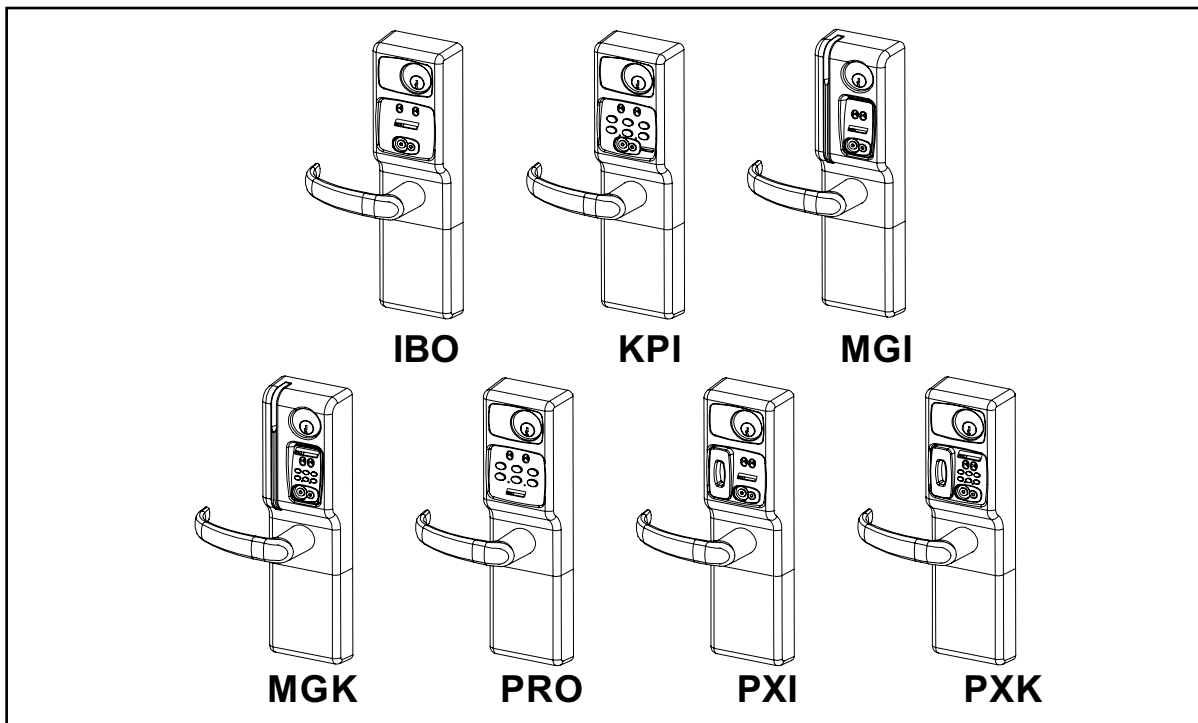




Von Duprin

## Installation Instructions

# CM 993 HW Hard-Wired Programmable Access Control Trim



Compatible with the following Von Duprin panic and fire exit devices:  
98/99 Rim CX98/99 Rim EL98/99 98/9927 98/9947 CX98/9947 98/9948 98/9957

Not compatible with the following Von Duprin panic and fire exit devices:  
98/99 Mortise E98/99 98/99 Rim Double Cylinder



### NOTE

For manual programming instructions and information on using access cards and electronic keys, see the programming guide. For computer programming instructions, see the documentation and help files included with the computer software.



### NOTE

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:  
(1) this device may not cause harmful interference, and  
(2) this device must accept any interference received, including any interference that may cause undesired operation.

# 1 Prepare door.

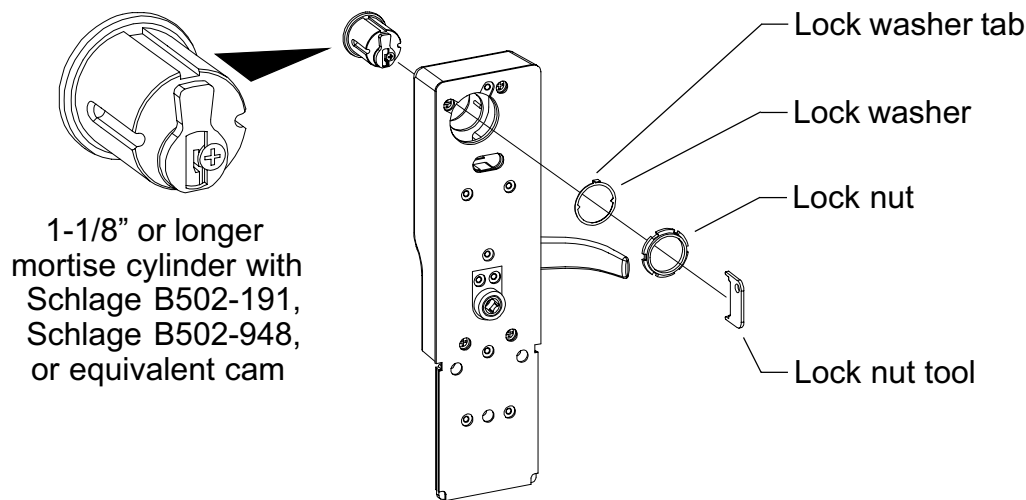
- 1.1. For retrofit applications, remove exit device and existing trim from door.
- 1.2. Prepare door for CM 993 HW trim using separate full-size template provided. Dimensioned templates, **not to scale**, are provided on page 15 (LHR) and page 16 (RHR).

# 2 Install cylinder and standoffs.

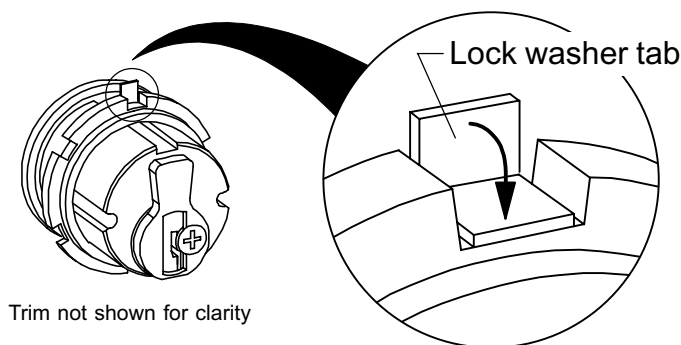
2.1. Insert cylinder as shown (Figure 2-1). Cam must be in position shown **with key removed**. For mortise cylinder longer than 1-1/8", use blocking ring (see table at right).

Mortise Cylinder Length	Blocking Ring (Schlage P/N; XXX = finish)
1-1/4"	1/8" (36-079-012-XXX)
1-3/8"	1/4" (36-079-025-XXX)
1-1/2"	3/8" (36-079-037-XXX)

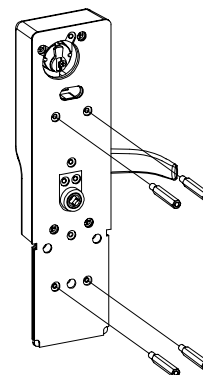
- 2.2. Install lock washer as shown.
- 2.3. Install lock nut and tighten with lock nut tool.
- 2.4. Line up nearest lock nut notch with lock washer tab and bend tab into notch (Figure 2-2).
- 2.5. Install four standoffs (Figure 2-3).



**Figure 2-1**



**Figure 2-2**

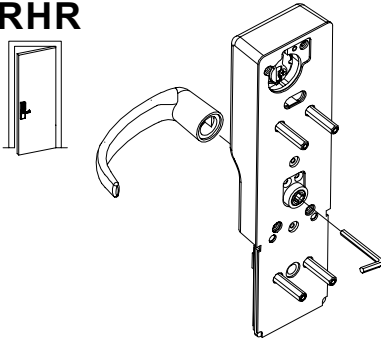


**Figure 2-3**

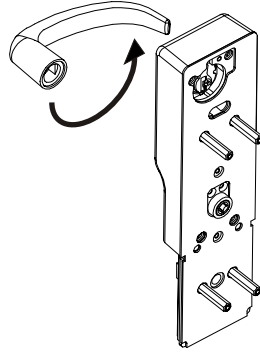
### 3 Change handing of trim if necessary.

- 3.1. Remove hex screw using 5/32" hex wrench (Figure 3-1).
- 3.2. Rotate lever to correct position (Figure 3-2).
- 3.3. Re-install hex screw (Figure 3-3).

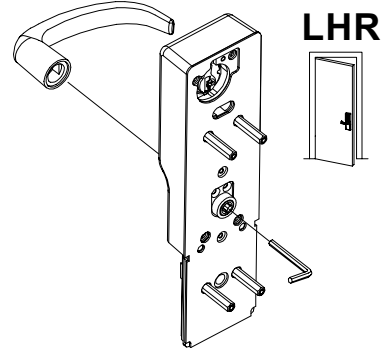
RHR



**Figure 3-1**



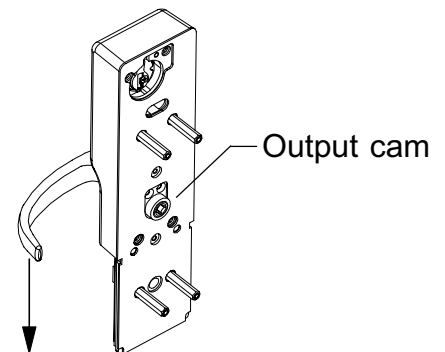
**Figure 3-2**



**Figure 3-3**

### 4 Test trim.

- 4.1. Insert key and turn clockwise to engage lever.
- 4.2. Rotate lever down (Figure 4-1).
- 4.3. Output cam should rotate when lever rotates.

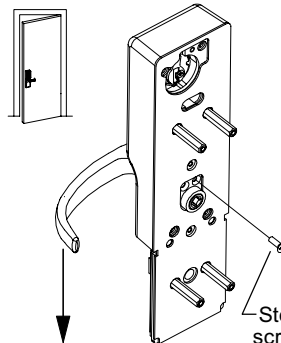


**Figure 4-1**

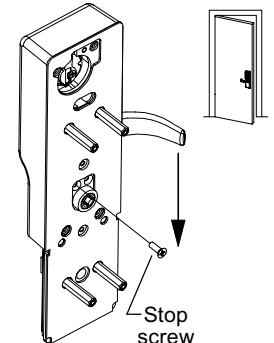
### 5 Install stop screw.

- 5.1. With key turned clockwise, rotate lever down and hold, then install stop screw where shown (Figure 5-1).
- 5.2. Test trim: After stop screw is installed, lever should not rotate up from horizontal position when trim is unlocked. Use mechanical key to unlock fail secure (FSE) devices. When trim is locked, it is free to rotate in both directions.

RHR



LHR



**Figure 5-1**

## 6 Check exit device NL drive screw and lock slide.

For retrofit applications, make sure the NL drive screw is installed in the exit device center case cam with the exit device lock slide in the down position. See Figure 6-1 for LHR applications and Figure 6-2 for RHR applications. An NL drive screw is supplied in the screw package. (Device is shipped from factory with NL drive screw installed.)

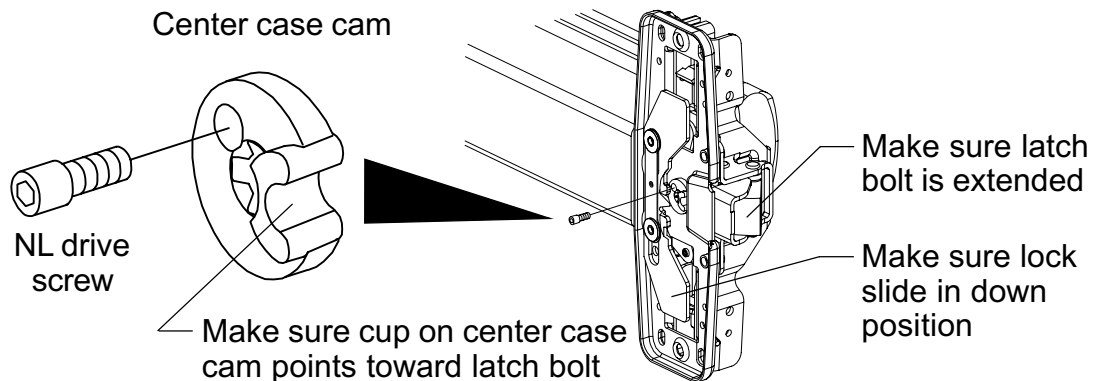
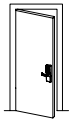
Installation of the NL drive screw sets the exit device for NL (night latch) operation, which is required for use with the CM 993 HW trim. The lock slide must be in the down position to clear the device center case wire hole for the CM 993 HW wire.



### NOTE

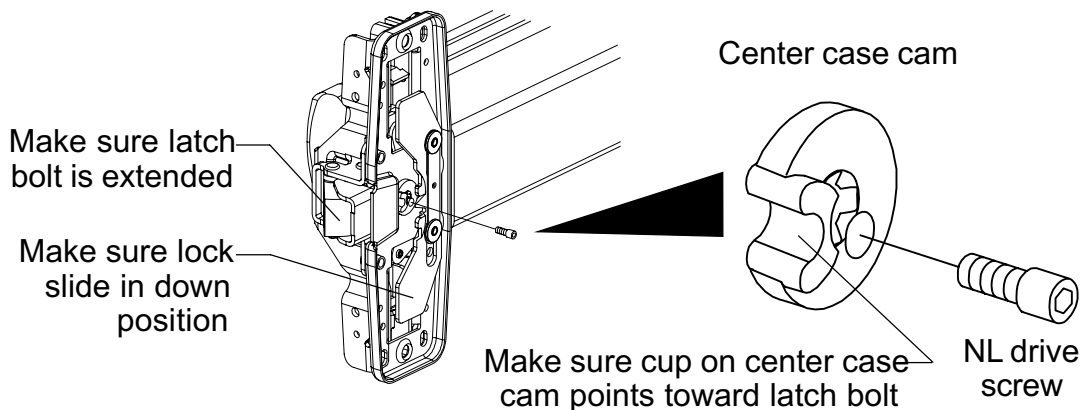
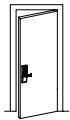
If the exit device lock slide is not in the down position, use a Phillips head screwdriver to rotate the exit device center case cam to move the lock slide into the down position.

**LHR**



**Figure 6-1**

**RHR**

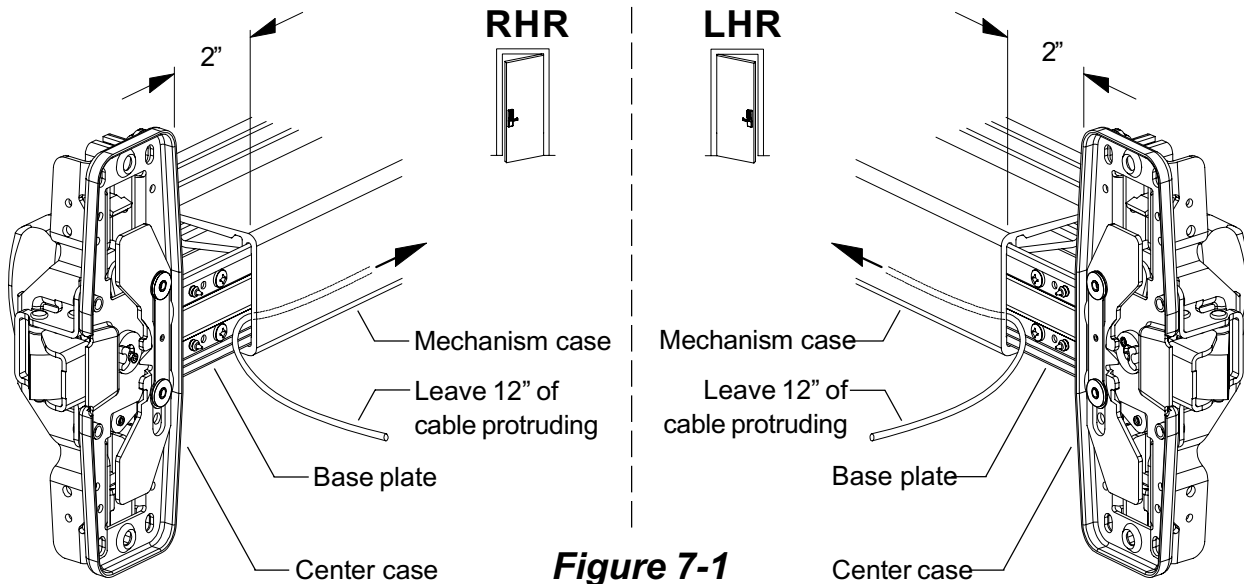


**Figure 6-2**

**7 Route CM 993 HW wire through device.**

7.1. Slide mechanism case 2" away from center case (Figure 7-1).

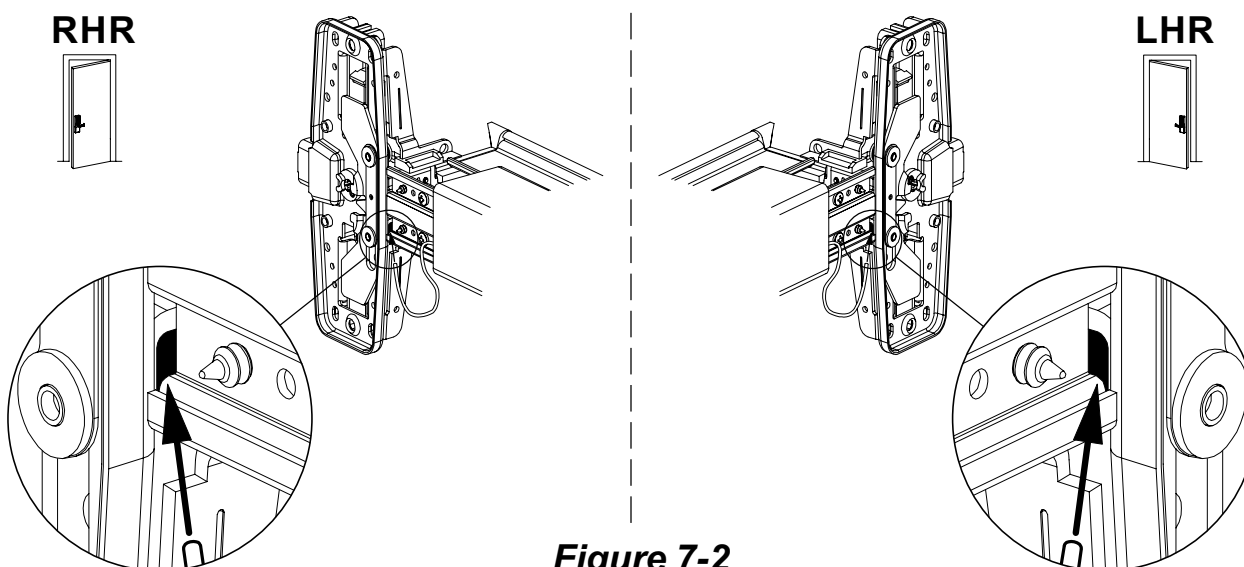
7.2. Push CM993 HW cable down length of device between mechanism case and base plate (Figure 7-1) Leave 12" of cable protruding from center case end of device.



7.3. Push CM 993 HW cable through opening in bottom of center case (Figure 7-2).

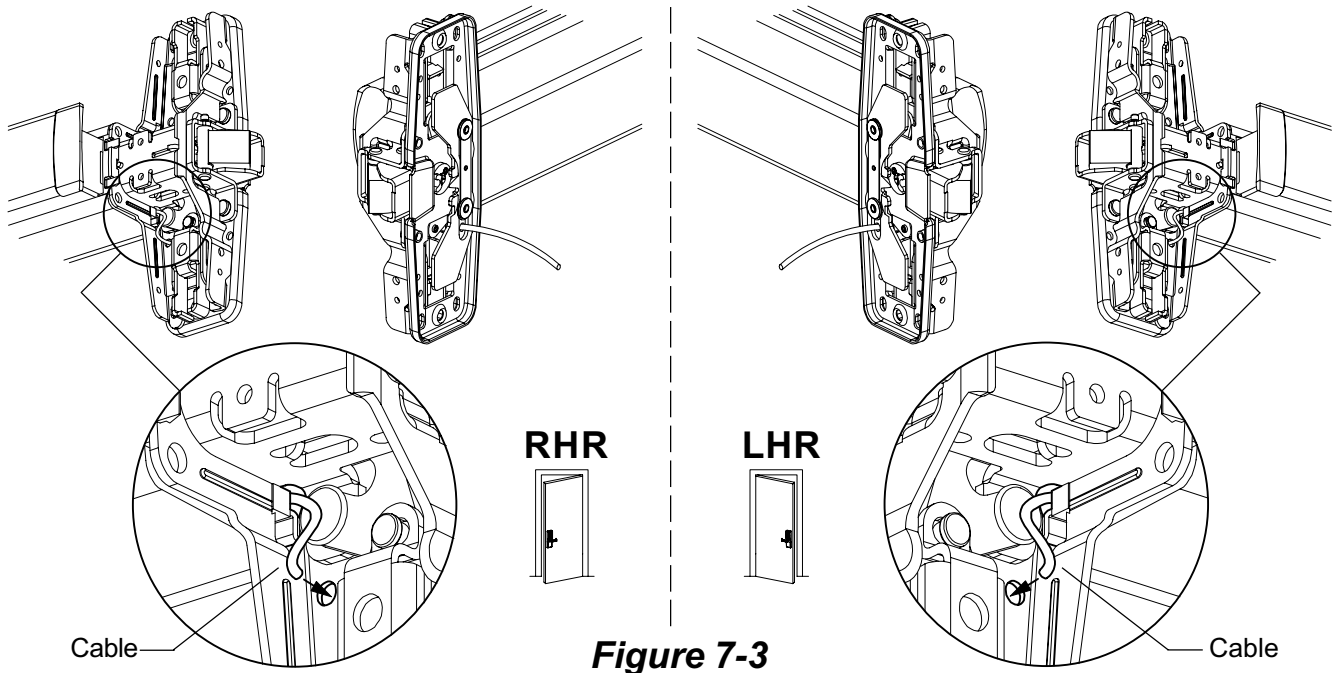
7.4. Slide mechanism case back against center case.

**CAUTION**  
Be careful not to pinch cable when sliding mechanism case back against center case.



**7 Route CM 993 HW wire through device (continued).**

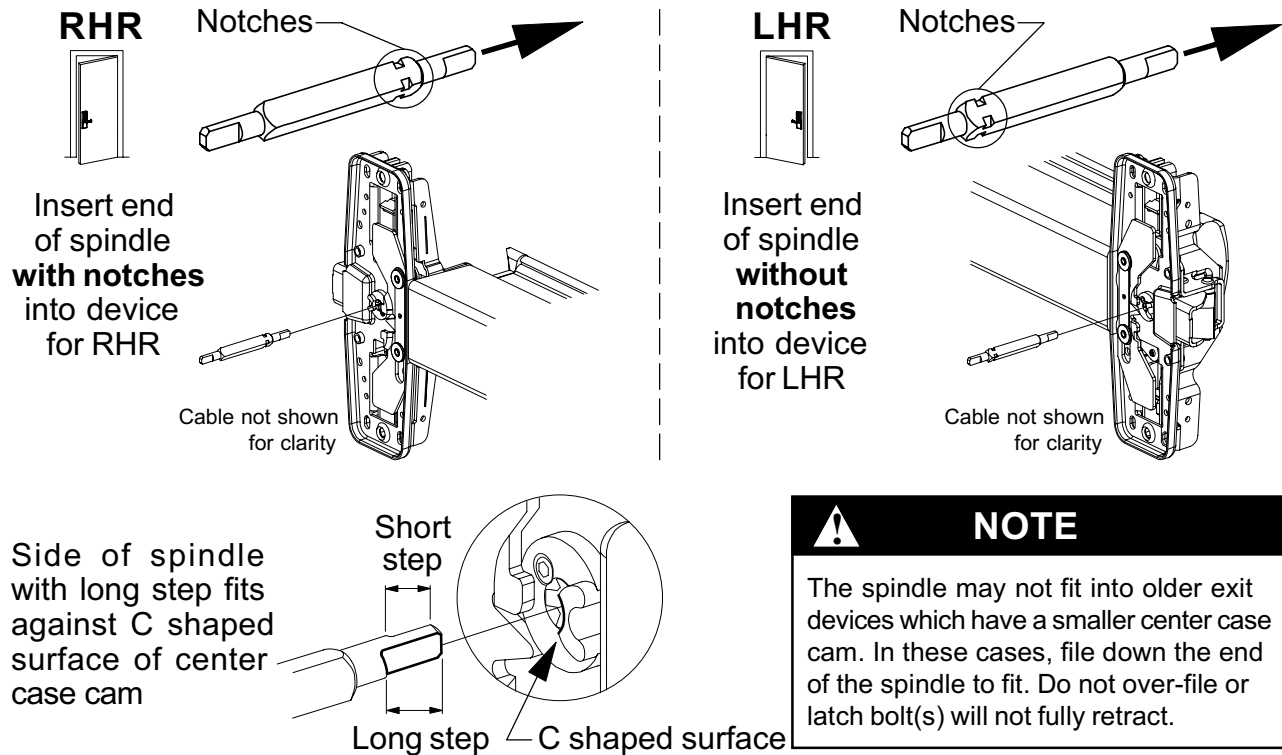
7.5. Route CM 993 HW wire through hole in top of center case so it protrudes from bottom of center case (Figure 7-3).



**Figure 7-3**

**8 Install device and trim.**

8.1. Insert spindle into device center case cam (Figure 8-1).



**NOTE**  
 The spindle may not fit into older exit devices which have a smaller center case cam. In these cases, file down the end of the spindle to fit. Do not over-file or latch bolt(s) will not fully retract.

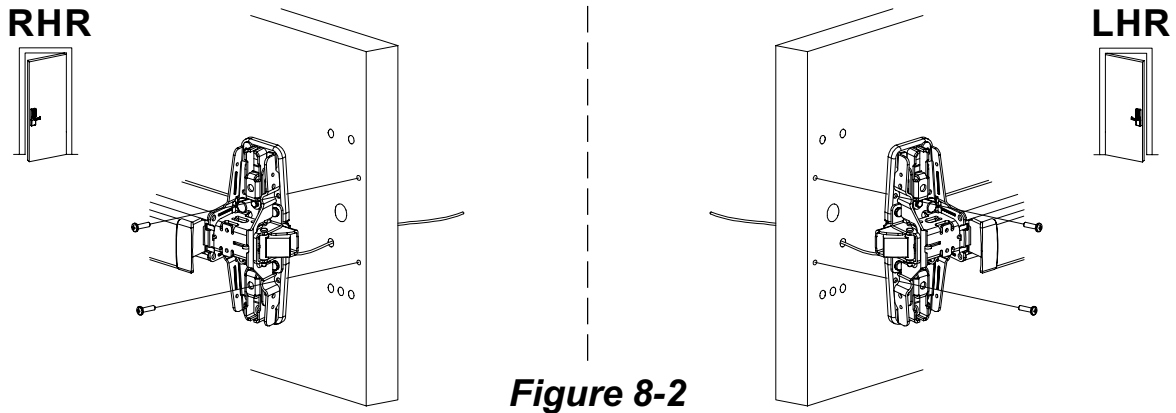
**Figure 8-1**

## 8 Install device and trim (continued).

8.2. Attach device to end cap bracket.

8.3. Route CM 993 HW cable through door as shown (Figure 8-2).

8.4. Secure device to door using two screws (Figure 8-2) removed in step No. 1.1 or by some other temporary means (use clamps, have a helper hold the device, etc.).



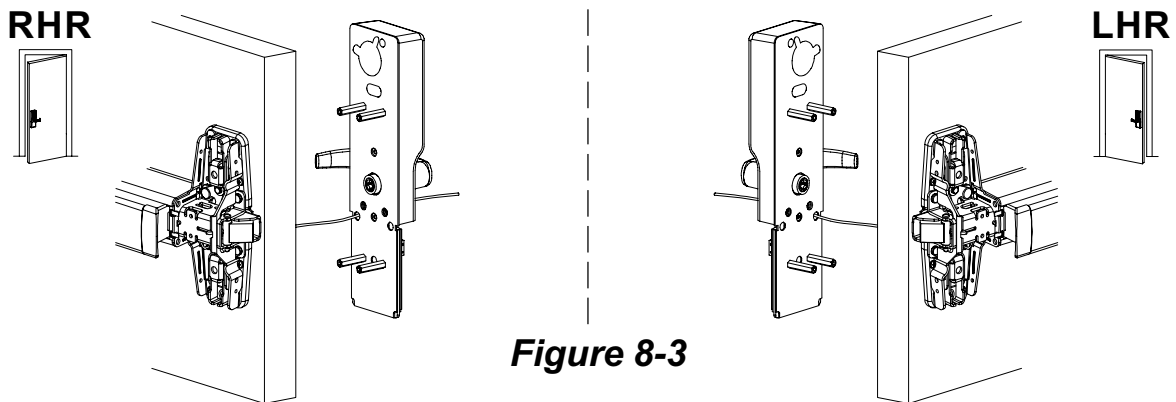
**Figure 8-2**

8.5. Route CM 993 HW cable through trim as shown (Figure 8-3).

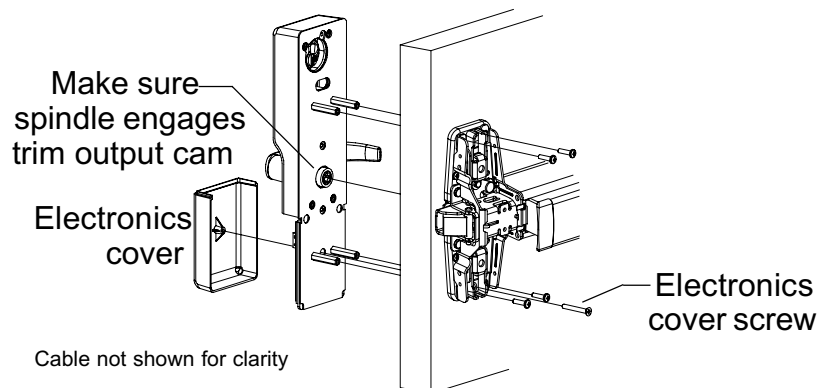
8.6. Place trim on door so trim output cam engages spindle. Keeping trim cylinder in clockwise position allows lever to be moved, which aids in engaging spindle.

8.7. Through-bolt exit device mounting screws to trim standoffs (Figure 8-4).

8.8. After wiring is complete, install electronics cover (Figure 8-4).



**Figure 8-3**



**Figure 8-4**

## 9 Wire trim.

Terminal	CX Device Usage	CM 993 HW Usage (EL)	CM 993 HW Usage (non-EL)
1 (+)	Power: 24 V only, 0.5 A (PS873 required)	Power: 24 V only, 0.5 A (PS873 x 871-2 required)	Power: 12 or 24 V (AC or DC), 0.5 A
2 (-)	Power supply ground	Power supply ground	Power supply ground
3	Ground	Ground	Ground
4	External inhibit input: 24 V = inhibit inactive (trim and CX locked) Open circuit = inhibit active (trim and CX unlocked)	Remote access control: Open circuit = access control inactive (trim locked, EL not dogged) Gnd = access control active (trim unlocked, EL dogged)	Remote access control: Open circuit = access control inactive (trim locked) Gnd = access control active (trim unlocked, output contact terminals 5/6 change state)
5	Not used	Output contacts: Dry contacts for signaling 871-2 input	Output contacts: Dry contacts for signaling a remote indicator device (30 VDC, 1 A max.)
6	Inhibit output; connects to CX external inhibit input wire	<b>Note:</b> If trim power is lost, then the output contacts will not change state until power is restored.	<b>Note:</b> If trim power is lost, then the output contacts will not change state until power is restored.

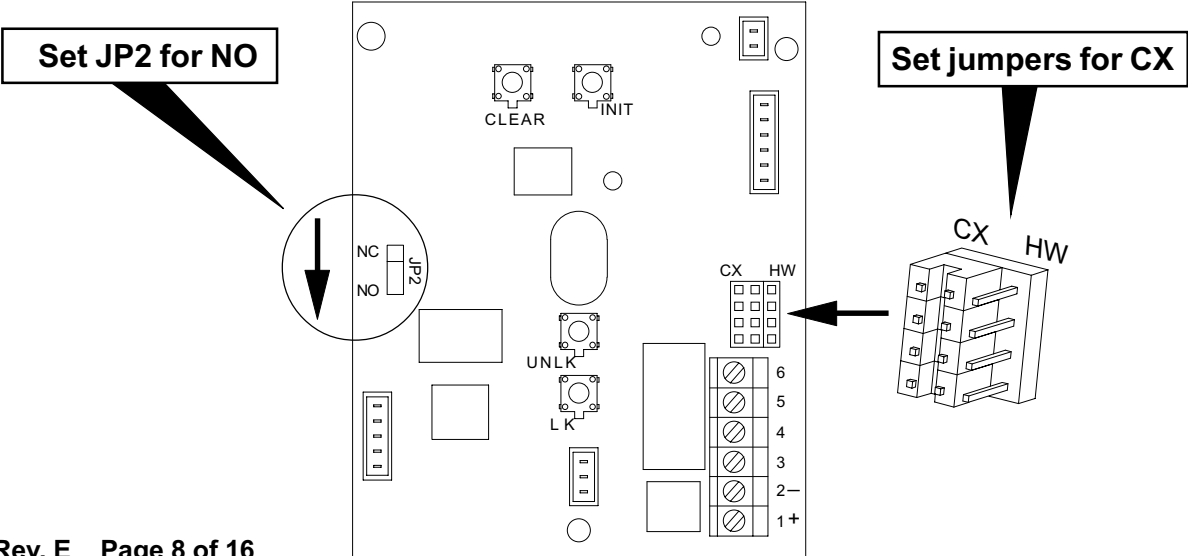
**⚠ WARNING**

If a magnetic lock is powered by the CM 993 HW inhibit output, that electromagnetic lock cannot be installed on a panic door.

## 10 CM 993 HW Wiring for Chexit Device

- Before installing, review Chexit installation instructions (Von Duprin part number 911352).
- Total unlock time for Chexit device = CM 993 HW time delay + Chexit rearm time delay.

### CM 993 HW Jumper and Switch Settings for Chexit Device

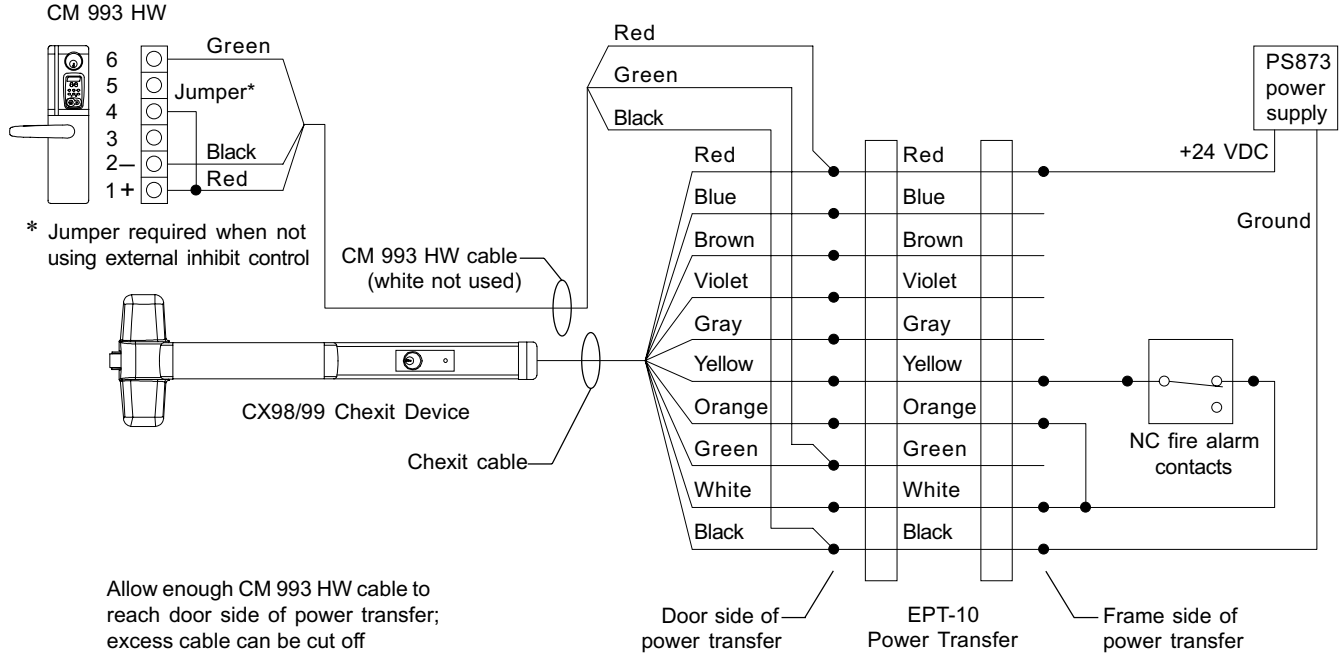




# 10 CM 993 HW Wiring for Chexit Device (continued)

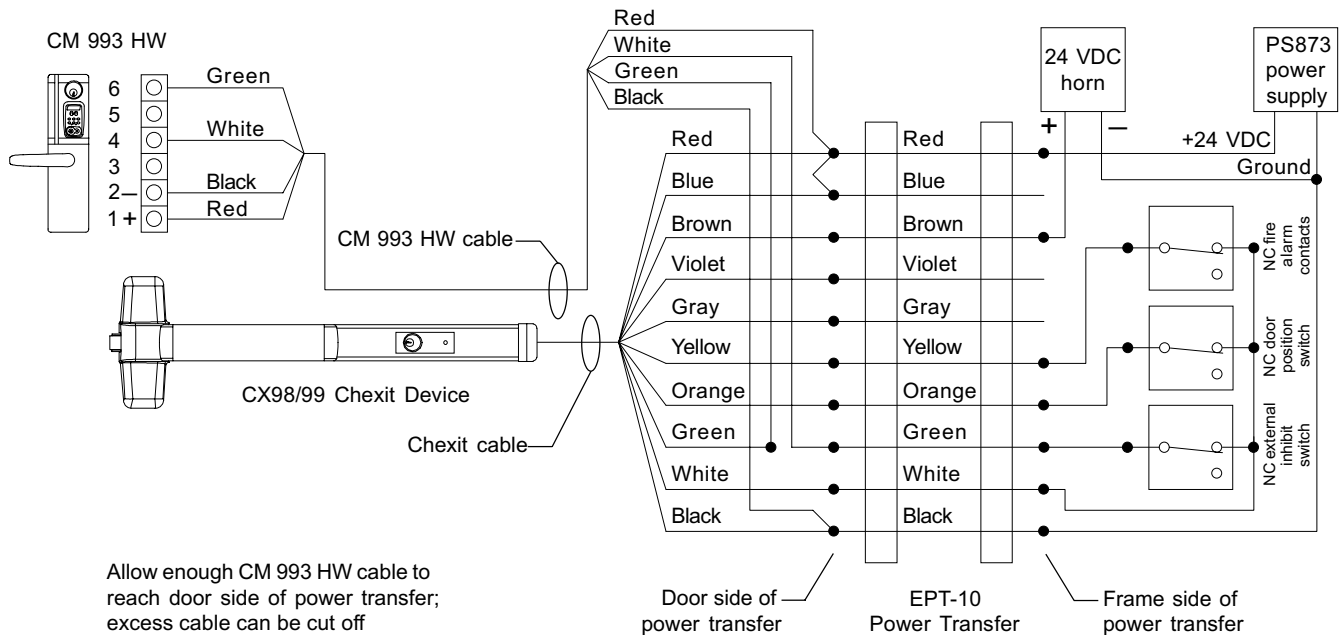
## Basic Chexit System Wiring

- See Chexit installation instructions (Von Duprin part number 911352) for restrictions on wire gauge and maximum distance between the power supply and door.

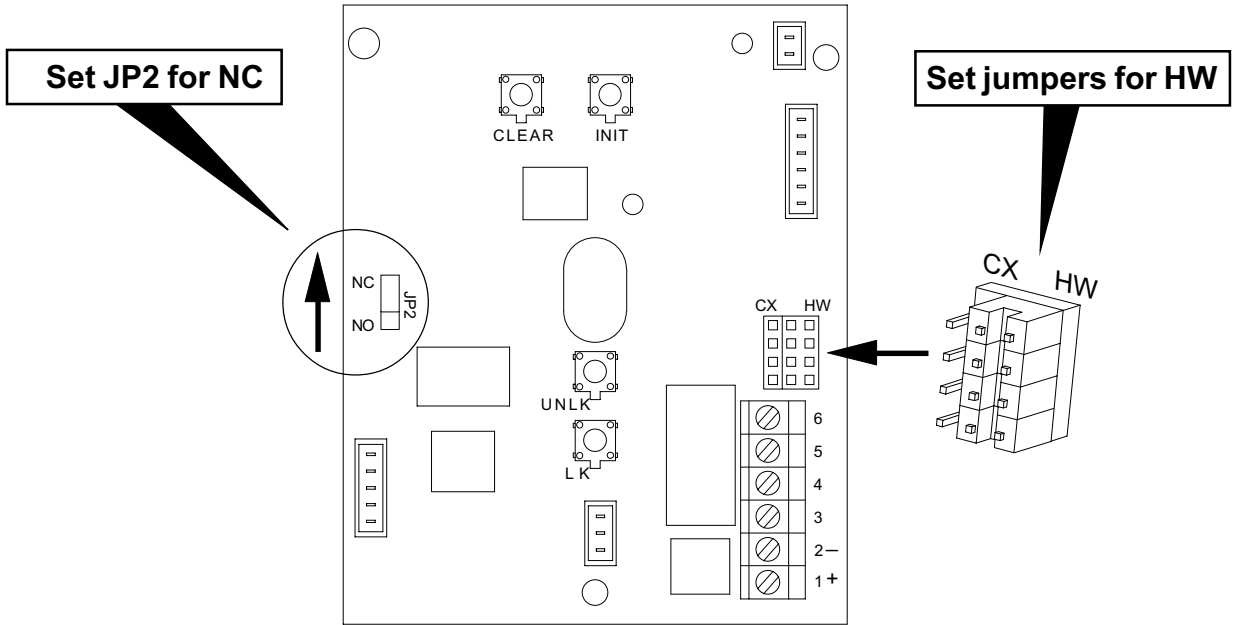


## Chexit System Wiring with Door Position Switch, External Inhibit, and External Horn

- See Chexit installation instructions (Von Duprin part number 911352) for restrictions on wire gauge and maximum distance between the power supply and door.

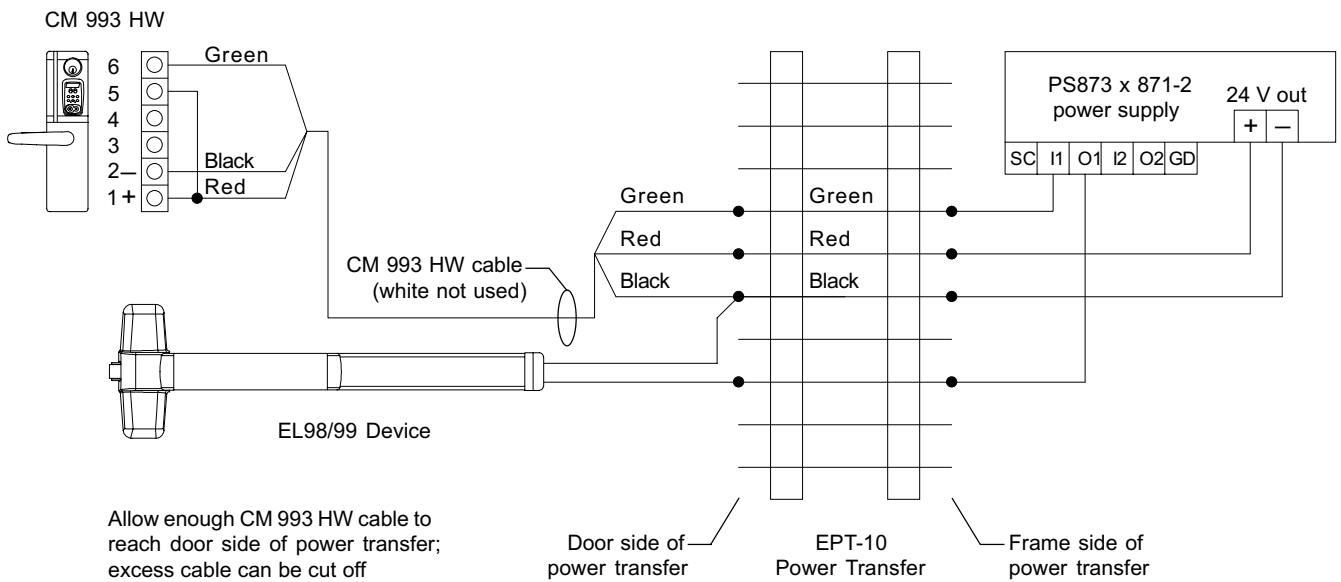


**CM 993 HW Jumper and Switch Settings for EL Device**



**EL System Wiring**

- See PS873 installation instructions (Von Duprin part number 941352) for restrictions on wire gauge and maximum distance between the power supply and door.

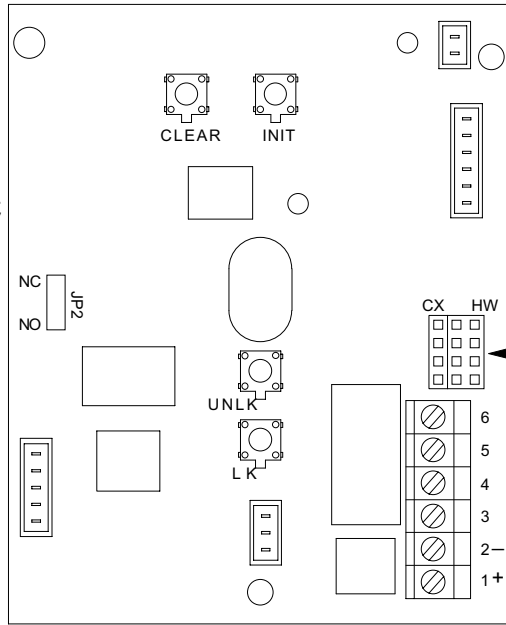


# 12 CM 993 HW Wiring for 98/99 Device

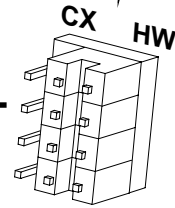
## CM 993 HW Jumper and Switch Settings for 98/99 Device

For closed output contacts when trim is unlocked, set JP2 for NO.

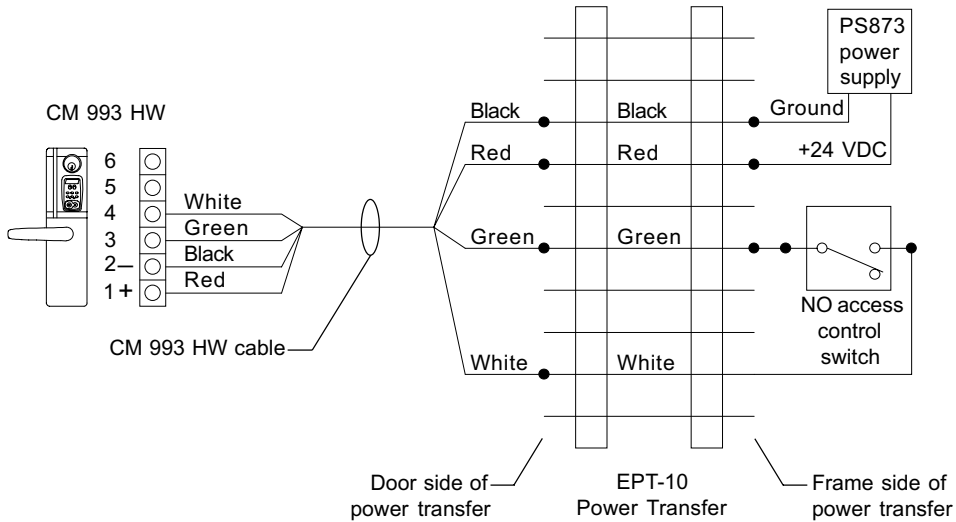
For open output contacts when trim is unlocked, set JP2 for NC.



Set jumpers for HW



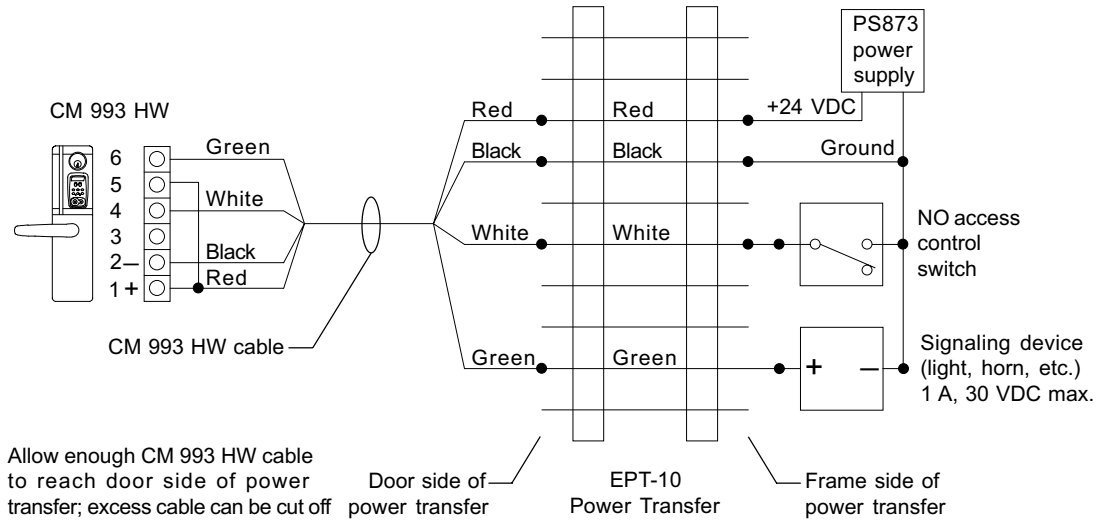
## Basic 98/99 Wiring with Remote Release



**12 CM 993 HW Wiring for 98/99 Device (continued)**

**98/99 Wiring with Remote Signaling and Remote Release**

- Trim and signaling device must be powered from the same power supply.
- JP2 is set for NO so that indicator is active when trim is unlocked.



**NOTE**

For CX device: Skip step No. 10.1. See Chexit installation instructions (Von Duprin part number 911352) for CX device operational test.

**Operational Test for Trim with 98/99 Device**

- 10.1. Depress exit device pushpad. Latch(es) should retract.
- 10.2. Turn trim cylinder key counterclockwise until key stops.
- 10.3. Press trim lever down. Latch(es) should not retract.
- 10.4. Turn trim cylinder key clockwise until key stops. For trim with ATK option, green LED on trim flashes when key is turned. For EL application, device latch will retract.
- 10.5. Press trim lever down and release. Latch(es) should retract.
- 10.6. Turn trim cylinder key counterclockwise until key stops.
- 10.7. If trim has keypad, enter factory default access code: **1 3 5 7 9**. Green LED on trim flashes. For EL application, device latch will retract.
- 10.8. While green LED is flashing, press trim lever down and release. Latch(es) should retract.
- 10.9. After green LED stops flashing, press trim lever down and release. Latch(es) should not retract.

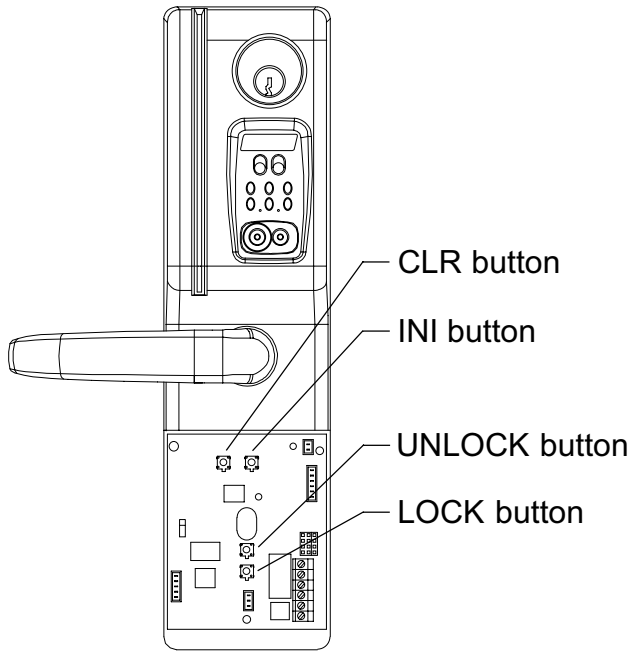
**Troubleshooting**

If the cylinder key does not work properly, check that:

- (1) the cylinder is installed in the correct position;
- (2) the correct cylinder cam is installed;
- (3) the cylinder cam is installed in the correct position.

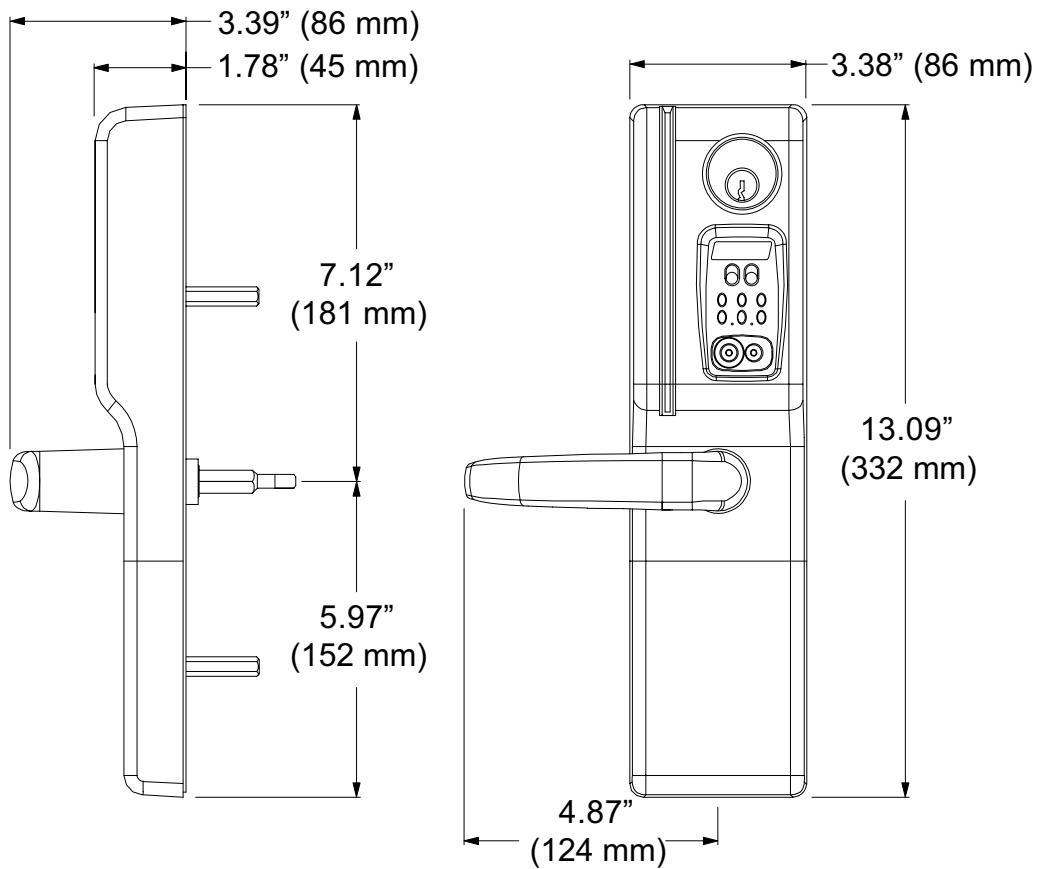
If the keypad does not work properly, check that trim has proper voltage on 1(+) & 2(-) terminals.

## BUTTON LOCATIONS



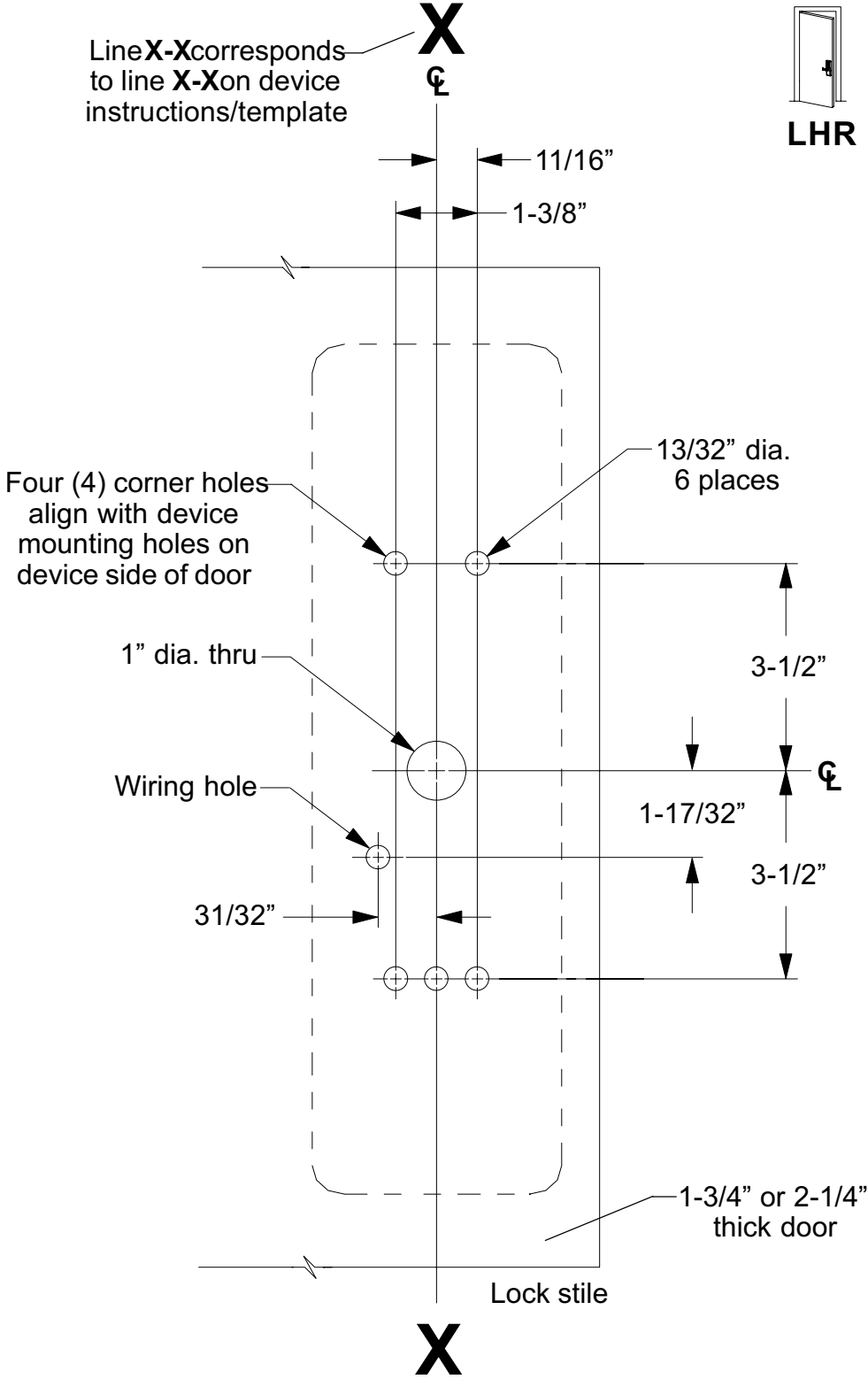
MGI/MGK model shown  
(others similar)

## TRIM DIMENSIONS



# LHR TEMPLATE

Template is not to scale



# RHR TEMPLATE

Template is not to scale

