**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.
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).

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) into 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.

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 manufacture'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
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).

Right Hand

Left Hand

Combo Screw x5

<2” FRAME FACE

Right Hand

Left Hand

Combo Screw x5

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

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 pin on 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).

**Right Hand**

**Left Hand**

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**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.

---

**Table**

<table>
<thead>
<tr>
<th>Door Width</th>
<th>Adjuster Full Turns</th>
<th>Spring Size</th>
<th>ANCO Spring Size</th>
<th>UL2 Listed Units Only Max. Door Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exterior</td>
<td>Interior</td>
<td></td>
<td>Spring Size</td>
<td></td>
</tr>
<tr>
<td>3'-6&quot; (762)</td>
<td>3'-6&quot; (814)</td>
<td>-9</td>
<td>5</td>
<td>120</td>
</tr>
<tr>
<td>3'-6&quot; (914)</td>
<td>3'-6&quot; (1067)</td>
<td>0</td>
<td>6</td>
<td>150</td>
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</tbody>
</table>
### 8A 120V Transformer

Yellow wires to terminal block.

### 8B Optional Surface Wiring

1/2" ELECTRICAL CONNECTOR

BRACKET

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

Solenoid

ON/OFF SWITCH

INPUT POWER

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.

### 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.

---

**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.

---

**Attach the cover (1) by securing the two cover screws (2).**
DOOR CLOSER MODELS: 8566 HT, 1856 SFT, 1856 HT SD, 1856 SFT SD
TRACK INSTALLATION (PULL SIDE MOUNT - RIGHT HAND DOOR)

% OF 4-1/2 WIDE HINGE
3/4" OFFSET PIVOT OR
1-5/8" SWING CLEAR HINGE

FOR 1/4-20 MACHINE SCREWS USE 13/64"
OR #7 DRILL & TAP
FOR NO.14 WOOD SCREWS USE 5/32" DRILL;
FIVE (5) HOLES IN FRAME ARE FOR UNIT

7/8" DIA. ACCESS HOLE

1/2" [13]
2-1/2" [64]
3/4" [19]

1-3/4" SFT [44]
1-1/2" HT [36]

5 SFT [127]
4-3/4 HT [120]

NOTES:
1) DO NOT SCALE THIS DRAWING
2) DIMENSIONS ARE IN INCHES / [MM]
3) RIGHT HAND DOOR IS SHOWN
4) CAUTION: SPLAY 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) 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 or call 1-800-523-8483.

INS NO: 06280001 PAGE: 7 of 8 REV 11/10
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
Ramstown, PA 17067

<table>
<thead>
<tr>
<th>ANGLE OF OPENING</th>
<th>DIM &quot;A&quot; (UNIT)</th>
<th>DIM &quot;B&quot; (TRACK)</th>
<th>HOLD OPEN RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>90°</td>
<td>21-1/2&quot;</td>
<td>8-5/8&quot;</td>
<td>30-83°</td>
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<tr>
<td></td>
<td>[548]</td>
<td>[219]</td>
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<tr>
<td>110°</td>
<td>21-1/2&quot;</td>
<td>7-1/2&quot;</td>
<td>30-88°</td>
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<tr>
<td></td>
<td>[548]</td>
<td>[190]</td>
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<tr>
<td>180°</td>
<td>18&quot;</td>
<td>4&quot;</td>
<td>30-180°</td>
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<tr>
<td></td>
<td>[483]</td>
<td>[102]</td>
<td></td>
</tr>
</tbody>
</table>

Q. OF 4-1/2 WIDE HINGE
3/4" OFFSET PIVOT OR
1-5/8" SWING CLEAR HINGE

FOR 1/4-20 MACHINE SCREWS USE 13/64"
OR #7 DRILL & TAP;
FOR 1/4 WOOD SCREWS USE 5/32" DRILL;
FIVE (5) HOLES IN FRAME ARE FOR UNIT

10-1/4"   2-3/4"   3-3/4"   3-3/4"
[260]     [76]     [95]     [95]

BOTTOM OF FRAME

3"   13/16"   11/2"   5/8"
[76]   [20]   [13]   [16]

FOR 1/4-20 MACHINE SCREWS USE 13/64"
OR #7 DRILL & TAP;
FOR 1/4 WOOD SCREWS, USE 5/32" DRILL;
FOR SECE NUTS, USE 3/8" DRILL;
TWO (2) HOLES IN DOOR ARE FOR TRACK

NOTES:
1) DO NOT SCALE THIS DRAWING
2) DIMENSIONS ARE IN INCHES / [MM]
3) RIGHT HAND DOOR IS SHOWN
4) CAUTION: SECE 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
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