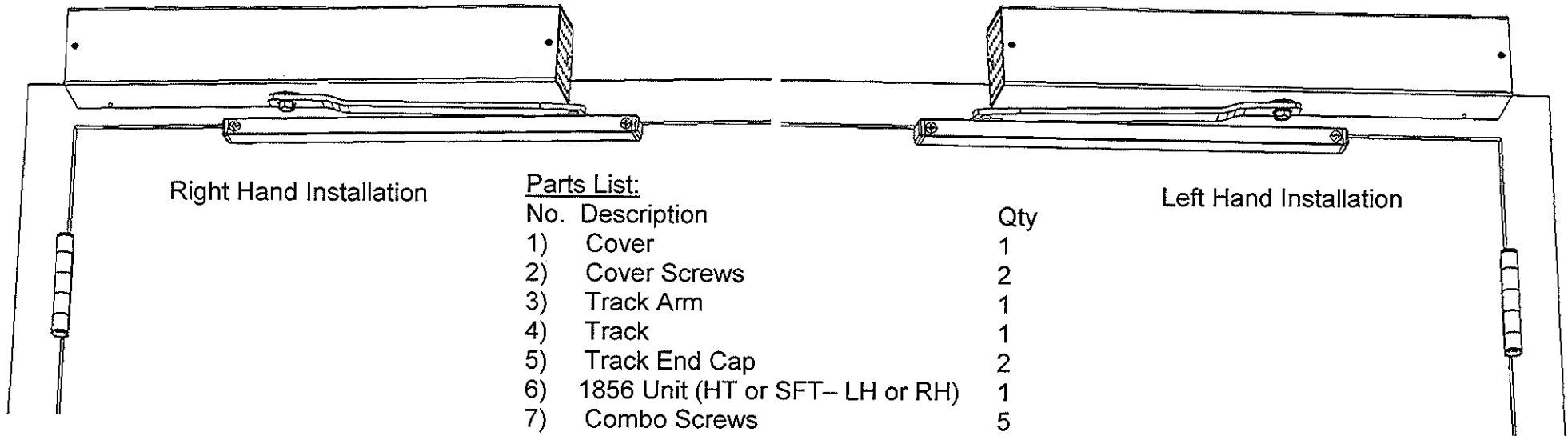


1856 HT, 1856 SFT,  
 1856 HT < 2" Fame Face,  
 1856 SFT < 2" Fame Face

# INSTRUCTIONS



DORMA Architectural Hardware  
 Reamstown, PA 17567



Parts List:

No.	Description	Qty
1)	Cover	1
2)	Cover Screws	2
3)	Track Arm	1
4)	Track	1
5)	Track End Cap	2
6)	1856 Unit (HT or SFT- LH or RH)	1
7)	Combo Screws	5
8)	Track Flat Head Wood Screw	2
8)	Track Flat Head Machine Screw	2
9)	Hex Wshr Head Screw (HT ONLY)	1
10)	Rubber Stop	1

Swing Free Unit Only:

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

## General Description

Each 1856 HT & 1856 SFT 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

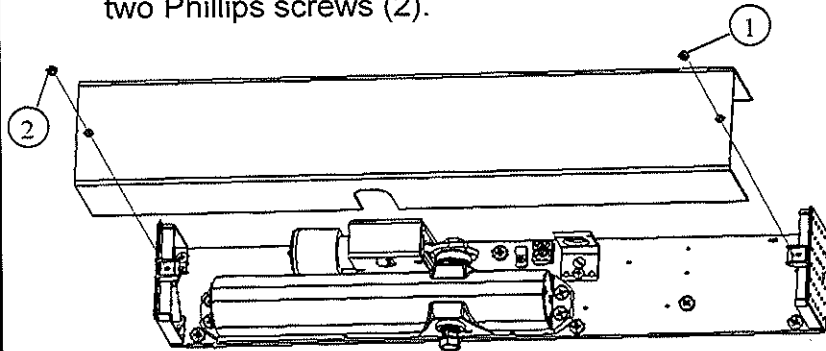
5mm Hex Wrench



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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 per your application.

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



### Technical Notes:

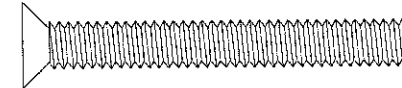
CAUTION: Sex nuts are required for attachment of components to unreinforced, wood or plastic faced composite type fire doors, unless an alternative method is identified in the individual door manufacturer's listings. Make sure door efficiently operates prior to installing the closer. When installing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

Wood Screw x2



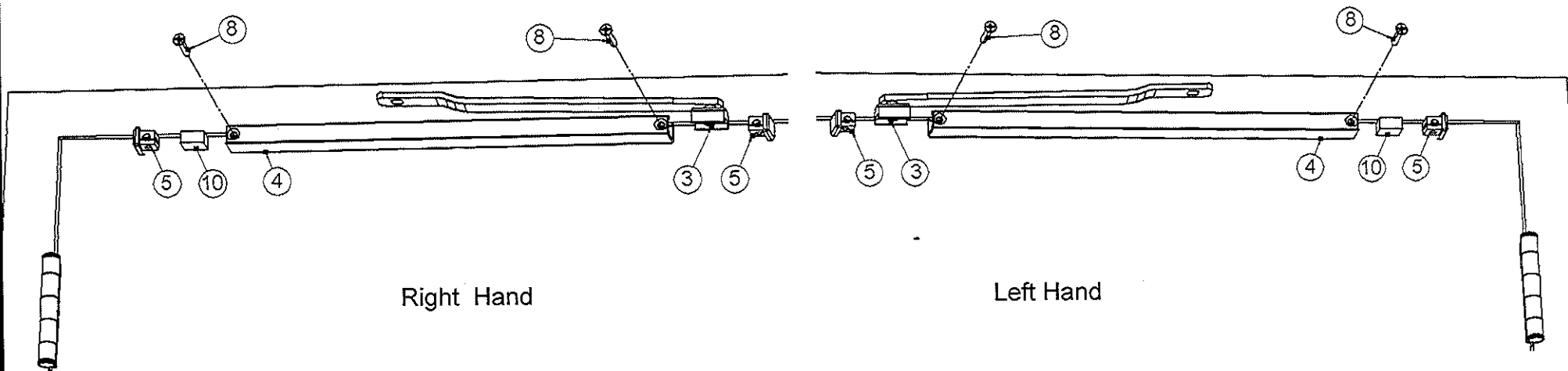
Machine Screw x2

8



## 2 Mount Track

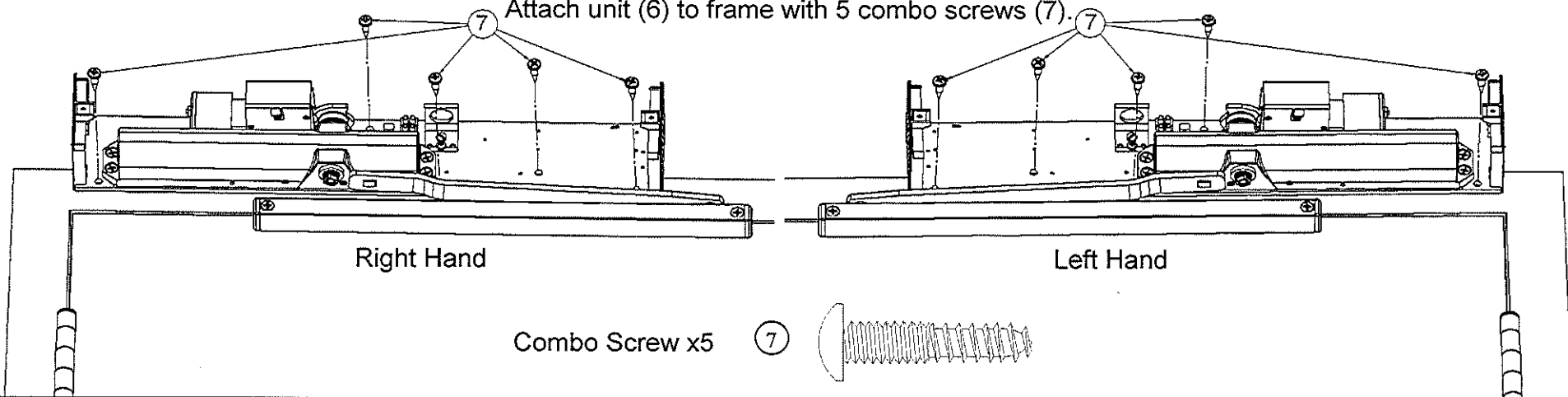
Prepare door and frame using the template provide in the back of the instructions. Mount the track (4) by inserting the rubber block (10) in to the track. Insert the track arm (3) into the track. Insert 2 end caps (5) into both ends of the track. Attach track to the door by fastening track screws (8) tightly and securely.





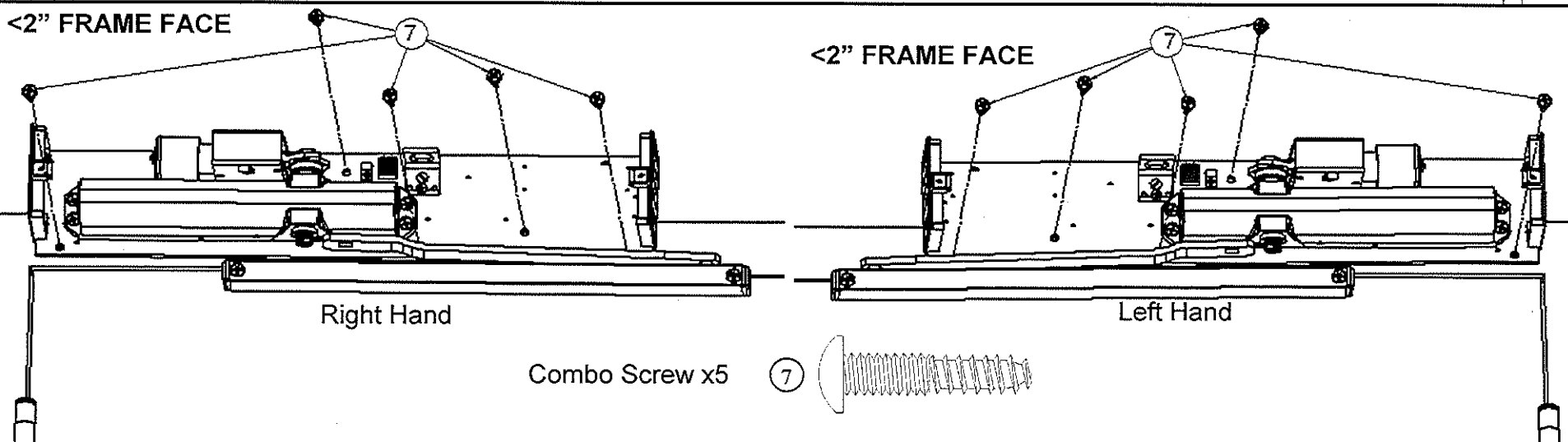
**3 TRACK MOUNT HT** Prepare door and frame using the template provided in the back of the instructions.

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



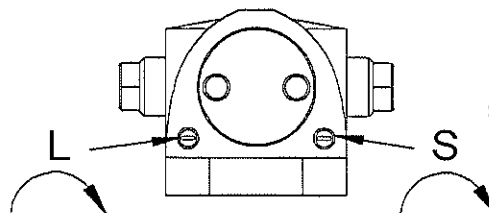
**<2" FRAME FACE**

**<2" FRAME FACE**



**4 ARM ATTACHMENT TO PINION**

Turn sweep and latch valve clockwise until snug (closed).



Note: This step will keep the pinion square from rotating while you are attaching the track arm or swing free sweep arm.

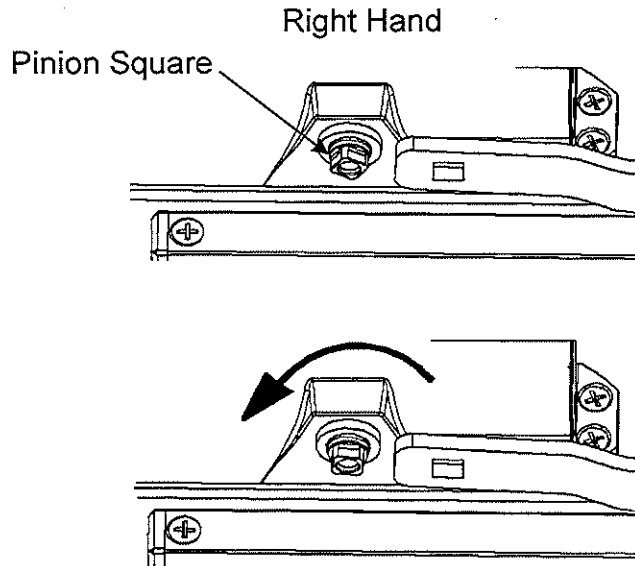
## ELECTIRCAL SPECIFICATIONS \*

Voltage input 24VAC, 24VDC or 120VAC +10% -15%

Amperage draw for on solenoid: 24VDC - .150A, 24VAC - .185A, 120VAC - .04A

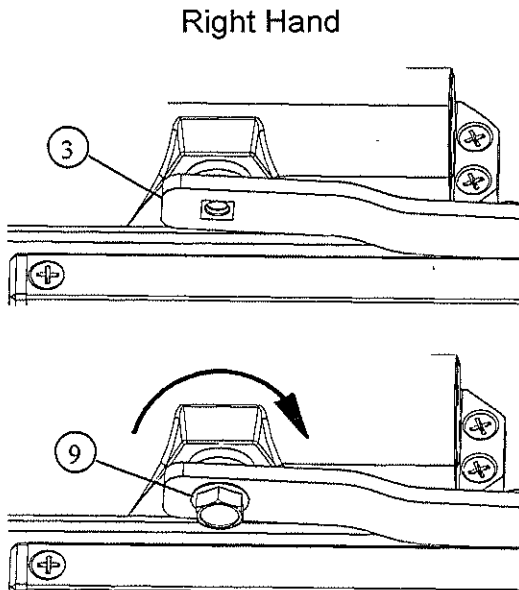
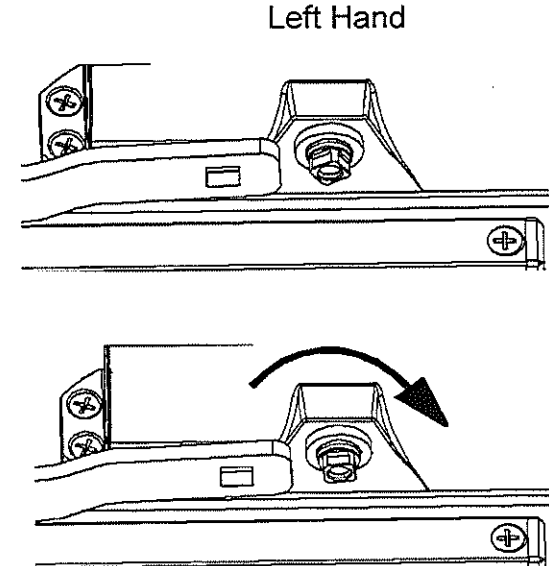


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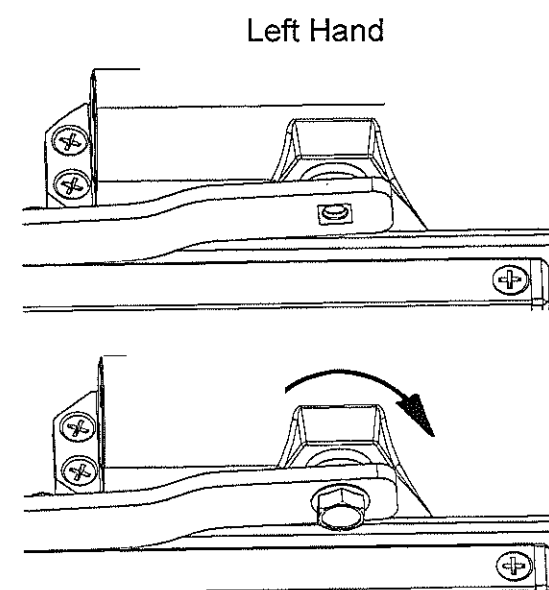
### 5 Pinion Preload

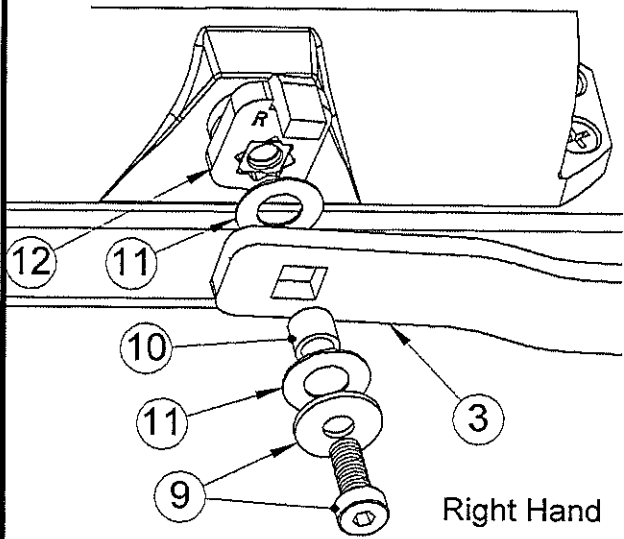
With the door closed, place wrench on pinion square and rotate as shown until it aligns with the square hole in the arm (approx. 45 degrees).



### 6A Hold Open Track Mount

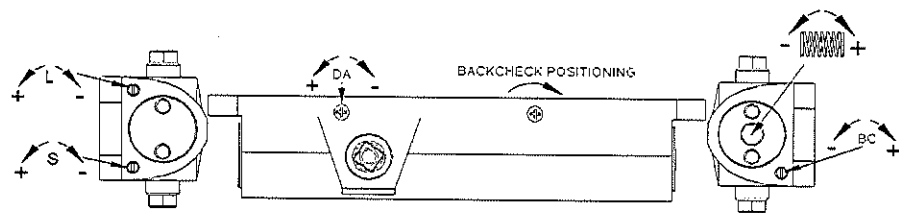
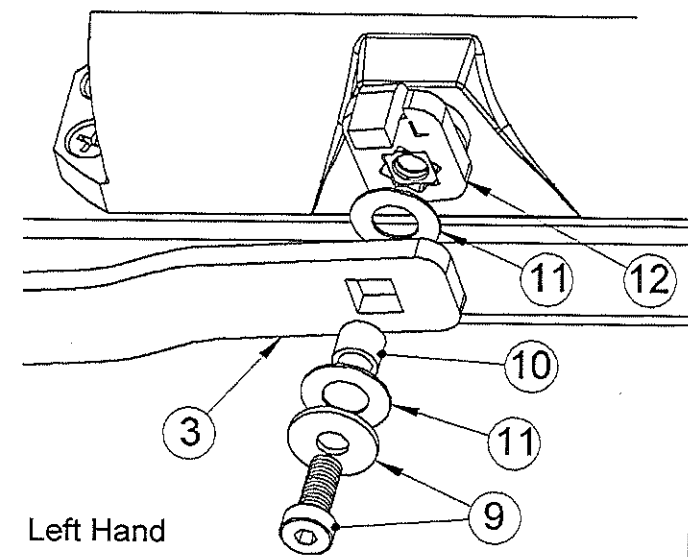
Attach main arm (3) to pinion square, secure with hex head washer screw (9) tightly.





**6B** Swing Free Mount

After rotating the pinion square, attach sweep arm (12) to pinion square as shown. Insert bushing (10) into track arm's (3) square hole, apply two anti-friction washers (11) on both sides of the track arm, secure tightly with socket head cap screw and washer (9).



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

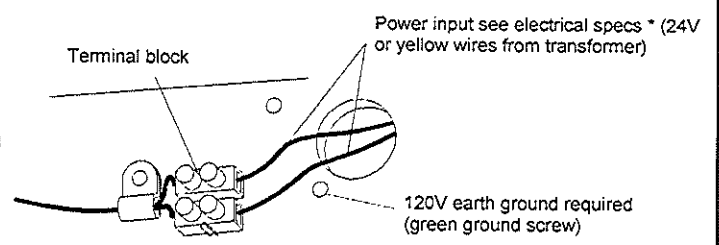
**7** Performance Adjustments:

- 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 "position" valve in the "on" position (fully clockwise).
- Check delay action (D) function if supplied.
- Ball bearing hinges or pivots should always be used.

**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.



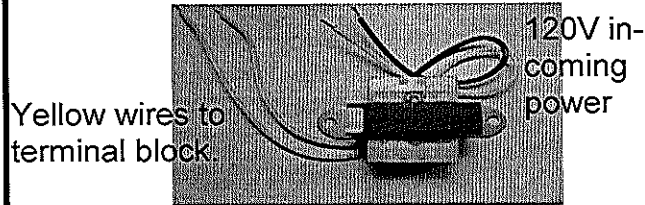
# IMPORTANT!!!

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.

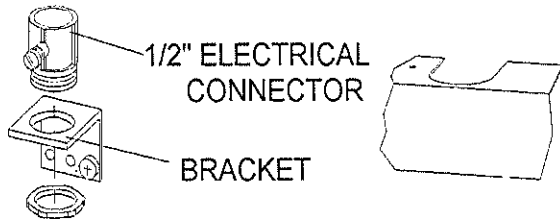


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## 8A 120V Transformer

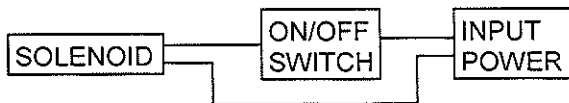


## 8B Optional Surface Wiring



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

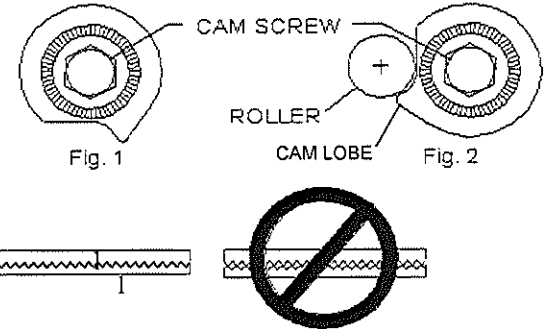


1. Wire ON/OFF switch as shown above.
2. Push button will cut power to the hold open solenoid and the door will close.
3. Pushing button a second time will engage power to the hold open solenoid allowing the door to be held open.
4. The push button is accessible by inserting a small cylindrical object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

9

## Set Hold Open Position:

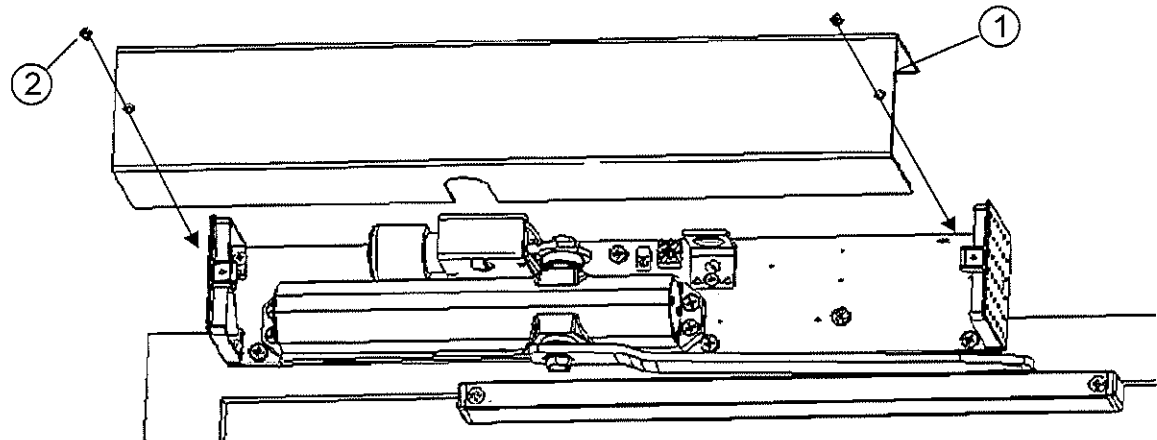
1. Open the door to factory preset hold open position at approximately 90 degrees.
2. Loosen cam screw so the cam moves freely. (Fig. 1)
3. Move door to the required hold open position.
4. Turn cam so that the cam lobe is resting against the roller in the plunger. Tighten cam screw securely. (Fig. 2)



**CAUTION:** Be sure cam teeth mesh with mating part

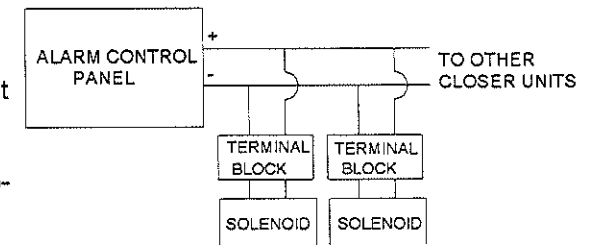
10

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



## 8D Optional Companion Unit

**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 switch 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.

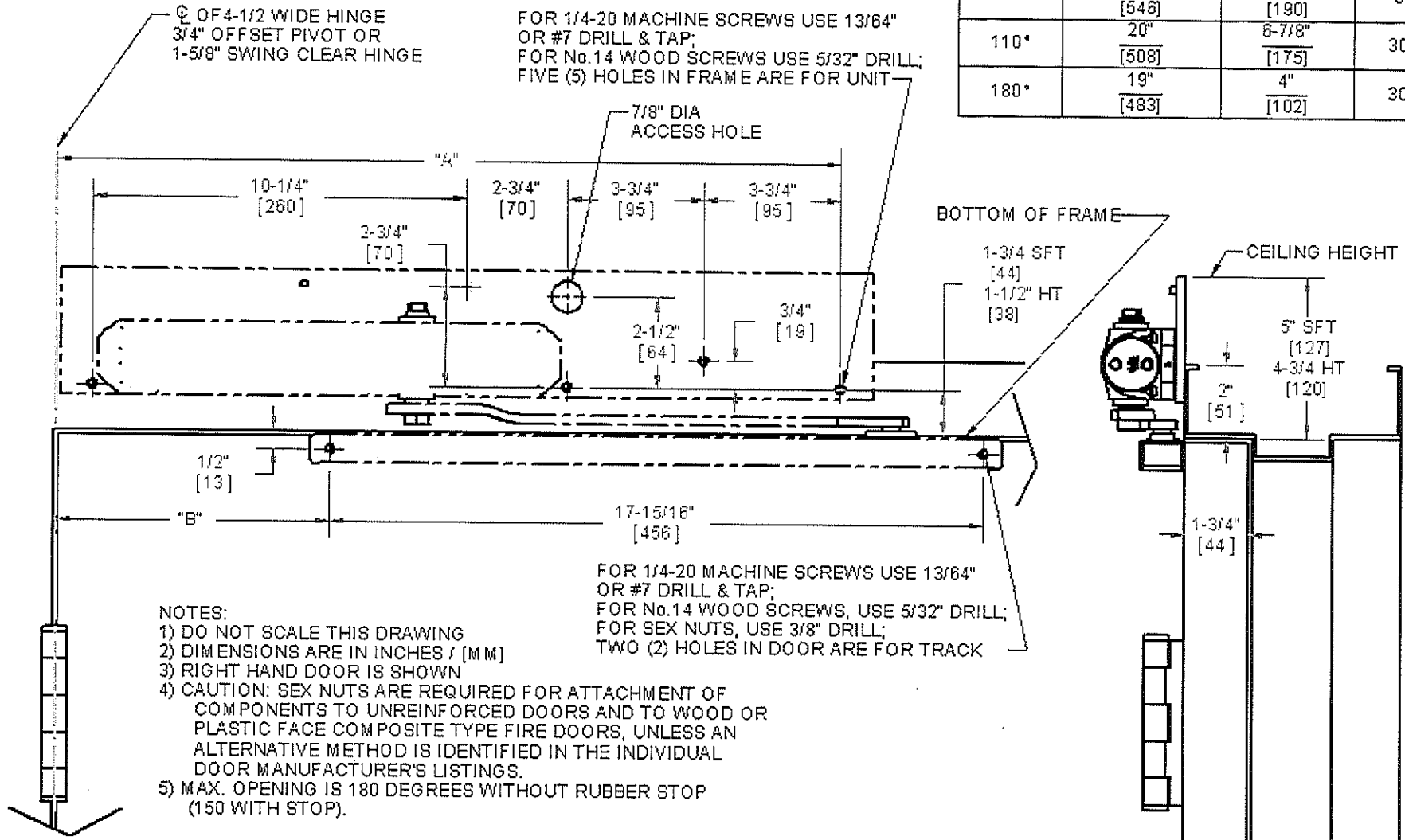


**DOOR CLOSER MODELS: 8656 HT, 1856 SFT, 1856 HT SD, 1856 SFT SD  
TRACK INSTALLATION (PULL SIDE MOUNT- RIGHT HAND DOOR)**



DORMA Architectural Hardware  
Reamstown, PA 17567

ANGLE OF OPENING	DIM "A" (CLOSER)	DIM "B" (ARM SHOE)	HOLD OPEN RANGE
85°	21-1/2" [548]	8-5/8" [219]	30-83°
90°	21-1/2" [548]	7-1/2" [190]	30-88°
110°	20" [508]	6-7/8" [175]	30-108°
180°	19" [483]	4" [102]	30-160°



- NOTES:**
- DO NOT SCALE THIS DRAWING
  - DIMENSIONS ARE IN INCHES / [MM]
  - RIGHT HAND DOOR IS SHOWN
  - 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.
  - MAX. OPENING IS 180 DEGREES WITHOUT RUBBER STOP (150 WITH STOP).

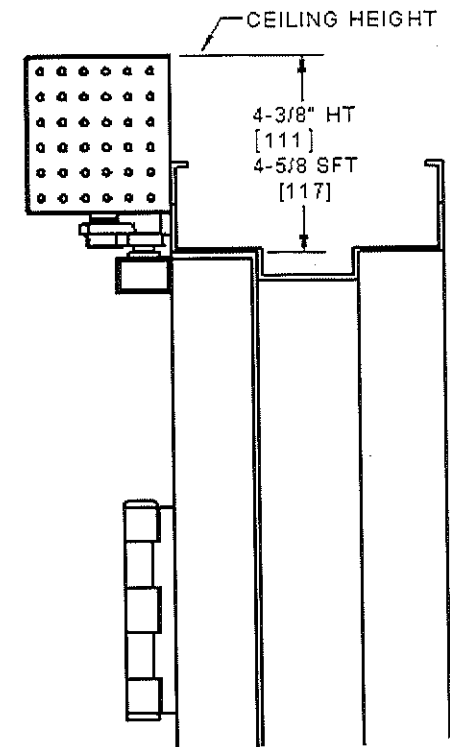
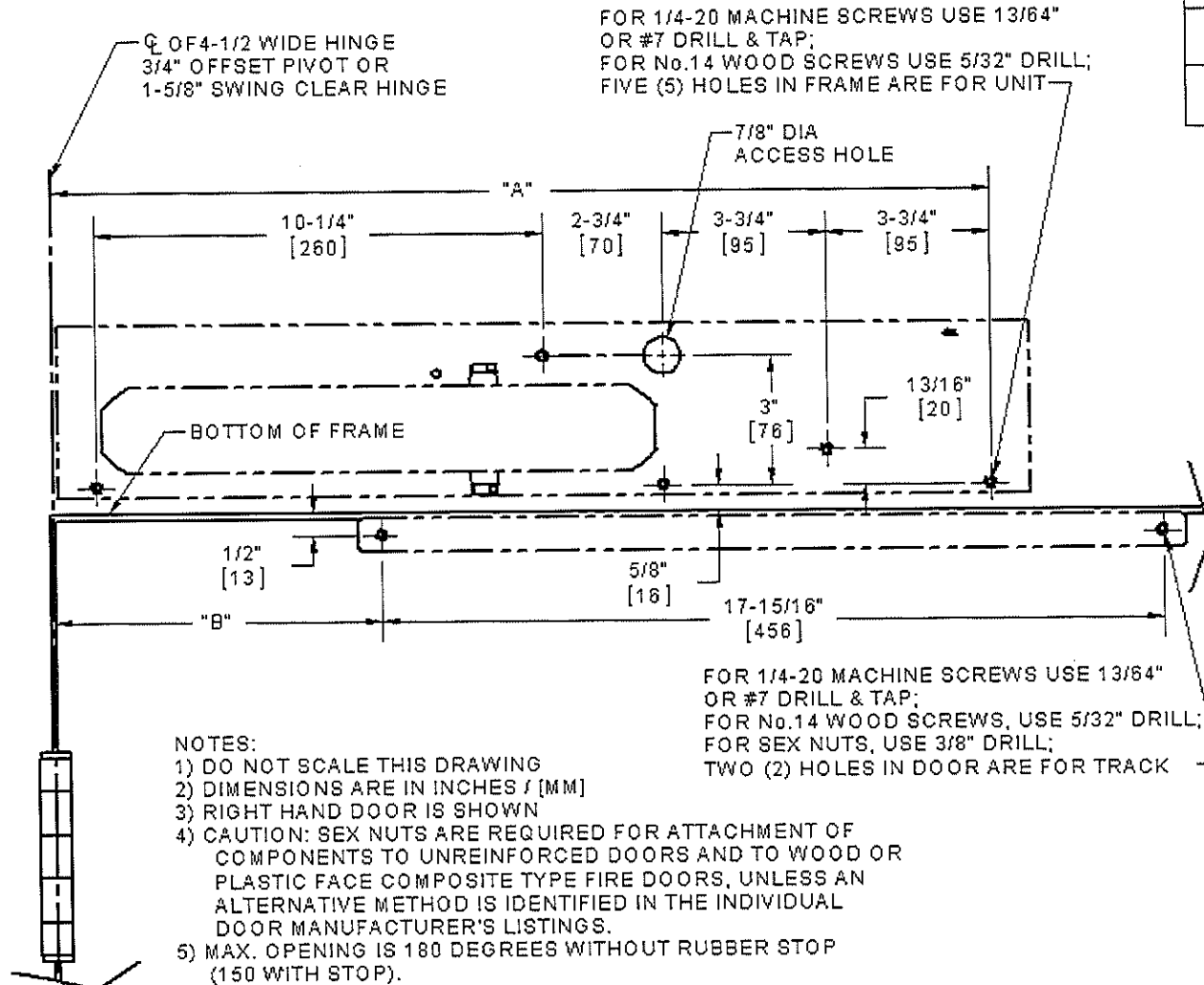
Always consult DORMA's web site for latest template at [www.dorma-usa.com](http://www.dorma-usa.com) or call 1-800-523-8483.

**DOOR CLOSER MODELS: 8656 HT, 1856 SFT Less than 2" frame face**  
**1856 HT SD, 1856 SFT SD Less than 2" frame face**  
**TRACK INSTALLATION (PULL SIDE MOUNT - RIGHT HAND DOOR)**



DORMA Architectural Hardware  
 Reamstown, PA 17567

ANGLE OF OPENING	DIM "A" (UNIT)	DIM "B" (TRACK)	HOLD OPEN RANGE
85°	21-1/2 [546]	8-5/8" [219]	30-83°
90°	21-1/2" [546]	7-1/2" [190]	30-88°
110°	20" [508]	6-7/8" [175]	30-108°
180°	19" [483]	4" [102]	30-160°



Always consult DORMA's web site for latest template at [www.dorma-usa.com](http://www.dorma-usa.com) or call 1-800-523-8483.