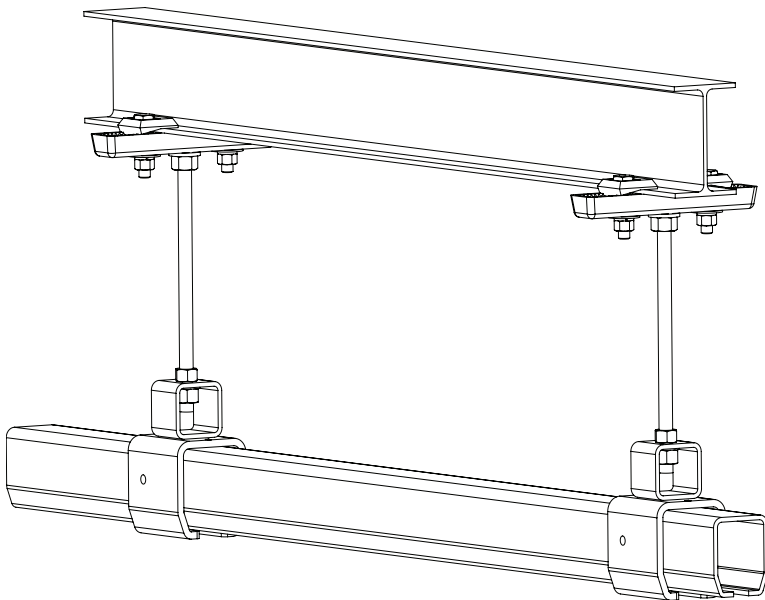
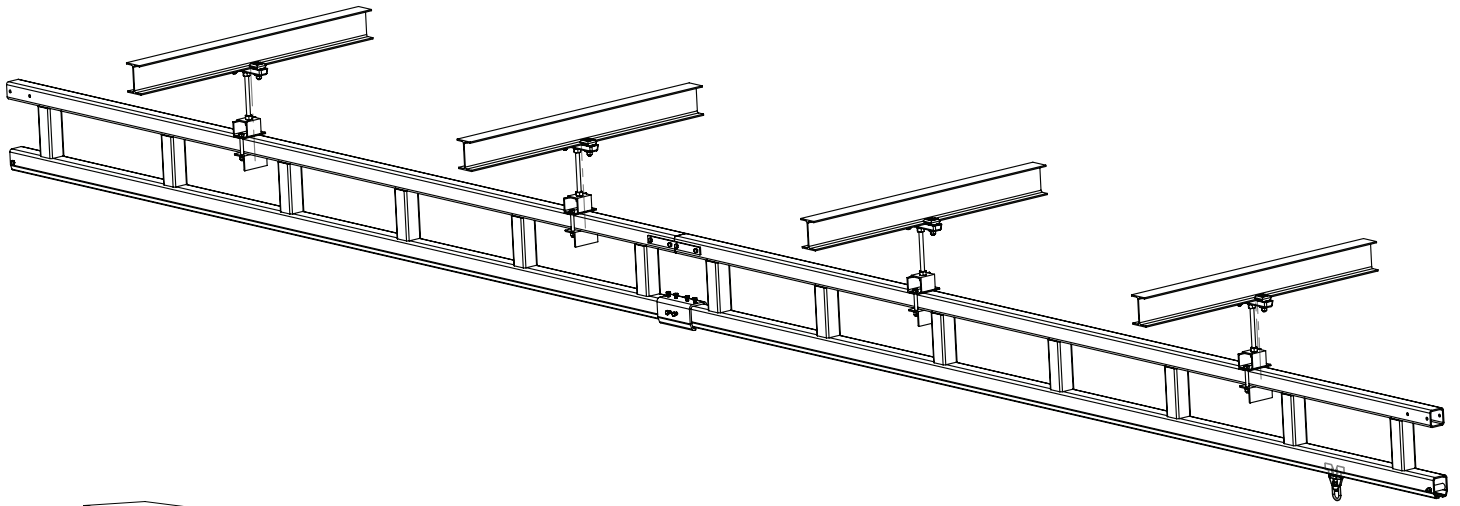




# CEILING-MOUNTED MONORAIL

ANCHOR TRACK™ SYSTEM

Assembly and Operation Instruction Manual



This manual is for various mounting types and plain and trussed track profiles.

A N C H O R  
T R A C K

ISO 9001:2008 Registered

Manual 103-0075



## WARNING

# RIGID LIFELINES' CONDITIONS OF USE AND WARNING STATEMENT

1. Read, understand, and follow the manual, assembly drawings, and warnings provided with your system **before** beginning installation.
2. This manual, and any other instructions, must be provided to the users of this equipment. The user must understand the equipment's proper use and limitations.
3. A fall event can result in serious injury or death. This equipment, when used properly, reduces the chances of those outcomes.
4. Always perform a hazard analysis **before use** that will identify impact hazards, swing hazards, or any other hazards that may exist. Address and correct all hazards **before use**.
5. Always have a written rescue plan that defines who will rescue a fallen worker, what equipment will be used, and optimum rescue response time. If the same system will be used for rescue, a minimum of a two-man system must be specified.
6. Follow all current requirements of ANSI Z359 (or CSA Z259 in Canada).
7. Each component and system must be employed and maintained in accordance with all OSHA and ANSI standards.
8. Per OSHA and ANSI (or CSA Z259 in Canada) requirements, designate a competent person who can fulfill obligations of all regulations.
9. Note the maximum number of users and weight capacities are listed on a label on the system. Exceeding the capacities listed on this label can result in serious injury or death.
10. Always check for overhead hazards, such as power lines, trees, overhead structures, or walls, before using or moving system.
11. Any component replacement, addition, or change to any portion of the system must be evaluated by a Qualified Person as defined by OSHA standards.
12. Never use this system for material handling.
13. Never use the system with scaffolding.
14. Never use the system alone without a monitor. Use the buddy system when using fall protection. The monitor, or "buddy," does not need to be attached to the system, but just nearby supervising.
15. Consult with a qualified person for minimum fitness requirements for workers. Determination of minimum fitness levels of workers prior to use of system is by others.
16. For mobile systems—It is the responsibility of the user and their management's Competent Person to determine that the system's base is level, the masts are plumb, and that the entire, leveled system is stable before every use.
17. For moveable track systems—Always use the system in work spaces that allow you to move the system's runway as close as possible to the center of the work area.
18. **Before each use**, inspect the system for bent, broken, cracked, or missing components.
19. A competent person must thoroughly inspect the system **annually** and **after each fall event**.
20. There should never be any type of loading past the end stops for any reason.
21. When connecting track sections, track splice and truss splice plates are required. For trussed track, splice joint centers must be within 48 inches of the hanger support centers unless otherwise specified. For plain track, splice track centers must be within 18 inches of the hanger support centers unless otherwise specified.
22. Systems with flush clamp hangers do not require sway bracing. However, all systems mounted to the ceiling must be laterally and longitudinally braced with bracing provided by others.



## WARNING

# RIGID LIFELINES' CONDITIONS OF USE AND WARNING STATEMENT

23. If supplied, all drive systems are chain driven, and as a result, will experience some backlash in the drive assembly. Although backlash cannot be fully eliminated, it can be reduced by tightening the drive chain. Torque limiters, if supplied, require special attention. Most drive issues result from improper torque limiter adjustment or installation.
24. It is the customer's responsibility to confirm that the system and components will work in and are acceptable for their specific application and environment.
25. For foundation-mounted systems, bracing is not required for non-seismic applications. However, if any sway is perceived as undesirable, lateral bracing can be installed to the system by others. To achieve desired rigidity for a specific application, Rigid Lifelines® recommends consulting a professional engineer in your area to satisfy all codes and ordinances. For foundation-mounted systems, chemical anchor bolts supplied by others are required and must provide approximately 7000-pound pull-out force. More accurate pull-out forces are available upon request.
26. Engineering of any attachment points must be done by others.
27. Component appearances and dimensions shown are approximate and subject to change without notice. All catalog dimensions are developed using standard components for the spans and capacities. Substitution of optional trolleys or other components will affect certain dimensions.
28. All Rigid Lifelines' Anchor Track™ Systems meet or exceed OSHA and ANSI requirements.
29. Never load the track at an angle greater than specified in the system's user manual.
30. Never use the system with the attachment point below the D-Ring of the harness.
31. Only the following self-retracting lanyard (SRL) design specifications are acceptable for use on Rigid Lifelines' Anchor Track Systems:
  - a) 900-pound maximum average arresting force (MAAF)
  - b) 4.5 feet-per-second lock up speed
  - c) Disk or drum braking mechanism
  - d) Wire rope SRL's can be used for indoor or outdoor applications
  - e) Fabric or web SRL's can be used only for indoor applications
32. The following SRL's absorbers are **not** acceptable: rip-stitch packs, shock packs, or stretchable energy.
33. Choose the shortest length SRL that will allow the workers to perform their job function. The shortest length SRL will reduce total fall distance by reducing "cable cinching" on the internal SRL pulley. Fabric lanyards stretch under load. The longer the lanyard, the longer the stretch.
34. Never use metallic cables or metallic SRL's around electrical power sources.
35. Only an ANSI (or CSA in Canada) full-body harness is acceptable for use on Rigid Lifelines' Anchor Track Systems.
36. Never use body belts on this system.
37. Never add additional carabiners, D-Rings, shackles, or connecting hardware to this system.
38. On Traveling Bridge Anchor Track Systems, always position the bridge(s) directly overhead of worker(s) at all times.
39. If a boom is provided, never apply a lateral load at the boom tip.
40. Never deviate from the above unless you have written permission and authorization from Rigid Lifelines.



## WARNING

Follow the Inspection Checklists in this manual: review the first checklist before each use and the second checklist for after a fall event and annual inspections.

**NEVER EXCEED 30 DEGREES OFF-PLUMB (OFF-CENTER) LOADING.**

## SYSTEM APPLICATIONS

The Ceiling-Mounted Monorail Anchor Track™ System is used for fall protection applications. This fall protection system is labeled with maximum number of users and maximum arresting force; follow all limitations as noted on system labels. Each user must attach to the Ceiling-Mounted Monorail track using a personal fall arrest system.

## STANDARDS AND COMPLIANCE

Please refer to local, state, and federal (OSHA) requirements governing occupational safety for additional information regarding personal fall arrest systems. The Ceiling-Mounted Monorail Anchor Track System meets or exceeds the requirements set forth in OSHA 1910, OSHA 1926, and ANSI Z359.

## REQUIRED TRAINING

The Ceiling-Mounted Monorail Anchor Track System is intended to be used by people who are trained in its correct application and use. It is the responsibility of the users and the users' management to assure that they are familiar with these instructions and are trained in the correct use and care of this equipment. Authorized users must also be aware of the operating characteristics, application limits, and the consequences of improper use, which can result in serious injury or death.

Follow ANSI Z359.2 for instructions on how to set up a proper Fall Protection Program within your facility. ANSI Z359.2 *Minimum Requirements for a Comprehensive Managed Fall Protection Program* is available at: [www.asse.org](http://www.asse.org).

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# ASSEMBLY INSTRUCTIONS

## 1. Equipment Needed for Assembly

- a) This manual
- b) Applicable safety equipment for workers' use during assembly, such as hard hats, safety shoes, etc.
- c) Telescoping fork truck or crane (minimum lifting height: determined by installed system height; minimum capacity: 4,000 pounds)
- d) Man lift/cherry picker (minimum height: determined by installed system height)
- e) Measuring tape
- f) Torque wrench
- g) Lifting straps
- h) Two six-inch by six-inch (or larger) wood blocks
- i) Long carpenter's level
- j) Wrench/Sockets sizes: 3/4 inch, 15/16 inch, and 1 1/8 inch
- k) A spacious, level area for assembly (e.g., parking lot)
- l) A way to mark hanger locations, such as a permanent marker
- m) *FA-MT-ASSEMBLY SHEET 1 OF 2*, hereafter referred to as *Ceiling-Mounted Monorail Assembly Drawing*, will be included as a separate document.
- n) *FA-MT-ASSEMBLY SHEET 2 OF 2*, hereafter referred to as *Ceiling-Mounted Monorail Label Placement Drawing*, will be included as a separate document.
- o) The Anchor Trolley™ User Instruction Manual (Manual 103-0054), which is packaged with the Anchor Trolley, will be included as a separate document

## 2. Inventory

- a) Open all bundles and confirm that all components are accounted for: see *Building Materials Description* located in the top right corner of the Ceiling-Mounted Monorail Assembly Drawing. Note that the quantity of components in an assembly are multiplied by the number of the assemblies.
- b) Check for damage to components that may have occurred during shipping.

# REQUIRED BRACING

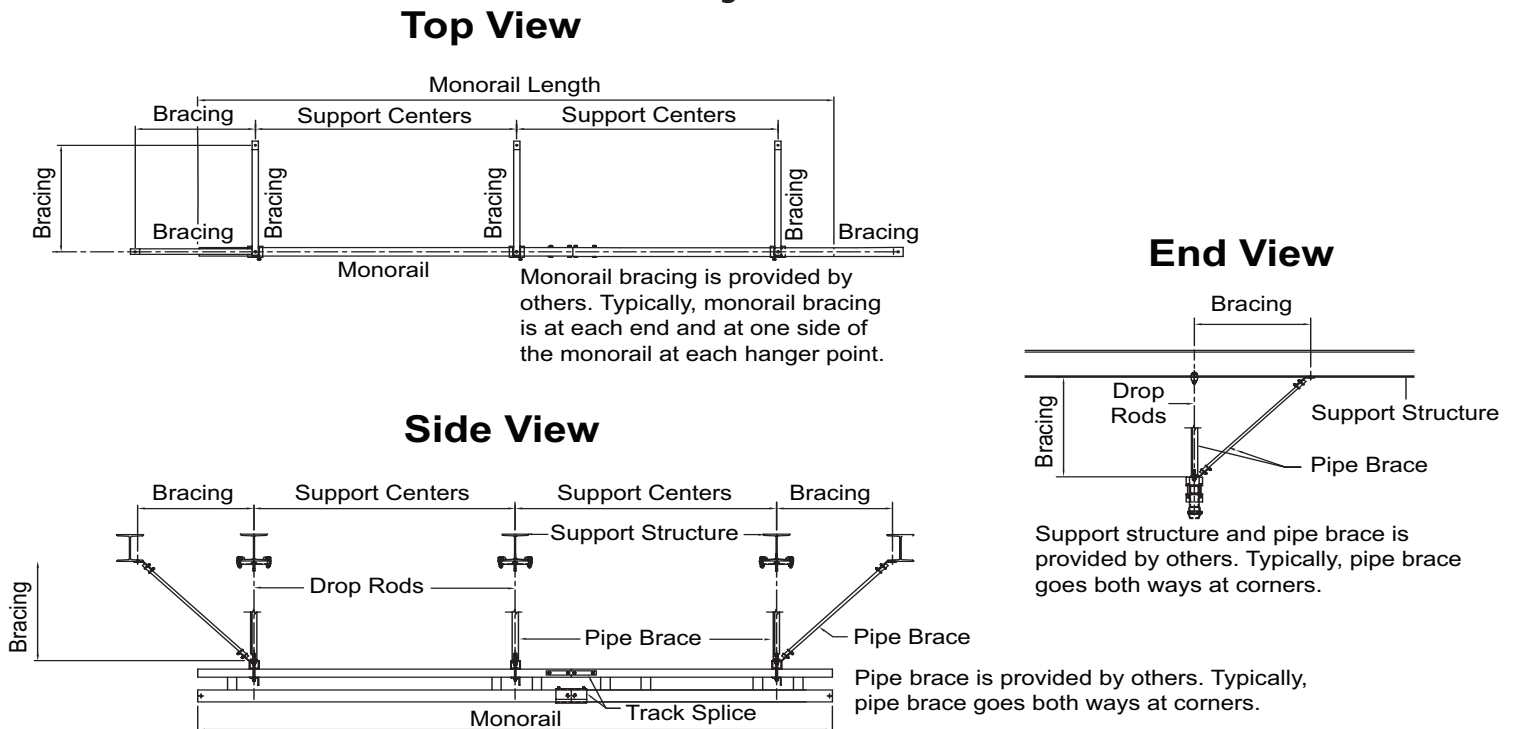
## Refer to Figure 1 for Steps 1 Through 7

**NOTE:** Flush-mount applications do not require bracing.

1. Sway bracing is required for all ceiling-mounted monorail systems that use drop rods. Sway bracing resists lateral fall arrest forces, reduces lateral stresses on drop rods, and prevents system hardware from loosening and wear due to cyclic loading.
2. Sway bracing is required at each end of the system in both directions (laterally and longitudinally).
3. Intermediate bracing is required on one side of the monorail at each hanger assembly closest to the track splices (if required).
4. Rigid Lifelines is not liable for design of supporting structures or attachments of system hangers and/or bracing to supporting structures. However, Rigid Lifelines can provide the hangers for the bracing. All supporting structures must be designed by a qualified person using all applicable local, state, and national code requirements.
5. Support structures of structural steel must be designed, fabricated, and/or erected per requirements of "American Institute of Steel Construction" (AISC). Special attention must be given to the requirements for impact and deflection forces to maintain the integrity of the complete building structure and system. The qualified person is liable for the final design.
6. All bracing shown in **Figure 1** is to be used as a guide only and should be considered as the minimum requirements for the ceiling-mounted monorail systems that use drop rods. Minimum pipe diameter is one inch for systems with drop rods. Systems with drop rods longer than 12 inches require special design attention by a qualified person.
7. Other bracing materials and designs may be acceptable if they are designed by a qualified person.

**NOTE:** A qualified person must determine proper brace tube strength before installation.

**Figure 1**



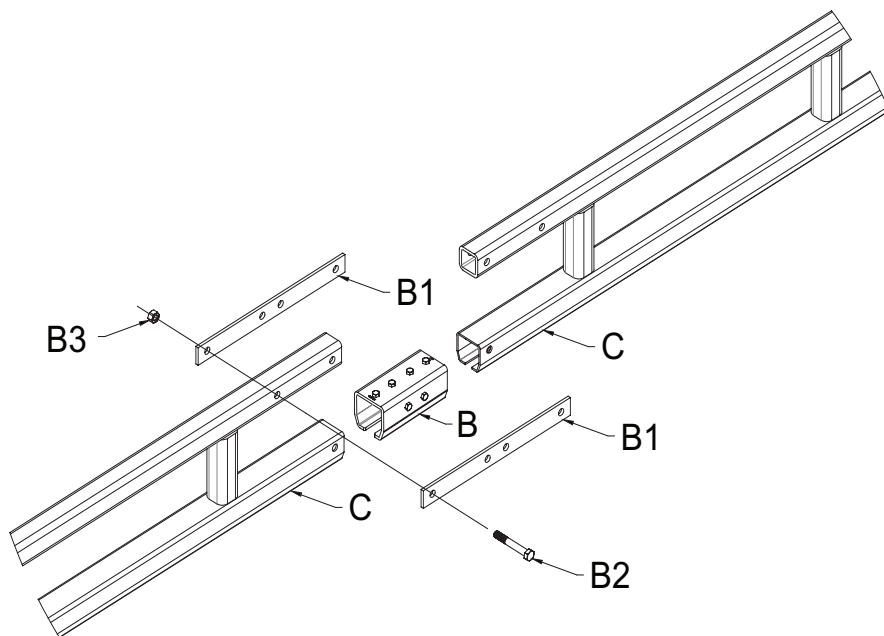
# ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS

Refer to Figure 2 and Figure 3 for Steps 1 Through 9

1. Depending on the existing ceiling structure, span, and track series, track splices are required. If you purchased a system that requires a track splice, follow the steps below to attach the track splice to the track sections. If your system doesn't require a track splice, proceed to **Ceiling-Mounted Plain Track Hanger Options** on page 7 or **Ceiling-Mounted Trussed Track Hanger Options** on page 17.
2. As per **Figure 2**, the track splice joint (B) comes assembled using a sleeve with a total of eight set screws threaded into the top and both sides.
3. As per **Figure 2**, slide the track splice joint (B) over the end of the first track section, then butt the second track section against the first. Center the track splice joint (B) over both track section ends.
4. As per **Figure 2**, **hand tighten** the top two center set screws to push the track sections against the base of the track splice joint (B) until both track section bottom surfaces are aligned. Adjust both sets of side set screws so that the track slots are aligned and there is a smooth transition from one track section to the other.
5. As per **Figure 2**, after you properly align the track sections (see Figure 3 on the following page), tighten the top set screws first before tightening the side set screws. Do not over-tighten set screws.
6. As per **Figure 2**, bolt the track splice plates (B1) to the top of the track sections on both sides using nuts (B3) and bolts (B2). Torque the nuts (B3) to 51 foot-pounds.

**NOTE:** The track splice plates (B1), nuts (B3), and bolts (B2) are only required for trussed track.

Figure 2



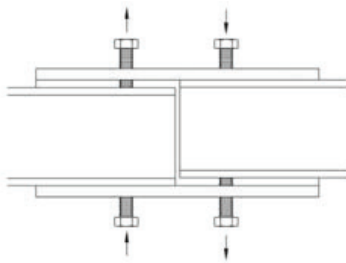
Item	Description
C	Track Sections
B	Track Splice Joint
B1	Track Splice Plate
B2	1/2-inch Hex Head Bolt
B3	1/2-inch Hex Locknut



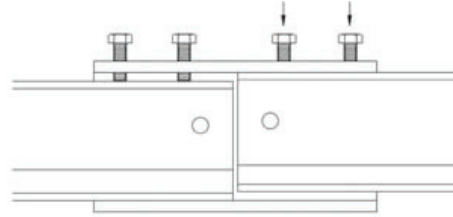
7. As per **Figure 3**, the track splice joint (B) must be properly aligned with the track sections.

**Figure 3**

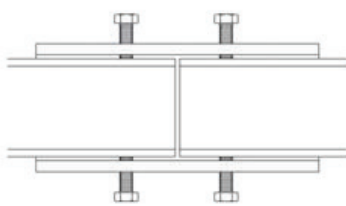
Top View of Incorrect Alignment



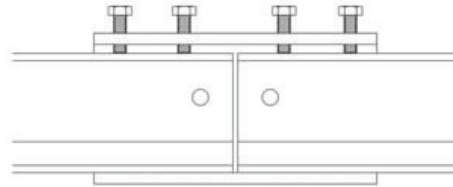
Side View of Incorrect Alignment



Top View of Correct Alignment

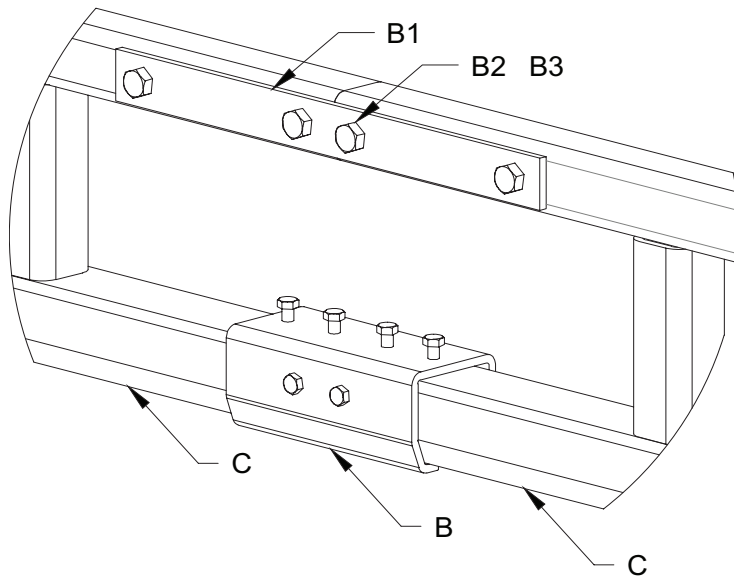


Side View of Correct Alignment



8. If you ordered a multiple track system, repeat steps **2.** through **7.** to attach the remaining track splice(s) to the track sections.
9. Refer to **Detail "B"** below for an illustration of the properly attached track splice to the track sections.

**Detail "B" (Track Splice to Track Sections)**



Item	Description
C	Track Sections
B	Track Splice Joint
B1	Track Splice Plate
B2	1/2-inch Hex Head Bolt
B3	1/2-inch Hex Locknut

# CEILING-MOUNTED PLAIN TRACK HANGING OPTIONS

## 1. Flush-Parallel Mount

Refer to **Figure 4 for Steps A Through P**

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 4**, slide all of the hanger brackets (7) onto the track so that the welded top plate on the hanger bracket (7) is facing up away from the track.
- d) As per **Figure 4**, slide an end hanger bracket (7) onto the marked spot on the track so that the welded top plate on the hanger bracket (7) is facing up away from the track.
- e) As per **Figure 4**, **hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (7). Do not over tighten the set screw.

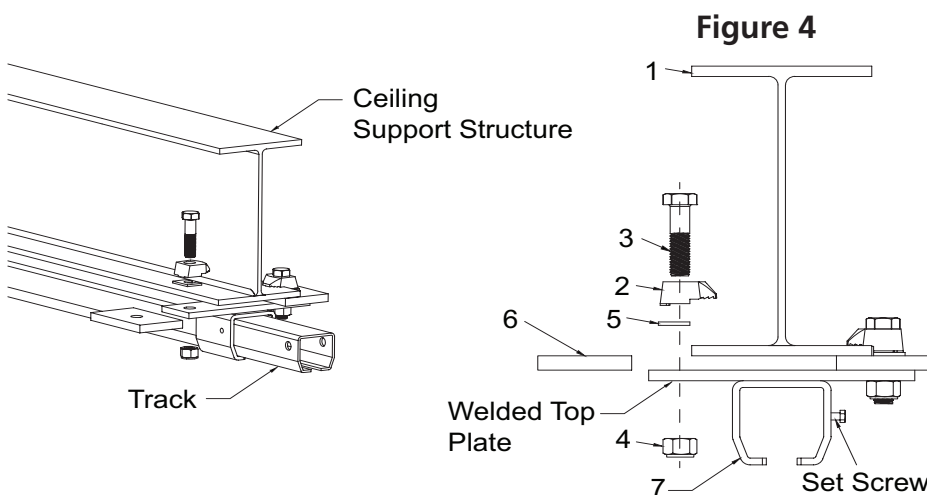
**NOTE:** The hanger bracket (7) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (7) has the set screw threaded into the same side.

- f) As per **Figure 4**, insert bolts (3) through beam clips (2), clipped washers (5), and spacers (6) so that the clipped washers (5) are between the beam clips (2) and spacers (6).

**NOTE:** Clipped washers (5) may be required depending on the flange thickness. If clipped washers (5) are supplied, ensure that the flat edge of the clipped washers (5) face away from the center of the welded top plate of the hanger bracket (7). Spacers (6) are only required on systems using splices (B in *Ceiling-Mounted Monorail Assembly Drawing*).

- g) As per **Figure 4**, insert bolts (3) and attached components (2, 5, and 6) through the holes on top of the welded top plate of the hanger bracket (7) so that the beam clips (2), clipped washers (5), and spacers (6) are on top of the welded top plate of the hanger bracket (7).

- h) As per **Figure 4**, **hand tighten** the nuts (4) to the bolts (3).



Item	Description
1	Ceiling Support Structure
2	Beam Clip
3	5/8-inch Hex Bolt
4	5/8-inch Hex Locknut
5	Clipped Washer
6	Spacer
7	Hanger Bracket

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

- i) Repeat steps **d)** through **h)** to attach another hanger bracket (7) to the marked spot on the other end of the track.
- j) Using a crane and lifting straps, lift the track to the existing ceiling support structure (1).
- k) Use a man lift or cherry picker to reach the track and ceiling support structure (1).
- l) As per **Figure 4**, position the track and attached components (2, 3, 5, and 6) so that the beam clips (2) are on each side of the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of a ceiling support structure (1).

- m) As per **Figure 4**, place the beam clips (2) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (2) as needed by tightening or loosening the nuts (4) until the beam clips (2) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (2) to the bottom flange of the ceiling support structure (1).
- n) Repeat steps **k)** through **m)** to attach the track to the other end ceiling support structure (1).
- o) Now that the track is attached to the end ceiling support structures (1), repeat steps **d)** through **h)** and **k)** through **m)** to attach the track to the remaining ceiling support structures (1).
- p) After the track has been securely snugged to all ceiling support structures (1), ensure that all beam clips (2) are installed horizontally and level within plus or minus five degrees. Then torque all hanger kit 5/8-inch diameter locknuts (4) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

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## 2. Flush-Cross Mount

### Refer to Figure 5 for Steps A Through P

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

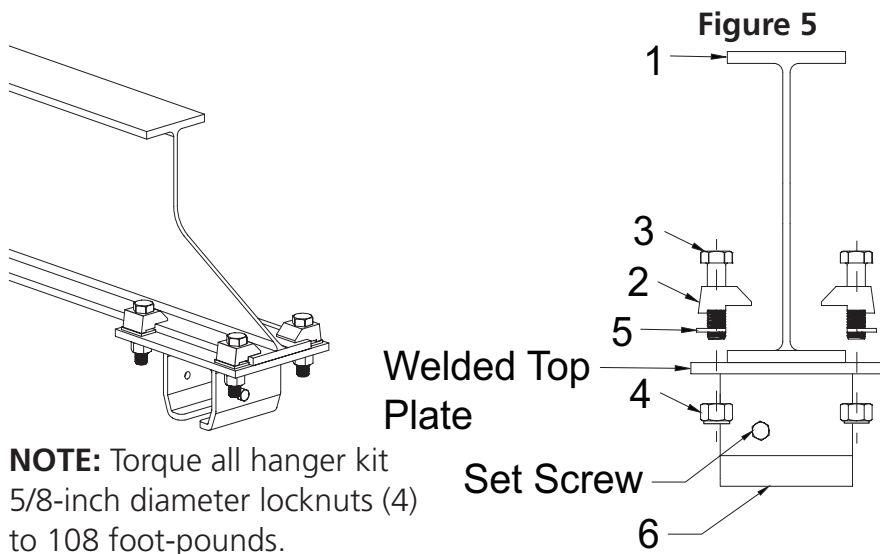
- c) As per **Figure 5**, slide all of the hanger brackets (6) onto the track so that the welded top plate on the hanger bracket (6) is facing up away from the track.
- d) As per **Figure 5**, slide an end hanger bracket (6) onto the marked spot on the track so that the welded top plate on the hanger bracket (6) is facing up away from the track.
- e) As per **Figure 5**, **hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (6). Do not over tighten the set screw.

**NOTE:** The hanger bracket (6) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (6) has the set screw threaded into the same side.

- f) As per **Figure 5**, insert bolts (3) through beam clips (2) and clipped washers (5) so that the beam clips (2) are between the bolt head (3) and the clipped washer (5).

**NOTE:** Clipped washers (5) may be required depending on the flange thickness.

- g) As per **Figure 5**, insert bolts (3) and attached components (2 and 5) through the holes on top of the welded top plate of the hanger bracket (6) so that the beam clips (2) and clipped washers (5) are on top of the welded top plate of the hanger bracket (6).
- h) As per **Figure 5**, **hand tighten** the locknuts (4) to the bolts (3).



**NOTE:** Torque all hanger kit 5/8-inch diameter locknuts (4) to 108 foot-pounds.

Item	Description
1	Ceiling Support Structure
2	Beam Clip
3	5/8-inch Hex Bolt
4	5/8-inch Hex Locknut
5	Clipped Washer
6	Hanger Bracket

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

- i) Repeat steps **d)** through **h)** to attach another hanger bracket (6) to the marked spot on the other end of the track.
- j) Using a crane and lifting straps, lift the track to the existing ceiling support structure (1).
- k) Use a man lift or cherry picker to reach the track and ceiling support structure (1).
- l) As per **Figure 5**, position the track and attached components (2, 3, and 5) so that the beam clips (2) are on each side of the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of a ceiling support structure (1).

- m) As per **Figure 5**, place the beam clips (2) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (2) as needed by tightening or loosening the locknuts (4) until the beam clips (2) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (2) to the bottom flange of the ceiling support structure (1).
- n) Repeat steps **k)** through **m)** to attach the track to the other end ceiling support structure (1).
- o) Now that the track is attached to the end ceiling support structures (1), repeat steps **d)** through **h)** and **k)** through **m)** to attach the track to the remaining ceiling support structures (1).
- p) After the track has been securely snugged to all ceiling support structures (1), ensure that all beam clips (2) are installed horizontally and level within plus or minus five degrees. Then torque all hanger kit 5/8-inch diameter locknuts (4) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

### 3. Drop Rod

**Refer to Figure 6 for Steps A Through X**

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.

**b)** Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

**c)** As per **Figure 6**, slide all of the hanger brackets (11) onto the track so that the welded top square on the hanger bracket (11) is facing up away from the track.

**d)** As per **Figure 6**, slide an end hanger bracket (11) onto the marked spot on the track so that the welded top square on the hanger bracket (11) is facing up away from the track.

**e)** As per **Figure 6, hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (11). Do not over tighten the set screw.

**NOTE:** The hanger bracket (11) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (11) has the set screw threaded into the same side.

**f)** As per **Figure 6**, screw a nut (9) onto the bottom of the threaded drop rod (10) and adjust so that about three inches of the drop rod (10) are showing from the bottom of the nut (9).

**g)** As per **Figure 6**, slide a lock washer (8) onto the threaded drop rod (10) so that the lock washer (8) is underneath the nut (9).

**h)** As per **Figure 6**, insert the bottom of the threaded drop rod (10) into the hole on the welded top square of the hanger bracket (11) until the lock washer (8) is flush against the top of the welded top square of the hanger bracket (11) and the nut (9) is flush against the lock washer (8).

**i)** As per **Figure 6**, screw a locknut (2) to the bottom of the threaded drop rod (10) and adjust so that an inch of drop rod (10) is showing underneath the locknut (2).

**j)** As per **Figure 6**, screw a nut (9) onto the top of the threaded drop rod (10) so that about three inches of the drop rod (10) are showing from the top of the nut (9).

**k)** As per **Figure 6**, slide a lock washer (8) onto the threaded drop rod (10) so that the lock washer (8) is on top of the nut (9).

**l)** As per **Figure 6**, insert bolts (3) through beam clips (4) so that the beam clips (4) are underneath the bolt head (3).

**m)** As per **Figure 6**, insert bolts (3) and attached beam clips (4) through the bottom side holes in the body forging (5) so that the beam clips (4) are on top of the body forging (5).

**n)** As per **Figure 6, hand tighten** locknuts (7) and flat washers (6) to the bolts (3) so that the flat washers (6) are between the body forging (5) and locknuts (7).

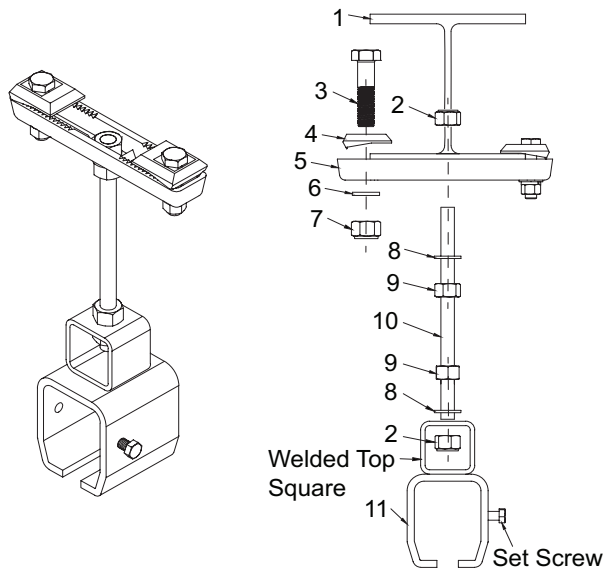
**o)** As per **Figure 6**, insert the top of the threaded drop rod (10) into the bottom middle hole of the body forging (5) until the lock washer (8) is flush against the bottom of the body forging (5) and the nut (9) is flush against the lock washer (8).

**p)** As per **Figure 6**, screw a locknut (2) to the top of the threaded drop rod (10) and adjust so that an inch of drop rod (10) is showing above the locknut (2).

**q)** Repeat steps **d)** through **p)** to attach another hanger bracket (11) to the marked spot on the other end of the track.

- r) Using a crane and lifting straps, lift the track to the existing ceiling support structure (1).
  - s) Use a man lift or cherry picker to reach the track and ceiling support structure (1).
  - t) As per **Figure 6**, position the track and attached components (2 through 11) so that the beam clips (4) are on each side of the ceiling support structure (1).
- NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of a ceiling support structure (1).
- u) As per **Figure 6**, place the beam clips (4) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (4) as needed by tightening or loosening the locknuts (7) until the beam clips (4) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (4) to the bottom flange of the ceiling support structure (1).
  - v) Repeat steps r) through u) to attach the track to the other end ceiling support structure (1).
  - w) Now that the track is attached to the end ceiling support structures (1 in *Figure 6*), repeat steps d) through p) and r) through u) to attach the track to the remaining ceiling support structures (1).
  - x) After the track has been securely snugged to all ceiling support structures (1), ensure that all beam clips (4) are installed horizontally and level within plus or minus five degrees. Then torque all hanger kit 5/8-inch diameter locknuts (7) and drop rod 5/8-inch diameter locknuts (2) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.



**Figure 6**

**NOTE:** Torque all hanger kit and drop rod 5/8-inch diameter locknuts (2 and 7) to 108 foot-pounds.

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

Item	Description
1	Ceiling Support Structure
2	5/8-inch Hex Locknut
3	5/8-inch Hex Bolt
4	Beam Clip
5	Body Forging
6	5/8-inch Flat Washer
7	5/8-inch Hex Locknut
8	5/8-inch Lock Washer
9	5/8-inch Hex Nut
10	5/8-inch Drop Rod
11	Hanger Bracket

## 4. Sloped Drop Rod

### Refer to Figure 7 for Steps A Through W

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Building Materials Description*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 7**, slide all of the hanger brackets (13) onto the track so that the welded top square on the hanger bracket (13) is facing up away from the track.
- d) As per **Figure 7**, slide an end hanger bracket (13) onto the marked spot on the track so that the welded top square on the hanger bracket (13) is facing up away from the track.
- e) As per **Figure 7, hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (13). Do not over tighten the set screw.

**NOTE:** The hanger bracket (13) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (13) has the set screw threaded into the same side.

- f) As per **Figure 7**, screw a nut (11) onto the bottom of the threaded drop rod (4) and adjust so that about three inches of the drop rod (4) are showing from the bottom of the nut (11).
- g) As per **Figure 7**, slide a lock washer (12) onto the threaded drop rod (4) so that the lock washer (12) is underneath the nut (11).
- h) As per **Figure 7**, insert the bottom of the threaded drop rod (4) into the hole on the welded top square of the hanger bracket (13) until the lock washer (12) is flush against the top of the welded top square of the hanger bracket (13) and the nut (11) is flush against the lock washer (12).
- i) As per **Figure 7**, screw a locknut (9) to the bottom of the threaded drop rod (4) and adjust so that an inch of drop rod (4) is showing underneath the locknut (9).
- j) As per **Figure 7**, insert the top of the drop rod (4) through the middle hole on the bottom of the beam clamp channel (2) so that three inches of drop rod (4) are showing.
- k) As per **Figure 7**, slide bevel washers (10) and a spherical washer (8) onto the threaded drop rod (4) so that the spherical washer (8) is on top of the bevel washers (10).

**NOTE:** The degree of slope determines how many bevel washers (10) are required.

- l) As per **Figure 7, hand tighten** a locknut (9) and a hex nut (11) onto the top of the drop rod (4) so that the locknut (9) is between the hex nut (11) and spherical washer (8).
- m) As per **Figure 7**, insert bolts (5) through flat washers (7) and the bottom slots in the beam clamp channel (2) so that the flat washers (7) are between the bolt heads (5) and the bottom of the beam clamp channel (2) and the bolt heads (5) are on the bottom of the beam clamp channel (2).
- n) As per **Figure 7**, slide beam clamp clips (3) onto the bolts (5) and **hand tighten** locknuts (6) to the bolts (5).

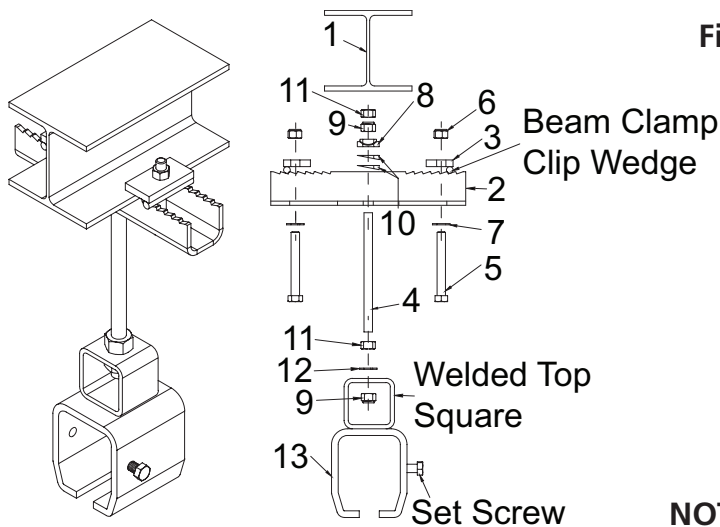
**NOTE:** Ensure that the beam clamp clip wedges are facing away from the center of the beam clamp channel (2).

- o) Repeat steps **d)** through **n)** to attach another hanger bracket (13 in *Figure 7*) to the marked spot on the other end of the track.
- p) Using a crane and lifting straps, lift the track to the existing ceiling support structure (1).
- q) Use a man lift or cherry picker to reach the track and ceiling support structure (1).
- r) As per **Figure 7**, position the track and attached components (2 through 13) so that the beam clamp clips (3) are on each side of the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of a ceiling support structure (1).

- s) As per **Figure 7**, place the beam clamp clips (3) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clamp clips (3) as needed by tightening or loosening the locknuts (6) until the beam clamp clips (3) sit properly on the bottom flange of the ceiling support structure (1) and in the cutouts of beam clamp channel (2) and are an equal number of cutouts away from the center of the beam clamp channel (2). Ensure that the bolts (5) are as close as possible to the edge of bottom flange of the ceiling support structure (1).
- t) As per **Figure 7**, securely snug the locknuts (6) so that the beam clamp clips (3) are tight to the bottom flange of the ceiling support structure (1).
- u) Repeat steps q) through t) to attach the track to the other end ceiling support structure (1).
- v) Now that the track is attached to end ceiling support structures (1), repeat steps d) through n) and q) through t) to attach the track to the remaining ceiling support structures (1).
- w) After the track has been securely snugged to all ceiling support structures (1), ensure that all beam clamp clips (3) are installed horizontally and level within plus or minus five degrees. Then torque the top drop rod 5/8-inch diameter nuts (11) to 112 foot-pounds and all beam clamp and bottom drop rod 5/8-inch diameter locknuts (6 and 9) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.



**Figure 7**

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

**NOTE:** Torque all hanger kit and drop rod 5/8-inch diameter locknuts (6 and 9) to 108 foot-pounds.

Item	Description
1	Ceiling Support Structure
2	Beam Clamp Channel
3	Beam Clamp Clip
4	5/8-inch Drop Rod
5	5/8-inch Hex Bolt
6	5/8-inch Hex Locknut
7	5/8-inch Flat Washer
8	Spherical Washer
9	5/8-inch Hex Locknut
10	5/8-inch Bevel Washer
11	5/8-inch Hex Nut
12	5/8-inch Lock Washer
13	Hanger Bracket

## 5. Flush-Cross Bar Joist

**Refer to Figure 8 for Steps A Through O**

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.



- c) As per **Figure 8**, slide all of the hanger brackets (3) onto the track so that the welded top plate on the hanger bracket (3) is facing up away from the track.
- d) As per **Figure 8**, slide an end hanger bracket (3) onto the marked spot on the track so that the welded top square on the hanger bracket (3) is facing up away from the track.
- e) As per **Figure 8**, **hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (3). Do not over tighten the set screw.

**NOTE:** The hanger bracket (3) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (3) has the set screw threaded into the same side.

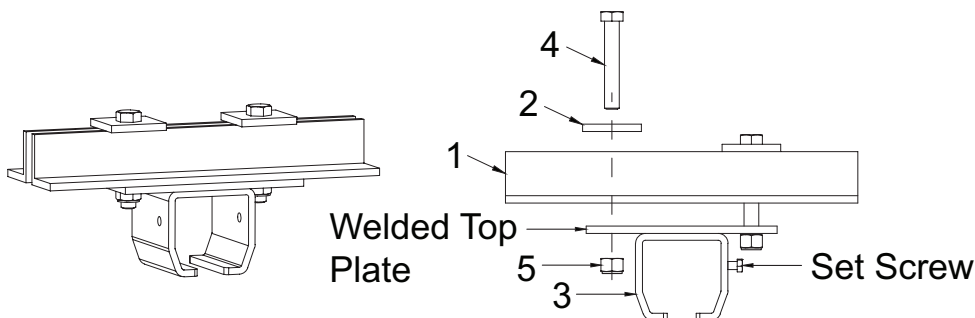
- f) Repeat steps **d)** and **e)** to attach another hanger bracket (3) to the marked spot on the other end of the track.
- g) Using a crane and lifting straps, lift the track to the existing ceiling support structure (1).
- h) Use a man lift or cherry picker to reach the track and ceiling support structure (1).
- i) As per **Figure 8**, position the track and attached hanger brackets (3) so that the hanger brackets (3) are directly underneath the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of a ceiling support structure (1).

- j) As per **Figure 8**, insert bolts (4) through bolt pads (2).
- k) As per **Figure 8**, insert the bolts (4) and attached bolt pads (2) through the bottom bar joist and holes on the welded top plate of the hanger bracket (3) so that the bolt head (4) and bolt pads (2) are on top of the bottom bar joist.
- l) As per **Figure 8**, securely snug locknuts (5) to the bolts (4).
- m) Repeat steps **h)** through **l)** to attach the track to the other end ceiling support structure (1).
- n) Now that the track is attached to the end ceiling support structures (1), repeat steps **d)** and **e)** and **h)** through **l)** to attach the track to the remaining ceiling support structures (1).
- o) After the track has been securely snugged to all ceiling support structures (1), torque all hanger kit locknuts (5) to 93 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 8**



Item	Description
1	Ceiling Support Structure
2	Bolt Pad
3	Hanger Bracket
4	5/8-inch Hex Bolt
5	5/8-inch Hex Locknut

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 151 foot-pounds.

## 6. Wood Joist

### Refer to Figure 9 for Steps A Through AD

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

**NOTE:** One-foot overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

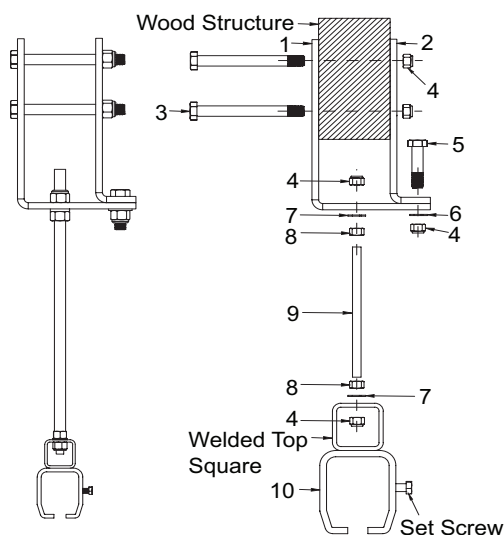
- c) As per **Figure 9**, slide all of the hanger brackets (10) onto the track so that the welded top square on the hanger bracket (10) is facing up away from the track.
- d) As per **Figure 9**, slide an end hanger bracket (10) onto the marked spot on the track so that the welded top square on the hanger bracket (10) is facing up away from the track.
- e) As per **Figure 9**, **hand tighten** the side set screw until snug to align the track against the side of the hanger bracket (10). Do not over tighten the set screw.

**NOTE:** The hanger bracket (10) comes with a set screw threaded into the side. It doesn't matter which side. However, ensure that each hanger bracket (10) has the set screw threaded into the same side.

- f) As per **Figure 9**, screw a nut (8) onto the bottom of the threaded drop rod (9) and adjust so that about three inches of the drop rod (9) are showing from the bottom of the nut (8).
- g) As per **Figure 9**, slide a lock washer (7) onto the threaded drop rod (9) so that the lock washer (7) is underneath the nut (8).
- h) As per **Figure 9**, insert the bottom of the threaded drop rod (9) into the hole on the welded top square of the hanger bracket (10) until the lock washer (7) is flush against the top of the welded top square of the hanger bracket (10) and the nut (8) is flush against the lock washer (7).
- i) As per **Figure 9**, screw a locknut (4) to the bottom of the threaded drop rod (9) and adjust so that an inch of drop rod (9) is showing underneath the locknut (4).
- j) As per **Figure 9**, screw a nut (8) onto the top of the threaded drop rod (9) and adjust so that about three inches of the drop rod (9) are showing from the top of the nut (8).
- k) As per **Figure 9**, slide a lock washer (7) onto the threaded drop rod (10) so that the lock washer (7) is on top of the nut (8).
- l) Repeat steps **d)** through **k)** to attach another hanger bracket (10) to the marked spot on the other end of the track.
- m) Measure the distance between the hole centers on the wood bracket plate (2).
- n) Using a permanent marker, mark the hole center locations on the wood structure using the measurements from step **m)**.
- o) Drill four holes into the wood structures for each hanger assembly.
- p) As per **Figure 9**, slide the top of the drop rod (9) through the bottom hole closest to the center of the wood bracket L plate (1) so that the lock washer (7) is flush against the bottom of the wood bracket L plate (1).

- q) As per **Figure 9**, screw a locknut (4) to the top of the drop rod (9).
  - r) As per **Figure 9**, align the bottom hole of the wood bracket plate (2) with the bottom slot of the wood bracket L plate (1).
  - s) As per **Figure 9**, insert a bolt (5) through the aligned holes in the wood bracket plates (1 and 2).
  - t) As per **Figure 9**, **hand tighten** a flat washer (6) and a locknut (4) to the bolt (5) so that the flat washer (6) is between the bottom of the wood bracket L plate (1) and the locknut (4).
  - u) Repeat steps **p)** through **t)** to attach the remaining wood bracket plates (1 and 2) to the top of the drop rods (9).
  - v) Using a crane and lifting straps, lift the track to the existing wood structure.
  - w) Use a man lift or cherry picker to reach the track and wood structure.
  - x) As per **Figure 9**, position the track and attached components (1 through 10) so that the wood bracket plates (1 and 2) are on either side of the wood structure.
- NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within one foot from the center of where the wood bracket plates (1 and 2) connect to the wood structure.
- y) As per **Figure 9**, align the holes in the wood bracket plates (1 and 2) with the drilled holes in the wood structure.
  - z) As per **Figure 9**, insert bolts (3) through the aligned holes in the wood bracket plates (1 and 2) and the wood structure.
  - aa) As per **Figure 9**, securely snug locknuts (4) to the bolts (3).
  - ab) Repeat steps **v)** through **aa)** to attach the track to the other end wood structure.
  - ac) Now that the track is attached to the end wood structures, repeat steps **d)** through **k)**, **p)** through **t)**, and **v)** through **aa)** to attach the track to the remaining wood structures.
  - ad) After the track has been securely snugged to all wood structures, torque all drop rod 5/8-inch diameter locknuts (4) to 93 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.



**Figure 9**

Item	Description
1	Wood Bracket L Plate
2	Wood Bracket Plate
3	5/8-inch Hex Bolt
4	5/8-inch Hex Locknut
5	5/8-inch Hex Bolt
6	5/8-inch Flat Washer
7	5/8-inch Lock Washer
8	5/8-inch Hex Nut
9	5/8-inch Drop Rod
10	Hanger Bracket

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 151 foot-pounds.

# CEILING-MOUNTED TRUSSED TRACK HANGING OPTIONS

## 1. Flush-Parallel Mount

### Refer to Figure 10 for Steps A Through P

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track (9) for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track (9).

**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 10**, insert four bolts (2) through four beam clips (3) and clipped washers (4) so that the clipped washers (4) are underneath the beam clips (3).
- d) As per **Figure 10**, insert the bolts (2), beam clips (3), and clipped washers (4) through the truss clamp plate (5) so that the components (2, 3, and 4) are on top of the truss clamp plate (5).

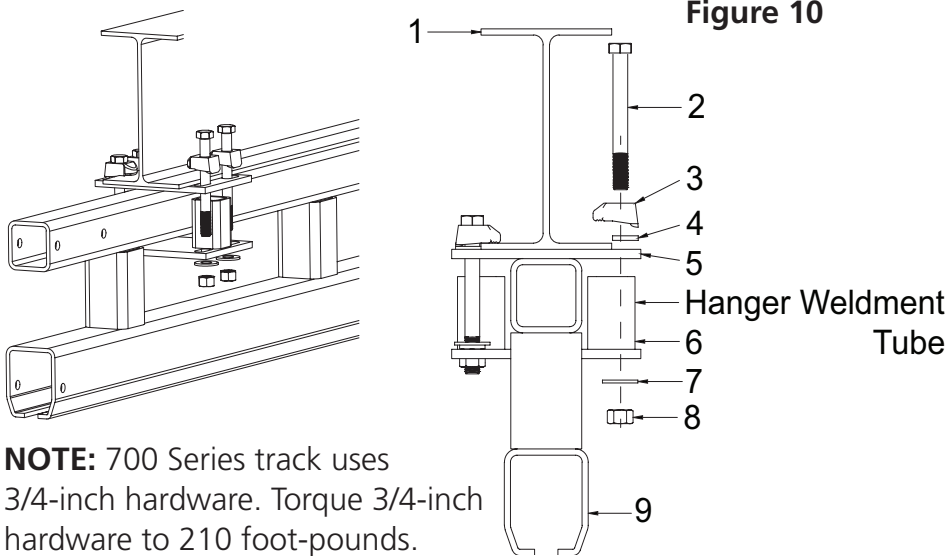
**NOTE:** Clipped washers (4) may be required depending on the flange thickness. If clipped washers (4) are supplied, ensure that the flat edge of the clipped washers (4) face away from the center of the truss clamp plate (5).

- e) As per **Figure 10**, place the end of the truss clamp plate (5) and attached hardware (2, 3, and 4) on the marked spot on the end of the track (9) so that the bolts (2) hang down on both sides of the track (9). Ensure that the end of the truss clamp plate (5) is one-foot six-inches in from each end of the track (9) for standard overhang.
- f) As per **Figure 10**, place the hanger weldment (6) under the top truss of the track (9) so that the hanger weldment tubes are on both sides of the track (9) and resting underneath the truss clamp plate (5).
- g) As per **Figure 10**, insert the bolts (2) and attached components (3 and 4) through the holes on the hanger weldment (6).
- h) As per **Figure 10**, **hand tighten** flat washers (7) and locknuts (8) to the bolts (2) so that the flat washers (7) are between the bottom of the hanger weldment (6) and locknuts (8).
- i) Repeat steps **c)** through **h)** to attach another hanger kit (2 through 8) to the marked spot on the other end of the track (9).
- j) Using a crane and lifting straps, lift the track (9) to the existing ceiling support structure (1).
- k) Use a man lift or cherry picker to reach the track (9) and ceiling support structure (1).
- l) As per **Figure 10**, position the track (9) and attached components (2 through 8) so that the beam clips (3) are on each side of the ceiling support structure (1). Some loosening of the locknuts (8) may be required.

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of a ceiling support structure (1).

- m) As per **Figure 10**, place the beam clips (3) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (3) as needed by tightening or loosening the locknuts (8) until the beam clips (3) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (3) to the bottom flange of the ceiling support structure (1).
- n) Repeat steps **k)** through **m)** to attach the track (9) to the other end ceiling support structure (1).
- o) Now that the track (9) is attached to the end ceiling support structures (1), repeat steps **c)** through **h)** and **k)** through **m)** to attach the track (9) to the remaining ceiling support structures (1).
- p) After the track (9) has been securely snugged to all ceiling support structures (1), ensure that all beam clips (3) are installed horizontally and level within plus or minus five degrees. Then torque all hanger kit nuts (8) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.



**Figure 10**

Item	Description
1	Ceiling Support Structure
2	5/8-inch Hex Bolt
3	5/8-inch Beam Clip
4	5/8-inch Clipped Washer
5	Truss Clamp Plate
6	Hanger Weldment
7	5/8-inch Flat Washer
8	5/8-inch Hex Locknut
9	Track

**NOTE:** Torque all hanger kit 5/8-inch diameter locknuts (8) to 108 foot-pounds.

**NOTE:** 700 Series track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

## 2. Flush-Cross Mount

### Refer to Figure 11 for Steps A Through N

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track (9) for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track (9).

**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 11**, insert four bolts (2) through four beam clips (3) and clipped washers (4) so that the clipped washers (4) are underneath the beam clips (3).
- d) As per **Figure 11**, insert the bolts (2), beam clips (3), and clipped washers (4) through the truss clamp plate (5) so that the components (2, 3, and 4) are on top of the truss clamp plate (5).

**NOTE:** Clipped washers (4) may be required depending on the flange thickness. If clipped washers (4) are supplied, ensure that the flat edge of the clipped washers (4) face away from the center of the truss clamp plate (5).

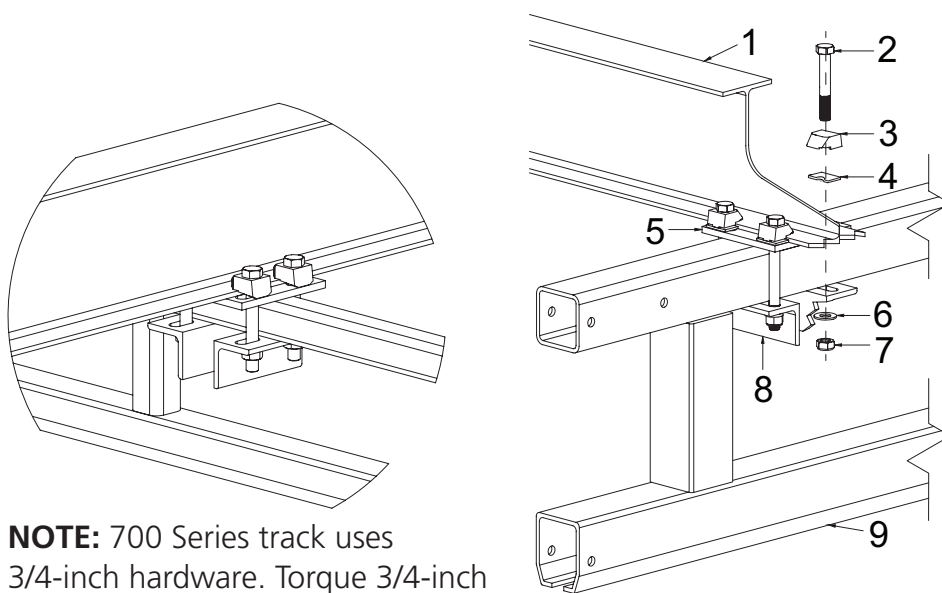
- e) As per **Figure 11**, place the end of the truss clamp plate (5) and attached hardware (2, 3, and 4) on the marked spot on the end of the track (9) so that the bolts (2) hang down on both sides of the track (9). Ensure that the end of the truss clamp plate (5) is one-foot six-inches in from each end of the track (9) for standard overhang.
- f) As per **Figure 11**, **hand tighten** the angle truss clamps (8) to the bolts (2) using flat washers (6) and locknuts (7) so that the flat washers (6) are between the angle truss clamps (8) and locknuts (7). Ensure that the angle truss clamps (8) form *inverted-L's*.
- g) Repeat steps **c)** through **f)** to attach another hanger kit (2 through 8) to the marked spot on the other end of the track (9).
- h) Using a crane and lifting straps, lift the track (9) to the existing ceiling support structure (1).
- i) Use a man lift or cherry picker to reach the track (9) and ceiling support structure (1).
- j) As per **Figure 11**, position the track (9) and attached components (2 through 8) so that the beam clips (3) are on each side of the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of a ceiling support structure (1).

- k) As per **Figure 11**, place the beam clips (3) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (3) as needed by tightening or loosening the locknuts (7) until the beam clips (3) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (3) to the bottom flange of the ceiling support structure (1).
- l) Repeat steps **i)** through **k)** to attach the track (9) to the other end ceiling support structure (1).
- m) Now that the track (9) is attached to the end ceiling support structures (1), repeat steps **c)** through **f)** and **i)** through **k)** to attach the track (9) to the remaining ceiling support structures (1).
- n) After the track (9) has been securely snugged to all ceiling support structures (1), ensure that all beam clips (3) are installed horizontally and level within plus or minus five degrees. Then torque all hanger kit 5/8-inch diameter locknuts (7) to 108 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 11**



**NOTE:** 700 Series track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

Item	Description
1	Ceiling Support Structure
2	5/8-inch Hex Bolt
3	5/8-inch Beam Clip
4	5/8-inch Clipped Washer
5	Truss Clamp Plate
6	5/8-inch Flat Washer
7	5/8-inch Locknut
8	Angle Truss Clamp
9	Track

**NOTE:** Torque all hanger kit 5/8-inch diameter locknuts (7) to 108 foot-pounds.

### 3. Drop Rod

#### Refer to Figure 12 for Steps A Through X

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track (15) for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track (15) .

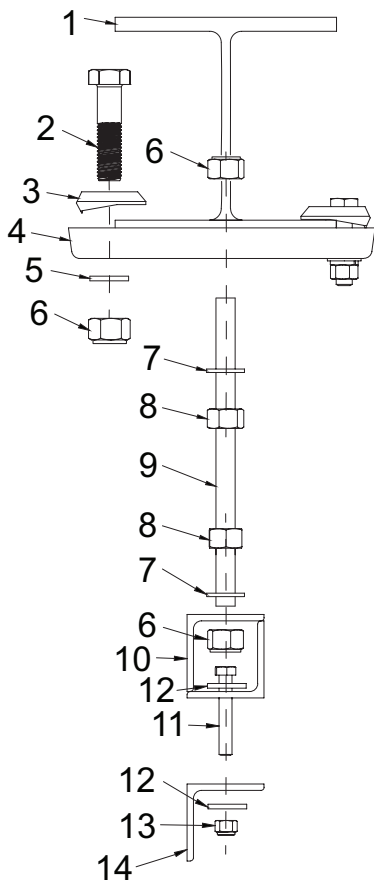
**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 12**, insert two bolts (11) through two flat washers (12) and the bottom slots of the hanger truss bracket (10) so that the flat washers (12) are between the bolt heads and the bottom of the hanger truss bracket (10).
- d) As per **Figure 12**, place the hanger truss bracket (10) on the marked spot on the end of the track (15) so that the bolts (11) hang down on both sides of the track (15). Ensure that the end of the hanger truss bracket (10) is one-foot six-inches from the end of the track (15) for standard overhang.
- e) As per **Figure 12**, **hand tighten** the angle truss clamps (14) to the bolts (11) using flat washers (12) and locknuts (13) so that the flat washers (12) are between the angle truss clamps (14) and locknuts (13). Ensure that the angle truss clamps (14) form *inverted-L's*.
- f) As per **Figure 12**, screw a nut (8) onto the bottom of the threaded drop rod (9) and adjust so that about three inches of the drop rod (9) are showing from the bottom of the nut (8).
- g) As per **Figure 12**, slide a lock washer (7) onto the threaded drop rod (9) so that the lock washer (7) is underneath the nut (8).
- h) As per **Figure 12**, insert the bottom of the threaded drop rod (9) into the top hole of the hanger truss bracket (10) until the lock washer (7) is flush against the top of the hanger truss bracket (10) and the nut (8) is flush against the lock washer (7).
- i) As per **Figure 12**, screw a locknut (6) to the bottom of the threaded drop rod (9) and adjust so that an inch of drop rod (9) is showing underneath the locknut (6).
- j) As per **Figure 12**, screw a nut (8) onto the top of the threaded drop rod (9) and adjust so that about three inches of the drop rod (9) are showing from the top of the nut (8).
- k) As per **Figure 12**, slide a lock washer (7) onto the threaded drop rod (9) so that the lock washer (7) is on top of the nut (8).
- l) As per **Figure 12**, insert two bolts (2) through beam clips (3) so that the beam clips (3) are underneath the bolt head (2).
- m) As per **Figure 12**, insert the bolts (2) and attached beam clips (3) through the bottom side holes in the body forging (4) so that the beam clips (3) are on top of the body forging (4).
- n) As per **Figure 12**, **hand tighten** locknuts (6) and flat washers (5) to the bolts (2) so that the flat washers (5) are between the body forging (4) and locknuts (6).
- o) As per **Figure 12**, insert the top of the threaded drop rod (9) into the bottom middle hole of the body forging (4) until the lock washer (7) is flush against the bottom of the body forging (4) and the nut (8) is flush against the lock washer (7).

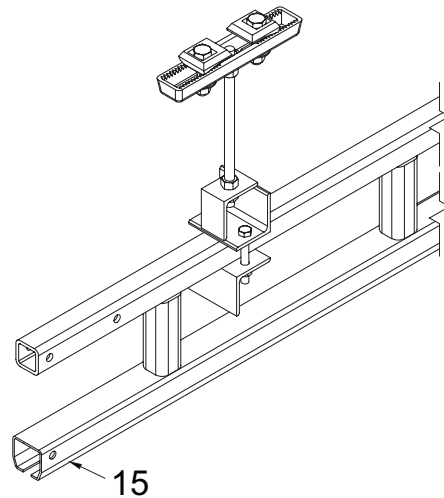
- p) As per **Figure 12**, screw a locknut (6) to the top of the threaded drop rod (9) and adjust so that an inch of drop rod (9) is showing above the locknut (6).
  - q) Repeat steps **c)** through **p)** to attach another hanger kit (2 through 14) to the marked spot on the other end of the track (15).
  - r) Using a crane and lifting straps, lift the track (15) to the existing ceiling support structure (1).
  - s) Use a man lift or cherry picker to reach the track (15) and ceiling support structure (1).
  - t) As per **Figure 12**, position the track (15) and attached components (2 through 14) so that the beam clips (3) are on each side of the ceiling support structure (1).
- NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of a ceiling support structure (1).
- u) As per **Figure 12**, place the beam clips (3) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clips (3) as needed by tightening or loosening the locknuts (6) until the beam clips (3) sit properly on the bottom flange of the ceiling support structure (1). Securely snug the beam clips (3) to the bottom flange of the ceiling support structure (1).
  - v) Repeat steps **r)** through **u)** to attach the track (15) to the other end ceiling support structure (1).
  - w) Now that the track (15) is attached to the end ceiling support structures (1), repeat steps **c)** through **p)** and **r)** through **u)** to attach the track (15) to the remaining ceiling support structures (1).
  - x) After the track (15) has been securely snugged to all ceiling support structures (1), ensure that all beam clips (3) are installed horizontally and level within plus or minus five degrees. Then torque all 5/8-inch locknuts (6) to 108 foot-pounds and all 1/2-inch locknuts (13) to 51 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 12**



**NOTE:** Torque all hanger kit 5/8-inch diameter locknuts (6) to 108 foot-pounds.



**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

Item	Description
1	Ceiling Support Structure
2	5/8-inch Hex Bolt
3	5/8-inch Beam Clip
4	Body Forging
5	5/8-inch Flat Washer
6	5/8-inch Hex Locknut
7	5/8-inch Lock Washer
8	5/8-inch Hex Nut
9	Drop Rod
10	Hanger Truss Bracket
11	1/2-inch Hex Bolt
12	1/2-inch Flat Washer
13	1/2-inch Hex Locknut
14	Angle Truss Clamp
15	Track



## 4. Sloped Drop Rod

### Refer to Figure 13 for Steps A Through W

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track (18) for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track (18).

**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 13**, insert two bolts (14) through two flat washers (16) and the bottom slots of the hanger truss bracket (13) so that the flat washers (16) are between the bolt heads and the bottom of the hanger truss bracket (13).
- d) As per **Figure 13**, place the hanger truss bracket (13) on the marked spot on the end of the track (18) so that the bolts (14) hang down on both sides of the track (18). Ensure that the end of the hanger truss bracket (13) is one-foot six-inches from the end of the track (18) for standard overhang.
- e) As per **Figure 13**, **hand tighten** the angle truss clamps (15) to the bolts (14) using flat washers (16) and locknuts (17) so that the flat washers (16) are between the angle truss clamps (15) and locknuts (17). Ensure that the angle truss clamps (15) form *inverted-L's*.
- f) As per **Figure 13**, screw a nut (11) onto the bottom of the threaded drop rod (4) and adjust so that about three inches of the drop rod (4) are showing from the bottom of the nut (11).
- g) As per **Figure 13**, slide a lock washer (12) onto the threaded drop rod (4) so that the lock washer (12) is underneath the nut (11).
- h) As per **Figure 13**, insert the bottom of the threaded drop rod (4) into the top hole of the hanger truss bracket (13) until the lock washer (12) is flush against the top of the hanger truss bracket (13) and the nut (11) is flush against the lock washer (12).
- i) As per **Figure 13**, screw a locknut (9) to the bottom of the threaded drop rod (4) and adjust so that an inch of drop rod (4) is showing underneath the locknut (9).
- j) As per **Figure 13**, insert the top of the drop rod (4) through the middle hole on the bottom of the beam clamp channel (2) so that three inches of drop rod (4) are showing.
- k) As per **Figure 13**, slide bevel washers (10) and a spherical washer (8) onto the threaded drop rod (4) so that the spherical washer (8) is on top of the bevel washers (10).

**NOTE:** The degree of slope determines how many bevel washers (10) are required.

- l) As per **Figure 13**, **hand tighten** a locknut (9) and a hex nut (11) onto the top of the drop rod (4) so that the locknut (9) is between the hex nut (11) and spherical washer (8).
- m) As per **Figure 13**, insert bolts (5) through flat washers (7) and the bottom side holes in the beam clamp channel (2) so that the flat washers (7) are between the bolt heads (5) and the bottom of the beam clamp channel (2) and the bolt heads (5) are on the bottom of the beam clamp channel (2).
- n) As per **Figure 13**, slide beam clamp clips (3) onto the bolts (5) and **hand tighten** locknuts (6) to the bolts (5).

**NOTE:** Ensure that the beam clamp clip wedges are facing away from the center of the beam clamp channel (2).

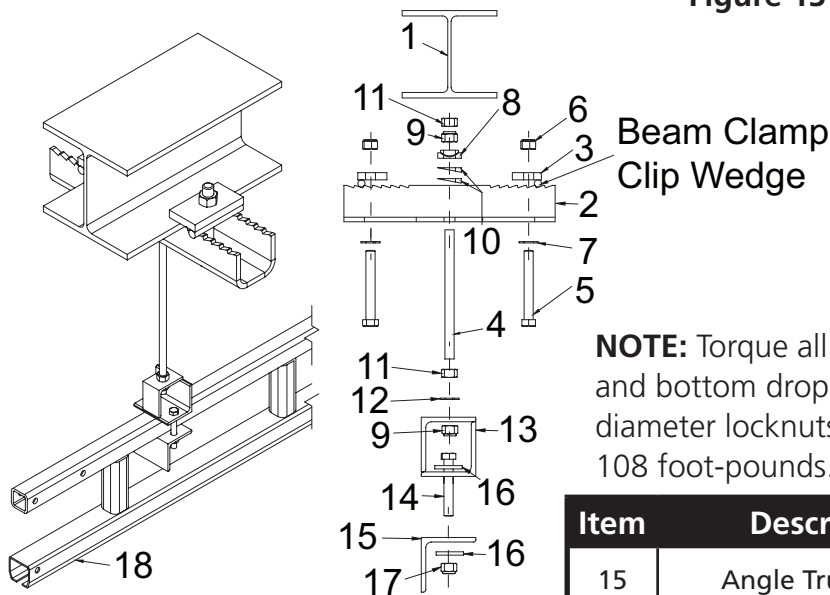
- o) Repeat steps **c)** through **n)** to attach another hanger truss bracket (13) to the marked spot on the other end of the track (18).
- p) Using a crane and lifting straps, lift the track (18) to the existing ceiling support structure (1).
- q) Use a man lift or cherry picker to reach the track (18) and ceiling support structure (1).
- r) As per **Figure 13**, position the track (18) and attached components (2 through 17) so that the beam clamp clips (3) are on each side of the ceiling support structure (1).

**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of a ceiling support structure (1)

- s) As per **Figure 13**, place the beam clamp clips (3) so they are holding onto the bottom flange of the ceiling support structure (1). Adjust the beam clamp clips (3) as needed by tightening or loosening the locknuts (6) until the beam clamp clips (3) sit properly on the bottom flange of the ceiling support structure (1) and in the cutouts of beam clamp channel (2) and are an equal number of cutouts away from the center of the beam clamp channel (2). Ensure that the bolts (5) are as close as possible to the edge of bottom flange of the ceiling support structure (1).
- t) As per **Figure 13**, securely snug the locknuts (6) so that the beam clamp clips (3) are tight to the bottom flange of the ceiling support structure (1).
- u) Repeat steps **q)** through **t)** to attach the track (18) to the other end ceiling support structure (1).
- v) Now that the track (18) is attached to end ceiling support structures (1), repeat steps **c)** through **n)** and **q)** through **t)** to attach the track (18) to the remaining ceiling support structures (1).
- w) After the track (18) has been securely snugged to all ceiling support structures (1), ensure that all beam clamp clips (3) are installed horizontally and level within plus or minus five degrees. Then torque the top drop rod 5/8-inch diameter nuts (11) to 112 foot-pounds, beam clamp and bottom drop rod 5/8-inch diameter locknuts (6 and 9) to 108 foot-pounds, and all hanger kit 1/2-inch diameter locknuts (17) to 51 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 13**



**NOTE:** Torque all beam clamp and bottom drop rod 5/8-inch diameter locknuts (6 and 9) to 108 foot-pounds.

Item	Description
15	Angle Truss Clamp
16	1/2-inch Flat Washer
17	1/2-inch Hex Locknut
18	Track

Item	Description
1	Ceiling Support Structure
2	Beam Clamp Channel
3	Beam Clamp Clip
4	5/8-inch Drop Rod
5	5/8-inch Hex Bolt
6	5/8-inch Hex Locknut
7	5/8-inch Flat Washer
8	Spherical Washer
9	5/8-inch Hex Locknut
10	5/8-inch Bevel Washer
11	5/8-inch Hex Nut
12	5/8-inch Lock Washer
13	Hanger Truss Bracket
14	1/2-inch Hex Bolt

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 210 foot-pounds.

## 5. Drop Rod Bar Joist

### Refer to Figure 14 for Steps A Through V

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track (12) for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track (12).

**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 14**, insert two bolts (8) through two flat washers (10) and the bottom slots of the hanger truss bracket (7) so that the flat washers (10) are between the bolt heads and the bottom of the hanger truss bracket (7).
- d) As per **Figure 14**, place the hanger truss bracket (7) on the marked spot on the end of the track (12) so that the bolts (8) hang down on both sides of the track (12). Ensure that the end of the hanger truss bracket (7) is one-foot six-inches from the end of the track (12) for standard overhang.
- e) As per **Figure 14**, **hand tighten** the angle truss clamps (9) to the bolts (8) using flat washers (10) and locknuts (11) so that the flat washers (10) are between the angle truss clamps (9) and locknuts (11). Ensure that the angle truss clamps (9) form *inverted-L's*.
- f) As per **Figure 14**, screw a nut (6) onto the bottom of the threaded drop rod (2) and adjust so that about three inches of the drop rod (2) are showing from the bottom of the nut (6).
- g) As per **Figure 14**, slide a lock washer (5) onto the threaded drop rod (2) so that the lock washer (5) is underneath the nut (6).
- h) As per **Figure 14**, insert the bottom of the threaded drop rod (2) into the top hole of the hanger truss bracket (7) until the lock washer (5) is flush against the top of the hanger truss bracket (7) and the nut (6) is flush against the lock washer (5).
- i) As per **Figure 14**, screw a locknut (3) to the bottom of the threaded drop rod (2) and adjust so that an inch of drop rod (2) is showing underneath the locknut (3).
- j) As per **Figure 14**, screw a nut (6) onto the top of the threaded drop rod (2) and adjust so that about three inches of the drop rod (2) are showing from the top of the nut (6).
- k) As per **Figure 14**, slide a lock washer (5) onto the threaded drop rod (2) so that the lock washer (5) is on top of the nut (6).
- l) As per **Figure 14**, slide a bolt pad (4) onto the threaded drop rod (2) so that the bolt pad (4) is on top of the lock washer (5).
- m) Repeat steps **c)** through **l)** to attach another hanger truss bracket (7) to the marked spot on the other end of the track (12).
- n) Using a crane and lifting straps, lift the track (12) to the existing ceiling support structure (1).
- o) Use a man lift or cherry picker to reach the track (12) and ceiling support structure (1).
- p) As per **Figure 14**, position the track (12) and attached hanger truss brackets (7) so that the hanger truss brackets (7) are directly underneath the ceiling support structure (1).

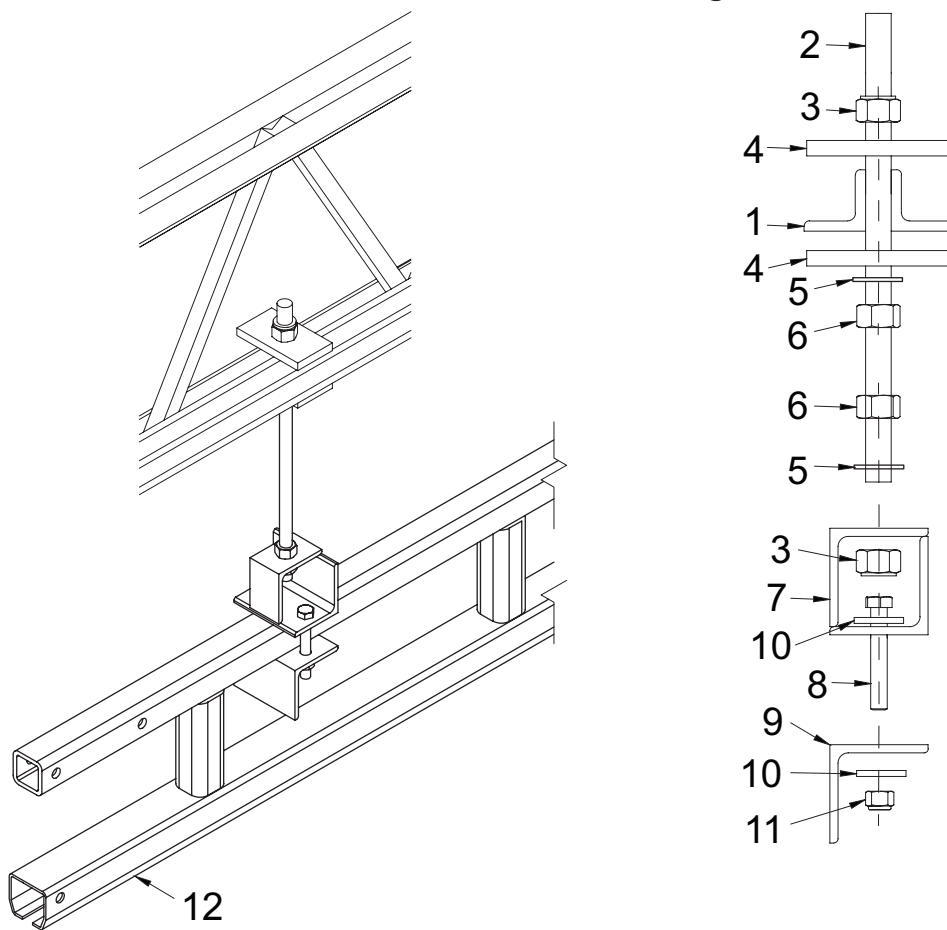
**NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of a ceiling support structure (1).

- q) As per **Figure 14**, insert the top of the drop rod (2) through the bottom of the ceiling support structure (1) so that the attached components (4, 5, and 6) are underneath the ceiling support structure (1).
- r) As per **Figure 14**, slide another bolt pad (4) onto the top of the threaded drop rod (2) and adjust so that about an inch of drop rod (2) is showing from the top of the bolt pad (4).
- s) As per **Figure 14**, screw a locknut (3) to the top of the threaded drop rod (2) and adjust so that the bolt pad (4) is underneath the locknut (3).
- t) Repeat steps **o**) through **s**) to attach the track (12) to the other end ceiling support structure (1).
- u) Now that the track (12) is attached to the end ceiling support structures (1), repeat steps **c**) through **l**) and **o**) through **s**) to attach the track (12) to the remaining ceiling support structures (1).
- v) After the track (12) has been securely snugged to all ceiling support structures (1), torque all 5/8-inch locknuts (3) to 93 foot-pounds and all 1/2-inch locknuts (11) to 51 foot-pounds.

**NOTE:** Drop rod bar joist hanger assemblies can be used with plain track and plain track hanger kits. Refer to "3. Drop Rod" on pages 9-11 to attach the plain track and plain track hanger kits to the drop rod bar joist hanger assemblies.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 14**



Item	Description
1	Ceiling Support Structure
2	Drop Rod
3	5/8-inch Hex Locknut
4	Bolt Pad
5	5/8-inch Lock Washer
6	5/8-inch Hex Nut
7	Hanger Truss Bracket
8	1/2-inch Hex Bolt
9	Angle Truss Clamp
10	1/2-inch Flat Washer
11	1/2-inch Hex Locknut
12	Track

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 151 foot-pounds.

## 6. Wood Joist

### Refer to Figure 15 for Steps A Through AD

- a) Ensure that track splices (B in *Ceiling-Mounted Monorail Assembly Drawing*), if supplied, have been installed as per **ATTACHING THE TRACK SPLICE TO THE TRACK SECTIONS** on page 5.
- b) Using a measuring tape and a permanent marker, measure and mark one-foot six-inches in from each end of the track for standard overhang. Also measure and mark your support spacing requirements. These locations are where the hanger kits (A in *Ceiling-Mounted Monorail Assembly Drawing*) should be installed on the track.

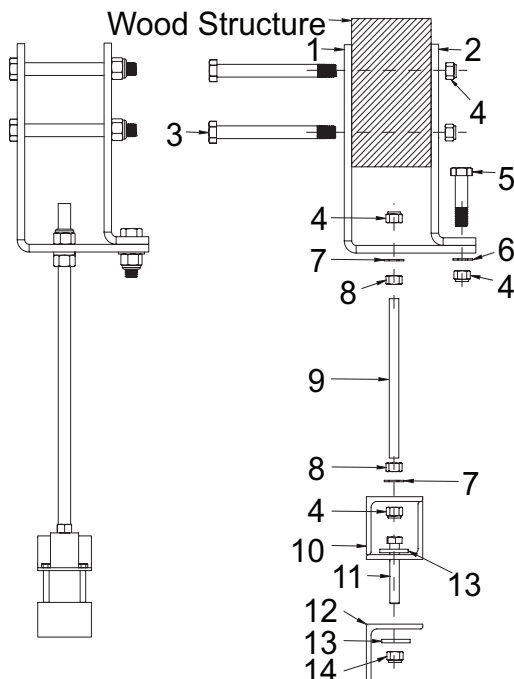
**NOTE:** One-foot six-inch overhang is standard. Refer to your Final Fabrication Drawing for correct overhang lengths and support spacing for your specific system.

- c) As per **Figure 15**, insert two bolts (11) through two flat washers (13) and the bottom slots of the hanger truss bracket (10) so that the flat washers (13) are between the bolt heads and the bottom of the hanger truss bracket (10).
- d) As per **Figure 15**, place the hanger truss bracket (10) on the marked spot on the end of the track so that the bolts (11) hang down on both sides of the track. Ensure that the end of the hanger truss bracket (10) is one-foot six-inches from the end of the track for standard overhang.
- e) As per **Figure 15**, **hand tighten** the angle truss clamps (12) to the bolts (11) using flat washers (13) and locknuts (14) so that the flat washers (13) are between the angle truss clamps (12) and locknuts (14). Ensure that the angle truss clamps (12) form *inverted-L's*.
- f) As per **Figure 15**, screw a nut (8) onto the bottom of the threaded drop rod (9) so that about three inches of the drop rod (9) are showing from the bottom of the nut (8).
- g) As per **Figure 15**, slide a lock washer (7) onto the threaded drop rod (9) so that the lock washer (7) is underneath the nut (8).
- h) As per **Figure 15**, insert the bottom of the threaded drop rod (9) into the top hole of the hanger truss bracket (10) until the lock washer (7) is flush against the top of the hanger truss bracket (10) and the nut (8) is flush against the lock washer (7).
- i) As per **Figure 15**, screw a locknut (4) to the bottom of the threaded drop rod (9) and adjust so that an inch of drop rod (9) is showing underneath the locknut (4).
- j) As per **Figure 15**, screw a nut (8) onto the top of the threaded drop rod (9) and adjust so that about three inches of the drop rod (9) are showing from the top of the nut (6).
- k) As per **Figure 15**, slide a lock washer (7) onto the threaded drop rod (9) so that the lock washer (7) is on top of the nut (8).
- l) Repeat steps **c)** through **k)** to attach another hanger truss bracket (10) to the marked spot on the other end of the track.
- m) Measure the distance between the hole centers on the wood bracket plate (2).
- n) Using a permanent marker, mark the hole center locations on the wood structure using the measurements from step **m)**.
- o) Drill four holes into the wood structures for each hanger assembly.
- p) As per **Figure 15**, slide the top of the drop rod (9) through the bottom hole closest to the center of the wood bracket L plate (1) so that the lock washer (7) is flush against the bottom of the wood bracket L plate (1).

- q) As per **Figure 15**, screw a locknut (4) to the top of the drop rod (9).
  - r) As per **Figure 15**, align the bottom hole of the wood bracket plate (2) with the bottom side hole of the wood bracket L plate (1).
  - s) As per **Figure 15**, insert a bolt (5) through the aligned holes in the wood bracket plates (1 and 2).
  - t) As per **Figure 15**, **hand tighten** a flat washer (6) and a locknut (4) to the bolt (5) so that the flat washer (6) is between the bottom of the wood bracket L plate (1) and the locknut (4).
  - u) Repeat steps p) through t) to attach the remaining wood bracket plates (1 and 2) to the top of the drop rods (9).
  - v) Using a crane and lifting straps, lift the track to the existing wood structure.
  - w) Use a man lift or cherry picker to reach the track and wood structure.
  - x) As per **Figure 15**, position the track and attached components (1 through 11) so that the wood bracket plates (1 and 2) are on either side of the wood structure.
- NOTE:** Track splice joints (B in *Ceiling-Mounted Monorail Assembly Drawing*) must be within 48 inches from the center of where the wood bracket plates (1 and 2) connect to the wood structure.
- y) As per **Figure 15**, align the holes in the wood bracket plates (1 and 2) with the drilled holes in the wood structure.
  - z) As per **Figure 15**, insert bolts (3) through the aligned holes in the wood bracket plates (1 and 2) and the wood structure.
  - aa) As per **Figure 15**, securely snug locknuts (4) to the bolts (3).
  - ab) Repeat steps w) through aa) to attach the track to the other end wood structure.
  - ac) Now that the track is attached to the end wood structures, repeat steps c) through k), p) through t), and w) through aa) to attach the track to the remaining wood structures.
  - ad) After the track has been securely snugged to all wood structures, torque all 5/8-inch locknuts (4) to 93 foot-pounds and all 1/2-inch locknuts (14) to 51 foot-pounds.

**NOTE:** Go to page 28 for final installation instructions.

**Figure 15**



Item	Description
13	1/2-inch Flat Washer
14	1/2-inch Hex Locknut

**NOTE:** 700 Series Plain Track uses 3/4-inch hardware. Torque 3/4-inch hardware to 151 foot-pounds.

Item	Description
1	Wood Bracket L Plate
2	Wood Bracket Plate
3	5/8-inch Hex Bolt
4	5/8-inch Hex Locknut
5	5/8-inch Hex Bolt
6	5/8-inch Flat Washer
7	5/8-inch Lock Washer
8	5/8-inch Hex Nut
9	5/8-inch Drop Rod
10	Hanger Truss Bracket
11	1/2-inch Hex Bolt
12	Angle Truss Clamp

# FINAL ASSEMBLY

## Refer to Ceiling-Mounted Monorail Assembly Drawing for Steps 1 Through 7

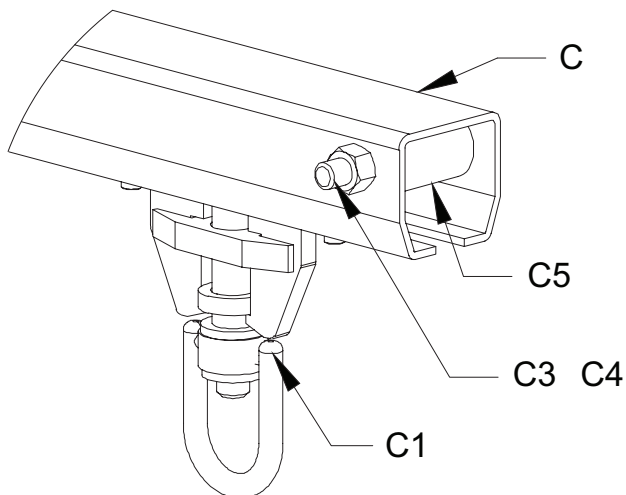
1. Ensure that the track (C in *Building Materials Description*) is secured properly to the ceiling support structure (1 in *Building Materials Description*).
2. Confirm that all of the system's nuts are torqued to the required specifications below prior to removing support rigging (your telescoping fork truck or crane) from any component.

Bolt Diameter	Hex Nut Torque	Minimum Hex Locknut Torque
1/2 inch	78 foot-pounds	51 foot-pounds
5/8 inch	154 foot-pounds	93 foot-pounds
3/4 inch	257 foot-pounds	151 foot-pounds
7/8 inch	341 foot-pounds	224 foot-pounds
1 inch	514 foot-pounds	325 foot-pounds

**NOTE:** The hanger kit 5/8-inch nuts (A4 and AA6) should be torqued to 108 foot-pounds and hanger kit 1/2-inch nuts should be torqued to 51 foot-pounds.

3. As per **Detail "C,"** insert your Anchor Trolley™ (C1) into the track (C). For a multiple track system, install one Anchor Trolley per track.
4. As per **Detail "C,"** install the track's end stops by inserting the bolts (C3) through the holes at both ends of the track (C) and through the rubber sleeves (C5).

### Detail "C" (Trolley[s] and End Stops to Track)



Item	Description
C	Track
C1	Swiveling Connector Anchor Trolley
C3	End Stop Bolt
C4	1/2-inch Hex Locknut
C5	End Stop Rubber Sleeve

**NOTE:** The 1/2-inch hex locknuts (C4) should be torqued until snug against the track. Be careful not to damage the track in any way.

5. Attach and torque the end stop nuts (C4) until snug against the track.
6. For multiple track systems, repeat steps 1. through 5. to insert the remaining Anchor Trolleys (C1) into the remaining tracks (C).
7. **This system must be used with an ANSI-rated self-retracting lanyard (SRL).** Connect your SRL and retrieval tagline in accordance with the manufacturer's specifications and your training.

# MAINTENANCE

1. Visually inspect the system before each use and fully inspect the system after a fall event and annually. Refer to the INSPECTION CHECKLISTS in the next section of this manual for checklists for *Ceiling-Mounted Monorail Anchor Track™ System* and *Annual Anchor Track™ System*.
2. **If the system fails ANY inspection point on any of the inspection checklists, immediately remove the system from service and call Rigid Lifelines® at 844-467-4443 for instructions.**
3. During the first month after a new installation, a weekly inspection of the system should be performed using the *Annual Anchor Track™ System Inspection Checklist*. It is important to note that every system application and use will be different, meaning some conditions of use will require more frequent inspection. Examples of such conditions include two or three shift operations or working with or near corrosive chemicals or elements.
4. Refer to the Anchor Trolley™ User Instruction Manual (Manual 103-0054), which comes packaged with the Anchor Trolley, for its trolley inspection checklists.
5. Download and print additional blank inspection checklists from the literature tab at [RigidLifelines.com](http://RigidLifelines.com).



## WARNING

**This system must be used with an ANSI-rated self-retracting lanyard (SRL).**

**If the system is used outdoors, it is highly recommended that a steel cable SRL with heavy-duty housing be used for improved durability against UV radiation and moisture.**

A web strap ANSI-rated SRL may be acceptable for use as long as a Competent Person has evaluated the situation and determined that there are no factors present that can have an immediate negative impact on the integrity of the SRL's webbing material AND that the Competent Person inspects the condition of the SRL's webbing and housing prior to each use.



## WARNING

**Completely retracting the SRL after each use (e.g., using a retrieval tagline) is essential: otherwise, the SRL's internal spring remains under tension, and it quickly loses its ability to properly arrest a freefall.**

**Retrieval taglines must never be used as an anchorage; doing so could result in serious injury or death.**



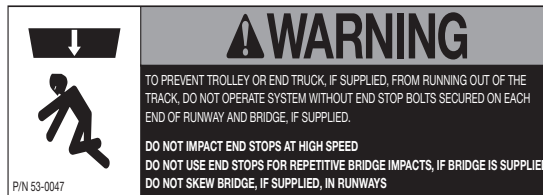
# LABELING

The letters correspond to the letters on the Ceiling-Mounted Monorail Label Placement Drawing. All labeling must be legible and attached to the system. For replacement labels, contact Rigid Lifelines®.

## RIGID LIFELINES' LABEL PLACEMENT DISCLAIMER

If system is shipped unpainted or without properly secured labels, proper label placement is the sole responsibility of the end user. Follow the Label Placement Drawing shipped with this user manual to place labels correctly. Rigid Lifelines cannot be held liable for any damage or injury resulting from omitted or improper label placement.

"A"



P/N 53-0047

"B"



P/N 53-0359

"C"



P/N 53-0023

### Notes on Label Placement Drawing

- Label **53-0047 "A"** should be placed on both ends of the lower section of trussed track on both sides of each track section.
- Label **53-0359 "B"** should be centered on the lower section of trussed track on both sides of each track section and is **P/N 53-0535** for one person systems, **53-0536** for two person systems, and **53-0359** for **three to eight** person systems, along with **53-0413** through **53-0418** respectively. Labels **P/N 53-0413** through **53-0418** are the capacity numbers three through eight for the Anchor Track Label and should be placed to the right of the line following "Rigid Lifelines."
- Label **53-0023 "C"** should be placed to the left of label **"B"** on the lower section of trussed track on both sides.

# CEILING-MOUNTED MONORAIL ANCHOR TRACK™ SYSTEM INSPECTION CHECKLIST

## Before Each Use

Inspector Name: \_\_\_\_\_

Date: \_\_\_\_\_

System Number: \_\_\_\_\_

Model: \_\_\_\_\_



INSPECTION POINTS	Inspection Result (✓)	
	PASS	FAIL
1. Test the swiveling connector(s) on each trolley to verify that each trolley rotates and swivels freely.		
2. Verify that the trolley(s) can easily and smoothly roll the full length of the runway track(s).		
3. Check all system welds for cracks.		
4. Check system components for corrosion.		
5. Check system components for bent or damaged areas.		
6. Check support structure for stability.		
7. Visually check all bolted assemblies for proper connections and properly secured bolts and nuts.		

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# AFTER A FALL EVENT AND ANNUAL ANCHOR TRACK™ SYSTEM INSPECTION CHECKLIST

Inspector Name: \_\_\_\_\_

Date: \_\_\_\_\_

System Number: \_\_\_\_\_

Model: \_\_\_\_\_



INSPECTION POINTS	Inspection Result (✓)	
	PASS	FAIL
1. Check that the beam clamps are installed horizontal within + / - five degrees.		
2. Check that endstop bolts are present and have locknuts installed.		
3. Using a torque wrench, check that all bolts are present and torqued to values shown on Assembly Drawing.		
4. Check that splices, if supplied, are centered on track joints.		
5. Verify that capacity labels are present, attached, and legible. See Label Placement Drawing.		
6. Verify that the number of trolleys matches the value on the capacity label.		
7. Verify that the fall arrest system is not being used for material handling.		
8. Check the track for levelness within + / - 1/4 inches per 20 feet of track.		
9. Check the track flanges. Track flanges cannot be bent downward more than five degrees.		
10. Check the track thickness. Track thickness cannot be worn more than 10 percent.		
11. Check all system welds for cracks.		
12. Check system components for corrosion and bent or damaged areas.		
13. Check that all wheel studs, if supplied, are torqued to value shown on Assembly Drawing. Note that these 1/2-inch wheel studs have a different torque value than the system's other 1/2-inch bolts.		
14. Verify trolley can traverse entire length of track without snags.		
15. Check trolley for visibly bent swiveling connector, broken welds, or excessive wear or corrosion.		
16. Test the operation of the trolley's swiveling connector and verify that it can rotate freely.		
17. Test the operation of the trolley and verify the wheels rotate freely.		
18. Check system components for loose components.		
19. Check system components for loose or missing fasteners.		
20. Check system support structure for stability.		
21. Verify that hanger assemblies are installed properly and fasteners are torqued to proper values.		
22. Check that the support arms pivot bolts, if supplied, are properly installed and tightened.		
23. Check system for unauthorized modifications. Only Rigid Lifelines can authorize modifications. Remove system from service if it is modified in anyway.		

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# PRODUCT WARRANTY COVERAGE

Rigid Lifelines® warrants its products to be free from defects in material and workmanship as follows:

- Engineered Track Equipment: Ten (10) years
- Wearable End Truck Wheels/Anchor Trolley™ Wheels and Teeth: Ten (10) Years
- Soft Goods, Devices, Connectors, and Accessories: One (1) Year
- Motorized Products and Drive Components: One (1) Year
- Paint and Finishes: Two (2) Years

## Ten-Year Warranty Coverage:

- Defects in equipment material and workmanship of manual track systems and equipment
- Wearable parts (End truck wheels and Anchor Trolley wheels and teeth)

Rigid Lifelines warrants its manual Anchor Track™ Systems and equipment to be free from defects in material and workmanship for a period of ten (10) years or 20,000 hours, commencing on the date of shipment to the first retail purchaser. This warranty extends to non-wearable parts only, with the exception of the wheels supplied on end trucks and Anchor Trolley wheels and teeth.

## Two-Year Warranty Coverage:

- Paint coatings and finishes

Rigid Lifelines warrants its paint and finishes for a period of two (2) years. Warranty claims related to coatings must be accompanied by documentation of the product's application and environmental conditions from time of delivery to time of claim.

## One-Year Warranty Coverage:

- Defects in equipment and workmanship of motorized systems and equipment
- Defects in soft goods, devices, connectors, and accessories

Rigid Lifelines warrants motorized equipment to be free from defects in material and workmanship for a period of one (1) year or 2,000 hours, commencing on the date of shipment to the first retail purchaser.

Rigid Lifelines also warrants fall protection soft goods, devices, connectors, and accessories to be free from defects in material and workmanship for a period of one (1) year, commencing on the date of shipment to the first retail purchaser.

## Warranty Terms and Conditions:

Rigid Lifelines' obligation under this warranty is limited to the replacement or repair of Rigid Lifelines' products at the factory or separate location approved by Rigid Lifelines. Other than the above mentioned warranty, Rigid Lifelines will not honor any other warranties—whether expressed, implied, or statutory—and disclaims any warranties of merchantability or fitness for a particular purpose. Rigid Lifelines has the right to reject any warranty claim due to harsh and/or inappropriate environmental conditions.

### **Rigid Lifelines® Is Not Liable for:**

- Indirect, incidental, or consequential damages including lost profits, operating costs, loss of production, or travel expenses
- Components or accessories not manufactured by Rigid Lifelines (with the exception of soft goods components and accessories sold and warranted by Rigid Lifelines) Defective equipment or system failure due to misuse, negligence, improper installation or maintenance
- Equipment that has been used in excess of its rated capacity or beyond its service factors
- Equipment that has been altered without Rigid Lifelines' written authorization
- Damage incurred by freight carriers
- Any loss, injury, or damage to persons or property resulting from failure or defective operation of material or equipment
- This warranty is void for any product that is designed to deform or absorb energy during a fall event and needs to be replaced after a fall event has occurred

### **Reimbursement Disclaimer:**

- Written notice of any claimed defect must be given to Rigid Lifelines within ninety (90) days of shipment
- All requests for reimbursement must be accompanied by proper documentation
- Reimbursement is provided in the form of a credit unless otherwise approved by Rigid Lifelines' management
- Reimbursement for labor will be provided at a maximum rate of \$75 per hour
- All reimbursement is subject to approval by Rigid Lifelines' management

## **SERVICE POLICY**

1. Obtain as much information as possible concerning the problem through personal observation by yourself or other authorized personnel familiar with the job and equipment: include model, serial and/or part numbers, voltages, speeds, and any other special identifying features. Be prepared to discuss the situation in detail.
2. All authorized labor charges will be based on straight time. Hourly rates, estimated man hours, and not to exceed total dollar amount required for corrections are to be agreed upon before authorization is given. There will be no allowances for overtime except in dire emergencies and then only with prior approval.
3. A verbal agreement may be reached immediately on both the method of correction and the approximate cost. A warranty authorization number will be assigned for the specific incident. A confirming written authorization will be forwarded to the distributor.
4. The distributor must send an itemized invoice showing our release number or invoice number and warranty authorization number after authorized corrections have been made. A credit memo will be issued by accounting after the invoice has been received and approved. Warranty charges ARE NOT to be deducted from outstanding open account invoices under any circumstances.
5. Any field corrections made prior to an authorization by Rigid Lifelines will not be accepted as a warranty charge or the responsibility of Rigid Lifelines. Any modification to the equipment made without prior approval of the seller will void all warranties. A verbal authorization for modification may be obtained, in which event a warranty authorization number will be assigned for the specific modification. A confirming written authorization will be forwarded to the distributor.

# ABOUT RIGID LIFELINES®

## OUR MISSION:

Rigid Lifelines is driven by passion for providing our customers with quality, user-friendly solutions to keep workers safer and more productive at elevation.

## OUR COMMITMENT

Rigid Lifelines' professionals are dedicated to designing and manufacturing a variety of fall protection systems that meet or exceed OSHA requirements and ANSI Z359 code. Our team of engineers and safety professionals combine over 30 years of experience in the fall protection industry to manufacture fall protection systems that utilize the most advanced technology and designs.

Rigid Lifelines' production facilities are certified under the ISO 9001:2008 Quality Management System to provide superior quality products. And every welder at Rigid Lifelines is certified to handle steel (D1.1) and aluminum (D1.2) in accordance with the rigorous requirements and lab testing established by the American Welders Society (AWS).

Rigid Lifelines' engineers are involved with ANSI Z359 Technical Review Committee and the ANSI Z359.19 Rigid Horizontal Rail Standard. We also participate with the Safety & Health Technology Committee of the Association of Iron & Steel Technology. Our involvement allows us to keep a constant pulse on the trends in both industry practice and government regulation.

## OUR PRODUCTION:

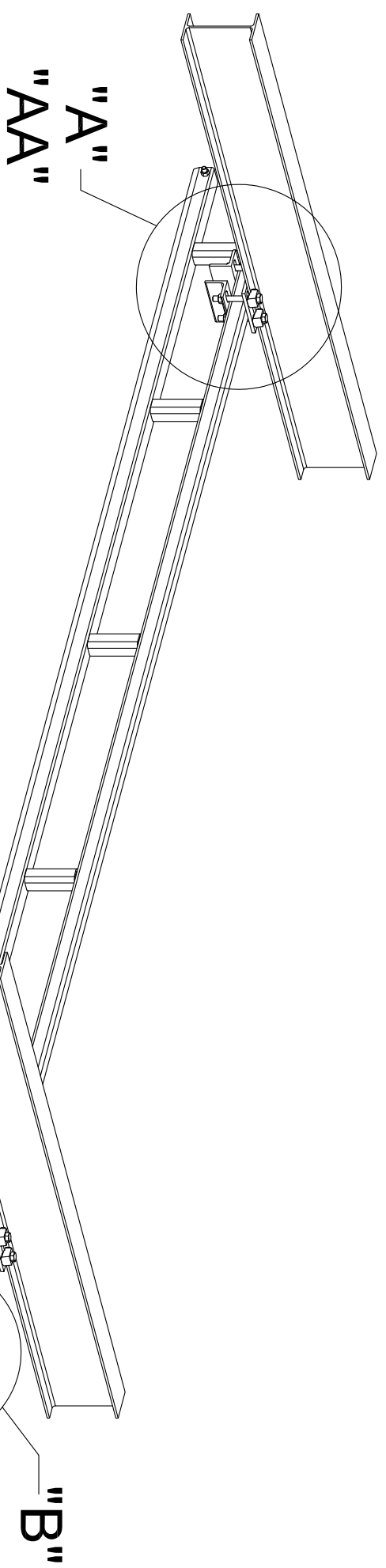
All of our systems are designed and manufactured in the United States of America. We have production facilities in Las Vegas, Nevada, and at our headquarters in Morgantown, Pennsylvania.



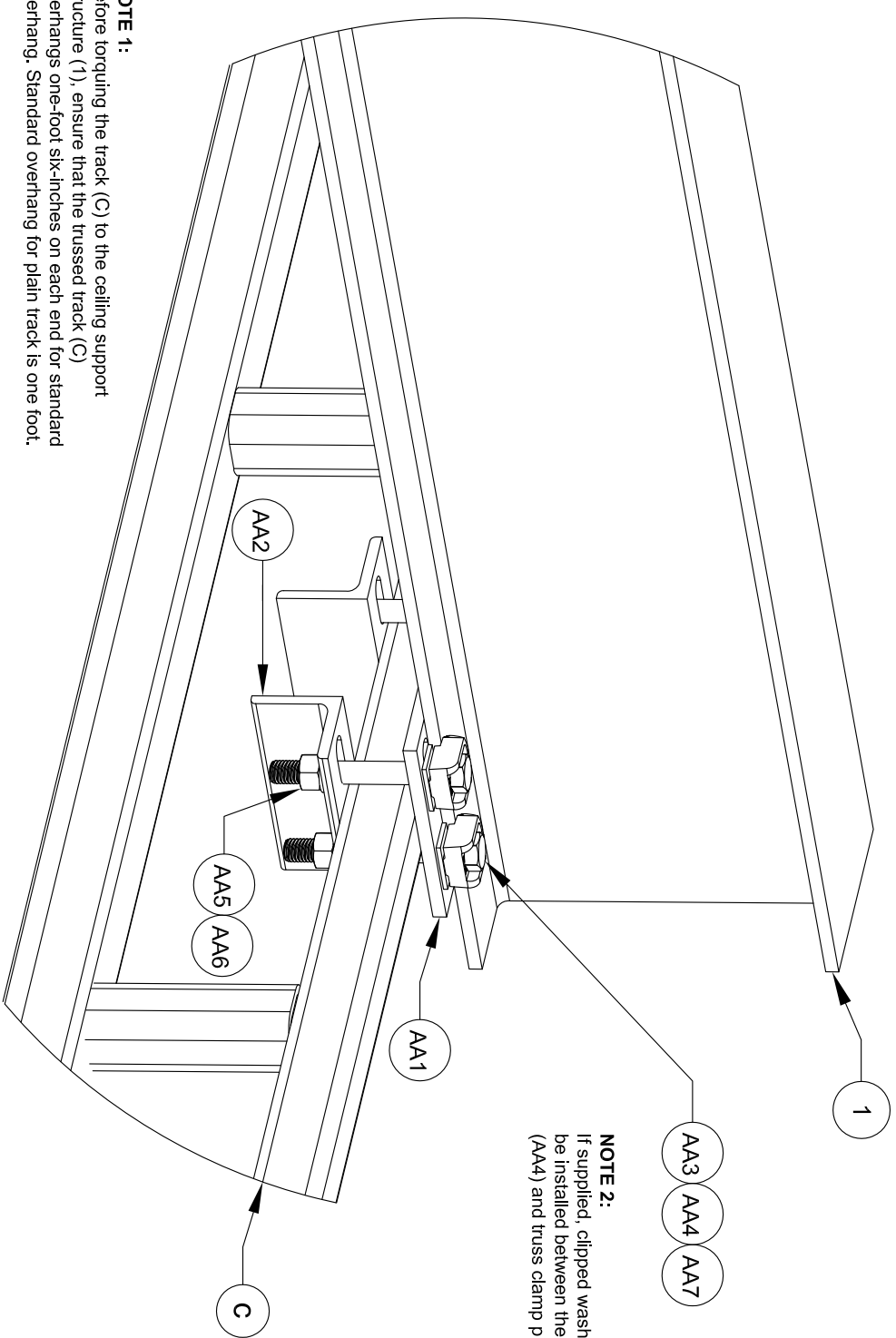
730 Hemlock Road, Suite 104 | Morgantown, PA 19543  
Toll Free: (844) 467-4443 | Local: (610) 286-8030 | Fax: (610) 286-6408  
[RigidLifelines.com](http://RigidLifelines.com) | [info@RigidLifelines.com](mailto:info@RigidLifelines.com)

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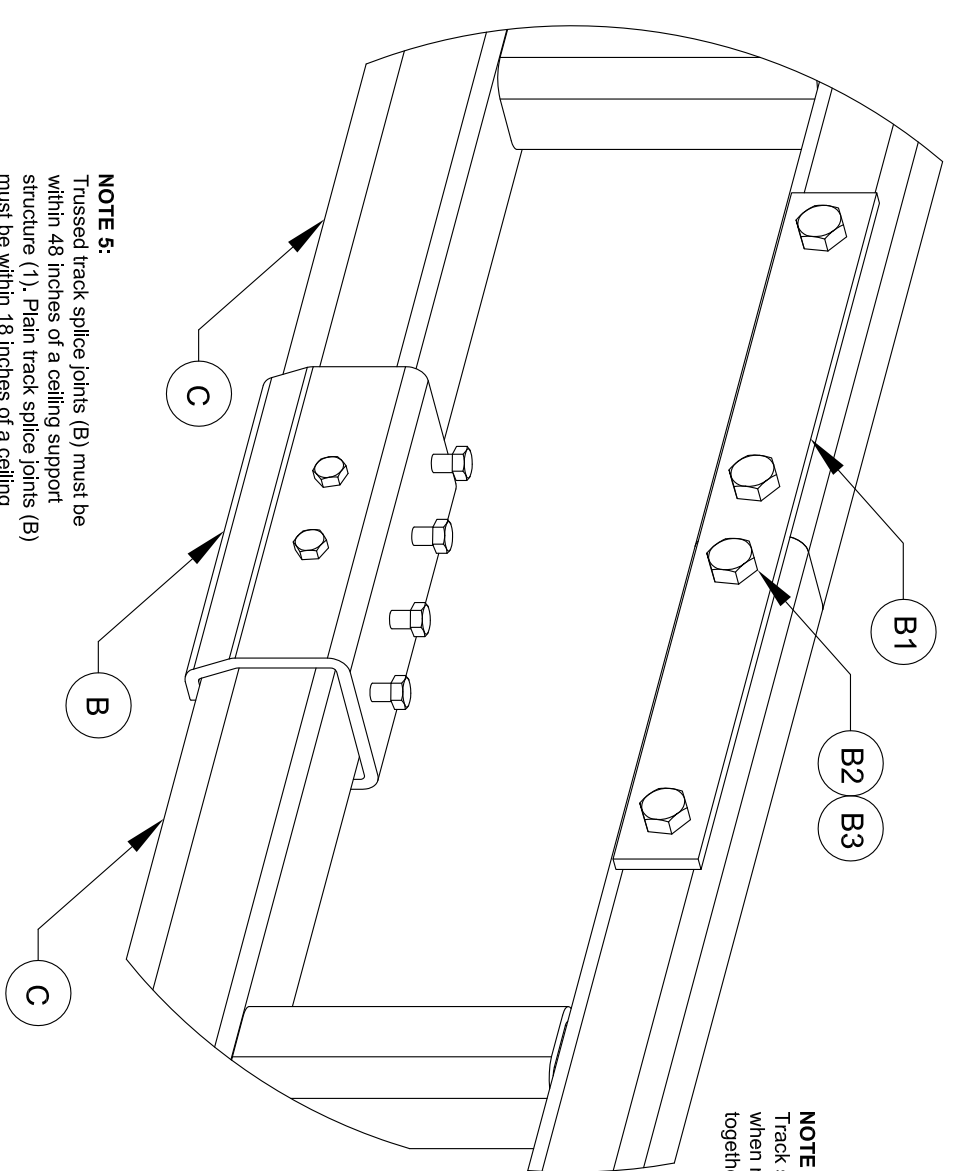


**Detail "AA"**  
(Track to Ceiling Support Structure Using Flush-Cross Mount Hanger)



**NOTE 2:**  
If supplied, clipped washers (AA7) must be installed between the beam clips (AA4) and truss damp plates (AA1).

**Detail "B"**  
(Track Splice to Track Sections)

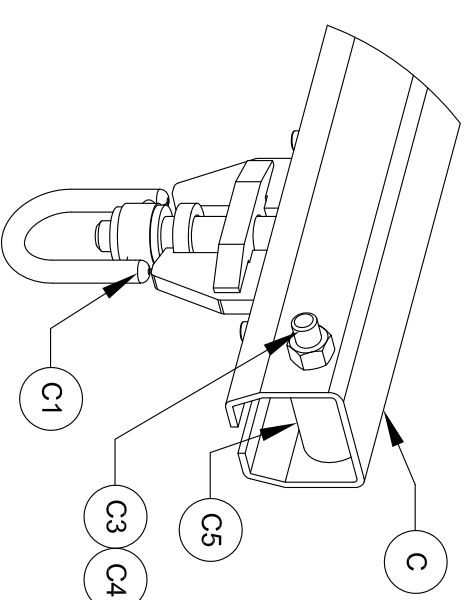


**NOTE 4:**  
Track splices are only required when runway sections are joined together.

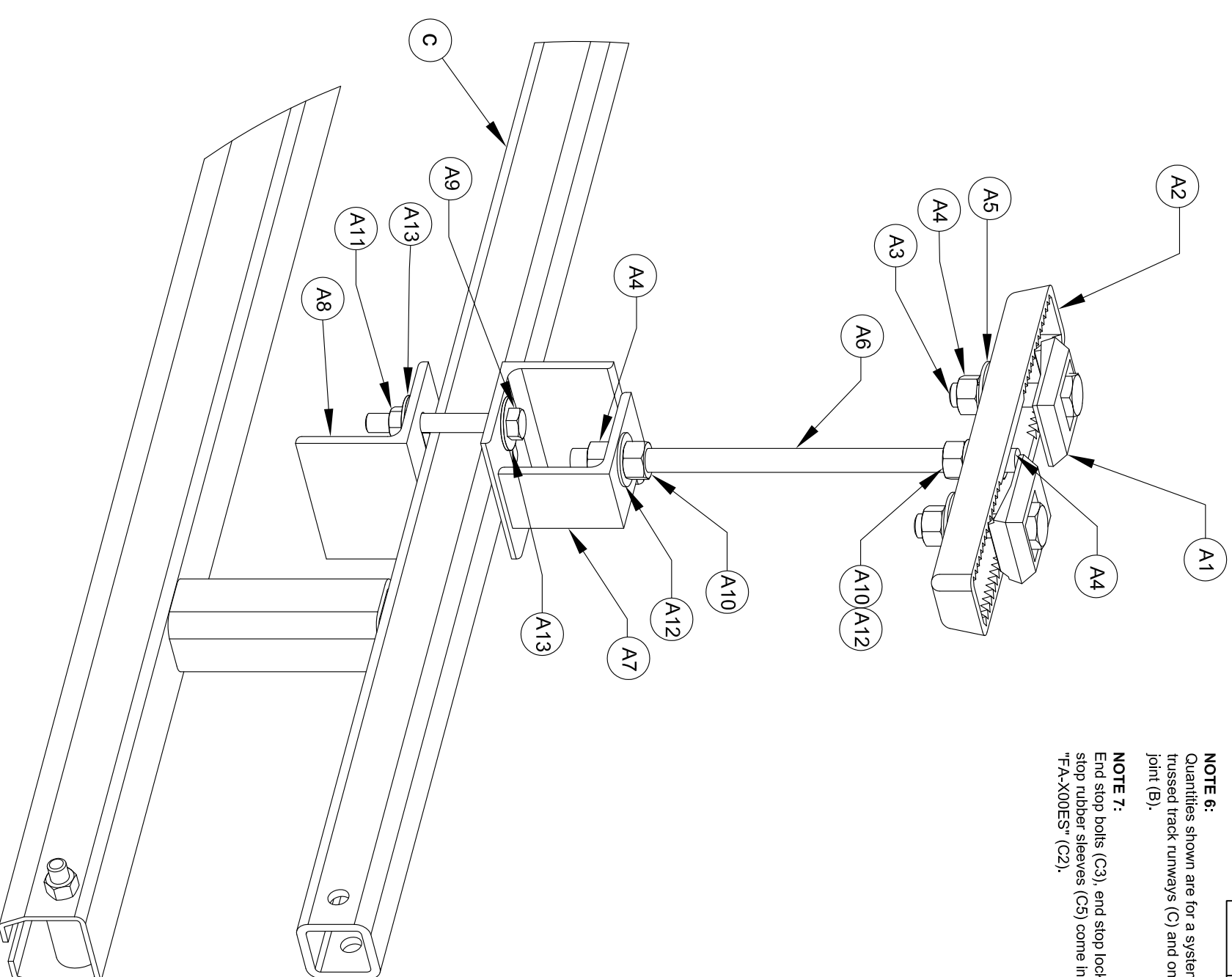
**NOTE 5:**  
Trussed track splice joints (B) must be within 48 inches of a ceiling support structure (1). Plain track splice joints (B) must be within 18 inches of a ceiling support structure (1).

**NOTE 3:**  
Hardware shown in Details "A" and "AA" are for drop rod hanger kits and flush-cross mount hanger kits. See the manual if you purchased another hanger kit option.

**Detail "C"**  
(Trolley[s] and End Stops to Track)



**Detail "A"**  
(Track to Ceiling Support Structure Using Drop Rod Hanger)



**NOTE 6:**  
Quantities shown are for a system containing two single trussed track runways (C) and one trussed track splice joint (B).

**NOTE 7:**  
End stop bolts (C3), end stop locknuts (C4), and end stop rubber sleeves (C5) come in packs labeled "FA-X00ES" (C2).

Item	Quantity	Part Number	Building Materials Description
1	X	NA	Ceiling Support Structure
-A-	X	FA-K-CMT-5XX	Kit, Hanger, Truss, X-XX" TT X-Drop Rod
A1	6	C-480-1	Beam Clip Forging, C-480
A2	3	C-480-2	Body Forging, C-480
A3	6	10-0304	Bolt, 5/8"-11NC X 3 1/2" GR5
A4	12	13-0001	Nut, Hex Lock 5/8"-11 NC
A5	6	15-0004	Flat Washer 5/8" Plated
A6	3	51-0003-X	Rod, Thread 5/8"-11 UNC X X-X" LG
A7	3	FAHTB23-P	X-X" TT, Hanger Bracket, Paint, Yel
A8	3	FAHTB23-IP	FA, Clamp Angle, X-X" TT, Painted, Yel
A9	6	10-0236	Bolt, All Threaded 1/2"-13 NC x 4 1/2" GR5
A10	6	11-0040	Nut, Hex 5/8" 11 Plated GR5 (9/16" H)
A11	6	13-0003	Nut, Hex Lock 1/2" 13 NC(5/8" H)
A12	6	14-0004	Washer, Split Lock 5/8" Zinc Plated
A13	6	15-0003	1/2" Flat Washer
-AA-	X	FA-K-XX-X-XX-X/X	FA, Kit, Hanger, X-XX" FLX X/X"
AA1	3	PCTX-XX	Truss Clamp Plate, X/X/X" Flange
AA2	6	ACT2-3.5	Angle Clamp Truss 2-3 1/2" TT, Through R730
AA3	12	10-03XX	Bolt, 5/8"-11 NC GR5
AA4	12	18-0021F	Beam Clip Forged, 5/8" W SH Tall, (1/4" TH)
AA5	12	15-0004	Flat Washer 5/8" Plated
AA6	12	13-0001	Nut, Hex Lock 5/8"-11 NC
AA7	0, 12, or 24	18-000X	5/8" Clipped Washer
-B-	1	FA-1X03	Fall Arrest Track Splice, X00 with Bolts
B1	2	FA-SP-XX	Plate Only, Splice (Used in "SP" Kits)
B2	4	10-021X	Bolt, 1/2"-13 NC GR5
B3	4	13-0003	Nut, Hex Lock 1/2"-13, GR 2
-C-	2	Runway	Fall Arrest Track
C1	1	FAXXX-AT	FA, Swiveling Connector Anchor-Trolley
C2	2	FA-X00ES	Fall Arrest End Stop Kit
C3	2	10-02XX	End Stop Bolt
C4	2	13-0003	Nut, Hex Lock 1/2"-13
C5	2	RR1.25-X	End Stop Rubber Sleeve

**Component Assembly Schedule**

1. If Provided, Bolt Track Splice to Track Sections (Detail "B")
2. Bolt Hanger Kits to Track (Details "A" and "AA")
3. Bolt Track to Ceiling Support Structures (Details "A" and "AA")
4. Install Trolley(s) and End Stops to Track (Detail "C")

**Torque Specifications**

Bolt Diameter	Hex Nut Torque	Minimum Hex Locknut Torque
1/2 inch	78 foot-pounds	51 foot-pounds
*5/8 inch	154 foot-pounds	93 foot-pounds
3/4 inch	257 foot-pounds	151 foot-pounds
7/8 inch	341 foot-pounds	224 foot-pounds
1 inch	514 foot-pounds	325 foot-pounds

\*The 5/8-inch beam clip nuts (A4 and AA6) should be torqued to 108 foot-pounds.

**NOTE 8:**  
Depending on ceiling support structures (1) and spans, some hardware sizes may differ from those listed in this drawing. If you ordered 700 series track, hardware diameter changes to 3/4 inches instead of 5/8 inches for some items.

**Sheet 1 of 2**

REV.	DATE	NAME	REVISION DESCRIPTION

CAG GENERATED DRAWING. DO NOT SCALE DRAWING. APPROVALS: _____ DATE: _____ DRAWN: DAP 11/22/10 CHECKED: TJB 11/22/10 APP'D: JRG 04/14/16 PLOT DATE: _____ PROJECT NO.: _____ SCALE: _____ INSTRUCTIONS: _____	<p><b>FALL ARREST</b> CEILING-MOUNTED MONORAIL ASSEMBLY DRAWING</p>	SIZE DWG. NO. _____ PROJECT NO. _____ SHEET NO. _____ SHEET 1 OF 2
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**NOTE 1:**  
 Label **53-0047 "A"** should be placed on both ends of the lower section of trussed track on both sides of each track section.  
 Label **53-0023 "C"** should be placed to the left of label **"B"** on the lower section of trussed track on both sides.



P/N 53-0047

## WARNING

TO PREVENT TROLLEY OR END TRUCK, IF SUPPLIED, FROM RUNNING OUT OF THE TRACK, DO NOT OPERATE SYSTEM WITHOUT END STOP BOLTS SECURED ON EACH END OF RUNWAY AND BRIDGE, IF SUPPLIED.  
 DO NOT IMPACT END STOPS AT HIGH SPEED  
 DO NOT USE END STOPS FOR REPETITIVE BRIDGE IMPACTS, IF BRIDGE IS SUPPLIED  
 DO NOT SKEW BRIDGE, IF SUPPLIED, IN RUNWAYS

See Note 1 for More Info

53-0047

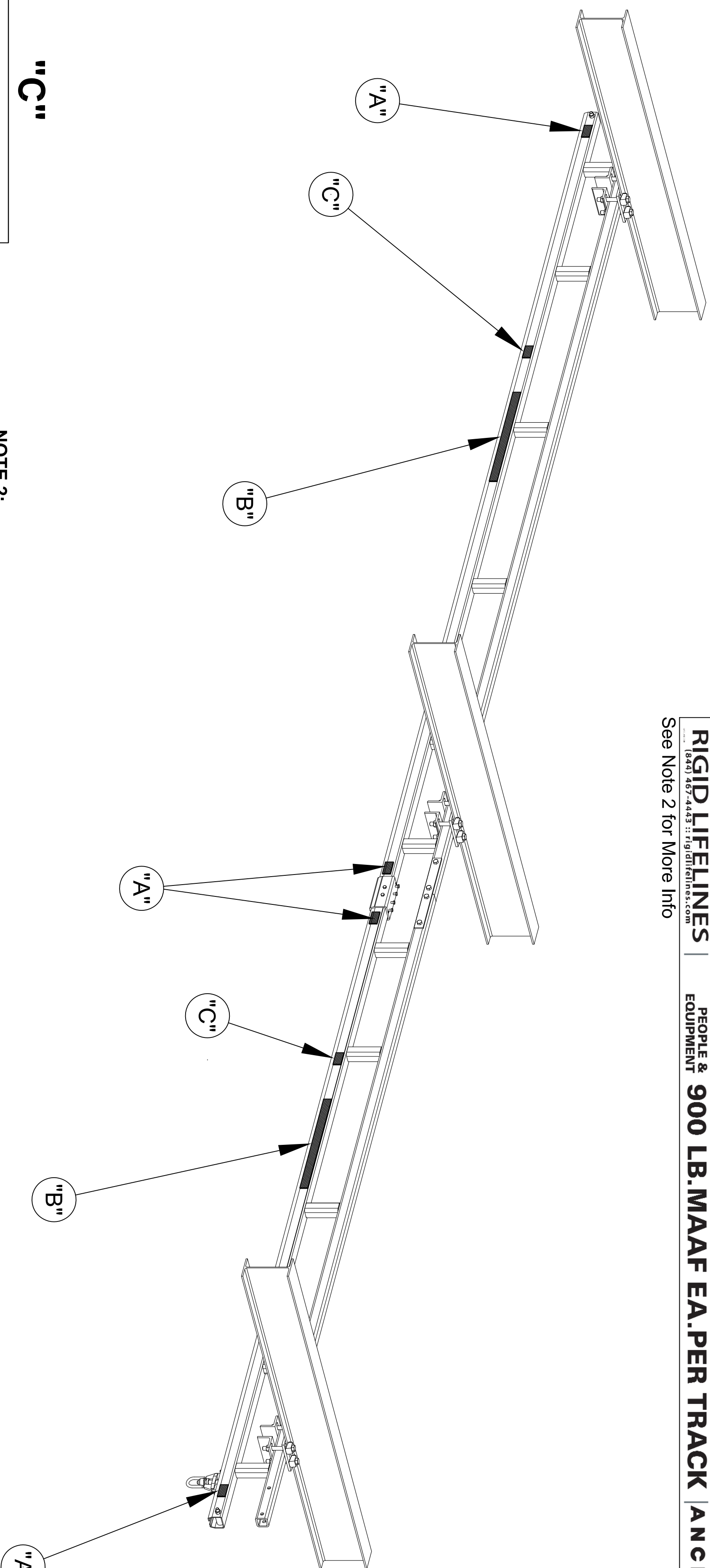
**"A"**

**"B"**

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(844) 467-4443 :: rigidlifelines.com

53-0359

See Note 2 for More Info



**"C"**

**NOTE 2:**

Label **"B"** should be centered on the lower section of trussed track on both sides of each track section and is **P/N 53-0535** for one person systems, **53-0536** for two person systems, and **53-0359** for **three to eight** person systems, along with **53-0413** through **53-0418** respectively. Labels **P/N 53-0413** through **53-0418** are the capacity numbers three through eight for the Anchor Track label and should be placed to the right of the line following "Rigid Lifelines."



P/N 53-0023

See Note 1 for More Info

53-0023

**Sheet 2 of 2**

REV.	DATE	NAME	REVISION DESCRIPTION
CAD GENERATED DRAWING. THE DATE IS THE DATE OF THE DRAWING. DO NOT SCALE DRAWING.			
APPROVALS	DATE		
DRAWN: DAP	11/22/10		
CHECKED: TJB	11/22/10		
APP'D: JRG	04/14/16		
PLT'D DATE:	WT:		
PROJECT NO:	SCALE:	SIZE DWG. NO:	REV.
INSTRUCTIONS	NTS	C FA-MT-ASSEMBLY	-
		CAD FILE:	SHEET 2 OF 2



**FALL ARREST**  
 CEILING-MOUNTED MONORAIL  
 LABEL PLACEMENT DRAWING