ENGINEERING EVALUATION

REPORT NUMBER: 100378137MID-002
ORIGINAL ISSUE DATE: April 26th, 2011
REVISION AND DATE: Original

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RENDERED TO

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PRODUCT EVALUATED: Model 8500 electric strike
EVALUATION PROPERTY: Fire Resistance

Engineering Evaluation of Hanchett Model 8500 Electric Strike for compliance with the applicable requirements of the following criteria: NFPA 80-10 *Standard for Fire Doors and Other Opening Protectives.*

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2 Introduction

Intertek is conducting an engineering evaluation for Hanchett Entry Systems, Inc. on Model 8500 Electric Strike, to evaluate Fire Resistance. The evaluation is being conducted to determine if use in an assembly to protect openings against the spread of fire and smoke will comply with NFPA 80-10 *Standard for Fire Doors and Other Opening Protectives*.

3 Product and Assembly Description

3.1. Product Description:

The 8500 series is an electric strike for use with mortise latches having ¾ inch latch bolts, when such latches are mounted in single swing doors up to 4'0" wide x 8'0" high.

See 8500 Series Electric Strike installation instructions for details.

3.2. Product Certification:

Hanchett Model 8500 Electric Strike is a UL Listed Electric Strike for compliance with applicable requirements of the following standards: UL10B *Fire Tests of Door Assemblies*, UL 10C *Positive Pressure Fire Tests of Door Assemblies* and UBC7-2 (1997). Model 8500 Electric UL Listing information states listing for use with mortise latches having ¾ inch latch bolts. Listing information is not by Intertek and has not been confirmed by review of test data and is mentioned here for informational purposes only.

Authorities Having Jurisdiction (AHJ) should be consulted in all cases as to the particular requirements covering the installation and use of Intertek certified products, equipment, systems, devices and materials. The AHJ should be consulted before construction. Fire resistance assemblies and products are developed by the design submitter and have been investigated by Intertek for compliance with specific requirements. The published information (product and design listings) cannot always address every construction nuance encountered in the field. When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the test standard referenced for each Intertek certified product. The test standard includes specifics concerning alternate materials and alternate methods of construction. Only products which bear Intertek's Mark are considered as certified. The appearance of a company's name or product in Intertek Directory of Listed Building Products does not in itself assure that products so identified have been manufactured under Intertek's Follow-Up Service. Only those products bearing the Intertek Mark should be considered to be Listed and covered under Intertek's Follow-Up Service. Always verify the Mark on the product before using it.

4 Reference Documents

As part of this evaluation, Intertek has directly or indirectly used the following referenced documents:

- UL Directory of Listed products, summary information GXAY.R9483
- NFPA 80 (2010) "Standard for Fire Doors and Other Opening Protectives"
- HES 8500 Series Electric Strike Product Information.

5 Evaluation Method

This evaluation is being conducted solely for the above italicized referenced project or use or both. Due to the variables that exist from project to project and the fact that each evaluation requires review of the most current existing data and information, this evaluation is not to be used as justification for any other opinion nor used for any other project, without the express written consent of Intertek. This report should serve as Intertek's opinion regarding the use of the certified product in the conditions described herein. The materials used on the project, which are applied in compliance with Intertek Design Listings, must bear the Intertek listing mark. All certified products must be installed in accordance with the details contained in Intertek's *Directory of Listed Building Products*.

The product assembly and use was evaluated against requirements in NFPA 80 that would make the use of HES Model 8500 Strike compliant with NFPA 80.

A review of NFPA 80 finds:

- Electric strikes are defined per section 3.3.121.1 as strikes that, when activated, either releases or retains a projected latch or dead bolt.
- Strike plates are defined in section 3.3.122 as wear plates for projecting hardware or a wear plate and keeper for a latch bolt.
- Per Section 6.4.4.11 electric strikes are permitted in lieu of conventional strikes in single swinging doors and pairs of doors where provided for in the published listings. Typical electric strikes are illustrated in annex A. figure A.6.4.4.11.
- Section 6.4.4.8 requires Strike plates are secure to frame with steel screws or other types of screws as indicated by the manufacturer's published listing or label service procedure.
- Section 6.4.4.9 requires Strike plates for doors swinging in pairs to be secured to reinforcements in the inactive leaf with machine screws.
- Section 6.4.4.9.1 requires pilot holes to be drilled prior to strike plate installation, in accordance with manufacturer's installation instructions.

An examination of the product and Listed use found that HES Model 8500 falls within the definition of electric strikes and complies with the above NFPA 80 criteria. The strike releases or retains a projected latch bolt when activated and includes a strike plate acting as a wear plate for and keeper for a latch bolt. The 8500 strike is fire rated per UL report GXAY.R9483, allowing it to be used in place of conventional strikes. The strike plate is secured to the frame with steel screws installed into pilot holes drilled into the frame prior to installation, as indicated by the attached installation instructions. Section 6.4.4.9 does not apply to the 8500 strike as it is only to be installed into a single swing frame.

6 Conclusion

Intertek is conducting an engineering evaluation for Hanchett Entry Systems, Inc. on Model 8500 Electric Strike, to evaluate Fire Resistance. The evaluation is being conducted to determine if use in an assembly to protect openings against the spread of fire and smoke will comply with NFPA 80-10 *Standard for Fire Doors and Other Opening Protectives*.

Based on the information contained and referenced herein, it is Intertek's professional judgment based on sound engineering principles that the following is true: Listed use of Model 8500 Electric Strike complies with NFPA 80-10.

INTERTEK

Reported by: _____
Jesse Peterson
Project Engineer, BP-Safety

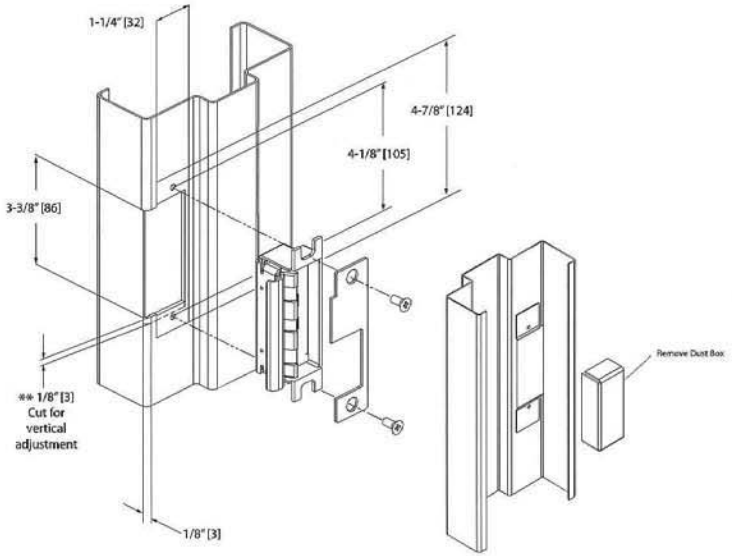
Reviewed by: _____
Mike Puls
Engineering Team Leader, BP-Safety

7 APPENDIX

- HES 8500 Installation Instructions

Frame Preparation*

Inches [mm] 6



*Note: The 8500 electric strike will require removal of dust boxes of less than 1-3/8" depth. Remove additional material as needed to provide clearance for electric strike and wires.

**Note: Only required to compensate for door sag. See Figure 3 on Sheet 3.

DIAGRAM 6: Horizontal Lockdown Shim Installation



1 Shim = 1/16" [1.5]
2 Shims = 1/8" [3]

NOTE: Canadian frames do not require shims.

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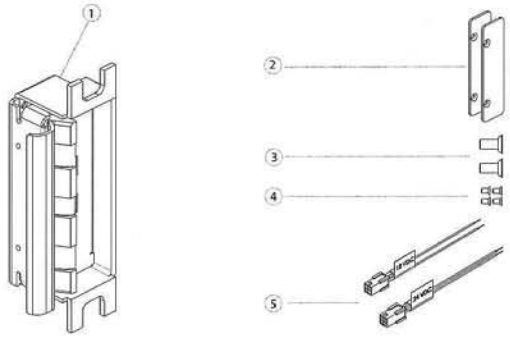
Installation Instructions
8500 Series Electric Strike

HES, Inc.
Phoenix, AZ
800-626-7590
www.hesinnovations.com

1

Product Components

1. 8500 Electric Strike Body
2. Horizontal Lockdown Shims
3. #12-24 Mounting Screws
4. #4-40 Screws
5. 12 & 24 Volt Pigtails



Electrical Specifications

ELECTRICAL RATINGS FOR SOLENOID	CONTINUOUS DUTY		INTERMITTENT DUTY*	
	12VDC	24VDC	12-16VAC	24VAC
Resistance in Ohms	50	200	50	200
Amps	.24	.12	.24-.32	.12

Solenoids are rated at +/- 10% indicated value.
*10% max duty cycle (2 min. max on time)

MINIMUM WIRE GAUGE REQUIREMENTS	SOLENOID VOLTAGE	
	12VDC	24VDC
200 feet or less	18 gauge	20 gauge
200 - 300 feet	16 gauge	18 gauge
300 - 400 feet	14 gauge	16 gauge

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Installation Directions

CAUTION! Before connecting any device at the installation site, verify input voltage using a multimeter. Many power supplies and low voltage transformers operate at higher levels than listed. Any input voltage exceeding 10% of the solenoid rating may cause severe damage to the unit and will void the warranty.

Evaluate Opening

1. Verify opening is plumb and square and evaluate latch bolt condition. For important details, see "Troubleshooting Tips".

Prepare Strike

2. Make sure that the electric strike is in correct mode of operation. This electric strike ships in fail secure mode. If you need to convert the unit to fail safe, see Diagram 2 on page 5.

Prepare Frame

3. Remove dustbox and prepare door jamb per the template detail on page 6. Be sure to allow enough room behind the electric strike in the cutout to avoid pinching the wires.

Install Deadlatch Platform

4. Select deadlatch platform and platform position appropriate for the lockset (see Diagram 4 on page 5).

5. Insert deadlatch platform into the keeper slot as shown in diagram 5 on page 5, ensuring that the screw holes in the deadlatch platform foot and outer casing are aligned. It may be necessary to slightly retract the keeper in order to properly seat the deadlatch platform fastening foot.

6. Fasten the deadlatch platform to the electric strike using the #4-40 screw provided.

Install Strike in Frame

7. Select the appropriate 12 or 24 Volt pigtail to match system power and electrically connect to system power as illustrated in Diagram 1 below. For 12V AC/DC or 16V AC, the pigtail marked "12 VDC" should be used. For 24V AC/DC, the pigtail marked "24 VDC" should be used. If no connector is present, configure the wires as shown in Diagram 1.

8. If using Latchbolt Monitor (LBM) or Latchbolt Strike Monitor (LBSM), see Diagram 3 on page 5.

9. Connect the 12 or 24 Volt pigtail to the electric strike.

10. Insert electric strike in jamb cutout and install the appropriate faceplate using the #12-24 screws provided. Partially tighten screws and close the door.

11. Verify lockset's deadlatch is positioned on top of the deadlatch platform, and does not touch the faceplate. See troubleshooting tips for more information.

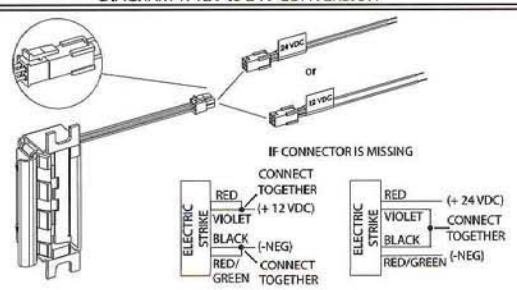
Set Horizontal Adjustment

12. Open the door and pull the electric strike flush with the inside face of the frame (in the direction of the opening), and tighten screws.

13. Close the door. If excessive movement (door play) or preload exists when latched, remove strike from the jamb cutout, and add a horizontal lockdown shim to the front face of the electric strike (See Diagram 6 on page 6). Ensure the horizontal lockdown shim or front face of the electric strike is making contact with the inside face of the frame, and reinstall. Check again and add or remove additional shims until proper horizontal adjustment is achieved.

Note: The gap between the door and the frame at the strike plate varies. Verify latchbolt guarding with door closed.

DIAGRAM 1: 12V to 24V CONVERSION



Installation Diagrams

DIAGRAM 2: Fail Safe Conversion



DIAGRAM 3: LBM & LBSM

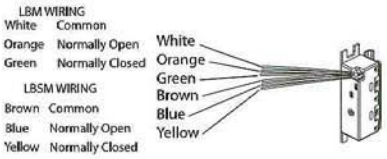


DIAGRAM 4: Deadlatch Platform Selection

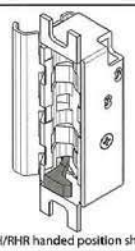
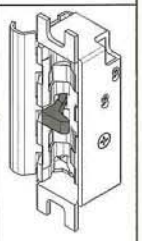
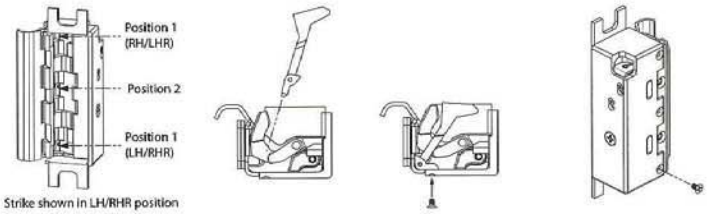
Lockset	Platform Style	Platform Position 1	Lockset	Platform Style	Platform Position 2
Sargent 8100, 8200, 9200 Yale 8800 Accurate Falcon Kaba Ilco/Unican	M		Yale 8700	M	
Corbin Russwin ML 2000	K	LH/RHR handed position shown	Schlage L9000	L	

DIAGRAM 5: Deadlatch Platform Installation



Important Trouble Shooting Tips

3

NOTE! The 8500 electric strike requires that the opening be plumb and square to ensure proper catch and release of the latchbolt.

Door sag and latchbolt wear are two common conditions that may prevent an electric strike from working properly. Here are some quick tips to ensure the HES 8500 performs at its best:

EVALUATING LATCH BOLT CONDITION

Poorly constructed, worn or damaged latchbolts may not interact properly with the ramp of an electric strike. To check the condition of your latchbolt, lightly depress the tip of the latchbolt at a 45 degree angle to the door face -- (see Figure 1). The latchbolt should be easily pushed into the door. If abnormal resistance is encountered, apply a lubricant to the inside of the latchbolt opening with the latchbolt depressed. (See Figure 2) Check manufacturer for proper maintenance and approved lubricants. If this does not correct the friction, additional maintenance on the latchbolt may be required.

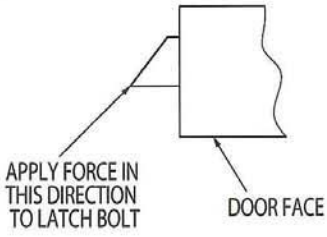


Figure 1: Apply force to latch bolt

ACCOMMODATING DOOR SAG

Most doors experience some sagging over time. To check for door sag, look at the location of the dead latch in relation to the strike faceplate and Deadlatch Platform. The deadlatch should rest fully on the deadlatch platform. If the deadlatch contacts the faceplate or edge of the strike body, the latchbolt may not be fully released when the strike is activated.

To correct this condition, uninstall the strike and remove 1/8" of material from the bottom edge of the frame opening, making sure to retain the mounting hole on the lower mounting tab. Reinstall the strike, using the SD faceplate instead of the standard faceplate.

If this does not correct the issue, additional maintenance on the door may be necessary.

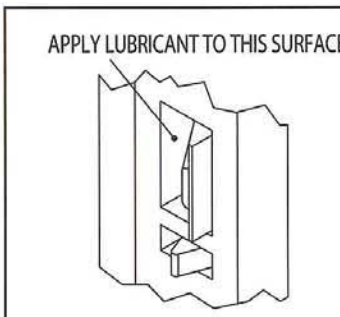


Figure 2: Lubricate latch bolt as required

STRIKE LUBRICATION

Lubrication of the 8500 electric strike is not necessary.

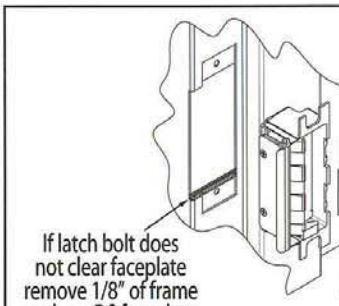
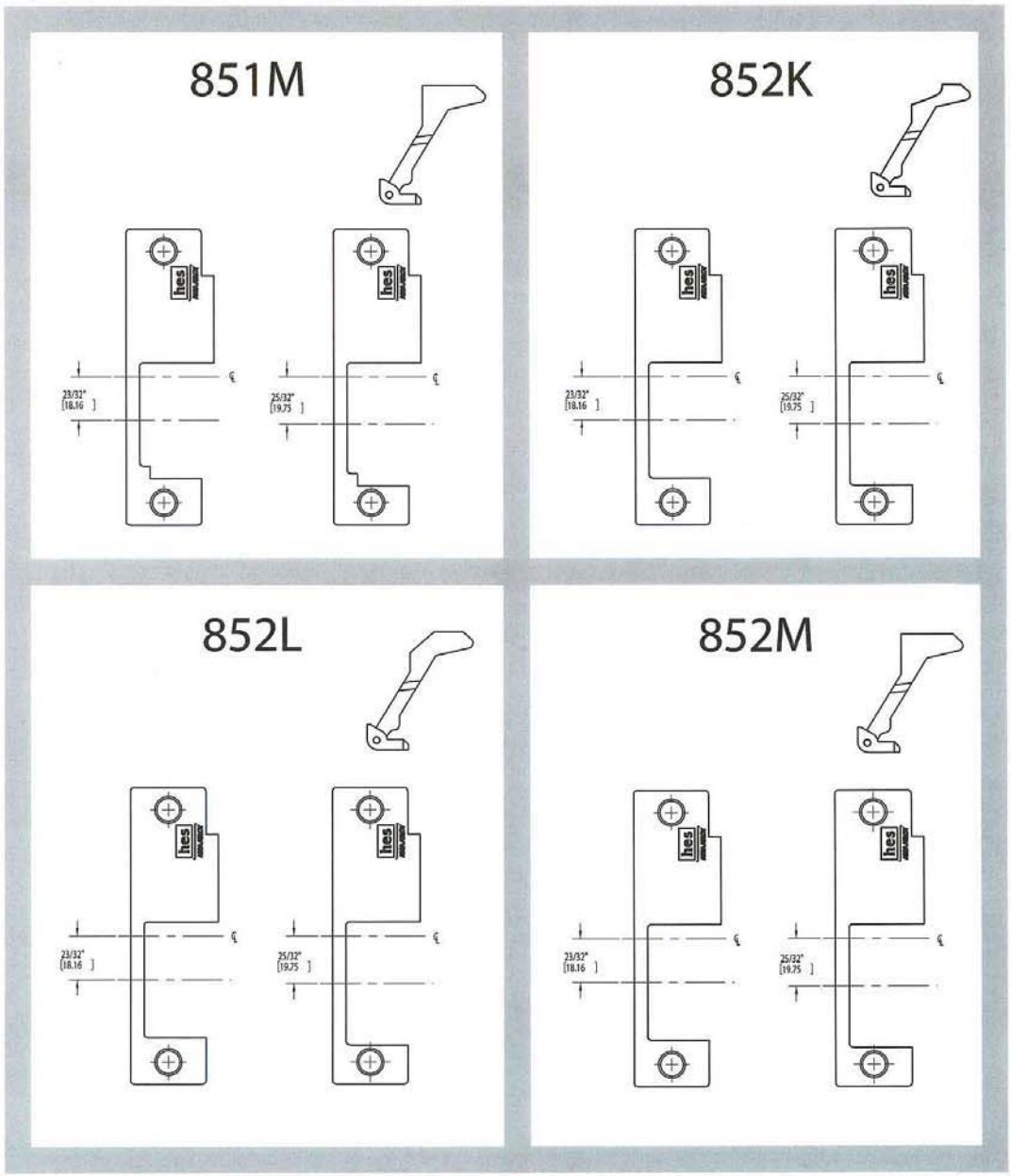


Figure 3: Vertical Adjustment

8500 Options

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℄ = centerline of faceplate
(2nd line = centerline of faceplate opening)



8 LAST PAGE & REVISION SUMMARY

DATE	SUMMARY
April 26th, 2011	Original