

Revision 0.11



ALPHA ELEVATOR CONTROLLER, INC

6711 POWER INN RD, SUITE B

SACRAMENTO, CA 95828

TEL: (916) 957-5900

KUBLER LANDING SYSTEM INSTALLATION

What's Included:

- **Top Rail Assembly:**
 - 1x Rail Fastening Plate
 - 2x Clamping Plate
 - 2x Hexagon Head Screw (YL 8.8)
 - 2x Large Diameter Washer
 - 2x Retaining Ring
 - 2x Hexagon Nut (S 1101)
 - 1x Carabiner
- **Tape Break Switch Assembly**
 - 1x Tape Break Switch Rail Fastening Plate
 - 2x Clamping Plate
 - 2x Hexagon Head Screw (YL 8.8)
 - 2x Large Diameter Washer
 - 2x Retaining Ring
 - 2x Hexagon Nut (S 1101)
 - 2x Wire Rope Cable Clamp
 - 1x Pre-Cut 1/16th in. Galvanized Vinyl Coated Steel Wire Rope
 - 1x Tape Break Switch
 - 1x Tape Break Switch Key
 - 2x TBS Long Screw
 - 2x TBS Long Screw Washer
 - 2x TBS Long Screw Nut
- **Bottom Rail Assembly:**
 - 1x Rail Fastening Plate
 - 2x Clamping Plate
 - 2x Hexagon Head Screw (YL 8.8)
 - 2x Large Diameter Washer
 - 2x Retaining Ring
 - 2x Hexagon Nut (S 1101)
 - 2x Carabiner
 - 1x Tension Spring
- **Sensor Assembly**
 - 1x Sensor
 - 1x Sensor Mounting Plate
 - 1x Sensor Fastening Screw
 - 1x Sensor Fastening Washer
 - 3x 2ft Slotted Unistrut
 - 6x Crosshead Hexagon Head Screw (307A JH)
 - 14x Crosshead Hexagon Washer
 - 6x Retaining Ring
 - 6x Hexagon Nut (S 1101)
 - 2x Sensor Plate Screw (307A JG)
 - 2x Sensor Plate Washer (Small)
 - Horizontal Movement Bracket
 - 2x Sensor Plate Nut (LWFC)
 - 1x Coded Stainless-Steel Tape

Installation:

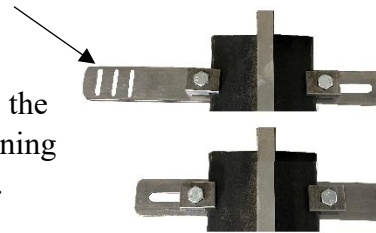
1. Assemble both Rail Fastening Plates using: 4x Hexagon Head Screws, 4x Hexagon Nuts, 4x Large Diameter Washers, 4x Retaining Rings and 4x Clamping Plates loosely. Each rail fastening plate will use 2 of each item listed above. See Figure 1



Figure 1: Assembled Rail Fastening Plate

2. Attach one of the assembled Rail Fastening Plates to the top of the guide rail in the hoistway overhead. Fastening plate may be oriented on either side of the guide rail. See Figure 2

Left Side Orientation



Right Side Orientation

Figure 2: Top Rail Fastening Plate Installation

3. Attach the Coded Stainless-Steel Tape to the Rail Fastening Plate.
 - a. Loop a Carabiner through a round hole close to the top of the tape.
 - b. Attach the Carabiner and tape to the Rail Fastening Plate by putting the Carabiner through the outermost slot if possible.
 - i. If using a different slot, make note of which slot the carabiner is on; the same slot will be used when installing the tape on the bottom rail fastening plate.
 - c. Ensure the tape is correctly oriented with the square holes on the right side of the tape. See Figure 3
4. Move the car down on inspection, unrolling the Coded Stainless-Steel Tape as the elevator moves. As the elevator reaches the bottom, drop the remaining tape into the pit.
5. In the pit, install the other assembled Rail Fastening Plate near the bottom of the guide rail following the same orientation as in step 2.

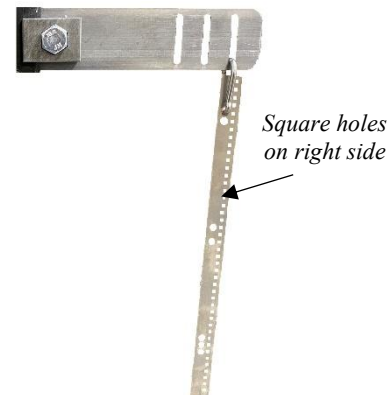


Figure 3: Top Rail Fastening Plate with Carabiner and Tape

6. Connect one Carabiner to the top of the Tension Spring and one to the bottom of the tension spring.
7. Connect the spring's top carabiner to a round hole on the tape. This will be where the tape ends.
 - a. Choose a hole such that the distance between the bottom of the spring's bottom carabiner and the top of the Rail Fastening Plate is between 2.0 – 3.0 inches when the spring is hanging and unstretched. See Figure 4
8. Connect the spring's bottom carabiner to the bottom Rail Fastening Plate using the same slot that was used at the top of the hoistway from step 3.

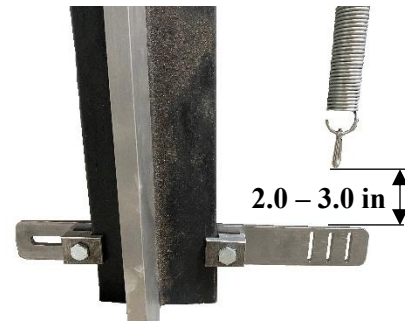


Figure 4: Distance from Bottom Carabiner of Tension Spring to Top of the Bottom Rail Fastening Plate

9. Cut the tape between ~0.2 – 0.6 inches down from the center of the hole that the bottom carabiner will go through. See Figure 5

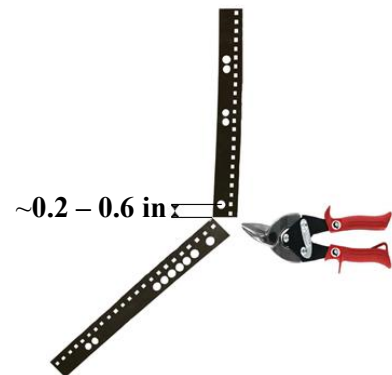


Figure 5: Excess Tape Cutoff

10. Install the Tape Break Switch Fastening Plate to the guide rail 2 – 3 feet above the bottom Rail Fastening Plate.
11. Connect the tape break switch to the plate with the key pointing downward; the key location can be adjusted on the tape break switch. The tape break switch must be parallel to the tape with some distance between. See Figure 6



Figure 6: Tape Break Switch

12. Connect the supplied wire rope, from the pull tab key to the top of the tension spring using the supplied wire clamp. Leave some slack to allow key to be pulled. See Figure 7
 - a. The key will be connected to one side of the wire rope with a wire clamp on it already.
 - b. Thread the other side of the wire rope, through the side of the upper hook that is enclosed by the carabiner, and a wire clamp to make a loop and tighten both nuts as tight as possible. Cut any excess wire rope. If the tape breaks, the spring will retract and pull down the key.

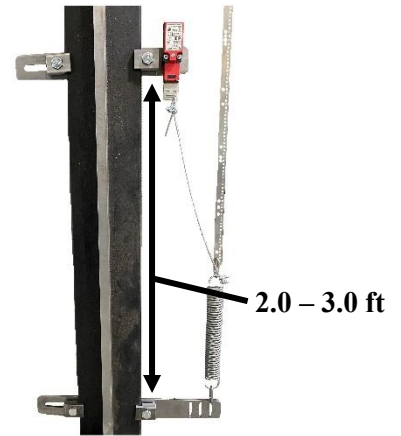


Figure 7: Tape Break Switch Assembly

13. Bring a pair of hoistway wires to connect the safety string circuit from the safety board to the tape break switch.

See Figure 8 for safety board connection.

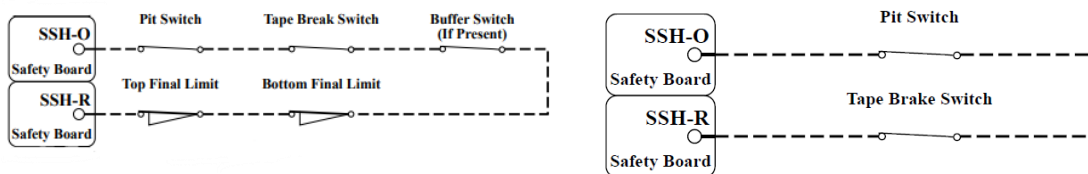


Figure 8: Safety String Wiring For Traction Safety Board (Left) and Hydro Safety Board (Right)

14. Unscrew and remove the front cover of the tape break switch to connect the normally closed contact to the safety string circuit through the hole. Ensure the contact is closed when the key is inserted and open when the key is removed. Close the cover and tighten screw after. See Figure 9



Figure 9: Tape Break Switch Contacts

15. Install the Sensor Mounting Plate to the crosshead on top of the car, using the supplied unistruts, washers and screws. Make sure to align the sensor mounting plate with the tape as much as possible. See Figure 10

ATTENTION: DO NOT EXTEND THE SENSOR MOUNTING PLATE TOO FAR OUT FROM CAR WITHOUT STABLE MOUNTING. DOING SO MAY CAUSE CONTROLLER FAULURES DUE TO VIBRATIONS TO THE SENSOR WHEN TRAVELING THROUGH THE HOISTWAY.



Figure 10: Sensor Mounting Plate Crosshead Installation

16. Install the Sensor to the Sensor Mounting Plate using the Sensor Fastening Screw and the Sensor Fastening Washer but do not fully tighten the screw to allow for adjustments. See Figure 11 The sensor will need to be oriented accordingly with the tape (use sticker on sensor for reference). **Ensure that the sensor is installed with the led on top of the sensor (Note: Led will be off if there is no power to the sensor. See Figure 12**



Figure 11: Sensor and Plate Assembly

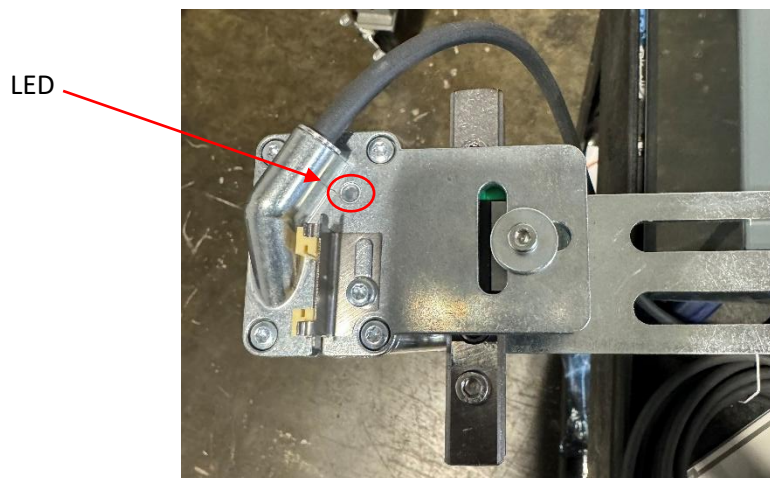
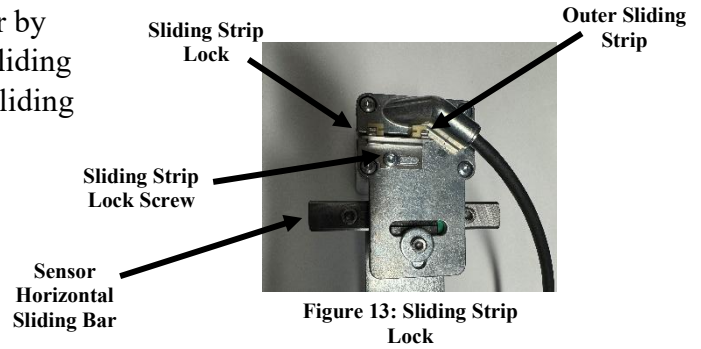


Figure 12: Sensor Properly Oriented (Top View of Sensor)

17. Remove the outer sliding strip from the sensor by loosening the sliding strip lock screw on the sliding strip lock and either pulling back the lock or sliding it to the side. Figure 13



18. Slide the tape in through the side of the sensor and insert the sliding strip back into the sensor by aligning the side of the strip with the tape. Fully tighten the sliding strip lock after. See Figure 14



Figure 14: Sensor and Tape Installation

19. Adjust the sensor's position using the T-hole so that the tape is straight and not tilted to the side. Once the tape is correctly positioned in the sensor, fully tighten the Sensor Fastening Screw. See Figure 15

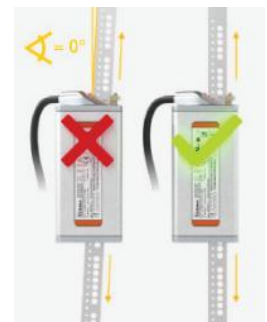


Figure 15: Sensor and Tape Alignment

20. Connect the 6 wires of the sensor for power and communication to the KIB Hydro board or KIB Traction board located inside the CT Box. See Figure 16

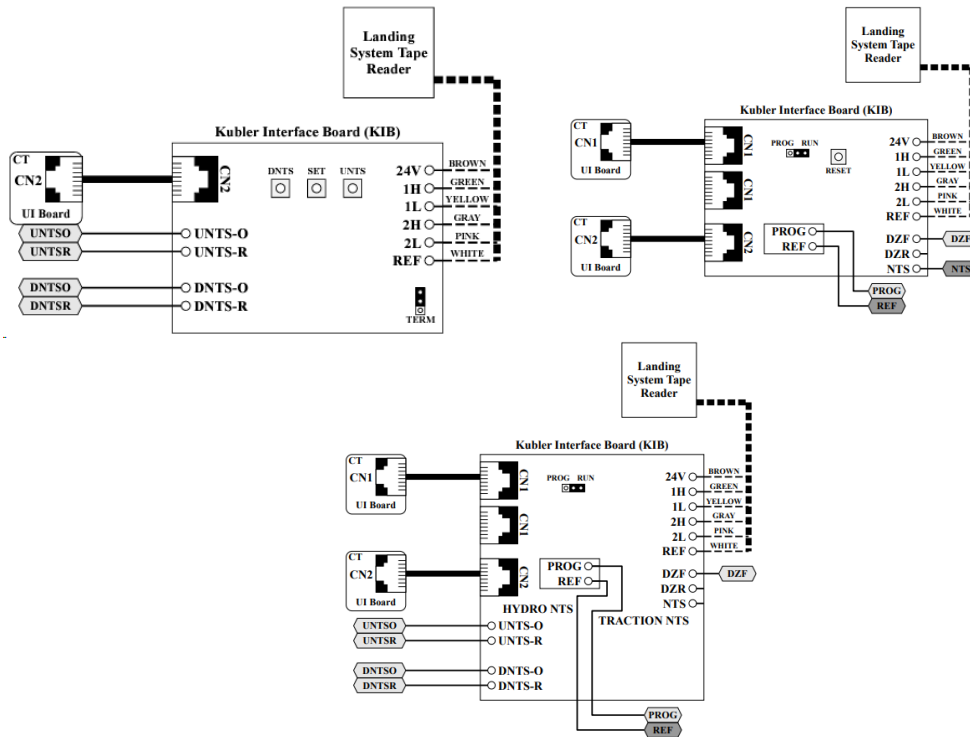


Figure 16: Sensor head connection to KIB Hydro board (Top Left), KIB Traction board (Top Right) and KIB H/T Board (Bottom)