



# KNIGHT INDUSTRIES AND ASSOCIATES, INCORPORATED

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Document Number: QWI-RA-19-4  
Issue Date: 12/05/00  
Revision: B  
Reference: QPR 19  
Page: 1 OF 2  
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## TOOL RAIL INSTALLATION -- SERIES 3000 & 3500

Knight ergonomic tool rails accommodate a variety of structural supports and are not designed to be hung from a standard hanger. Consumers should provide a support for the rail that meets the requirements of their particular application.

### RAIL INSTALLATION

**Note:** Steps marked with a ○ are for 3000 series rail only. Disregard these steps when installing 3500 series rail.

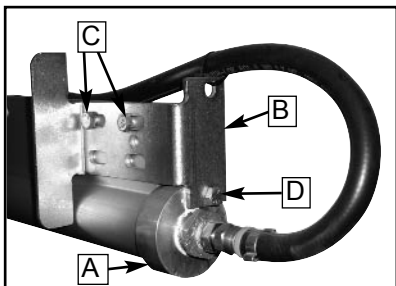
1. Inspect all components and ensure that no parts are missing or damaged.
2. Install rail section onto the intended structure.

**Note:** If installing multiple sections of rail, perform the splice kit installation instructions on the back of this sheet before proceeding to step 3.

3. Slide the trolleys onto the rail.

**Note:** Ensure that the trolley that will support the balancer and tool is at the correct end of the tool rail.

- ④ Install the end caps onto the rail (See Fig. 1 [A]). Ensure the connection for the plant service connection is at the correct end.

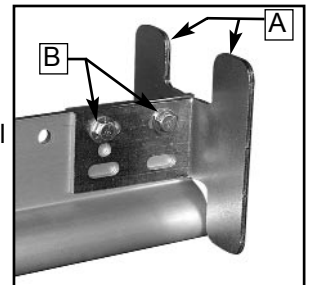


**Figure 1.** End cap with plant service air connected and end stop installed on 3000 series rail.

5. Install the end stops onto the rail, perform the appropriate steps below for the rail type being installed:

**3000 Series Rail** (Refer to Fig. 1):

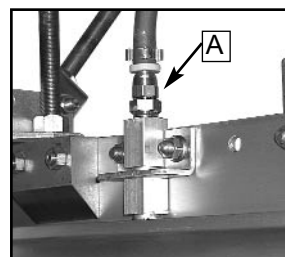
- ① Place and hold the end keeper (B) onto the rail.
- ② Fasten end keeper with two (2) M10 x 1.5 x 30 mm HHCS bolts, two (2) M10 x 1.5 nylock nut and four (4) M10 SAE washers (C).
- ③ Fasten end cap with one (1) M10 x 1.5 x 25 mm HHCS bolt (D).



**Figure 2.** End stops installed on 3500 series rail (also used as mid-rail stops on the 3000 series rail).

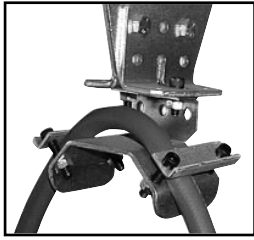
**3500 Series Rail** (See Fig. 2)

1. Place and hold the two (2) end stops (A) onto the rail.
2. Fasten with two (2) M10 x 1.5 x 30mm HHCS bolts, two (2) M10 x 1.5 nylock nuts and four (4) M10 SAE washers (B).
- ⑥ Connect the air hose to the air outlet connection (See Fig. 3 [A]).

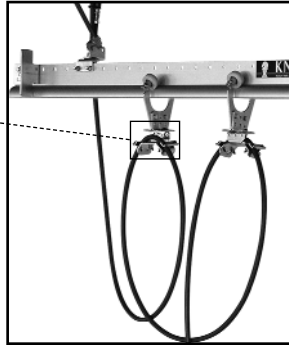


**Figure 3:** Air outlet connection with air hose connected, on 3000 series rail.

Continued on back of sheet.



**Figure 4:** Hose clamped into cable saddle.



**Figure 5:** Hose festooned between cable saddles.

7. Clamp the air hose into cable saddles (See Fig. 4) and festoon the hose between the cable saddles (See Fig. 5).
8. Blow out the rail to remove any debris from the system.
9. Connect the plant service air connection to the tool rail.
10. Check the system for leaks; correct as needed.
11. Install zero balancer onto trolley.
12. Connect air hose or power supply to tool and hang tool from zero balancer.

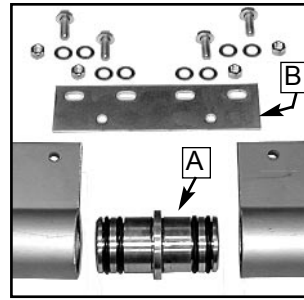
### MID-RAIL STOP INSTALLATION (Optional)

**Note:** The mid-rail stop is the same component as the 3500 series end-stop (See Fig. 2).

**Note:** Ensure that trolleys are properly located between mid-rail stops before installing.

1. Place and hold the two (2) mid-rail stops into the desired location on the rail.
2. Fasten with two (2) M10 x 1.5 x 30mm HHCS bolts, two (2) M10 x 1.5 nylock nuts and four (4) M10 SAE washers.
3. Repeat for additional mid-rail stops.

### SPLICE KIT INSTALLATION (Optional)

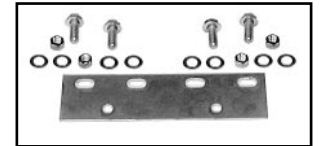


**Figure 6:** Splice kit for 3000 series rail.

#### 3000 Series Rail (See Fig. 6)

1. Slide the splice coupler (A) with O-rings inserted into the installed section of rail.
2. Slide the new section of rail onto splice coupler.
3. Install the rail section onto the intended structure.
4. Install the splice plate (B) by aligning the slotted bolt holes on the plate with the bolt holes on rail and fastening with four (4) M10 x 1.5 x 300 mm HHCS bolts, four (4) M10 x 1.5 nylock-nuts and eight (8) M10 washers.
5. Repeat for any additional sections of raiiling.

**Figure 7:** Splice kit 3500 series rail.



#### 3500 Series Rail (See Fig. 7)

1. Install the rail section onto the intended structure.
2. Ensure that the rail sections are aligned.
3. Install the splice plate by aligning the slotted bolt holes on the plate with the bolt holes on rail and fastening with four (4) M10 x 1.5 x 300 mm HHCS bolts, four (4) M10 x 1.5 nylock-nuts and eight (8) M10 washers.
4. Repeat for any additional sections of raiiling.



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