



# UNIFIED INDUSTRIES

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A Columbus McKinnon Brand

# INSTALLATION MANUAL

## ETA & STEEL

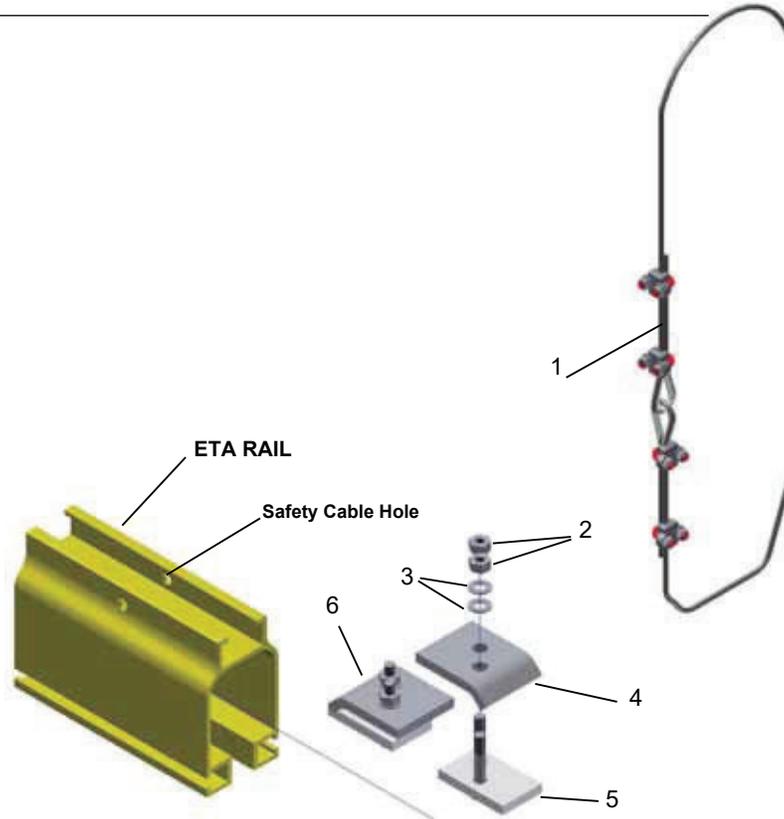
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# INSTALLATION OF THE 27070 HANGER ASSEMBLY

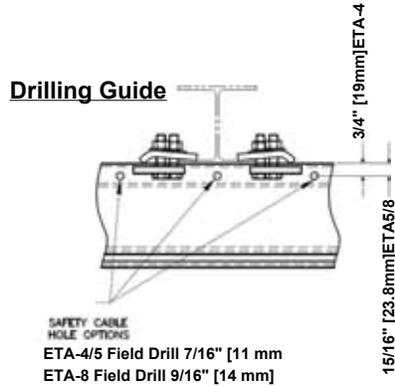
- Shown as an exploded assembly, the 27070 Hanger Assembly is shipped completely assembled.
- The 27070 Hanger Assembly can be used on ETA-4/5 & 8 rail series. **NOTE: For use on W-Beams Only.**

## INSTALLATION PROCEDURE

1. Loosen nuts, washers (Items 2, 3) on 27070 Hanger Assembly (Item 6).
2. Slide rigid hanger block (Item 5) into top channel of ETA rail.
3. Slide Hanger assemblies (Item 6) onto header steel and push into place on beam, snug\* tighten nuts. (Item 2)
- This procedure requires the installer to lift entire rail and hangers to the header steel.
4. Drill (1) hole thru in the center of where the header steel will be directly above ETA Runway. (See Drilling guide below)
5. Fasten Safety cable (Item 1) through drilled holes and around header steel. Refer to Safety cable installation instructions.
6. Continue until all required hangers are placed onto header steel.



REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	Nut
3	Washer
4	ETA Toe Clip
5	ETA Rigid Hanger Block
6	ETA Rigid Hanger Assembly



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

# INSTALLATION OF THE ETA-4/5 27071/27073 PARALLEL RIGID HANGER ASSEMBLY

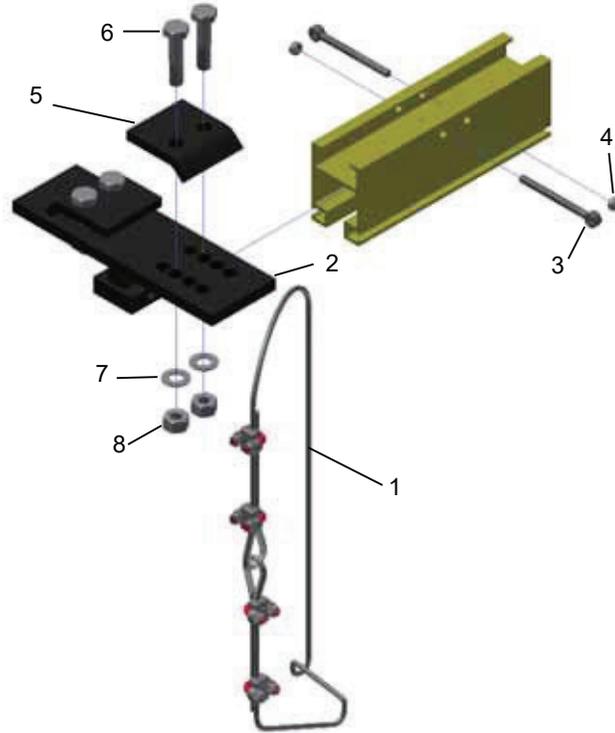
■ The ETA-4/5 27073 Hanger Assembly can be used for beams 2.33" to 3.33". Assembly can be mounted to header steel that is parallel to the runway.

■ The ETA-4/5 27071 Hanger Assembly can be used for beams 4" to 8". Assembly can be mounted to header steel that is parallel to the runway.

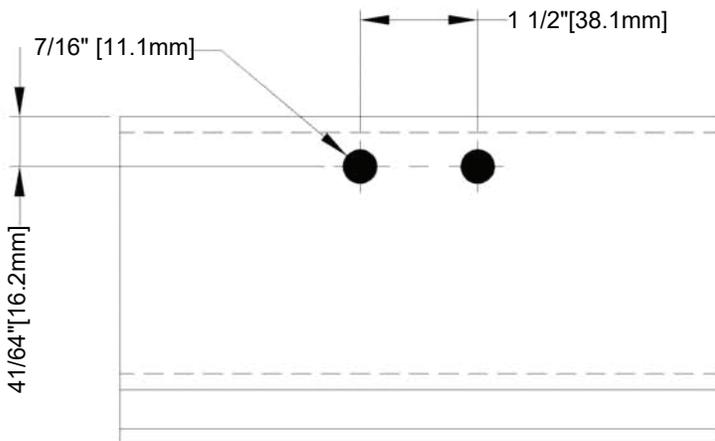
## INSTALLATION PROCEDURE

1. Drill (2) holes in the location where the center of the hanger weldment will need to clamp to the header steel above. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on beam clamp weldment (Item 2).
3. Slide beam clamp weldment (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & beam clamp weldment and secure with nuts (Item 4) until snug\* against rail.
- This procedure requires the installer to lift entire rail and hangers to the header steel.
4. Remove hardware (Items 5,6,7,8) from beam clamp weldment (item 2). Center hanger clip below header steel. Bolt on rolover clips (item 5) into the closest holes to the center of header beam using washers (item 7) and nuts (item 8) until snug\* tight.
5. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
6. Continue until all required hangers are placed onto header steel.

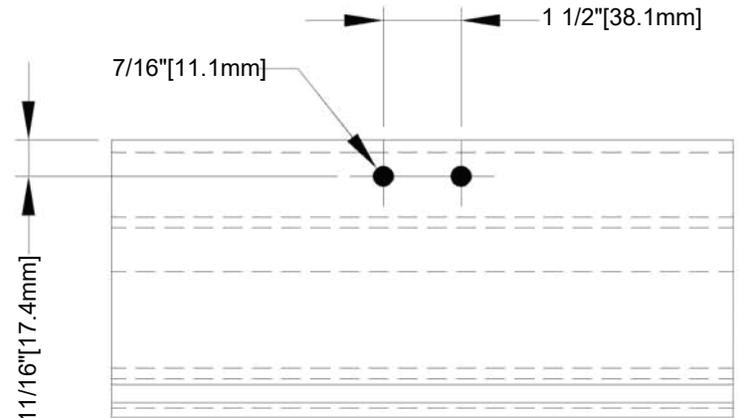
REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-4/5 parallel beam clamp weldment
3	Hanger rod end bolt
4	Hanger rod end nut
5	ETA-4/5 Rollover Clip
6	5/8-11 X 2 3/4" Rollover Clip Bolt
7	Washer for Rollover Clip
8	Nut for Rollover Clip



Drilling Guide for ETA-4



Drilling Guide for ETA-5



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

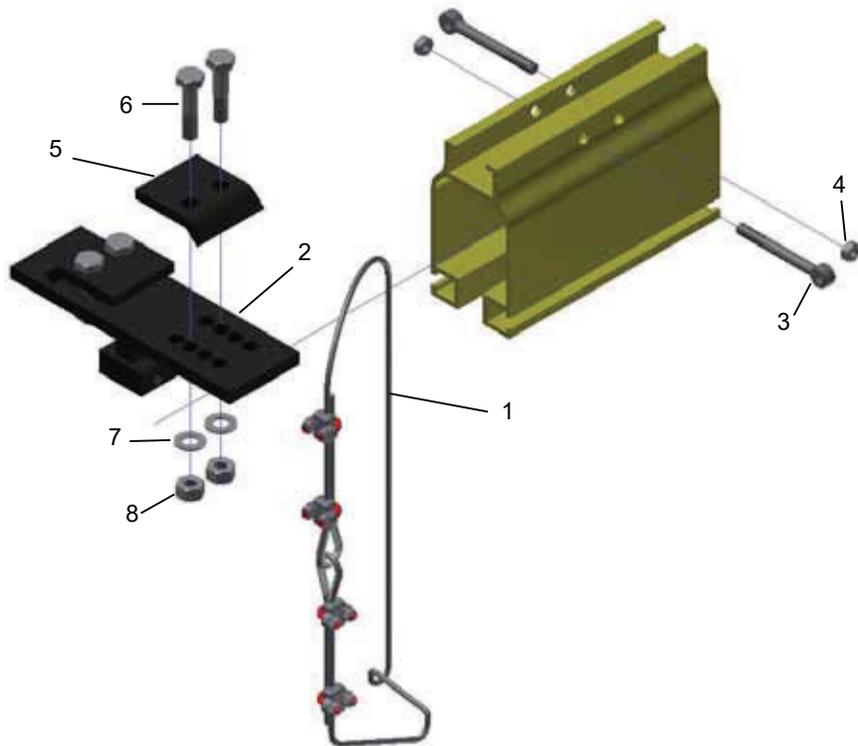
## INSTALLATION OF THE ETA-8 27072/27074 PARALLEL RIGID HANGER ASSEMBLY

- The ETA-8 27074 Hanger Assembly can be used for beams 2.33" to 3.33". Assembly can be mounted to header steel that is parallel to the runway.
- The ETA-8 27072 Hanger Assembly can be used for beams 4" to 8". Assembly can be mounted to header steel that is parallel to the runway.

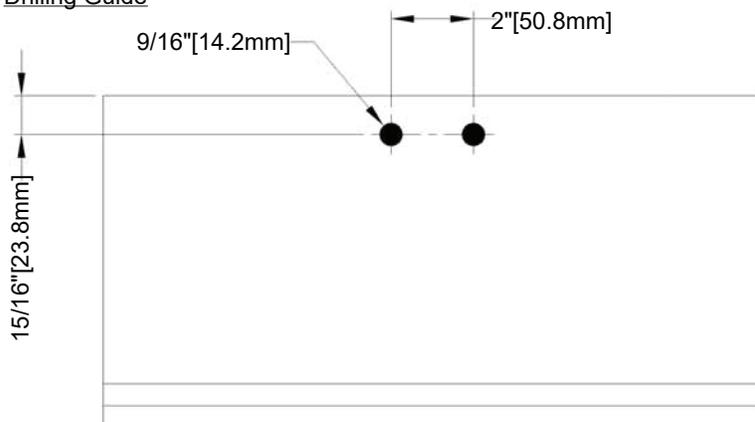
### INSTALLATION PROCEDURE

1. Drill (2) holes in the location where the center of the hanger weldment will need to clamp to the header steel above. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on beam clamp weldment (Item 2).
3. Slide beam clamp weldment (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & beam clamp weldment and secure with nuts (Item 4) until snug\* against rail.
- This procedure requires the installer to lift entire rail and hangers to the header steel.
4. Remove hardware (Items 5,6,7,8) from beam clamp weldment (item 2). Center hanger clip below header steel. Bolt on rollover clips (item 5) into the closest holes to the center of header beam using washers (item 7) and nuts (item 8) until snug\* tight.
5. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
6. Continue until all required hangers are placed onto header steel.

REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-8 parallel beam clamp weldment
3	Hanger rod end bolt
4	Hanger rod end nut
5	ETA-8 Rollover Clip
6	5/8-11 X 2 3/4" Rollover Clip Bolt
7	Washer for Rollover Clip
8	Nut for Rollover Clip



### Drilling Guide



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

# INSTALLATION OF THE ETA-4/5 27055/27057 BEAM & 25286 BLOCK HANGER ASSEMBLY

- Shown as an exploded assembly, the ETA-4/5 25286 Hanger Assembly is shipped completely assembled.
- The ETA-4/5 27055 Hanger Assembly can be used for beams 2.33" to 3.33". Assembly can be mounted to header steel that is either parallel or perpendicular to runway.
- The ETA-4/5 27057 Hanger Assembly can be used for beams 4" to 8". Assembly can be mounted to header steel that is either parallel or perpendicular to runway.

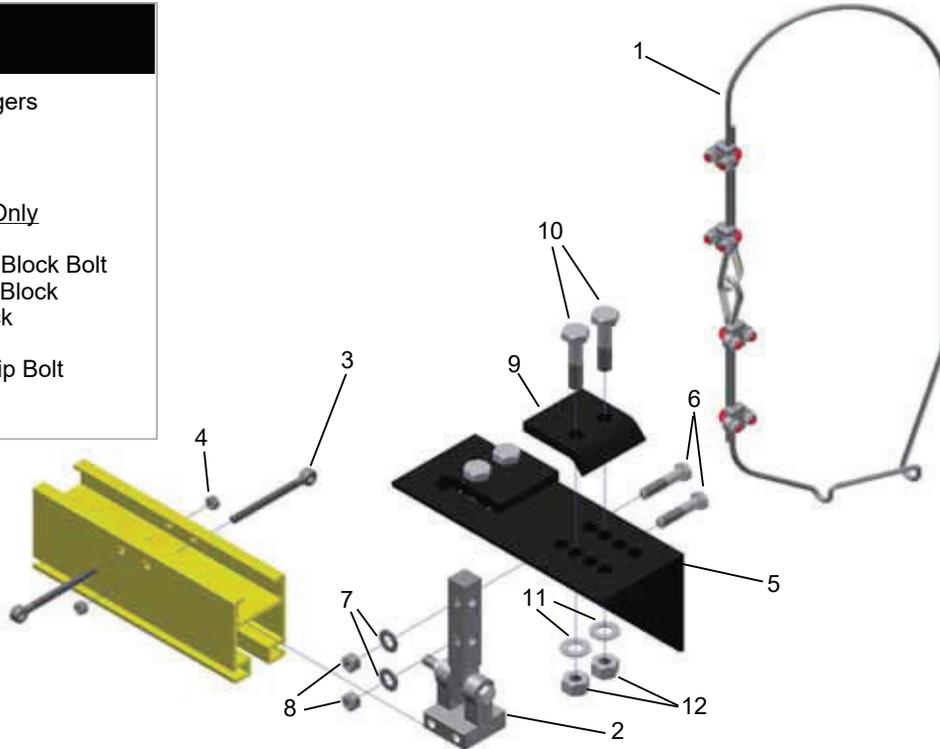
## INSTALLATION PROCEDURE

1. Drill (2) holes in the center of where the header steel will be directly above ETA Runway into top channel of rail. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on Hanger Block (Item 2).
3. Slide hanger block (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & hanger block and secure with nuts (Item 4) until snug\* against rail.

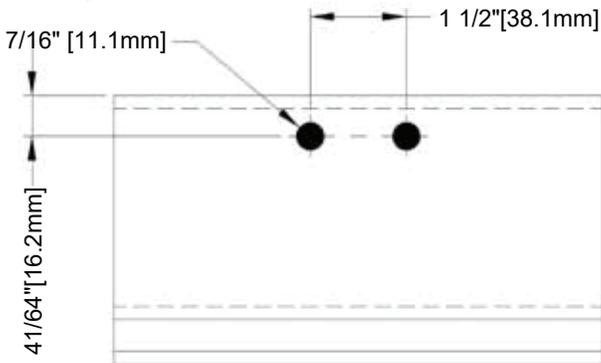
**Below steps are for 27055/27057 Beam Hangers only; for 25286 block hanger skip to steps (6 & 7)**

4. Remove hardware (Items 9,10,11,12) from hanger clip (item 5). Center hanger clip below header steel and position so runway rail will be under Beam hanger (item 5). Bolt on rollover clips (item 9) into the closest holes to the center of header beam using washers (item 11) and nuts (item 12) until snug\* tight.
  - This procedure requires the installer to lift entire rail and hangers to the header steel.
5. Remove items (6,7,8) from Hanger Clip (item 5) and bolt hanger block (item 2) to Hanger Clip until snug\* tight.
6. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
7. Continue until all required hangers are placed onto header steel.

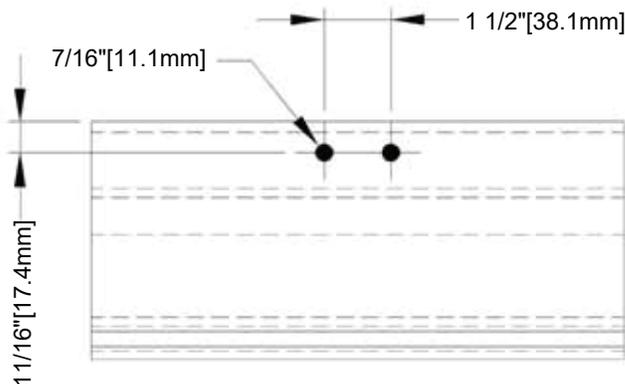
REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-4/5 Block Hanger
3	Hanger rod end bolt
4	Hanger rod end nut
<u>For 27055/27057 Models Only</u>	
5	ETA Hanger Clip
6	1/2-13 X 2" Hanger Clip to Block Bolt
7	Washer for Hanger Clip to Block
8	Nut for Hanger Clip to Block
9	ETA-4/5 Rollover Clip
10	5/8-11 X 2 1/2" Rollover Clip Bolt
11	Washer for Rollover Clip
12	Nut for Rollover Clip



Drilling Guide for ETA-4



Drilling Guide for ETA-5



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

# INSTALLATION OF THE ETA-4/5 25473/25474/25467 ADJUSTABLE BLOCK HANGER ASSEMBLY

- Shown as an exploded assembly, the ETA-4/5 25467 Hanger Assembly is shipped completely assembled.
- The ETA-4/5 25473 Hanger Assembly can be used for beams 2.33" to 3.33". The ETA-4/5 25474 Hanger Assembly can be used for beams 4" to 8". The assembly can be mounted to header steel that is either parallel or perpendicular to runway.

## INSTALLATION PROCEDURE

1. Drill (2) holes in the center of where the header steel will be directly above ETA Runway into top channel of rail. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on Hanger Block (Item 2).
3. Slide hanger block (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & hanger block and secure with nuts (Item 4) until snug\* against rail.

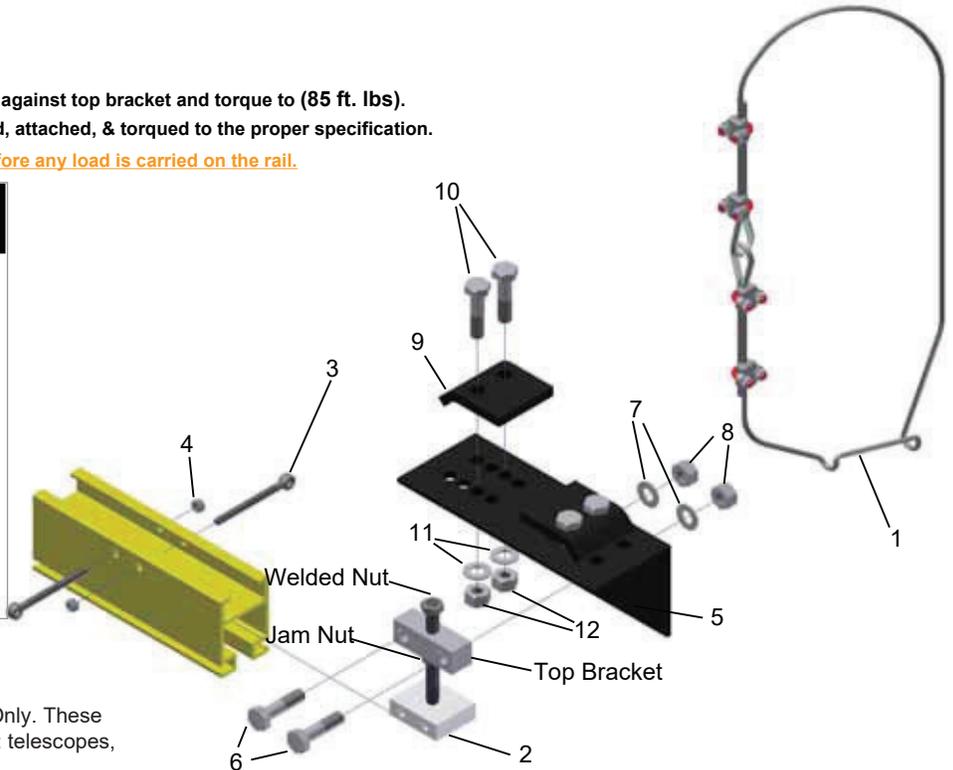
**Below steps are for 25473/25474 Hangers only; for 25467 Hanger skip to steps (6 & 7)**

4. Remove hardware (Items 9,10,11,12) from hanger clip (item 5). Center hanger clip below header steel and position so runway rail will be under Beam hanger (item 5). Bolt on rollover clips (item 9) into the closest holes to the center of header beam using washers (item 11) and nuts (item 12) until snug\* tight.
  - This procedure requires the installer to lift entire rail and hangers to the header steel.
5. Remove items (6,7,8) from Hanger Block (item 2) and bolt hanger block (item 2) to Hanger Clip until snug\* tight.
6. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
7. Continue until all required hangers are placed onto header steel.

## RAIL LEVELING PROCEDURE

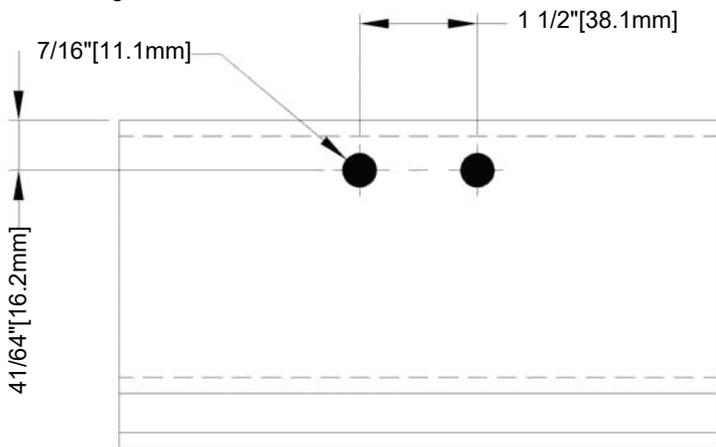
1. Loosen jam nut (See Below)
2. Adjust height by turning welded nut (see below)
3. When proper adjustment is obtained, run jam nut against top bracket and torque to (85 ft. lbs).
4. Verify that ALL Hanger Assemblies are positioned, attached, & torqued to the proper specification.
5. **It is vital that all hardware is properly secured before any load is carried on the rail.**

REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-4/5 Adjustable Hanger Block
3	Hanger rod end bolt
4	Hanger rod end nut
<u>For 25473/25474 Models Only</u>	
5	ETA Hanger Clip
6	5/8-11 X 2 3/4" Hanger Clip to Block Bolt
7	Washer for Hanger Clip to Block
8	Nut for Hanger Clip to Block
9	ETA-4/5 Rollover Clip
10	5/8-11 X 2 1/2" Rollover Clip Bolt
11	Washer for Rollover Clip
12	Nut for Rollover Clip

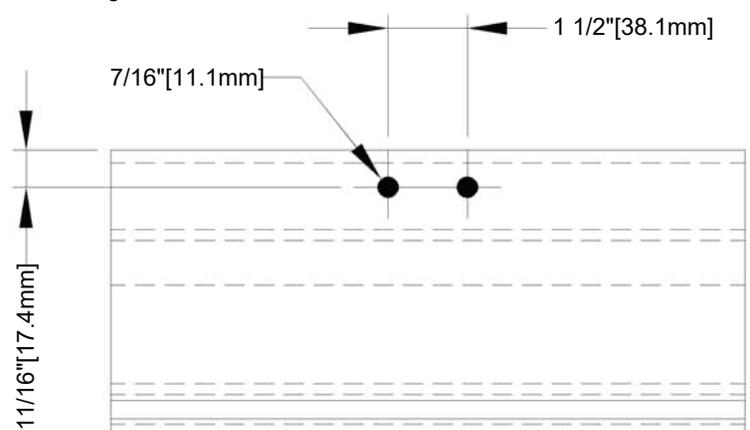


Adjustable Hangers recommended for Light Duty Use Only. These hangers should not be used in applications that include: telescopes, cantilevered loads, shock loading, tractors.

### Drilling Guide for ETA-4



### Drilling Guide for ETA-5



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

# INSTALLATION OF THE ETA-8 27059/27061 BEAM & 25170 BLOCK HANGER ASSEMBLY

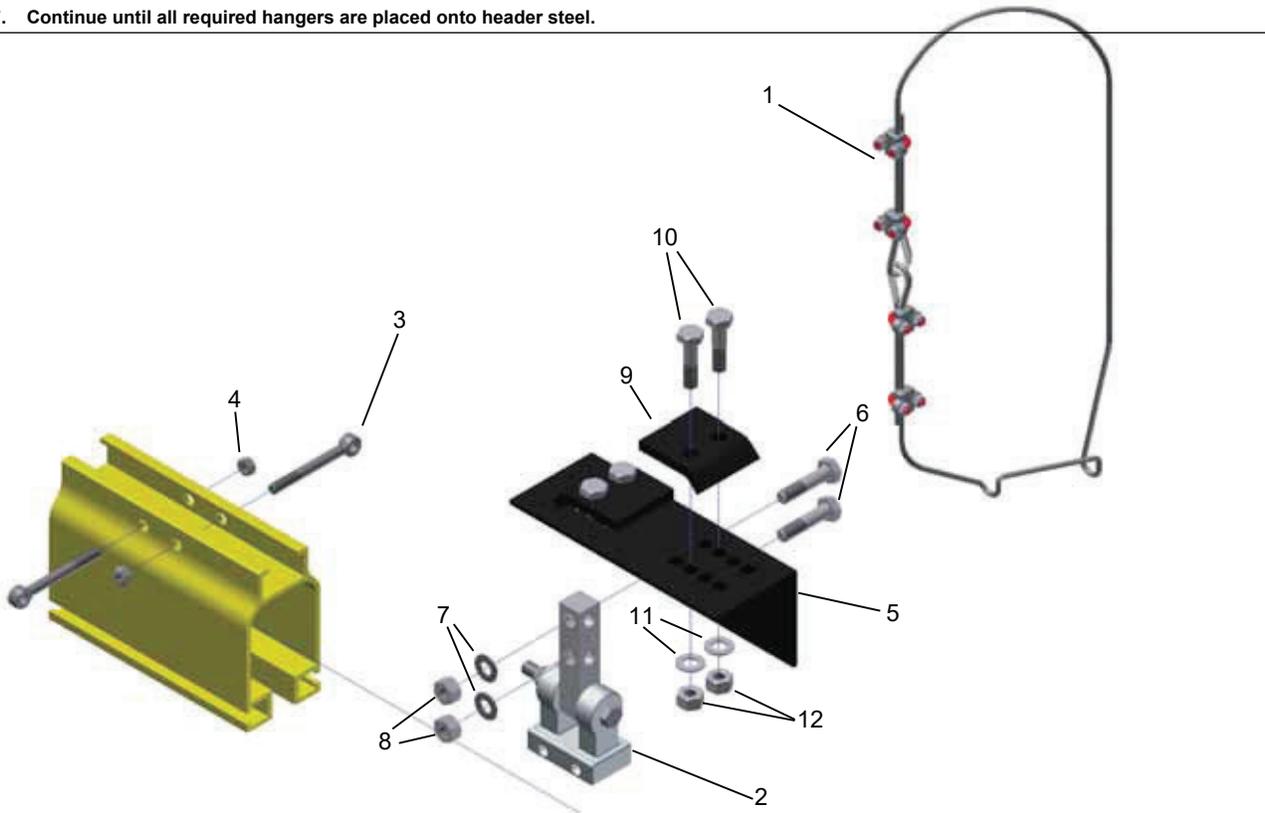
- Shown as an exploded assembly, the ETA-8 25170 Hanger Assembly is shipped completely assembled.
- The ETA-8 27059 Hanger Assembly can be used for beams 2.33" to 3.33". Assembly can be mounted to header steel that is either parallel or perpendicular to runway.
- The ETA-8 27061 Hanger Assembly can be used for beams 4" to 8". Assembly can be mounted to header steel that is either parallel or perpendicular to runway.

## INSTALLATION PROCEDURE

1. Drill (2) holes in the center of where the header steel will be directly above ETA Runway into top channel of rail. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on Block Hanger (Item 2).
3. Slide Block Hanger (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & block hanger and secure with nuts (Item 4) until snug\* against rail.

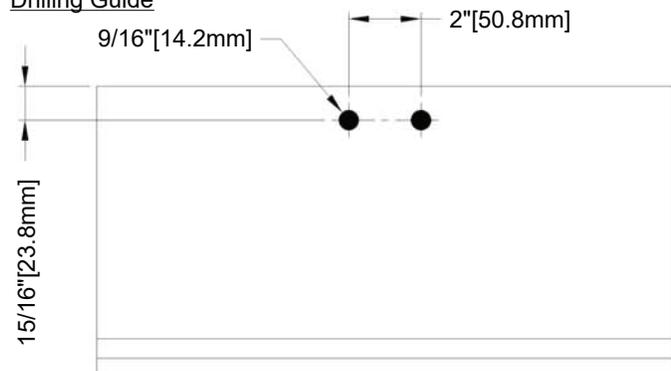
**Below steps are for 27059/27061 Beam Hangers only; for 25170 block hanger skip to steps (6 & 7)**

4. Remove hardware (Items 9,10,11,12) from hanger clip (item 5). Center hanger clip below header steel and position so runway rail will be under Beam hanger (item 5). Bolt on rollover clips (item 9) into the closest holes to the center of header beam using washers (item 11) and nuts (item 12) until snug\* tight.
- This procedure requires the installer to lift entire rail and hangers to the header steel.
5. Remove items (6,7,8) from Hanger Clip (item 5) and bolt block hanger (item 2) to Hanger Clip until snug\* tight.
6. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
7. Continue until all required hangers are placed onto header steel.



REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-8 Block Hanger
3	Hanger rod end bolt
4	Hanger rod end nut
<b>For 27059/27061 Models Only</b>	
5	ETA-8 Hanger Clip
6	5/8-11 X 2 3/4" Hanger Clip to Block Bolt
7	Washer for Hanger Clip to Block
8	Nut for Hanger Clip to Block
9	ETA-8 Rollover Clip
10	5/8-11 X 2 1/2" Rollover Clip Bolt
11	Washer for Rollover Clip
12	Nut for Rollover Clip

### Drilling Guide



\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

# INSTALLATION OF THE ETA-8 25471/25472/25465 ADJUSTABLE BLOCK HANGER ASSEMBLY

- Shown as an exploded assembly, the ETA-8 25465 Hanger Assembly is shipped completely assembled.
- The ETA-8 25471 Hanger Assembly can be used for beams 2.33" to 3.33". The ETA-8 25472 Hanger Assembly can be used for beams 4" to 8". The assembly can be mounted to header steel that is either parallel or perpendicular to runway.

## INSTALLATION PROCEDURE

1. Drill (2) holes in the center of where the header steel will be directly above ETA Runway into top channel of rail. (See Drilling guide below)
2. Remove the (2) rod ends & (2) nuts (Items 3,4) on Hanger Block (Item 2).
3. Slide hanger block (Item 2) into top channel of ETA rail. Place rod ends (Item 3) through runway rail & hanger block and secure with nuts (Item 4) until snug\* against rail.

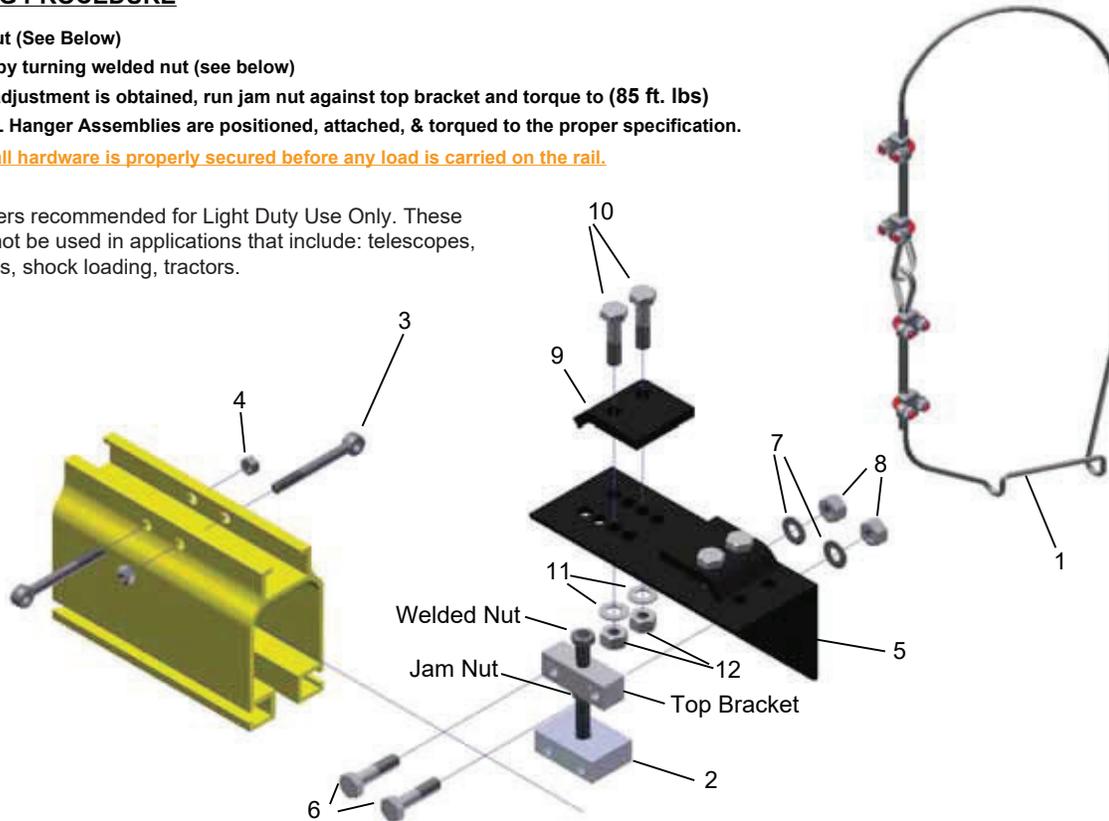
**Below steps are for 25471/25472 Hangers only; for 25465 Hanger skip to steps (6 & 7)**

4. Remove hardware (Items 9,10,11,12) from hanger clip (item 5). Center hanger clip below header steel and position so runway rail will be under Beam hanger (item 5). Bolt on rolover clips (item 9) into the closest holes to the center of header beam using washers (item 11) and nuts (item 12) until snug\* tight.
  - This procedure requires the installer to lift entire rail and hangers to the header steel.
5. Remove items (6,7,8) from Hanger Block (item 2) and bolt hanger block (item 2) to Hanger Clip until snug\* tight.
6. Fasten Safety cable (Item 1) through rod end holes and around header steel. Refer to Safety cable installation instructions.
7. Continue until all required hangers are placed onto header steel.

## RAIL LEVELING PROCEDURE

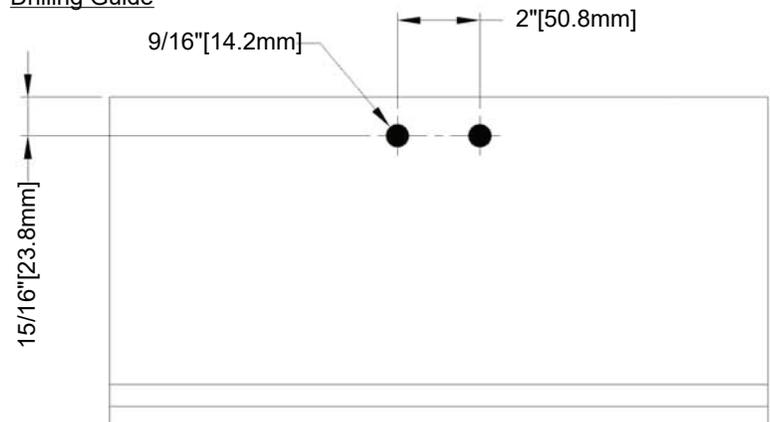
1. Loosen jam nut (See Below)
2. Adjust height by turning welded nut (see below)
3. When proper adjustment is obtained, run jam nut against top bracket and torque to (85 ft. lbs)
4. Verify that ALL Hanger Assemblies are positioned, attached, & torqued to the proper specification.
5. **It is vital that all hardware is properly secured before any load is carried on the rail.**

Adjustable Hangers recommended for Light Duty Use Only. These hangers should not be used in applications that include: telescopes, cantilevered loads, shock loading, tractors.



REF.	DESCRIPTION
1	Safety Cable for ETA Hangers
2	ETA-8 Adjustable Block Hanger
3	Hanger rod end bolt
4	Hanger rod end nut
<b>For 25471/25472 Models Only</b>	
5	ETA-8 Hanger Clip
6	5/8-11 X 2 3/4" Hanger Clip to Block Bolt
7	Washer for Hanger Clip to Block
8	Nut for Hanger Clip to Block
9	ETA-8 Rollover Clip
10	5/8-11 X 2 1/2" Rollover Clip Bolt
11	Washer for Rollover Clip
12	Nut for Rollover Clip

### Drilling Guide



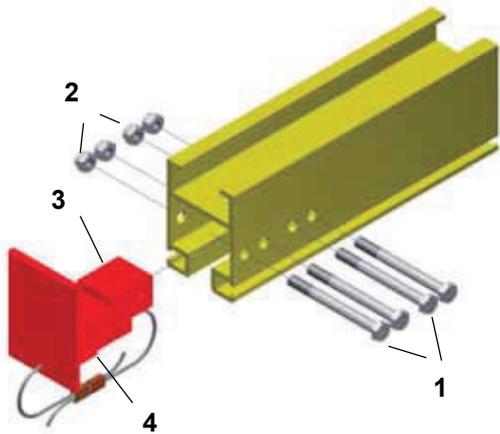
\*Snug tight is the condition that exists when all of the plies in a connection have been pulled into firm contact by the bolts in the joint and all of the bolts in the joint have been tightened sufficiently to prevent the removal of the nuts without the use of a wrench. (RCSC – Specifications for Structural Joints Using High-Strength Bolts Sec. 8.1)

## INSTALLATION OF THE 24900/25194/24950 CAP ASSEMBLIES

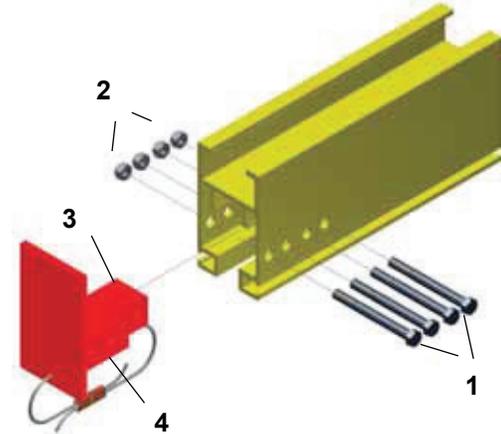
- Shown as an exploded assemblies, the Double End Cap Assembly is shipped separately with nuts and bolts attached.
- The 1/8" safety cable and crimped sleeves are not intended to be removed and will **VOID** the warranty.
- Rail comes pre-drilled from the factory. Drilling Guide is available on next page (Figure 1.)

### INSTALLATION PROCEDURE

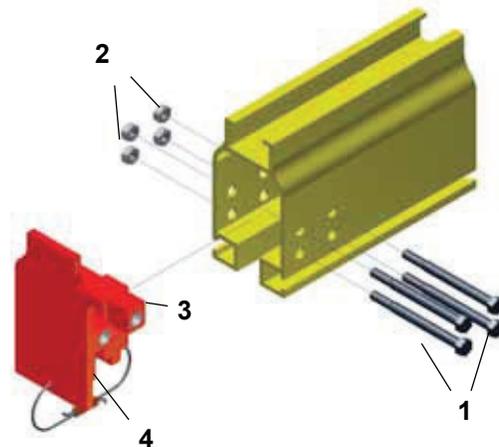
1. Remove (Items 1 & 2) from End Cap Assembly (Items 3 & 4).
2. Slide inner stop (Item 3) Assy. into runway until bolt holes line up.
3. Insert bolts and attach locknuts, (Items 1&2), tighten until nut is snug, do not over-tighten and collapse rail.
4. Slide End Cap over end of Rail until bolt holes line up.
5. Insert bolts and attach locknuts (Items 1 & 2), tighten until nut is snug, do not over-tighten and collapse rail.



ETA-4 (24900)



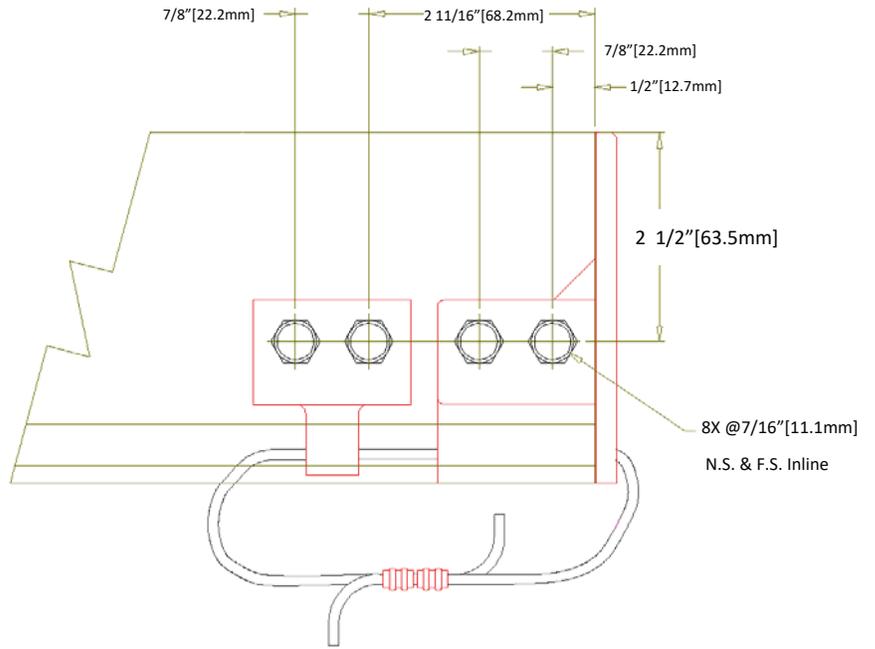
ETA-5 (25194)



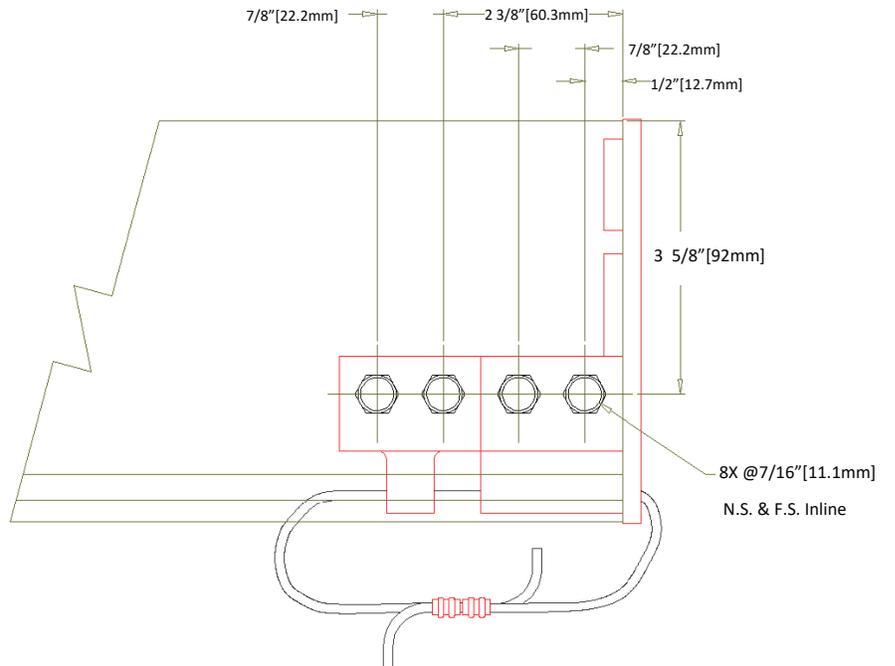
ETA-8 (24950)

**End Stop Assembly Drilling Guide (Fig. 1)**

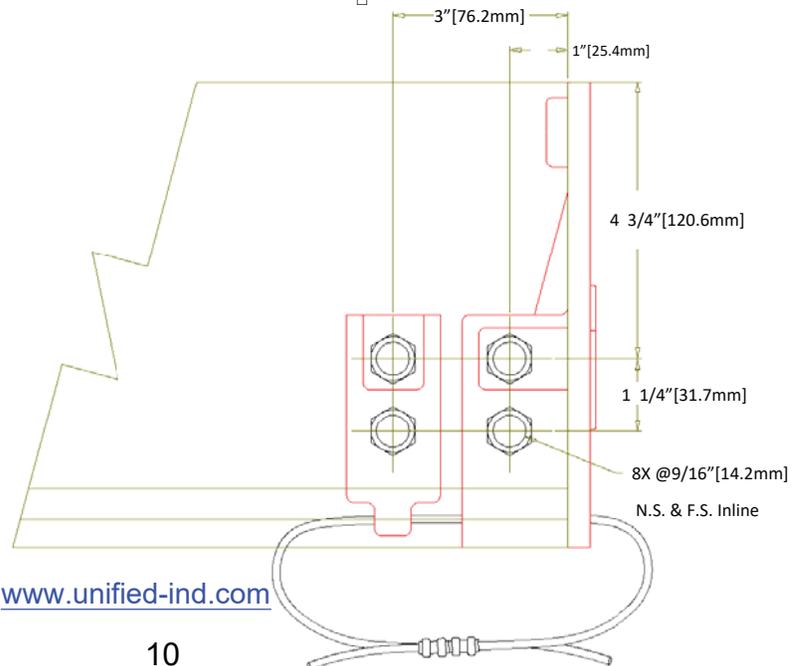
**24900 ETA-4**



**25194 ETA-5**



**24950 ETA-8**

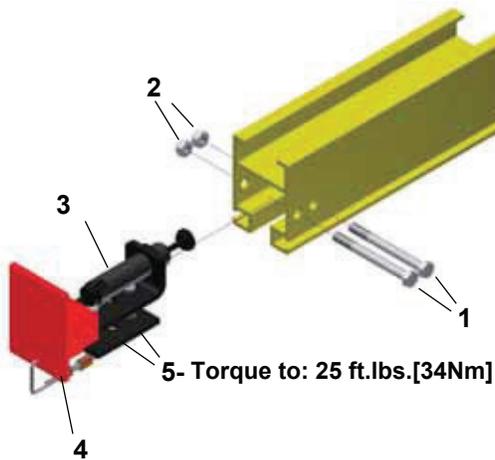


# INSTALLATION OF THE 25133/25134/25135 STOP SHOCK ABSORBER ASSEMBLIES

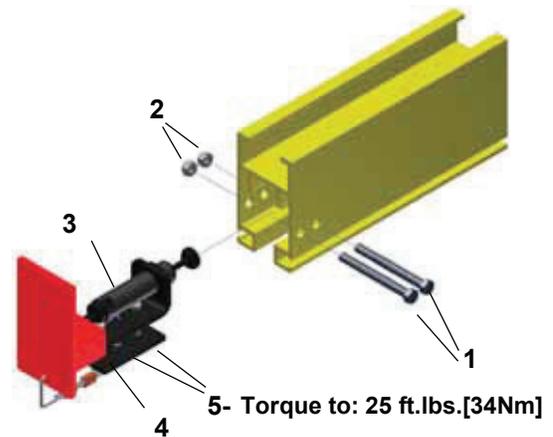
- Shown as an exploded assemblies, the End Cap Shock Absorber Assembly is shipped separately with nuts and bolts attached.
- The 1/8" safety cable and crimped sleeves are not intended to be removed and will VOID the warranty.

## INSTALLATION PROCEDURE

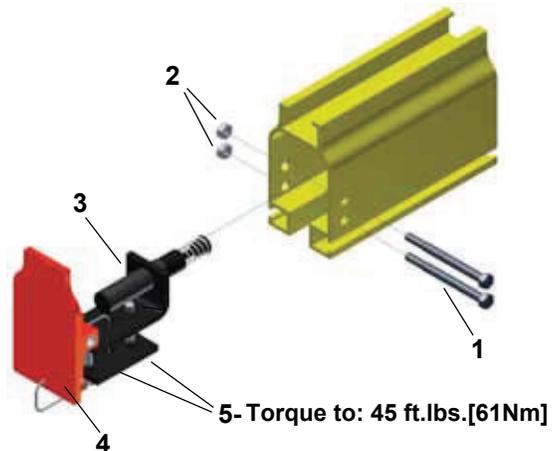
1. Remove (Items 1 & 2) from End Cap Assembly (Items 3 & 4).
2. Loosen the (2) bolts (item 5) in bottom of (item 3) and slide into channel of rail followed by End Cap (item 4) into rail until bolt holes line up.
3. Torque bolts (items 5)
4. Insert bolts and attach locknuts, (Items 1 & 2), tighten until nut is snug, do not over-tighten and collapse rail.



ETA-4 (25133)



ETA-5 (25134)



ETA-8 (25135)

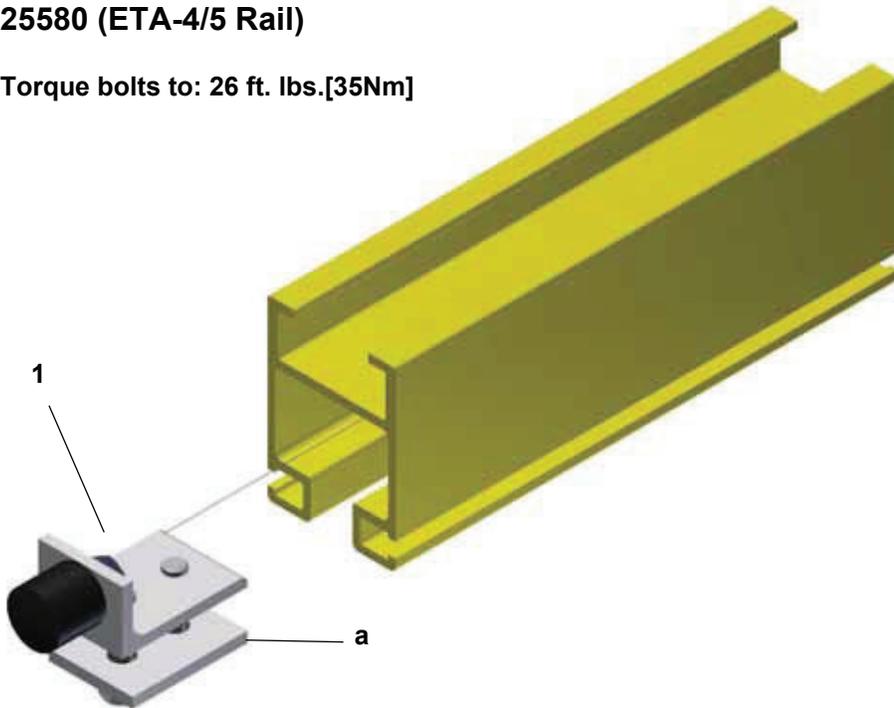
# **INSTALLATION OF THE 25570/25580 MID RAIL STOP ASSEMBLY**

## **INSTALLATION PROCEDURE**

1. Loosen bolts on Mid Rail Stop assembly. (Item 1)
  2. Slide Mid Rail Stop assembly into ETA rail with (Detail a) portion of assembly below rail.
  3. After Mid Rail Stop assembly is positioned torque bolts to (see below)
- 

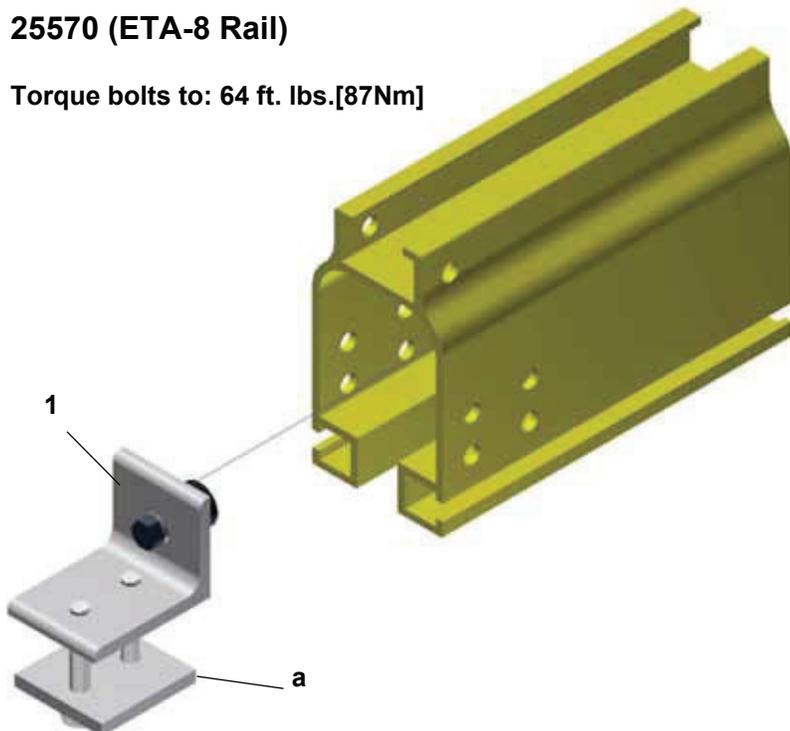
### **25580 (ETA-4/5 Rail)**

**Torque bolts to: 26 ft. lbs.[35Nm]**



### **25570 (ETA-8 Rail)**

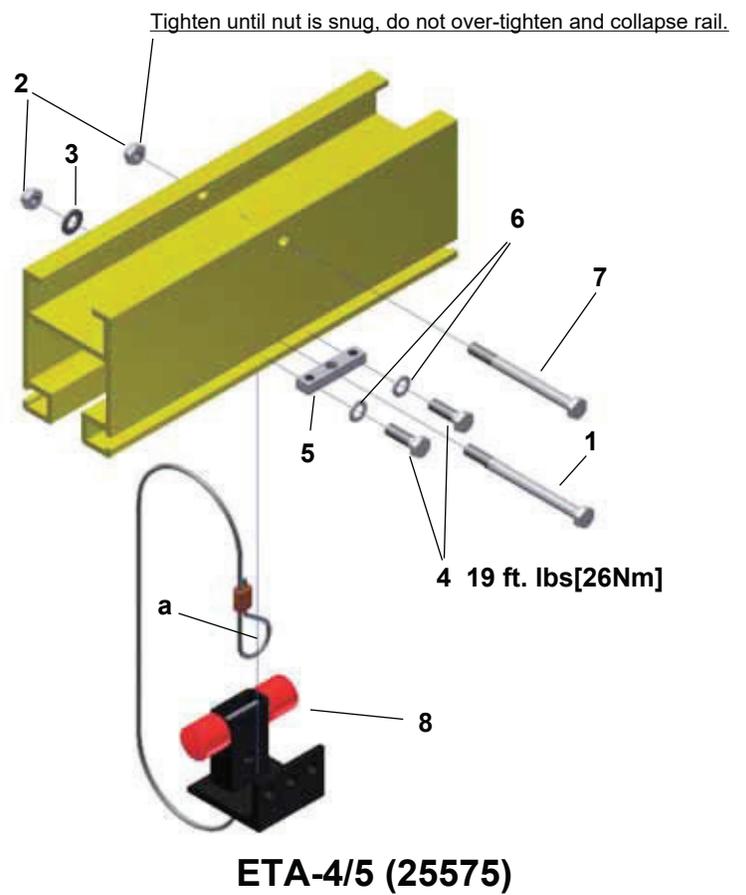
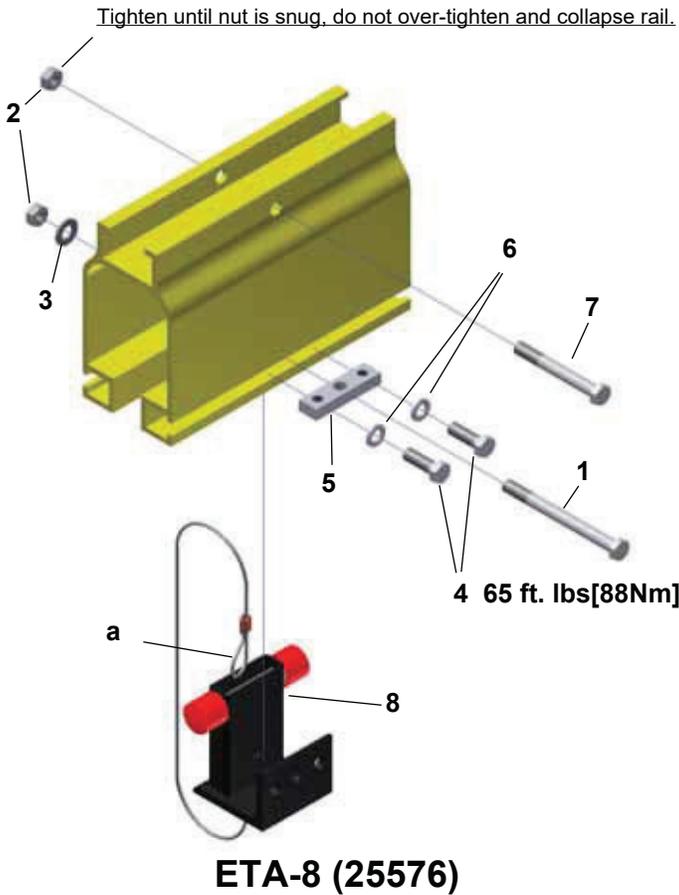
**Torque bolts to: 64 ft. lbs.[87Nm]**



# INSTALLATION OF THE 25575/25576 INSERTABLE MID RAIL STOP ASSEMBLY

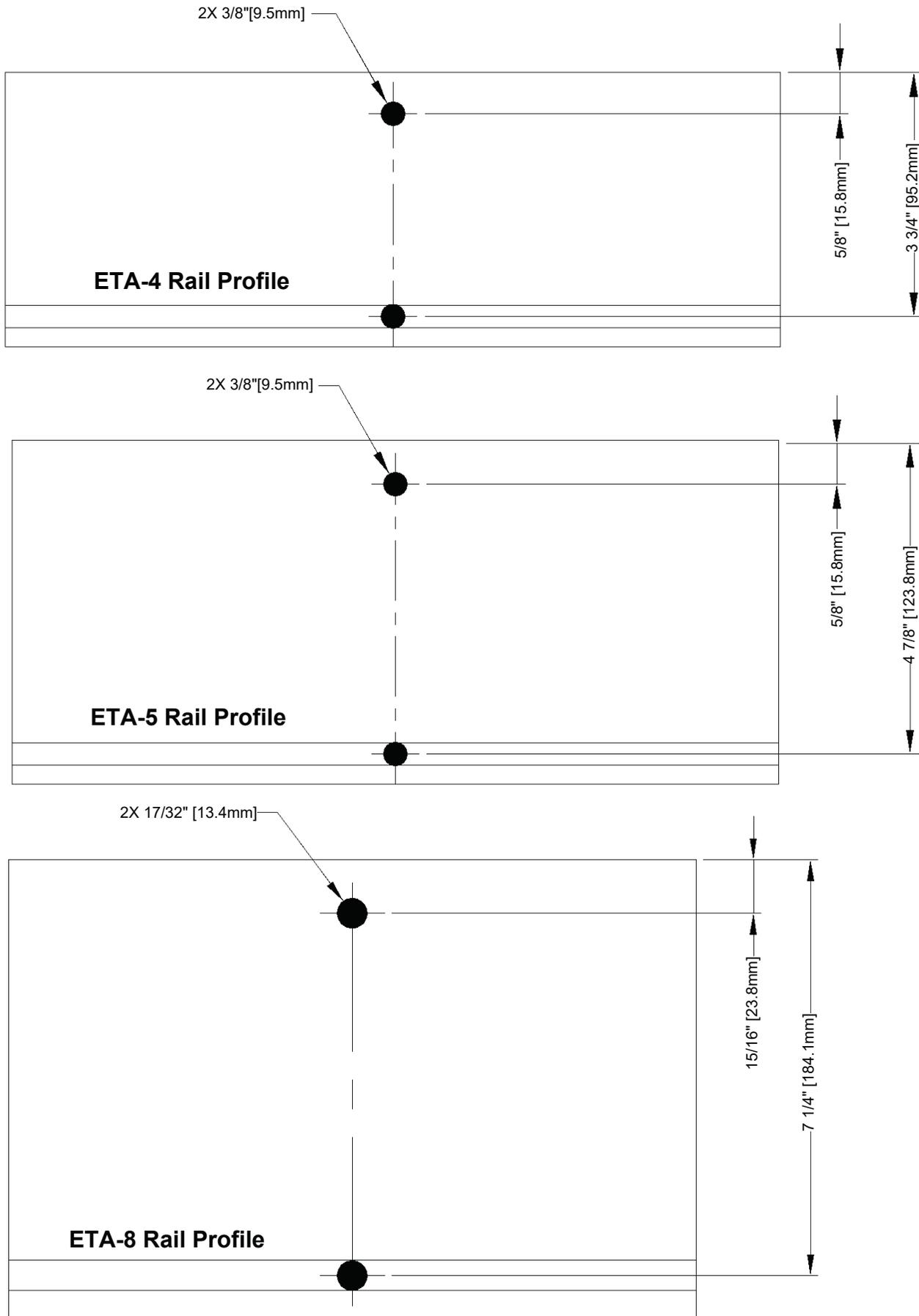
## INSTALLATION PROCEDURE

1. Drill Top and bottom holes in upper and lower channel at desired location (see fig 2. on next page) for specific rail type hole location and hole size)
2. Loosen/remove washers nuts and bolts and plate on Mid Rail Stop (item 8) assembly. (Items 1,2,4,5 & 6)
3. Place plate (item 5) into lower channel of rail. With a flat head screw driver place upright with holes facing out. Insert Mid Stop assembly (item 8) into rail and line up with plate. Screw bolts and lock washers (items 4 & 6) into Mid Stop assembly, leave loose.
4. Slide Mid Stop assembly (item 8) into place over the lower drilled hole. Place lower bolt (item 1) through Mid Stop assembly and out the other side of rail. Secure with washer (item 3) and nut (item 2). Tighten until nut seats against washer.
5. Insert bolt (item 7) into upper hole of rail and place through safety wire loop (item a) and then through the next hole in rail and secure with nut (item 2). NOTE: Please make sure wire loop is inside the upper channel of rail.
6. After Mid Rail Stop assembly is positioned torque bolts (item 4) to (see below)



# MID RAIL STOP ASSEMBLY DRILLING GUIDE

Figure 2



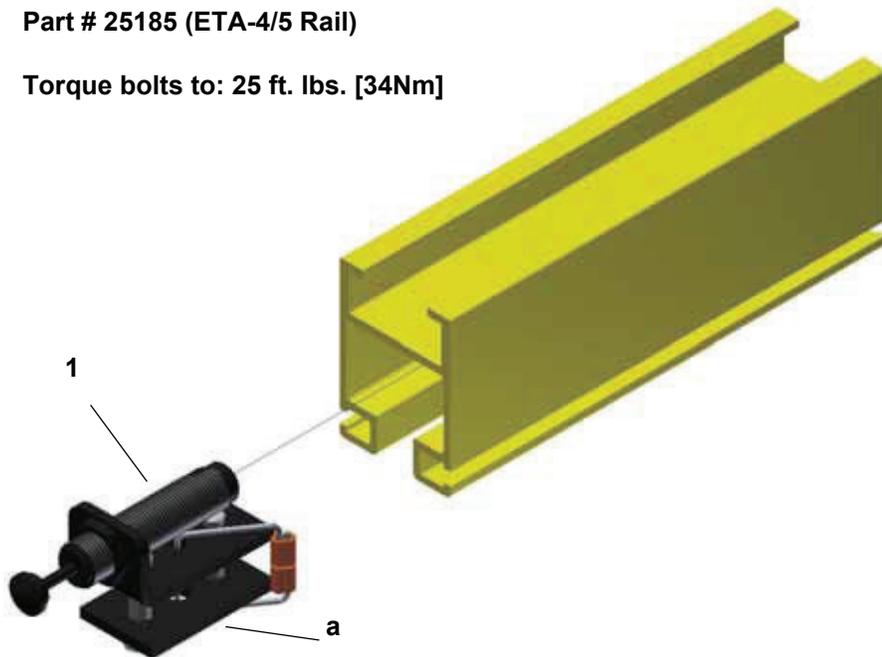
## INSTALLATION OF THE 25185/25179 POSITION STOP SHOCK ASSEMBLY

### INSTALLATION PROCEDURE

1. Loosen bolts on Position Stop Shock Absorber Assembly. (Item 1)
  2. Slide Stop Shock Absorber Assembly into ETA rail with (Detail a) portion of assembly below rail.
  3. After Stop Shock Absorber Assembly is positioned torque bolts to (see below)
- 

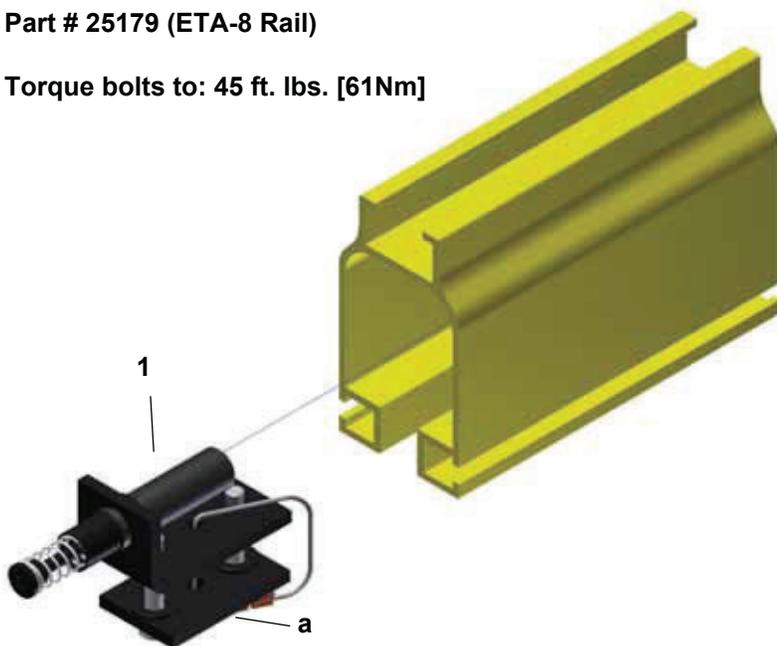
Part # 25185 (ETA-4/5 Rail)

Torque bolts to: 25 ft. lbs. [34Nm]

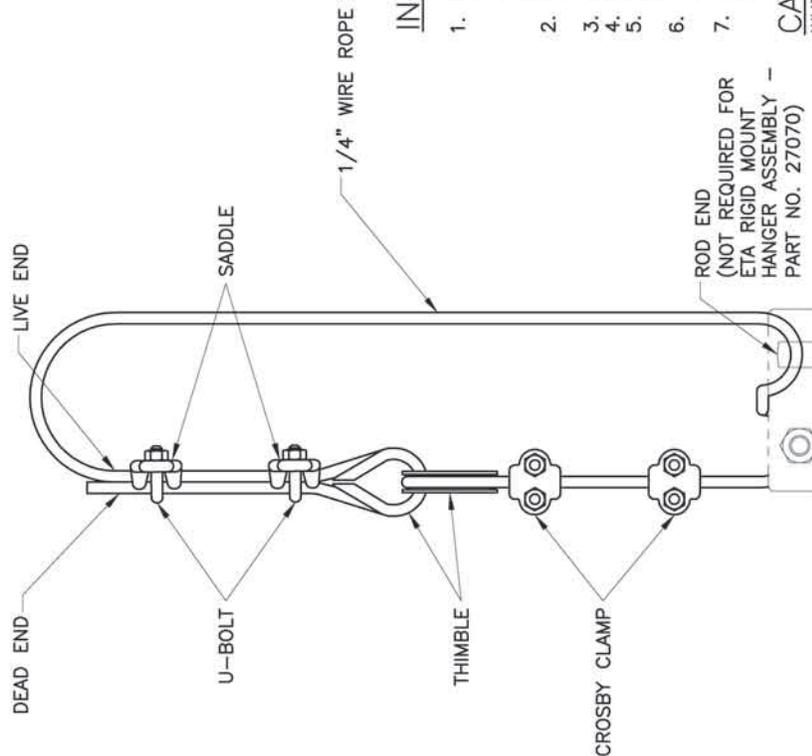


Part # 25179 (ETA-8 Rail)

Torque bolts to: 45 ft. lbs. [61Nm]



# INSTALLATION OF THE 78287 SAFETY CABLE ASSEMBLY



## INSTALLING SAFETY CABLE:

1. ROUTE THE WIRE ROPE THROUGH ONE ROD END, OVER RUNWAY AND THROUGH THE SECOND ROD END AND LAST OVER HEADER. (ROD END NOT REQUIRED FOR ETA RIGID MOUNT HANGER ASSEMBLY – PART NO. 27070. WIRE TO BE ROUTED THROUGH FIELD DRILLED HOLE AND OVER HEADER FOR PART NO. 27070 ONLY.)
2. USE THE TWO THIMBLES TO MAKE AN INTERLOCKING CONNECTION AND ROUTE THE WIRE ROPE AROUND THE THIMBLES.
3. APPLY THE FIRST CLAMP ONE BASE WIDTH FROM DEAD END OF THE WIRE ROPE, SNUG NUTS.
4. APPLY SECOND CLAMP AS CLOSE TO THIMBLE AS POSSIBLE, SNUG NUTS.
5. MAXIMUM HOLDING POWER IS ACHIEVED WHEN THE DISTANCE BETWEEN THE CLAMP AT ONE END IS 6-7 TIMES THE DIAMETER OF THE WIRE ROPE APART FROM THE OTHER CLAMP.
6. TAKE UP SLACK BY APPLYING TENSION TO THE THIMBLE AND CABLE; TIGHTEN NUTS EVENLY, ALTERNATING FROM ONE NUT TO THE OTHER UNTIL REACHING 15 FT. LBS. OF TORQUE.
7. ALL REDUNDANT SUPPORT SYSTEMS SHALL BE INSTALLED TO MINIMIZE LOAD DROP TO 1" OR LESS IN THE EVENT OF FAILURE AT THE PRIMARY CONNECTION.

## CAUTION

WHEN ASSEMBLING WIRE ROPE CLAMPS TO WIRE ROPE BE SURE THE SADDLE PART OF THE CLAMP IS ON THE LIVE END OF THE ROPE. THE U-BOLT PART OF THE CLAMP SHOULD BE ON THE DEAD OR SHORT END OF THE ROPE.

## SAFETY CABLE ASSEMBLY VIEW

## INSTALLATION OF AN ETA INSPECTION GATE (CURRENT VERSION)

### NOTE

Use this process to re-secure an inspection gate after use.

1. DETERMINE GATE LOCATION. GATE SHOULD BE LOCATED NO MORE THAN 12" FROM A HANGER.
2. CLOSE GATE AND SECURE WITH GATE SPLICES. TORQUE SPLICE BAR BOLTS PER TABLE 1.
3. WHEN INSTALLING NEAR A SPLICE, GATE MUST BE LOCATED A MINIMUM OF 12".

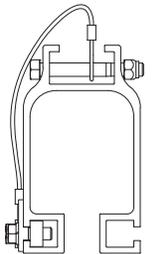
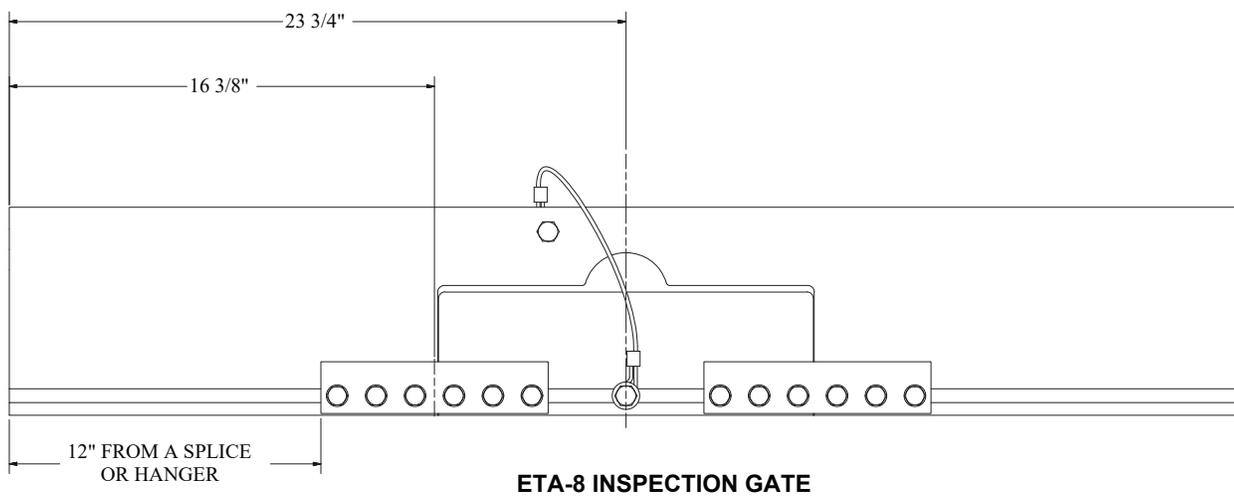
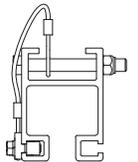
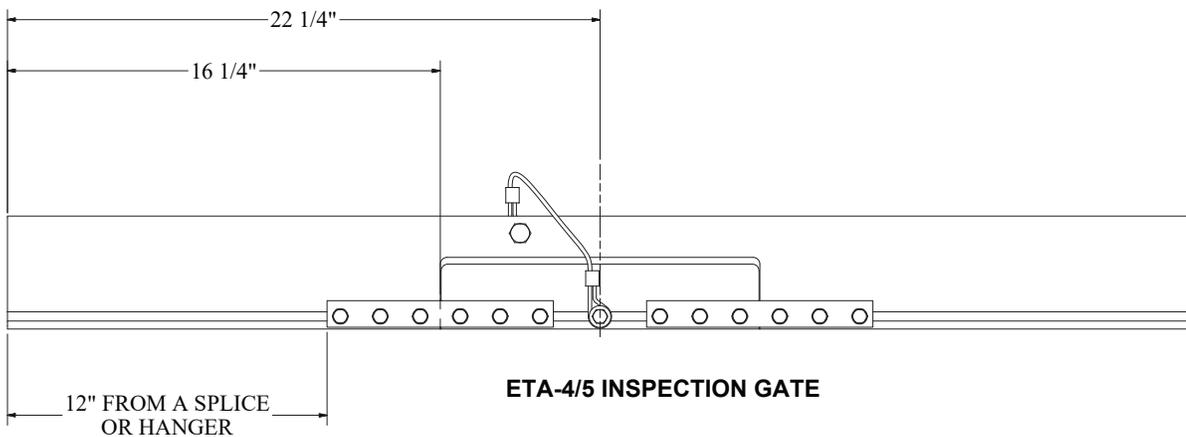
**TABLE 1.**

**Splice bar assembly torque requirement:**

ETA-4 17 ft.lbs

ETA-5 17 ft.lbs

ETA-8 70 ft.lbs



## INSTALLATION OF AN ETA INSPECTION GATE (OLD VERSION)

### NOTE

Use this process to re-secure an inspection gate after use.

1. Place (2) C-clamps on each seam of the inspection gate and rail. Snug tight.
2. Insert splice bar assemblies into each end of the inspection gate (as shown in Fig. 1)  
Tighten bolts to recommended torque. This will insure that the running surface and guide roller surface remain flush to each other.

Splice bar assembly torque requirement:

ETA-4 - 19 ft. lbs [26Nm]

ETA-5 - 19 ft. lbs [26Nm]

ETA-8 - 65 ft. lbs [88Nm]

3. Remove C-Clamps.

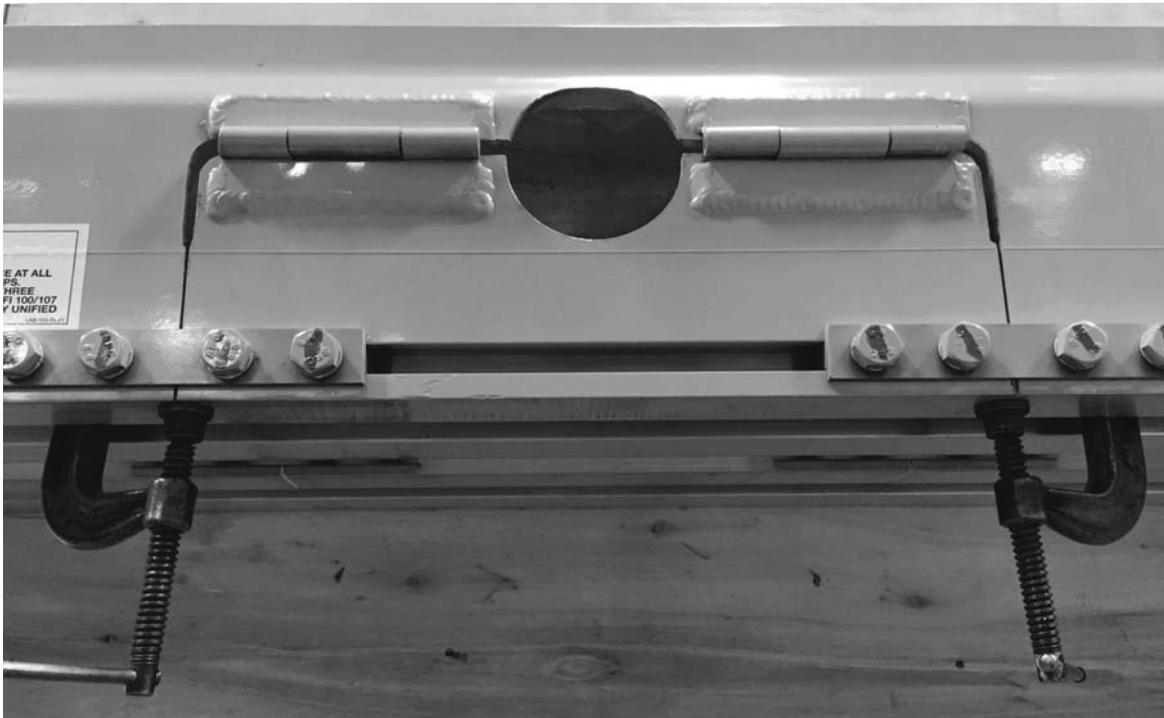


FIG. 1

# INSTALLATION OF AN ETA RAIL SYSTEM

**STEP 1:** Insure that your overhead steel will comply with your system to be installed (ie):

1. Weight.
2. Hang points.

**STEP 2:** You must first slide the hanger assembly into the upper channel of the rail. Move hanger to the approximate desired location. Follow hanger installation instructions on pages:

**SAFETY NOTE**

Unified Ind. Strongly recommends the use of non-coated safety cable on all hangers.

**NOTE**

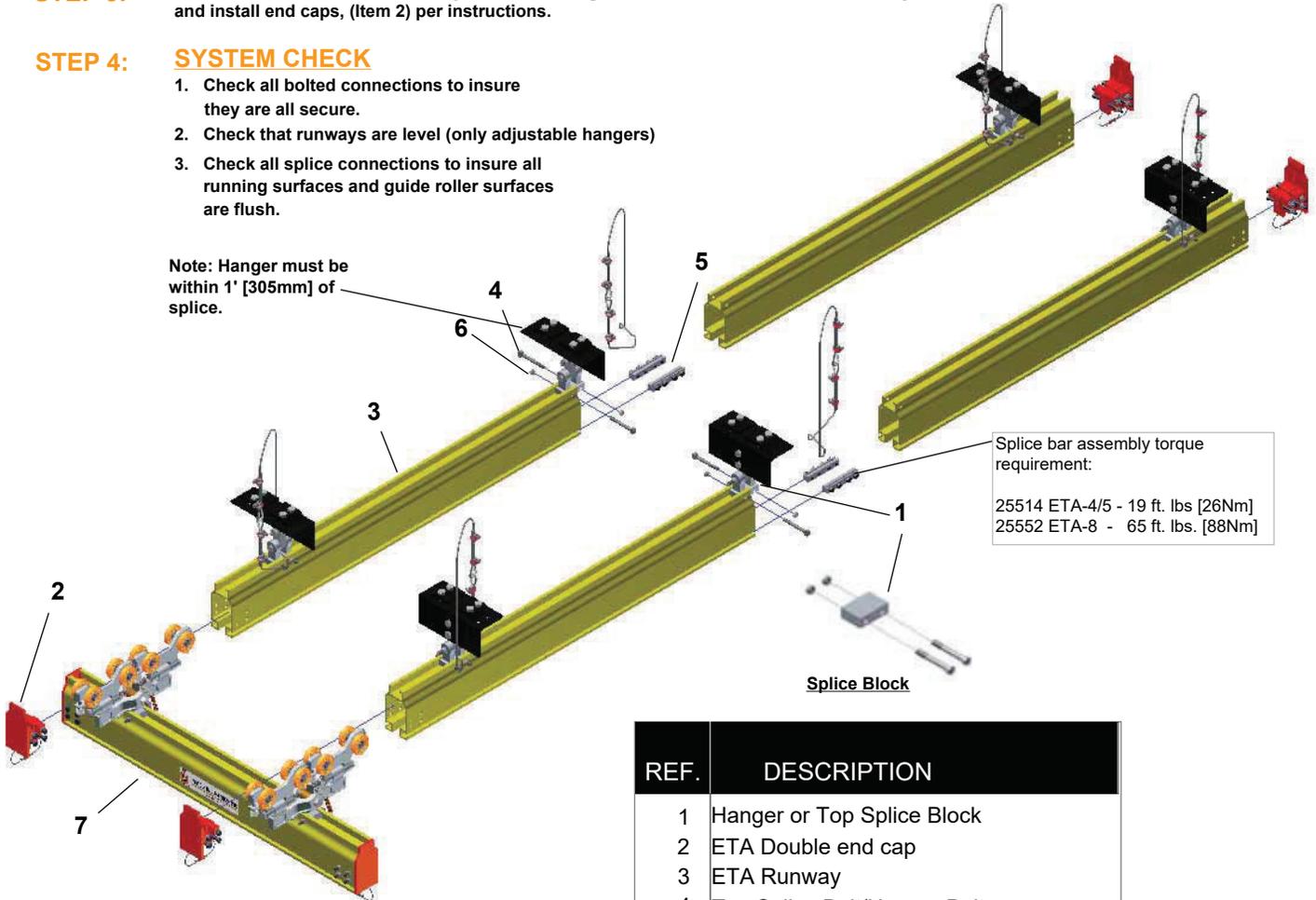
When splicing two rails together:

1. Slide lower portion of hanger or splice block (Item 1) into top channel of one rail, insert rod end or top splice bolt, (item 4) into place. Insert ETA splice bar assemblies into both side channels of one rail. (Item 5)  
Slide second rail onto hanger or splice block and ETA splice bar assemblies from the other side, insert rod end or second top splice bolt into place.
2. Now that the two rails are butted up to each other, center ETA splice bar assemblies, (Item 5) across both rails and tighten to recommended torque. This will insure that the running surface and guide roller surface remain flush to each other.
3. Now tighten upper rod ends or upper splice bolts, (Item 4) until snug against rail.

**STEP 3:** Lift and roll end trucks into runways. Position bridge a safe distance from ends of runways and install end caps, (Item 2) per instructions.

**STEP 4: SYSTEM CHECK**

1. Check all bolted connections to insure they are all secure.
2. Check that runways are level (only adjustable hangers)
3. Check all splice connections to insure all running surfaces and guide roller surfaces are flush.



Splice bar assembly torque requirement:  
25514 ETA-4/5 - 19 ft. lbs [26Nm]  
25552 ETA-8 - 65 ft. lbs. [88Nm]

REF.	DESCRIPTION
1	Hanger or Top Splice Block
2	ETA Double end cap
3	ETA Runway
4	Top Splice Bolt/Hanger Bolt
5	ETA Splice bar assembly
6	Top lock nut
7	ETA Bridge

# INSTALLATION OF A STEEL BRIDGE SYSTEM

**STEP 1:** Insure that your overhead steel will comply with your system to be installed (ie):

1. Weight.
2. Hang points.

**STEP 2:** Attach beam clips, (Item 1), to overhead steel and slide into approximate position

**NOTE**

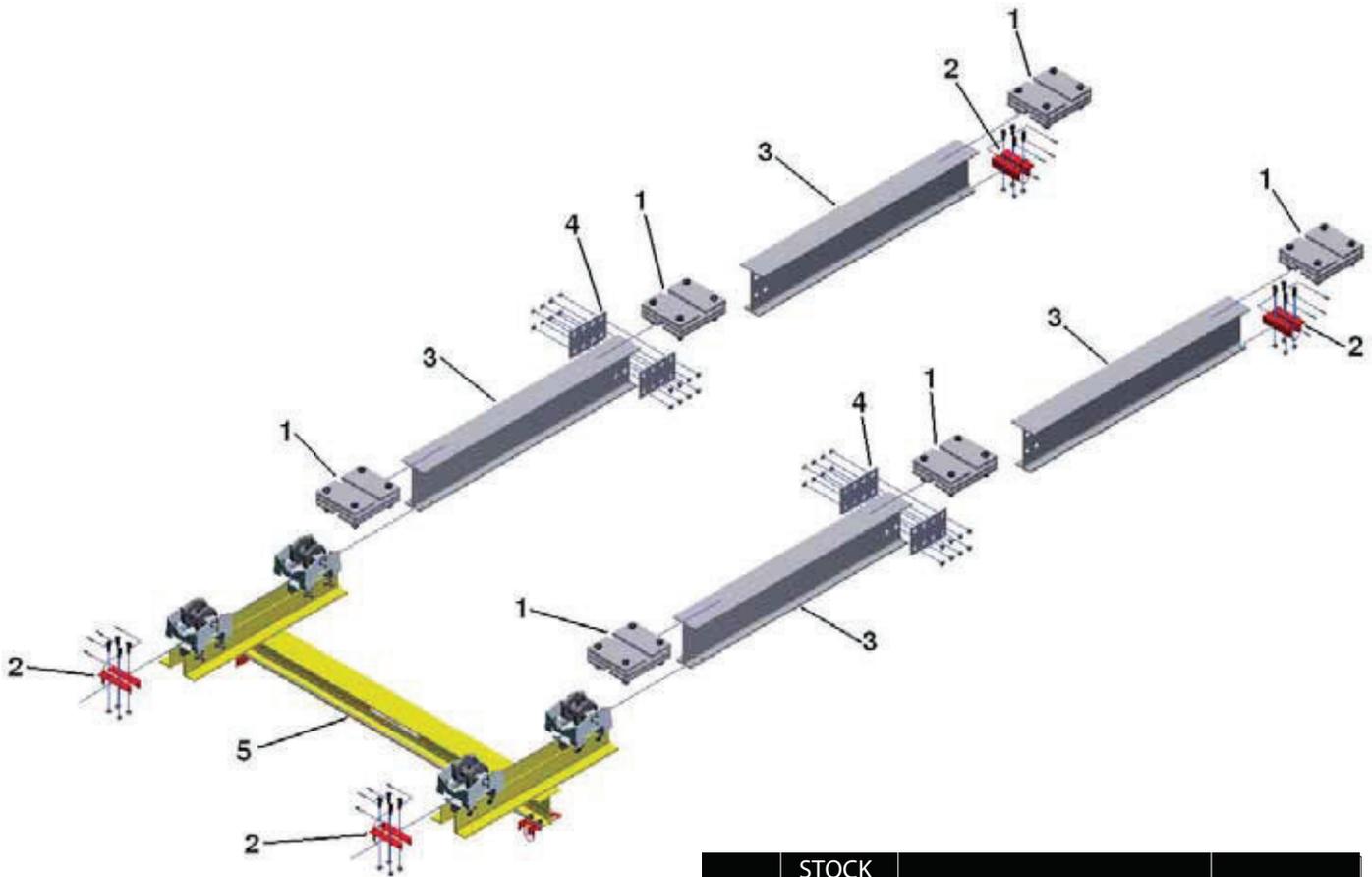
When splicing two rails together:

1. Slide top flange of one runway rail into beam clips (Item 1). Slide next rail into beam clips and push both rails together.
2. Now that the two rails are butted up to each other, center a beam clip, (Item 1), over the location where the beams meet and tighten.
3. Place splice plates on both sides of web where rails butt together insert splice bolts and tighten.

**STEP 3:** Lift and roll end trucks into runways. Position bridge a safe distance from ends of runways and install end caps, (Item 2) per instructions.

**STEP 4: SYSTEM CHECK**

1. Check all bolted connections to insure they are all secure.
2. Check that runways are level.
3. Check all splice connections to insure all running surfaces and guide roller surfaces are flush.



REF.	STOCK CODE	DESCRIPTION	QUANTITY
1		Beam Clip	6
2	15171	ES-5025-1 Dual End Stop	4
3	80039	8" Trambeam	4
4	80890	Trambeam Splice Assembly	2
5		Medium Load Bridge	1

# INSTALLATION OF THE ETA COILED HOSE RUNWAY & BRIDGE FESTOON PACKAGE

■ Note: ETA runways should be installed level and secured, per instructions prior to festoon installation.

## INSTALLATION PROCEDURE

1. Each festoon package (Runway or Bridge) comes with (2) festoon brackets (Item 4). Slide the one with elbows and coated cable ass'y attached (item 4a) into top channel of one ETA runway or bridge. Locate on end of rail closest to plant air supply. Place the other bracket (Item 4b), on other end of the same runway rail.
2. Run coated cable end with rod end through coiled hose assembly (Item 5).
3. Remove one of the two jam nuts on rod end and attach it to the other festoon bracket, (Item 4b), at other end of runway, (cable comes cut and assembled to length).
4. After the rod end has been inserted into festoon bracket put second jam nut on rod end on opposite side of bracket. Adjust jam nuts until proper cable tension is achieved and tighten jam nuts against bracket.
5. Attach plant air supply to whip hose (Item 8a) on festoon bracket (runway festoon kit only).
6. Install coiled hose to bottom elbow on festoon bracket (Item 4a).
7. Use coupling and attach whip hose (Item 8b) to other end of coiled hose.
8. Install bridge per instructions (Item 3).
9. Attach ETA Double End caps per instructions. (Item 2)
10. Connect free end of runway whip hose (Item 8b) to open end of air hose bracket (Item 6), on bridge. (Air Hose bracket included in bridge kit)
11. Install Bridge Festoon Kit using brackets, cable, whip hose, and coiled hose to bridge using steps 1,2,3,4 & 6 above.

■ Unified Industries, Inc. recommends the use of a Filter Regulator or Filter Regulator Lubricator with any air festooning.

### If using FR or FRL:

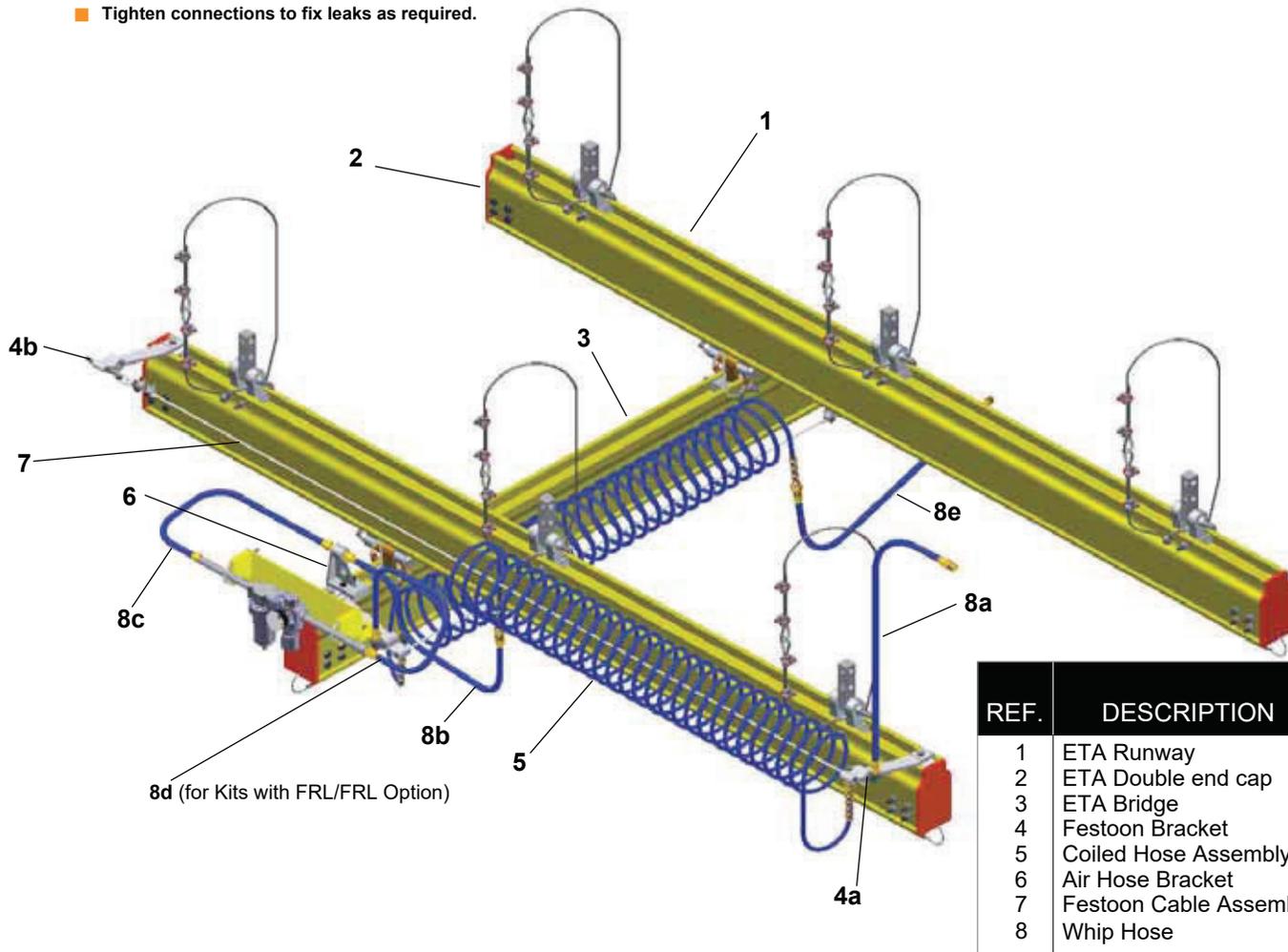
- a. Attach a whip hose (Item 8c) to Air Hose bracket on bridge and to FR or FRL.
- b. Connect another whip hose (Item 8d) to FR or FRL and top elbow of Bridge festoon bracket.

### If NOT using FR or FRL:

- a. Attach a whip hose (Item 8c) to Air Hose bracket to top elbow of bridge festoon bracket.
- b. Install coiled hose to bottom elbow on festoon bracket.
- c. Use coupling and attach whip hose (Item 8e) to other end of coiled hose.

### SYSTEM CHECK

- Pressurize system and check for leaks.
- Tighten connections to fix leaks as required.



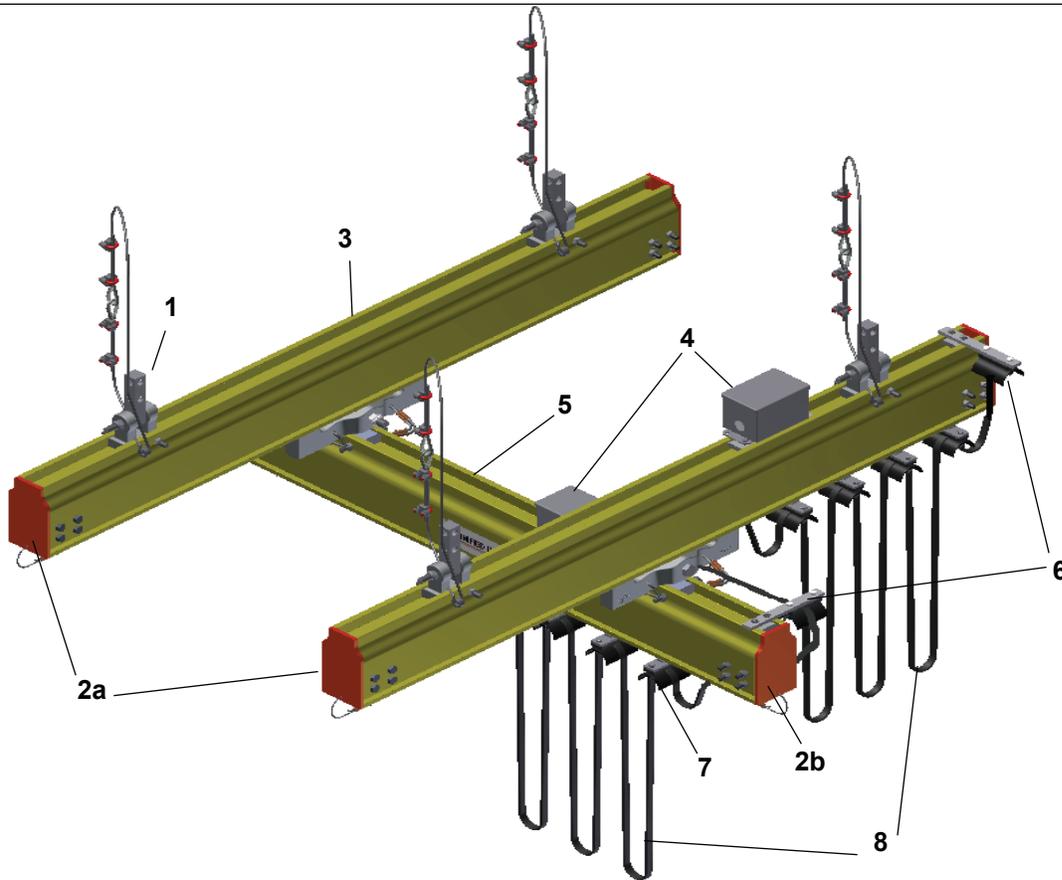
REF.	DESCRIPTION
1	ETA Runway
2	ETA Double end cap
3	ETA Bridge
4	Festoon Bracket
5	Coiled Hose Assembly
6	Air Hose Bracket
7	Festoon Cable Assembly
8	Whip Hose

# INSTALLATION OF ETA FLAT WIRE ELECTRIFICATION

■ Note: ETA runways should be installed level and secured, prior to festoon installation.

## INSTALLATION PROCEDURE

1. Loosen nuts and bolts on flat wire saddles attached to the trolleys.
2. Roll trolleys with flat wire saddles (Item 7), into the end of the runway closest to the power drop.
3. Install bridge per instructions page (Item 5).
4. Attach ETA Double End Caps per instructions page (Item 2a).
5. Install load trolley or hoist.
6. Roll trolleys with flat wire saddles into the end of bridge rail.
7. Attach ETA Double End Caps per instructions page (Item 2b).
8. Connect junction boxes, (Item 4), to top of runway and on top of bridge in locations where there will be no interference with bridge operation.
9. Connect plant electrification to runway junction box (Item 4). **NOTE: Make sure power to wire is turned off**
10. Attach flat wire (Item 8), to runway junction box and insert through runway flat wire anchor (Item 6).
11. Insert flat wire through saddles on runway trolleys with maximum equal spacing of five feet.
12. Install end of runway flat wire through bridge flat wire anchor (item 6) and into bridge junction box.
13. Attach bridge flat wire from bridge junction box (Item 4) and insert through bridge flat wire anchor (Item 6).
14. Insert flat wire through saddles on bridge trolleys with maximum equal spacing of five feet.
15. Connect bridge flat wire to hoist.
16. Tighten nuts and bolts on flat wire saddles.



REF.	DESCRIPTION
1	Hanger
2	ETA Double end cap
3	ETA Runway
4	4" x 4" x 4" Junction Box
5	ETA Bridge
6	ETA Flat Wire Anchor
7	Trolley w/ Saddle
8	Flatwire

## INSTALLATION OF AN ETA JIB CRANE

■ All standard ETA jibs are shipped in (2) pieces, Jib Column Assembly (see figure 1) and Jib Crane Assembly (see figure 2).

1. Place Jib Column Assembly in desired location.
2. Shim under base plate to level vertical column in all directions.
3. Use concrete lag bolts or threaded rod and epoxy to secure Jib Column Assembly in place. Always allow the manufacturer recommended dry time for epoxy type anchors before installing the Jib Crane Assembly. The print package shipped with the jib will specify the minimum anchor requirements for your Jib Crane. (Anchor Bolts not included with Jib, but may be purchased)
4. Attach lower hinge to lower jib hinge mount as shown in figure 2.
5. Hand tighten the nut on the lower hinge assembly.
6. Attach the upper hinge to the upper hinge mount as shown in figure 2.
7. Hand tighten upper and lower slot nuts. Install cotter pin through slot nuts and hinge bolts at upper and lower hinge mount. Secure the cotter pin by spreading the prongs in opposite directions, using pliers if desired. **Do not over tighten.**

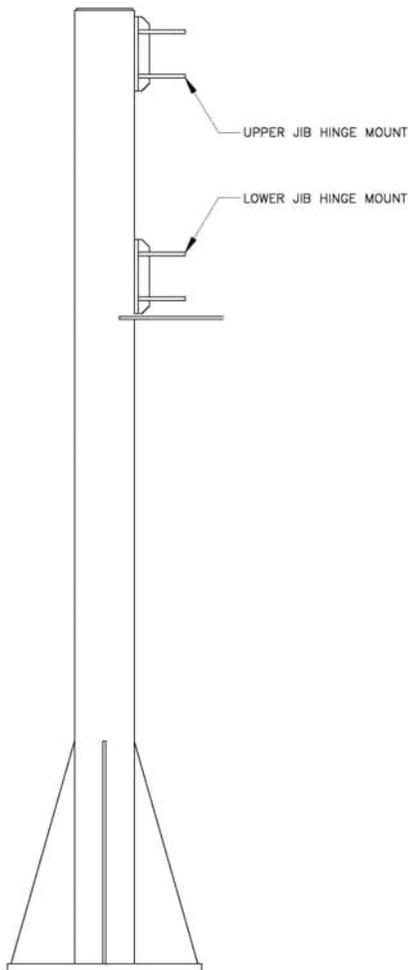


Figure 1 --Jib Column Assembly

### ETA Jib and Column Maintenance:

- A visual inspection of all components should be done every 6 months to check for loose, damaged or missing parts. This should include hardware, concrete anchors, tie-rod, upper and lower hinge assemblies and safety pins.
- The grease zerks located on the upper and lower hinges should be greased every 6 months with an all purpose lithium-based grease. For high cycle applications the zerks may need to be greased more often.

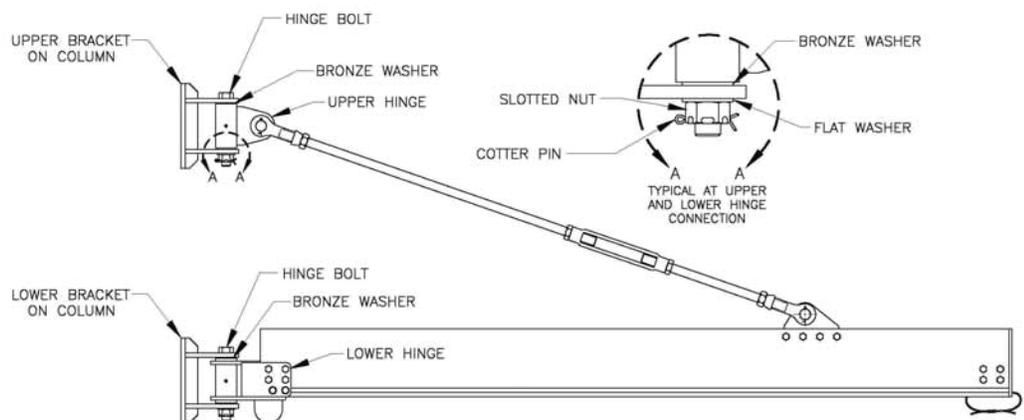
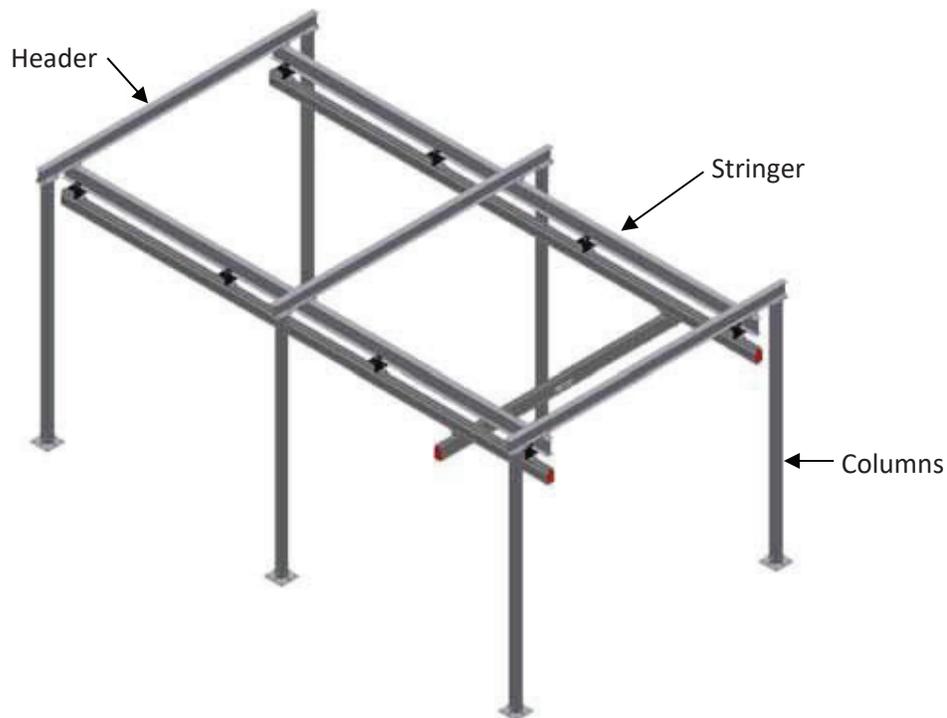


Figure 2 --Jib Crane Assembly

## **INSTALLATION OF A FREE STANDING STRUCTURE**

This structure is designed to be self-supporting and stable after it is fully completed. It is solely the contractor's responsibility to ensure the stability of the structure and its component parts, and the adequacy of temporary or incomplete connection, during erection. This includes the addition of whatever temporary bracing, guys, or tie-downs that might be necessary. Such material is not shown on drawings. If applied, they shall be removed as conditions permit, and shall remain the contractor's property.

1. Use install prints to layout columns. Take careful note to ensure column top plates are in the orientation showing on the installation prints.
2. Place header beams on top of columns. Attach header to column using provided hardware and pretension per drawing notes.
3. Locate stringers locations from print.
  - Stringer must be level  $\pm 0.188$  inches per 20 feet.
  - Stringer must be parallel  $\pm 0.125$  inches
4. Use supplied hardware to attach stringers to headers using provided hardware and pretension per drawing notes.
5. Install ETA system per instructions on page 18.





CRANE SOLUTIONS



MAGNETEK

Yale



UNIFIED