8000/8300 Series Electric Strike Troubleshooting Guide

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System Overview

The 8000 Series and 8300 Series (fire-rated) are compact, high performance electric strikes featuring a unique concealed design for use with cylindrical locksets. No cutting on the frame is required. Simply remove the existing strike plate, adjust the vertical alignment feature to the latchbolt centerline, and install. Its strength is derived from a unique keeper pin locking design, enabling these electric strikes to exceed the ratings of the frame, door and locking hardware. This field selectable fail secure/fail safe unit is easy to install and accommodates latchbolts up to 5/8" throw.

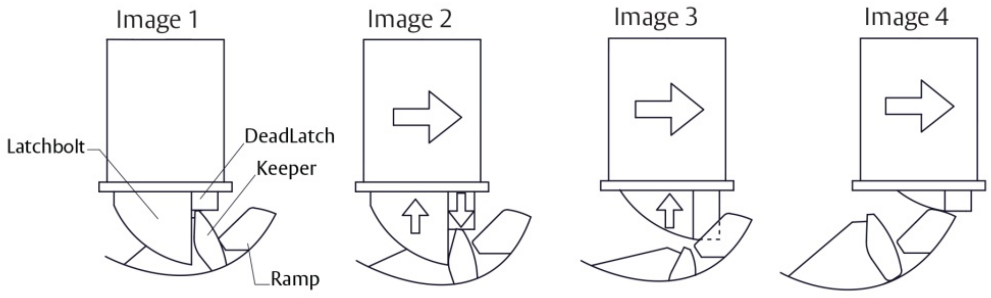
Introduction

This troubleshooting guide is designed to help identify and solve potential situations encountered with a 8000/8300 Series Electric Strike. It is not designed as a substitute for the instructions that were shipped with the electric strike. If the instructions are missing, a replacement can be obtained by contacting HES, Inc. at 1.800.626.7590. Information is also available on HES's website: www.hesinnovations.com.

A New Kind of Electric Strike

A standard electric strike requires a cutout on the side of the door frame to allow the extended latchbolt to exit the frame. In contrast, the 8000/8300 uses special internal ramps to eject the latchbolt from an unmodified frame. For the 8000/8300 to operate correctly, it is important to first understand the relationship between the unit's internal ramps and the position of the latchbolt, as follows:

- Initially, the 8000/8300 operates very much like a standard electric strike. With the door in the closed position, the latchbolt is held secure by the keeper (see Image 1).
- When energized, the keeper releases the latchbolt. As the door moves forward, the deadlatch begins to drop (see Image 2).
- As the door continues to move forward, the deadlatch and latchbolt become fully released. The latchbolt will then pass from the keeper and begin to slide up the internal ramps (see Image 3). The deadlatch passes between the two internal ramps without contacting either ramp.
- As the door continues to open, the latchbolt and deadlatch will continue to slide up the internal ramps and out of the door frame to release the door (see Image 4).



Why Angles are Important

The 8000/8300 ramps are designed with critical angles that minimize both latchbolt wear and the force required for exit. For optimal performance, the latchbolt should be positioned at a 40–45 degree angle in relation to the ramps of the 8000/8300. An angle greater than 45 degrees will steepen the ramp and impact the performance of the 8000/8300 (see Image 5).

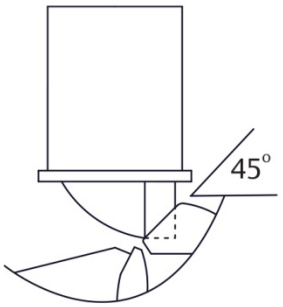


Image 5

NOTE 1: The 8000/8300 electric strike requires that the opening be plumb and square to insure proper catch and release of the latchbolt.

NOTE 2: It is difficult to measure the critical angles of the 8000/8300 in the field. The following section is designed to help in understanding some simple techniques to evaluate the conditions and relationships between the door, latchbolt, frame, and 8000/8300.

Evaluating the Opening

Although the design of the 8000/8300 provides adjustability to compensate for frame and door irregularities, in some cases, adjusting the frame and door back to industry standards is not an option. The following are some tips to quickly compensate for frame twist and to determine the condition of the latchbolt.

1. **IF** trying to determine a measurement of frame twist,
   THEN PLACE a carpenter's square on the stop and the face of the door,
   AND READ the angle.
2. **IF** the angle is less than 90 degrees,
   THEN the 45-degree ramp angle of the 8000/8300 is steepened,
   AND CORRECT, as needed (see Image 6).

   NOTE: Poorly constructed, worn out, or damaged latchbolts may not slide along a ramp at any angle
3. CHECK the condition of the latchbolt prior to installation of the 8000/8300.
   a. APPLY a slight force to the tip of the latchbolt (about 45 degrees to door face).
   b. ENSURE that the latchbolt can be pushed up into the door.

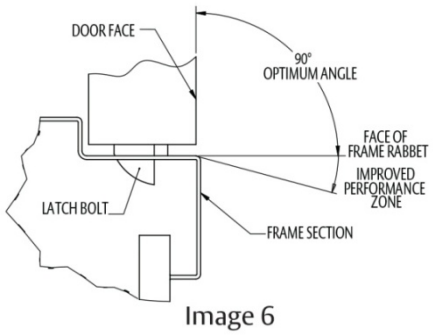


Image 6

Accommodating for Frame Twist

When a frame is twisted, the relationship between the face of a closed door and the inside face of the frame (i.e., Rabbet) may not meet the 90 degree industry standard. Untrue frames and doors impact latchbolt wear and the force required to exit. It is recommended that the angle be 90 ~ 95 degrees.

1. **IF** manipulating the frame is not possible,
   THEN PLACE several shims under the top and bottom (stop side) of the faceplate to increase the 8000/8300 ramp angle and to compensate for frame twist (see Image 7),
   OR PLACE shims under the top and bottom (bevel side) of the latchbolt (see Image 8).

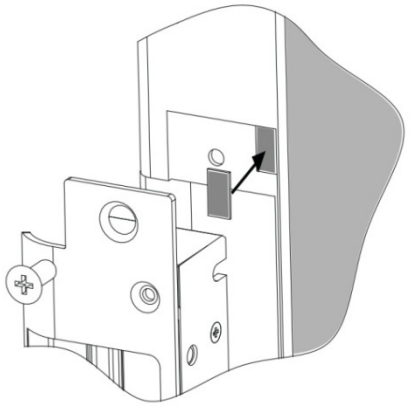


Image 7

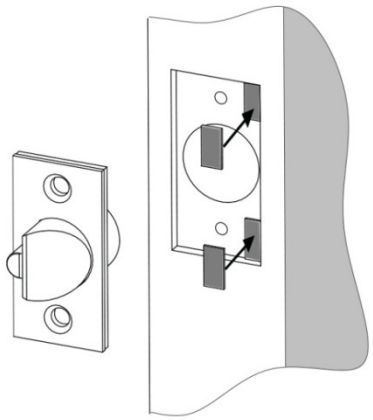


Image 8

Situations and Solutions

Situation	Solution
Hardware is released by keeper, but is catching on the external ramps.	1. With the 8000 installed, MARK the frame between the ramps. 2. REMOVE the 8000 from the frame. 3. REINSTALL the 8000. **NOTE:** Performance is more pronounced at increased door speed, because the latchbolt is pushing the electric strike more into the frame. 4. VERIFY performance at all exit speeds. 5. **IF** hardware continues to catch, **THEN** REPEAT the above steps.

Situation

Hardware is catching before being released by keeper.

NOTE: Both the Latchbolt Push Test and Deadlatch Drop Test are performed.

Solution

1. PERFORM the Latchbolt Push Test.

   NOTE: The finger applying force mimics contact by the ramp.

   a. APPLY force at a 45 degree angle to the latchbolt using a finger (see Image 9).

   b. LOOK for smooth and stable retraction of the latchbolt (i.e., no catching of the latch).

NOTE: Image 10 provides illustration for the following steps.

2. PERFORM the Deadlatch Drop Test.

   a. DEPRESS the deadlatch and HOLD.

   b. APPLY a slight force to the latchbolt at a 45 degree angle (but not enough to move it up).

   c. RELEASE deadlatch.

   d. LOOK for deadlatch to freely drop back down to its unguarded position.

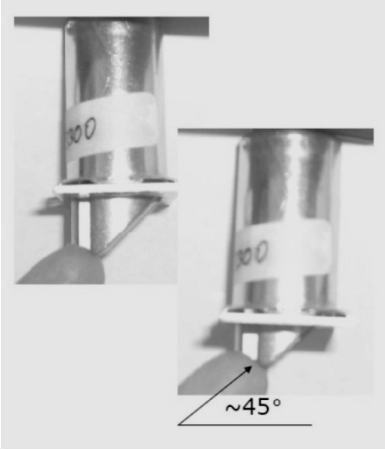


Image 9

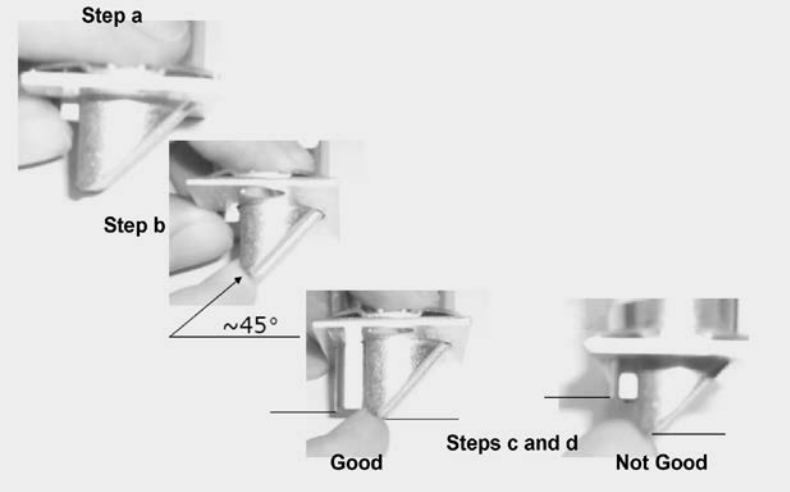


Image 10

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