Devices covered by these instructions:
HH 98/9947 Concealed Vertical Rod Exit Device
HH CD98/9947 (Cylinder Dogging) Concealed Vertical Rod Exit Device
HH EL98/9948 (Electric Latch Retraction) Concealed Vertical Rod Exit Device

Special tools needed:
- 5/64” hex wrench
- #10-24 tap
- Drill bits: #25, 1/8”, 1/4”, 5/16”, 13/32”

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- Screw chart ......................... 2
- Door preparation chart .......... 3
- Device installation .............. 4-5
- Frame preparation ............... 5
- Adjust rods ......................... 6
- Optional equipment ............. 7-8
- Cut device ......................... 8

Please give these instructions to building owner after device is installed
### SCREW CHART

#### A

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-24 x 1&quot;</td>
<td>Surface mount or Sex bolts (1-3/4&quot; door)</td>
</tr>
<tr>
<td>#10-24 x 1-1/2&quot;</td>
<td>Sex bolts (2-1/4&quot; door)</td>
</tr>
<tr>
<td>#10-24 x 1-3/8&quot;</td>
<td>990 trims (1-3/4&quot; door)</td>
</tr>
<tr>
<td>#10-24 x 1-7/8&quot;</td>
<td>990 trims (2-1/4&quot; door)</td>
</tr>
</tbody>
</table>

- Packaged with trim -

#### B

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-24 x 3/4&quot;</td>
<td>Surface mount or Sex bolts (1-3/4&quot; door)</td>
</tr>
<tr>
<td>#10-24 x 1-1/8&quot;</td>
<td>Sex bolts (2-1/4&quot; door)</td>
</tr>
</tbody>
</table>

#### C

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-16 X 3/8&quot;</td>
<td>Thread cutting</td>
</tr>
</tbody>
</table>

End cap

#### D

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#10-32 X 3/8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Latch screw

#### E

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8-32 X 5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Retaining clip

#### F

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8-32 X 5/16&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Retaining clip

#### G

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#12-24 X 1/2&quot;</td>
<td></td>
</tr>
</tbody>
</table>

HH strike

#### H

<table>
<thead>
<tr>
<th>Screw Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8-18 x 3/8&quot;</td>
<td>Thread cutting</td>
</tr>
</tbody>
</table>

Center case cover
**DOOR PREPARATION CHART**

Go to instructions on next page before using preparation chart

### Center case - 4 holes

<table>
<thead>
<tr>
<th>Surface mount</th>
<th>Sex bolts or 990 trims</th>
</tr>
</thead>
<tbody>
<tr>
<td>#25 Drill</td>
<td>1/4&quot; Drill (device side)</td>
</tr>
<tr>
<td>#10-24 tap</td>
<td>13/32&quot; Drill (trim side)</td>
</tr>
</tbody>
</table>

*End cap bracket - 2 holes*

<table>
<thead>
<tr>
<th>Surface mount</th>
<th>Sex bolts or 990 trims</th>
</tr>
</thead>
<tbody>
<tr>
<td>#25 Drill</td>
<td>1/4&quot; Drill (device side)</td>
</tr>
<tr>
<td>#10-24 tap</td>
<td>13/32&quot; Drill (trim side)</td>
</tr>
</tbody>
</table>

*Prepare holes after lock side of device is mounted and hinge side is equal distance to bottom of door*

### Door Cut-outs

Outside cylinder applications:
- Mark with template and cut-out:
  - Metal door (cut device side)
  - Wood door (cut thru)

For HH 98/9947
- Trace cut-outs from plastic template (cut device side only)

### Top Preparation

- Cutout on inside face only

### Bottom Preparation

- Rod type latch location

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**Cutout on inside face only**

- #9 (0.196") drill, c'sink 82° to 13/32" dia., 5 holes, inside face only
1. Draw Horizontal Device Center Line (RHR shown)

2. Determine Correct Backset, then Mark 4 Holes for Device Center Case Using Template

3. Prepare Door per Preparation Chart on Page 3

4. If Using an Outside Cylinder, Check NL Drive Screw

5. Assemble Rods and Latches and Adjust Length for Proper Door Height

- Fine tune the overall length by threading latch bolt in or out of rod.
- Adjust Rods and Latches.

Factory installed on back of center case

With NL drive screw installed, key locks and unlocks lever, knob, or thumb piece. For trim listed below, REMOVE NL drive screw.

- 996K
- 697TP
- 990TP

With NL drive screw removed, key locks and unlocks lever, knob, or thumb piece. For trim listed below, DO NOT remove NL drive screw.

- 996L-BE
- E996L-BE
- E996L
- 696TP-BE
- 996K-BE
- 697TP-BE
- 990TP-BE

If trim being installed is "BE" (i.e. 996L-BE) trim lock tumbler on back of device must be in UP position before device is installed. This allows trim to be unlocked at all times.

- 996L-BE
- E996L-BE
- E996L
- 696TP-BE
- 996K-BE
- 697TP-BE
- 990TP-BE
6 Install Rods and Latches as Shown

Top rod & latch

Bottom rod & bolt

Device aligns with mounting holes which were prepared in step 3.

7 Secure Device to Door as Shown, then Hang Door on Frame

See “Screw Chart” on page 2 for screw types and sizes

2" Minimum clearance (with end cap removed)
If device is too long for door, see “Cut Device” on back cover

Mark and prepare 2 mounting holes and secure screws (see page 3)

Device equal height to bottom of door on each end

Mounting bracket flush

8 Prepare and Install Top Strike

2x #16 drill & tap 12-24 use strike as template once final strike location is set

Blade stop

9 Install bottom strike or prepare threshold.

385-A bottom strike

Threshold application

Flat threshold application

Remove material as necessary to accommodate 5/8" latch bolt throw

10 Adjust Rods and Install Center Case Cover

See “Adjust Rods” on page 6 for adjustment procedure

Remove protective film from pushbar
ADJUST RODS

1. Open door and verify top latch bolt is fully extended (Figure 1).

2. Loosen bottom locking screw (Figure 2).

3. Disconnect bottom vertical rod by removing bottom adjusting screw.

4. Loosen top locking screw.

5. Depress pushbar and dog device

6. Rotate top adjusting screw clockwise until top latch bolt drops (Figure 3).

7. Turn top locking screw in. Do not over-tighten

8. Release pushbar.

9. Depress pushbar and ensure latchbolt falls.

10. Install bottom adjusting screw through bottom rod (Figure 2).

11. With top latch bolt still retracted, adjust bottom bolt so that bolt clears floor and bottom strike.

12. Turn bottom locking screw in. Do not over-tighten.

13. Check device operation by opening and closing door several times from the inside.

Redo adjustment procedure if:

- Top latchbolt does not retract
- Bottom bolt does not clear floor and bottom strike
CD (CYLINDER DOGGING)

1. Remove mortise cylinder cam and reinstall in reverse (Figure 6).
2. Insert key and rotate cam to install the cylinder to the cover plate (Figure 7).
3. Remove key to slide cover plate in position in the mechanism case.

Figure 6

Dogging procedure

Turn cylinder key clockwise approx. 1/8 turn for standard dogging

Depress pushbar

Figure 7
# CUT DEVICE

## Step 1: Measure amount to cut off device.

- **Device aligned with mounting holes**

## Step 2: Tape and mark area being cut.

- **Note**: If 5/8" diameter wire access hole has been predrilled in door, cut device 5/16" from center of hole.

## Step 3: Cut device **square**.

- **Cut device square and remove all burrs**

## Step 4: Slide anti-rattle clip into device.

- **Note**: Device must be cut **square** for proper end cap fit

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**Customer Service**

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