6940 Hall Door Interlock
Fit, Selection, and Installation Guide
6940 Hall Door Interlock

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Fit and Selection Criteria

Prior to Ordering Any Door Lock Material, Confirm Locks Will Fit

1. You must know the “Hand” of your door system. Standing inside the elevator looking out the opening, if the door(s) open to the right, then this is a RH door system. If you have Center-Opening doors, these could be LH or RH. Find out which door panel is the “driven” panel—the one which the door lock mounts to—and determine which way it opens per convention above.

2. To apply the 6940 door lock to particular elevator entrances, you must evaluate the running clearances and door panel clearances prior to assuming the lock will simply “fit.”

   a) Hall door face to hall sill nose (typical for Otis application is 2.24 in.; see Figure 1)

   b) Hall door face to car threshold nose (typical for Otis application is 3.25 in. to 3.5 in.; see Figure 2)

   c) Car door face to car threshold nose (typical for Otis application to fit standard car cam is 1.75 in. (see Figure 2)

   d) Hall door face to entrance header outer vertical face (to ensure space for interlock switch box; typical for Otis application is 1.98 in.)
Figure 1

**Typical ‘M’** = Approximately 3.4 in. (can be 3 in. with standard door locks and rollers by removing spacer washers from behind rollers)

**Minimum ‘M’** = 2.6 in. (w/o adapter plate and w/ rollers per NOTE on p. 6)
NOTE: UNITEC can provide, for certain tighter running clearance applications, shallower reach door lock rollers and pins. If you have this concern, please ask UNITEC. These would be special order. (Ref. 1-456C1 and 1-77A1)
**NOTE:** Five different height chair brackets are available through UNITEC for 6940 lock kits - but optional for use - especially if header pocket height does not allow for it. See Appendix B.

\[ H = 1 \text{ in. for standard chair bracket} \]
\[ 9.88 \text{ in. latch bolt mounting location.} \]
See **NOTE** above.

\[ P = \text{header pocket height} \]
( std. for 6940 lock = 7.56 in.)
These locks can accommodate up to
\[ P = 13.28 \text{ in. and as little as } P = 6.5 \text{ in.} \]
depending on door hanger height
(assumes 3/4 in. door top lap)

**Figure 3:** RH C/O with Closer
Select Kit Parts You Will Need

Decide Which Chair Bracket Height You Will Need (Figures 3, 4 and Appendix B)

3. You must know what your header pocket height “P” (see Figure 3) is in order to choose the best chair bracket. The proper chair bracket will get you the most cost effective kit as well as the most field friendly installation possible. Header pocket height is measured from the underside surface of the hall entrance header (not the door frame) down to the top edge of the door panel (see Appendix B chair bracket).
Decide If Your Site Conditions Require Adapter Plate for Door Face (Figure 5)

4. You must know if the job was previously set up for and had mounting hole accommodations in the face of the door panel for 6940 door lock latch. The latest 6940 locks have slots to accept studded plates (see Figure 5) or tapped holes in the door panel which are in line horizontally and approximately 7-5/8 in. apart. If buying new door panels from UNITEC, those panels will come set up for 6940 door locks if we know you are in fact installing those types of locks.

Figure 5: AAA306RE1

5. You must decide if you are going to retain any existing door closer mechanism, or change out old door closer and rely on the lighter weight spirator retractable reel closer (Figure 6). Understand that the spirator closers are not intended for use on 100% of door systems. So before you eliminate a heavy duty spring arm closer or weight closer, please be sure that the spirator closer is an acceptable alternative for your situation. UNITEC has used spirator closers on openings up to 48 in. 2-speed, 48 in. center-opening, and 48 in. single-slide x 84 in. tall. Any size and door weight beyond that—you will need to make a local decision on whether to try the spirator closer or not.

Figure 6: B6940AN1

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6. If installing 6940 locks where there were none before, you will need to install the appropriate car door vane/cam to work with 6940 door locks. Standard present day 30 in. long car vane is AAA6940BZ1.

7. You will need to know before the start of the job and the quoting of your interlock equipment, whether or not hall door unlocking devices (drop key access) will be code required and permissible for the job at hand. Both standard entrance height and tall entrance height unlocking devices are available through UNITEC. Drilling door panels and locating the drop key access holes can be tricky. Please consult Figures 8–10 prior to installation.

<table>
<thead>
<tr>
<th>Opening Height</th>
<th>Unlocking Device Part Number</th>
<th>Description</th>
<th>Figure</th>
</tr>
</thead>
<tbody>
<tr>
<td>80–88 in.</td>
<td>AAA6940CC400-UNITEC</td>
<td>Paddle w/Hardware and SS4 Tube</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>AAA6940CC401-UNITEC</td>
<td>Paddle w/Hardware and Brass Tube</td>
<td></td>
</tr>
<tr>
<td>89–108 in.</td>
<td>AAA6940CA4</td>
<td>Linkage Kit, w/Hardware for 1-1/4 in. Doors, SS4 Tube</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>AAA6940CA5</td>
<td>Linkage Kit, w/Hardware for 1-1/4 in. Doors, Brass Tube</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AAA6940CA6</td>
<td>Linkage Kit, w/Hardware for 3-1/4 Doors, SS4 Tube</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AAA6940CA7</td>
<td>Linkage Kit, w/Hardware for 3-1/4 in. Doors, Brass Tube</td>
<td></td>
</tr>
</tbody>
</table>
Lock Installation Guide

Switch Box and Latch Mounting Dimensions
(s/s and 2-speed shown, see p. 7 for c/o)

Top edge of adapter (AAA306RE1) to studs is 1-1/4 in. Take this into account with header pocket height dimension before fixing adapter in place. See Figures 5 and 7.

Figure 7: RH w/Closer
Standard (84 in.) Door Height Unlocking Device Installation Guide

* These dimensions assume standard header pocket height of 7.56 in. and top door lap of approximately 3/4 in. However, differently the 1/2 in. lock mounting holes are located from the top of door, to achieve correct unlocking key hole location— increase or decrease the dimensions (5-3/4 in. and 2.32 in.) by that same amount.

Figure 8: Standard Door Height Emergency Key Application

Figure 9: p/n AAA6940CC400-UNITEC (SS4)
Tall Entrance (89–108 in.) Unlocking Device Installation Guide

Figure 10: Tall Door Unlocking Device (AAA6940CA4, 5, 6, 7)

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Step 1. Locate and drill unlocking key hole only when you are sure of your A, B, and Y dimensions (80 inches up from sill, “A” inches in from edge). See NOTE 3.

Step 2. Mount 288RV2 to lock latch.

Step 3: Locate upper arm using dimensions X, Y, B, A, T and lower brackets using 5-1/4 in. dimensions (NOTES 1 and 2).

<table>
<thead>
<tr>
<th>Opening Height</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>96</td>
<td>10–9/16 in.</td>
</tr>
<tr>
<td>108</td>
<td>22–9/16 in.</td>
</tr>
</tbody>
</table>

**NOTE:** For openings in between, adjust “T” accordingly.

For:

“Y” = standard 2.32 in. (assumes ¾ in. door top lap)

Then

“X” = 6-3/16 in.

After “X” based on any variations in “Y” from the standard

For:

“B” = standard 4-1/16 in.

Then

“A” = 7-3/16 in.

After “A” based on any variations in “B” from standard

**NOTE 1:** To obtain clearance to 288RV2, loosen rod clamping nut and adjust rod. Hold the lower arm against the rubber stop and slide rod to achieve 1/8 in. clearance. After adjustments, tighten the clamping nut.

**NOTE 2:** Diameter 0.174 / 0.183 in. hole to be drilled once 316CTE2 and rod per NOTE 1 have been adjusted, use holes in 316CTE2 as marking template.

**NOTE 3:** If key hole is not provided, drill diameter 0.500 / 0.508 in. hole through door. Square to face of door. Use pilot drill to prevent oversized hole.

**NOTE 4:** This tall entrance unlocking transmission device is intended for openings only up to 108 in. tall. For entrances below 88 in., use unlocking device AAA6940CC400-UNITEC.

8. If performing Modernization, you ought to consider this to be the time to install door restrictors. Contact UNITEC and find out if the folding door restrictor or mechanical door restrictor may be appropriate for your job (see UT-ID 21.3-500).
Appendix A: Photos and Illustrations for Reference

Figure 11: Box, Contact, Cover 6940AG5 (shown) and 6940AG6
Figure 12: B6940C3 (shown) and B6940C4

Figure 13: B6940AN1 and B6940AN2  A6940AR1 (reel only)
Figure 14: Obsolete Original Otis 6940 Lock Setup w/ Tall Box and 4-Contact Block Assembly (see Appendix C, Figure 21)

Figure 15: AAA194AZ1

Figure 16: AAA6940CA4 Tall Door Unlocking Device Kit for Up to 108 in. Entrance Height

Figure 17: AAA6940BZ1 Type Car Door Vane (CAM)
Appendix B: Chair Bracket Selection

Figure 18: 316CDT1

H = 1 in. (standard for most Otis)

Figure 19:

12-316CDT3  H = 1.9 in.
12-316CDT5  H = 2.4 in.
12-316CDT6  H = 3 in.
12-316CDT16  H = 4.4 in.
Appendix C: 6940 Interlock Rebuild Kits

Figure 20: B6940C500
(minimum change kit)

Figure 21: B6940C502
(for obsolete locks, Figure 14)
Figure 22: B6940C503
(maximum change kit—most common and recent 6940 locks)

Figure 23: B6940C504
(red contact block kit)