CONCEALED VERTICAL ROD EXIT DEVICE

Index:
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- "03" Additional door prep: 4
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- Final rod adjustment: 13
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- Wood door preparation: 17
- 5100 retro-fit preparation: 18
- Metal edge guard: 19
- Spotting template: 20

Note: One set of instructions should be left with the building owner after the device has been installed.
### Screw Chart

<table>
<thead>
<tr>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) 12-24 x 1 1/2&quot; F.H.P.M.S. (Metal or thru bolts)</td>
</tr>
<tr>
<td>(2) #12 x 1 1/4&quot; F.H.P.T.S. (Wood door)</td>
</tr>
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<td>(2) 12-24 x 1&quot; R.H.P.M.S. (Metal or thru Bolts)</td>
</tr>
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<td>(2) #12 x 1 1/4&quot; R.H.P.T.S. (Wood door)</td>
</tr>
<tr>
<td>(12) 8-32 x 1/4&quot; F.H.P.M.S.</td>
</tr>
<tr>
<td>Optional: &quot;ALD&quot; Mounting Bracket (2)</td>
</tr>
<tr>
<td>(Medium Stile Aluminum Doors)</td>
</tr>
<tr>
<td>(4) 10-32 x 1/4&quot; F.H.P.M.S. (Aluminum)</td>
</tr>
<tr>
<td>(12) #10 x 1&quot; F.H.P.T.S. (Wood door)</td>
</tr>
<tr>
<td>(12) 10-32 x 3/8&quot; F.H.P.M.S. (Metal door)</td>
</tr>
<tr>
<td>(2) 3/32 x 10-32 x 1/2&quot; Allen Head (wrench supplied)</td>
</tr>
<tr>
<td>(2) Rod retaining clips</td>
</tr>
<tr>
<td>(2) 10-32 x 3/8&quot; F.H.P.M.S.</td>
</tr>
<tr>
<td>#439 Bottom strike (cement or grout in place)</td>
</tr>
<tr>
<td>(6) 8-32 x 1/4&quot; F.H.P.M.S.</td>
</tr>
</tbody>
</table>
Read the entire instruction sheet prior to installation. 

Before Installing Hardware:

1. Verify door width, handing and product with carton label for correct exit device and length. (See Step 9)
2. For hand reversal of chassis see page 6, for outside lever trim see page (3).
3. For less bottom rod device, delete bottom latch installation steps.
4. Device installation and preliminary adjustments should be made prior to hanging door.

Note: Less bottom rod device is not recommended where security is a primary concern.

Note: If device is to be installed over glass lite panels, shim kit may be required, order GK9200.

**TYPICAL APPLICATIONS**

**SPECIAL TOOLS FOR INSTALLATION**

12-24 Tap, 10-32 Tap
Drill bits: 1/8”, 3/8”, #25, #16, #21
Hole saw 1 1/4” diameter for trim (if required) or jig saw.
5/32” Allen wrench for lever trim.
3/32” Allen wrench (supplied)
All trims are free wheeling. (Handle will rotate when locked.)

**IMPORTANT**

Note: All lever handles except for "clutch" are shipped unattached. To install, **Place handle in desired position and attach with allen screw located in back of trim plate.** 5/32" Allen wrench required.
To change hand on "clutch" trim rotate and "break" lever around to desired hand.

Key removed.

For functions "09" & "12" operation a **DORMA #09** cam is required. Remove key, install cylinder as shown then cam as shown, legs of cam stradle actuator.

Conventional 1 1/8" rim cylinder #80R20SC with tail piece, keyed differently to a random combination supplied with functions "03" & "04" trim unless otherwise noted.

Conventional 1 1/8" mortise cylinder #90X13SC118 supplied with DORMA #13 cam, keyed differently to a random combination supplied with functions "08" & "11" trim unless otherwise noted.
9600/F9600
Concealed Vertical Rod Exit Device
RHR Shown
LHR Opposite
Required for "03" & "04" function on device
with cylinder only and no trim.
(NOT TO SCALE)

NOTE: "04" function not available on fire rate device.
"Fire rated devices can not be dogged."

(SEE STEP 2)

VERTICAL REF. LINE
(CENTERLINE OF CHASSIS)

EDGE OF STOP OR MULLION

VERTICAL REF. LINE
(CENTERLINE OF CHASSIS)

NOTE: If using 80CK cylinder adapter kit with trim; hole diameter required is 1 3/8".

1 3/16" DIA. HOLE
(TRIM SIDE ONLY)

1/4"

HORIZONTAL REF. LINE

INSIDE FACE OF DOOR
(DEVICE SIDE)

OUTSIDE FACE OF DOOR
(TRIM SIDE)

7/32" DIA. HOLE
Cylinder (2) PLACES

13/16"

3/8" DIA. HOLE
(DEVICE SIDE ONLY)

1/4"

IMPORTANT NOTE:
Hole dimensions may vary, when using cylinder by other manufacturer's use backplate supplied with cylinder as drilling template.

NOTE: "04" function not available on fire rate device.
"Fire rated devices can not be dogged."
With door lying on saw horses, open box, layout all parts and verify prior to starting installation. See page (1) one for parts.

Note: If this is a retro-fit from current 5100 see page 18 prior to proceeding.

Door preparation

Chassis vertical ref. line

40 5/16" Finished floor

Chassis horizontal ref. line

Based on 1/2" threshold and 3/16" clearance between threshold and door after door is hung.

Typical pair of doors

Chassis template located at rear of booklet. Cut and tape in place. Lay out horizontal and vertical reference lines.

Backset or vertical reference is measured from outer edge of door as shown. Minimum stile is less glass stop.

Vert. ref. Vert. ref.

Min. Stile Min. Stile

Rounded edge door Beveled edge door

Note: On narrow stile, vertical center line of chassis may not be on same center line as latch.

<table>
<thead>
<tr>
<th>Type of installation</th>
<th>Minimum vertical ref. of chassis</th>
<th>Minimum Stile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single door 1/2&quot; blade stop</td>
<td>1 1/4&quot;</td>
<td>2 1/16&quot; 2 5/16&quot;</td>
</tr>
<tr>
<td>Pairs and double egress</td>
<td>1 1/4&quot;</td>
<td>2 1/8&quot;</td>
</tr>
<tr>
<td>Fire rated &amp; wood door</td>
<td>2&quot;</td>
<td>2 5/8&quot; 2 7/8&quot;</td>
</tr>
</tbody>
</table>

Note: Metal edge may be required on fire door applications.

Latch case prep (Top & Bottom)

Panic device (aluminum door)
If not done layout device on door using drilling template T9600 located at rear of booklet. For additional templates contact DORMA at 1-800-523-8483 or www.dorma-usa.com

Refer to carton label for model and trim number prior to drilling. Prepare mounting holes and cut-outs per template.

3

VERTICAL REF. LINE
(See Backsets on page 5.)

HORIZONTAL REF. LINE

Verify all holes prior to drilling.

3/8"
No. 16
No. 25

4

Hand reversal of chassis. Follow steps in alphabetical sequence.

DISASSEMBLE
RHR
(Right Hand Reverse)

REASSEMBLE
LHR
(Left Hand Reverse)

Rotate chassis 180 Degrees
d

Remove parts

NOTE:
Longer leg down.

Reinstall parts

3 1/2"

Refer to carton label for model and trim number prior to drilling.
Prepare mounting holes and cut-outs per template.
Assemble rods, latches and adjust to preliminary length.

Standard (NS) Narrow stile aluminum door mounting bracket (installed at factory).

Required for: "LBR" (less bottom rod) fire rated exit devices. See additional instructions packaged with "Popper" for details.

Top and bottom rods and latches are shipped unassembled and are adjustable for door opening heights ranging from 6' 8" to 8' 0" and will fit up to a 10' 0" door opening with the addition of a 2 foot top rod extension (ETR). Follow instructions on page to assemble the latch and rod assemblies.

"Standard" (NS) Narrow stile brackets are pre-assembled in the top and bottom latch cases. Optional: Angle brackets are available for steel and wood door application, and are "required" for all fire rated applications, install as shown with proper fasteners.

Holes in outer rod are at 1/2" intervals and holes in inner rod are at 2" intervals for door openings under or over 7" (instructions are for 7" door opening and standard mounting height).

For all other door sizes, see rod adjustment chart. Slide inner rod assemblies into outer rods, locate proper holes and insert rod retainer clip by: inserting through both rods, rotating it and locking it in place as shown.

For "LBR" less bottom rod device skip bottom rod and latch assembly instructions.

Additional "Popper" required for "LBR" fire rated openings. See details to left.

Optional: "ALD" bracket

Optional: "WD" "L" shaped mounting brackets for steel and wood door applications and all fire doors.

NOTE: requires a new top fire latch assembly as well. Secure to latch using (6) 8-32 x 1/4" F.H.P.M.S.
Install rods in door and chassis as shown.

Fire Rated Devices Require (2) "WD" "L" Shaped Brackets.

Pivot connecting links down as shown and slide latch assemblies into door.

As linkages reach cut outs in door guide them through as shown;

"Loosen only"; (2) two 3/32" Allen head locking screws using Allen wrench supplied, remove two adjusting screws shown.

Chassis Assembly

3/32" Allen wrench (supplied)

Asm. heads only.

For 3 1/2" stiles or less on aluminum doors, place shim under chassis prior to mounting on door. (Finished side to outside face.)

Place shim on door as shown (polished side facing outside) aligning holes and cut outs as required with holes and cut outs in door. Then place chassis on door allowing connecting links to extend through shim and into bellcrank of chassis as shown. NOTE: Connecting link brackets should straddle mounting screws, shaft of thru-bolts, or stand-offs of trim as device is secured to door. See detail to right.

Secure chassis and latches to door as shown.

Note: Top latch fully extended and dead locked.

Metal - (2) 12-24 x 1 1/2" F.H.P.M.S.
Wood - (2) #12 x 1 1/4" F.H.P.T.S.
(For other options; trim, thru bolts, etc. see below.)

(4) 10-32 x 1/4" F.H.P.H.M.S.
(Do not use any other screw.)

Optional mounting

Optional: "WD" (steel, wood & fire applications).

Attached "L" shaped mounting brackets to latch and install in door with proper fasteners as shown.

Steel - (6) 10-32 x 3/8" F.H.P.M.S.
Wood - (6) #10 x 1" F.H.P.T.S.
Install adjusting screws and connecting links to chassis.

Top latch bolt should be fully extended and dead locked. Bell crank should be in full down position (home position).
Connecting links should be about in center of cut out in bell crank.
Install top and bottom adjusting screws (b) through both bell crank and connecting link arms; bottom of adjusting screw head should bottom out on bell crank.
Tighten Allen head locking screws with (supplied) 3/32” Allen wrench.
Both top and bottom connecting links should be 90 degrees to chassis.

NOTE: If chassis is being installed with outside trim, ensure spindle of trim engages with cross hairs of cam located in rear of chassis.

Prepare to install touch bar and rail on door.

NOTE: All dimensions are based on 1/2” stop height; Verify strikes, stile width, any trim and stop height prior to making any cuts. If cutting is required follow instructions below.

Size AA:
Fits 48” door opening without cutting.
Can be cut to fit a 32 1/2” minimum door opening.

Size BB:
Fits 36” door opening without cutting.
Can be cut to fit a 26 1/2” minimum door opening.

Size CC:
Fits 36” door opening with out cutting.
Using a shorter touch pad then the standard “BB” size allows it to be cut to 23 1/2” door opening.

Verify device length with box label; “AA”, “BB” or “CC”, ie. 9600BB

Example:

36° Door opening
Apx. 1/4”-3/16”

Standard “BB” touch bar and rail 31 1/2”

Note: If door opening width is less then standard touch bar will have to be cut down. ie: door opening width 34” subtract 2” from rear of touch bar and rail, tape and cut to length as shown.

IMPORTANT
Use caution when cutting touchbar and rail to size on models with “ES”, “MS”, “LM” or “DWA” prefix options. These units contain internal wiring.
For models with prefix options “BPA”, “BPAR” or “DE” remove filler containing electronics before cutting.
10 Hang door in opening and ensure that it is square and plumb.

11 Install touch bar and rail assembly and end cap to door.

Remove two 8-32 screws from chassis, slide touch bar and rail assembly under rear of chassis. **Note:** If device has prefix "ES" ensure that pins in lever bolt align with slots in actuator located inside nose of touch bar. See instruction sheet IES-7 packed with device. Install (2) two 8-32 x 3/8" P.H.P.M.S. to secure touchbar to chassis.

Hold rear mounting bracket tightly against door and rear of rail. Mark (2) two holes and drill per chart. Secure with proper fasteners.

**NOTE:** If carton label list prefix; "ES", "MS", "LM", "BPA", "BPAR", "DWA", "LM/MS/BP" or "CD" prefix see Options pages at rear.

12 Install top strike in frame.

#418 Strike

(2) 10-32 x 3/8" F.H.P.M.S.

Optional: #419 Strike
(wood jamb)

(2) #10 x 1" F.H.P.T.S.

See "Frame Preparation" on page 11 for cut out and holes.

13 Install bottom strike in floor or threshold.

See page 12 for additional mounting and optional strikes.

#439 Strike

Finished floor or top of threshold

3/16" Ref.

Drill 13/16" dia. hole x 1" in depth.

1" from inside face of door.
FRAME PREPARATION

Reinforcement

1 1/2"

3/4"

13/16"

1 5/8"

19/32" 1 3/16"

2"

Cut out dimensions

See chart; For narrow stile 1 1/32" reference.

1/8"

Note: On 2" stile or less vertical center line of chassis is not on same center line as latch. Refer to page 5 details.

Type of installation

<table>
<thead>
<tr>
<th>Minimum vertical ref. of chassis</th>
<th>Minimum Stile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pull only</td>
<td>&quot;Z&quot; trim</td>
</tr>
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<td>Fire rated &amp; wood door</td>
<td>2&quot; 2 5/8&quot; 2 7/8&quot;</td>
</tr>
</tbody>
</table>

Note: Metal edge may be required on fire door applications.

Optional prep for No. 419 top strike in wood frame

Wood jamb 1/2"

Top edge of stop

Note: 1/2" x 2" x 1/16" Cut out in stop.

15/16" Edge of stop

Note: Metal edge may be required on fire door applications.
For surface strike drill (2) 5/16" dia. holes, x 1" in depth for lead anchors. Secure with (2) #12 x 1" F.H.P.T.S.

Note: Drill 5/8" dia. hole 1/2" deep min.

Optional pullman latch No. 431 strike installation

Note: 1 5/16" min. to 1 5/8" max. square cut out for recessed strike 1" in depth.

Optional slide bolt No. 340 strike installation
Adjustment of rods.

A. Block open door and release top latch bolt as shown. Top latch should be fully extend and dead latched as shown.

Note: "Cutouts" shown for clarity, not required.

B. Check for dead lock by attempting to push downward on top latch bolt (it should not push in). If dead locked secure by tightening locking 3/32" Allen locking screw. If it can be pushed in adjust rods per step below.

C. Loosen top 3/32" Allen head screw. Secure by tightening top locking screw once dead lock is achieved, ensure that point of locking screw sits in groove of adjusting screw.

D. Depress and hold touch bar. Push in on tripping lever and check position of top latch bolt. It should be flush to slightly depressed in top latch bracket.

E. Release tripping lever and touch bar, top latch should remain in retracted position.

F. With top latch held retracted, adjust bottom rod so slide bolt is flush across bottom of latch bracket and clears threshold, floor and strike. Ensure bottom adjusting screw is flush up against bottom of bell-crank. Held in position by locking screw. Use bottom adjusting screw; follow same steps as above for adjusting top latch bolt. Secure 3/32" Allen screw.

G. Standing on inside, close door and check that top and bottom latch bolts align and engage in top and bottom strikes.

H. After rods are fully adjusted ensure that top and bottom locking screws are tight.

I. Check device operation by opening and closing door several times from inside. Check and operate outside trim if installed.

Repeat adjustment procedure if:

J. Install end cap and center case covers.

K. Standard hex key dogging, depress touch bar insert supplied hex key and rotate clockwise to dog and counter clockwise to undog.

Top latch is not held retracted
Bottom slide bolt does not clear strike or floor.
Latches do not work properly with outside trim

Note: "Cutouts" shown for clarity, not required.

Slide bolt clears strike

Flush
OPTIONS

"CD" (CYLINDER DOGGING) OPTION:
Cylinder dogging installation instructions & cylinder specifications.

NOTE: Touch bar must be in dogged down position, to remove the rear filler panel.

Note: DORMA mortise cylinder supplied. To use other manufacture cylinders, "L" less cylinder is available.

Useable Cams
Arrow 001
Assa Std. (Yale)
Best C136
Corbin A02
Falcon 12667-3
DORMA 10
Ilco/Unican SC1
Lori SC1 4200-82-2002 Std.
Sargent 13-0664 or 13-0660
Schlage 001
Yale 2160

"BPA" & "BPAR" (ALARM) OPTION:
FOR DIRECT WIRED SEE NEXT PAGE

BPA: Battery powered alarm, sounds continuous or until disarmed.

BPAR: Battery powered alarm, sounds for 4 minutes, automatically resets.

"Alarm mode set at factory."

"NOTE: Use caution when cutting touch bar and rail to length.

"LM" (LATCH MONITOR) OPTION:
Latch monitor: Monitors movement of bellcrank, with or without depressing of touch bar.
Can be wired normally open or normally closed.

NOTE: Use caution when cutting touch bar and rail to length. Additional hole required see step 11.

SIZE A:
Will fit 48" door opening without cutting.
Can be cut to fit a 371/2" minimum door opening.

SIZE B:
Will fit 36" door opening without cutting.
Can be cut to fit a 31 1/2" minimum door opening.

SIZE C:
Will fit 36" door opening without cutting.
Can be cut to fit a 28 1/2" minimum door opening.

SPDT, .5 amp @ 28VDC max.

(WITNESS MARKS)

Correct

In-correct

Black Common

Red Normally Closed

SPDT, .5 amp @ 28VDC max.

(DORMA mortise cylinder supplied.)

To replace battery remove endcap.

Refer to additional alarm instructions packed with device for operation of alarmed exit device.
**OPTIONS**

**"ES" (ELECTRIC LATCH RETRACTION) OPTION:**

Electrically retracts latchbolt(s) when energized by power supply.

**REQUIRES DORMA PS501 POWER SUPPLY AND ES105 POWER TRANSFER.**

PS501 Will operate (2) "ES" 9600 exit devices, but is capable of powering (2) additional devices by installing the optional "ES-2" card.

*NOTE:* Use caution when cutting touch bar and rail to length. Requires additional hole see step 11.

**"DWA" (DIRECT WIRED ALARM) OPTION:**

Connected to outside power source.


i.e. DORMA ES100 etc., Contact DORMA for other power supplies available.

Refer to additional sheet IAL9000 packed with device for operation of alarmed exit device.

**MARKUP**

**"MS" (MICRO SWITCH) OPTION:**

"MS" option allows monitoring of touch bar during normal operation, or can be used as a signal switch for horn, light etc. Comes standard with (2) two micro switches. Both can be wired either Normally Open or Normally Closed. Can be added to device after installation.

*NOTE:* Use caution when cutting touch bar and rail to length. Requires additional hole see step 11.

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**"DWA" (DIRECT WIRED ALARM) OPTION:**

Connected to outside power source.


i.e. DORMA ES100 etc., Contact DORMA for other power supplies available.

Refer to additional sheet IAL9000 packed with device for operation of alarmed exit device.
"DE" (DELAYED EGRESS) OPTION:

Note: Refer to DE9000 Series Installation Instructions for additional instructions for installation and operation of the "Delayed Egress" exit device.

85 Decibel Alarm - Standard
LED Status Indicator - Standard
Nuisance Alarm - Standard
Key Switch Control - Standard
Remote Authorized Egress - Standard
Remote Re-Arm - Standard
Remote Bypass - Standard
Door Position Input - Standard, DIP Switch Setting
Auto Reset or Manual Reset, DIP Switch Setting
Auto - Standard (Manual - in CA)
Additional Form "C" Relays For Optional Horn etc. (Rated 1 amp @ 30 vdc)

REQUIRES DORMA ES-100 24 VDC POWER SUPPLY.
One supply per device unless the optional ES101 Time Delay is used to sequence the arming of the two devices.

Easily accessible slide in and out electronics.
Meets UL & ANSI/BHMA requirements.

SIZE AA:
Will fit 48" door opening without cutting.
Can be cut to fit a 39 1/2" minimum door opening.
SIZE BB:
Will fit 36" door opening without cutting.
Can be cut to fit a 32" minimum door opening.

NOTE: Some CA Codes may require different verbiage; check local code requirements prior to installing decal.

85 Decibel Alarm - Standard
LED Status Indicator - Standard
Nuisance Alarm - Standard
Key Switch Control - Standard
Remote Authorized Egress - Standard
Remote Re-Arm - Standard
Remote Bypass - Standard
Door Position Input - Standard, DIP Switch Setting
Auto Reset or Manual Reset, DIP Switch Setting
Auto - Standard (Manual - in CA)
Additional Form "C" Relays For Optional Horn etc. (Rated 1 amp @ 30 vdc)

Minimum 18 AWG wire recommended for 24VDC inputs (red & black) leads.

DORMA ES105 (Power Transfer "Required")

(12) Wire Connection Bundle 22" in length.

BLACK: (-) 24VDC IN
RED: (+) 24VDC IN
WHITE: AUTHORIZED EGRESS/AUTO RESET
ORANGE: BYPASS/RE-ARM
GREY: DPS N/C
VIOLET: ALARM RELAY COMMON
GREEN: RED OUTPUT EMITTER
BROWN: RED OUTPUT COLLECTOR
BLUE: GREEN OUTPUT EMITTER
YELLOW: GREEN OUTPUT COLLECTOR
PINK: ALARM RELAY N/C
TAN: ALARM RELAY N/O

Maximum Wire Length From Power Supply To Device & Back To Supply In Feet x Wire Gage/Size

<table>
<thead>
<tr>
<th>WIRE</th>
<th>18AWG</th>
<th>16AWG</th>
<th>14AWG</th>
<th>12AWG</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEET</td>
<td>25</td>
<td>50</td>
<td>75</td>
<td>100</td>
</tr>
</tbody>
</table>

*For 24VDC inputs only (red & black wires).
Note: Wire run is from supply to device and back to the supply.
DO NOT SCALE

Additional installation instructions:
Use existing latch and chassis location. Note: new "Z" trim will be required if trim is used.
Replace existing rod assemblies with new design. Follow instruction for installing new 9600 series device.
Install chassis assembly to door, install end cap bracket to door, hold touch bar and rail assembly in position aligning screw holes in rail with mounting screw location of chassis, mark a line on rear of rail where front edge of end cap bracket is then cut touch bar and rail assembly to length.
Install touch bar and rail to door then install all covers.
NOTE:
Fire door application may require metal edge guard. See proper device and trim templates for additional metal edge guard and hole preparation.
EXIT DEVICE
9600/F9600 SERIES

A FOR WOOD DOOR No. 25 DRILL 1” DEEP
B FOR METAL DOOR No. 16 DRILL 12-24 TAP
C FOR SEX BOLT 3/8” DIA. HOLE THRU DOOR
D FOR USE WITH TRIM 3/8” DIA. HOLE THRU DOOR
G FOR KNOB/LEVER/THUMBTURN 1” DIA. OUTSIDE FACE
H FOR KNOB/LEVER/THUMBTURN 1” DIA. OUTSIDE FACE
1 1/2” DIA. x 1 3/4” HIGH FOR CYLINDER CLEARANCE

A FOR WOOD DOOR No. 25 DRILL 1” DEEP
B FOR METAL DOOR No. 16 DRILL 12-24 TAP
C FOR SEX BOLT 3/8” DIA. HOLE THRU DOOR
D FOR USE WITH TRIM 3/8” DIA. HOLE THRU DOOR
G FOR KNOB/LEVER/THUMBTURN 1” DIA. OUTSIDE FACE
H FOR KNOB/LEVER/THUMBTURN 1” DIA. OUTSIDE FACE
1 1/2” DIA. x 1 3/4” HIGH FOR CYLINDER CLEARANCE
Top Rod Adjustment Chart - for door sizes ranging from 6'4" to 8'4".

Example:
For 7'5" door use 7'4" pre-drilled inner rod with 1" pre-drilled outer rod; (6th hole on inner rod & 2nd hole on outer rod.)