**Installation Instructions**

**98/9927 Surface Vertical Rod Exit Device**

**Devices covered by these instructions:**
- 98/9927 Surface Vertical Rod Exit Device
- 98/9927-F (Fire) Surface Vertical Rod Exit Device
- CD98/9927 (Cylinder Dogging) Surface Vertical Rod Exit Device
- EL98/9927 (Electric Latch Retraction) Surface 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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- Cut top rod ......................... 7
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### SCREW CHART

<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 x 1-1/4&quot; Wood screw</td>
<td>Surface mount (wood)</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>
<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>
<tr>
<td>#10-16 x 3/8&quot; Thread cutting</td>
<td>End cap</td>
</tr>
<tr>
<td>1/4-20 X 3/4&quot;</td>
<td>1-3/4&quot; door</td>
</tr>
<tr>
<td>1/4-20 X 1-1/4&quot;</td>
<td>2-1/4&quot; door</td>
</tr>
<tr>
<td>#10-24 X 3/4&quot;</td>
<td>Metal frame</td>
</tr>
<tr>
<td>#10 x 1-1/2&quot; Wood screw</td>
<td>Wood frame</td>
</tr>
<tr>
<td>#10-12 x 10-24 x 1-1/4&quot; Combination</td>
<td>Metal or wood frame</td>
</tr>
<tr>
<td>#10-12 x 10-24 x 1-1/4&quot; Combination</td>
<td>Variable floor surfaces</td>
</tr>
<tr>
<td>#8-32 X 1/4&quot;</td>
<td>Latch covers</td>
</tr>
<tr>
<td>#10-12 x 10-24 x 1&quot; Combination</td>
<td>Metal or wood door</td>
</tr>
<tr>
<td>#8-18 x 3/8&quot; Thread cutting</td>
<td>Center case cover</td>
</tr>
</tbody>
</table>
PREPARATION CHART

Go to instructions on next page before using Preparation Chart

**Top strike**

<table>
<thead>
<tr>
<th>Material</th>
<th>#25 Drill</th>
<th>#10-24 Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td></td>
</tr>
</tbody>
</table>

*Rod guides*

<table>
<thead>
<tr>
<th>Material</th>
<th>#25 Drill</th>
<th>#10-24 Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td></td>
</tr>
<tr>
<td>Wood</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td></td>
</tr>
</tbody>
</table>

*Use rod guide as a template to mark holes*

**Center case - 4 holes**

<table>
<thead>
<tr>
<th>Material</th>
<th>#25 Drill</th>
<th>#10-24 tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>1/4&quot; Drill (device side)</td>
<td>13/32&quot; Drill (trim side)</td>
</tr>
<tr>
<td>Wood</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td>13/32&quot; Drill thru</td>
</tr>
</tbody>
</table>

**Door cut-outs**

*Outside cylinder applications: Mark with template and cut-out:*

*Metal door* (cut device side)

*Wood door* (cut thru)

*For trim applications with working lever, thumbpiece, or knob: Mark with template and cut out: (cut device side only)*

*If door already has this cut-out for trim, no further cutting is necessary*

**Bottom strike**

<table>
<thead>
<tr>
<th>Material</th>
<th>#25 Drill</th>
<th>#10-24 Tap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
<td></td>
</tr>
</tbody>
</table>

*End cap bracket - 2 holes*

<table>
<thead>
<tr>
<th>Surface mount</th>
<th>Sex bolts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal</td>
<td>#25 Drill</td>
</tr>
<tr>
<td></td>
<td>#10-24 tap</td>
</tr>
<tr>
<td>Wood</td>
<td>1/8&quot; Drill, pilot 1&quot; deep</td>
</tr>
</tbody>
</table>

*Prepare holes after lock side of device is mounted and hinge side is leveled*

See template for strike variations

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[3]

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1. Draw Horizontal Center Line (C) and Assemble Device Template

2. Position Template as Shown and Mark Vertical C

3. Align Top and Bottom Templates Along C and Prepare Door

4. If Necessary, Remove NL Drive Screw

5. If Using a Cylinder with a Tailpiece, Prepare Device and Cylinder
See “Screw Chart” on page 2 for screw types and sizes

Mark and Prepare 2 Holes for End Cap Bracket

Install End Cap Bracket and End Cap

Secure end cap bracket and end cap

Install Trim (if using) and Secure Device Center Case to Door

1½” 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

Install Top Latch and Rod

#325 sex bolts (required)

If top rod is too long, see “Cut Top Rod” on page 7

If top rod is too short, see “Install Rod Extension” on page 7

Install Top Strike

299/299F strike

3⁄16" Shim to 3⁄16" as shown

Strike plate (299 only)

499F strike (for LBR devices)
See instruction 911009

260U strike

Adjust Top Rod (Screw Rod Into or Out of Latch) Until Adjusted as Shown

With door closed:
Latch bolt deadlocked (will not push in)

With door open:
Latch bolt stays retracted

Release trigger extended
12 Install Bottom Strike, Latch, and Rod

- 248L-4 strike
- Shim (as needed to engage latch)
- 304L strike
- Grout strike into floor

13 Adjust Bottom Rod with Door Open (Top Latch Retracted)

- With door open:
  - Latch bolt should **clear floor** and not bind on strike
- With door closed:
  - Latch bolt should be **deadlocked** (will not push in)

Open and close door a few times and check for deadlatching when door is closed. Readjust rods if needed.

14 Install Rod Guides and Covers

- Latch cover (2)
- "Rod guide (2)
- Install at midpoint of each rod
- See "Preparation Chart" on page 3

Remove blue film
**CUT TOP ROD**

1. Measure amount to cut off rod as shown below.  
   **Note:** Rod cutting is required for doors shorter than 7’.

   ![Diagram](image)

   *Rods are factory sized for 7’ (84”) door. Measure actual door opening height and subtract that number from 84” to get amount to cut off top rod.

2. Cut rod.

   ![Diagram](image)

   *Drive out roll pin*

3. Drill new hole.

   ![Diagram](image)

   *1/8” dia. drill thru*

   *Use cut off piece as a template*

4. Reinstall rod end and roll pin.

   ![Diagram](image)

   *Drive out roll pin*

5. Connect top rod and rod extension.

   ![Diagram](image)

**INSTALL ROD EXTENSION**

1. Measure door opening to determine amount to cut off rod extension.

   ![Diagram](image)

   *Standard door heights:*
   - With no extension: 7’ (84”)
   - With 1’ extension: 8’ (96”)
   - With 3’ extension: 10’ (120”)

   *Rods are factory sized for door heights shown above. Measure actual door opening height and subtract that number from 96” (for 1’ extension) or 120” (for 3’ extension) to get amount to cut off extension.*

2. Cut rod extension.

   ![Diagram](image)

   *Drive out roll pin*

3. Drill new hole.

   ![Diagram](image)

   *1/8” dia. drill thru*

   *Use metal template supplied with extension (on both sides of rod)*

4. Reinstall rod end and roll pin.

   ![Diagram](image)

   *Drive out roll pin*

5. Connect top rod and rod extension.

   ![Diagram](image)
CD (CYLINDER DOGGING)

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

**Doggling procedure**

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

- **Figure 1**

**Figure 2**

**CUT DEVICE**

1. **Measure amount to cut off device.**

   - 1-1/2” minimum clearance (with endcap removed)
   - Device aligned with mounting holes

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

2. **Tape and mark area being cut.**

   - Remove anti-rattle clip
   - Tape
   - Cover plate (flush to pushbar)
   - Pushbar

3. **Cut device square.**

   - Cut device square and remove all burrs
   - NOTE: Device must be cut square for proper end cap fit

4. **Slide anti-rattle clip into device.**

   - 2” min.
   - Anti-rattle clip inside