

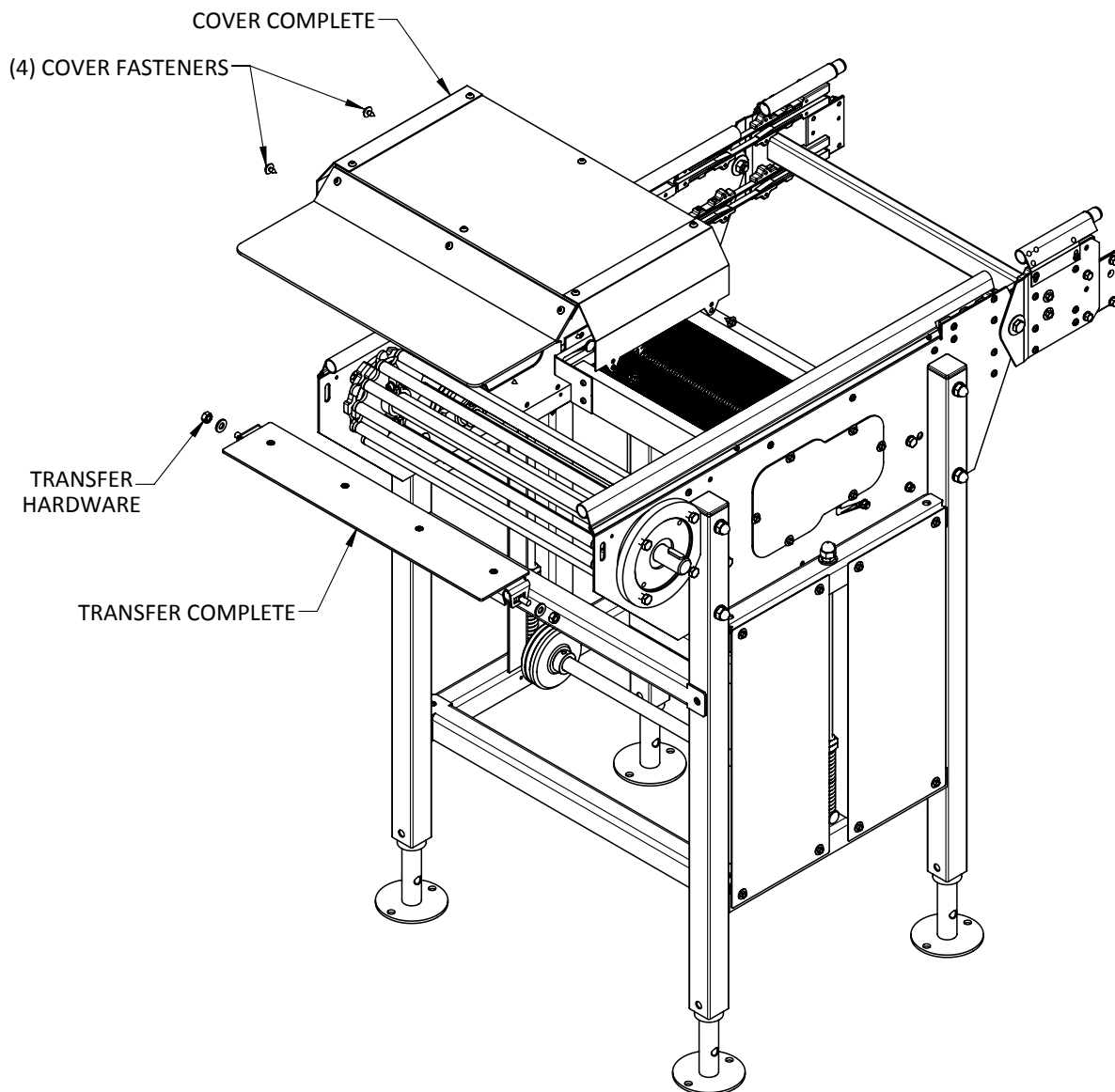
Section 3

SECTION 3 ASSEMBLY AND INSTALLATION

Preparing Equipment for Installation

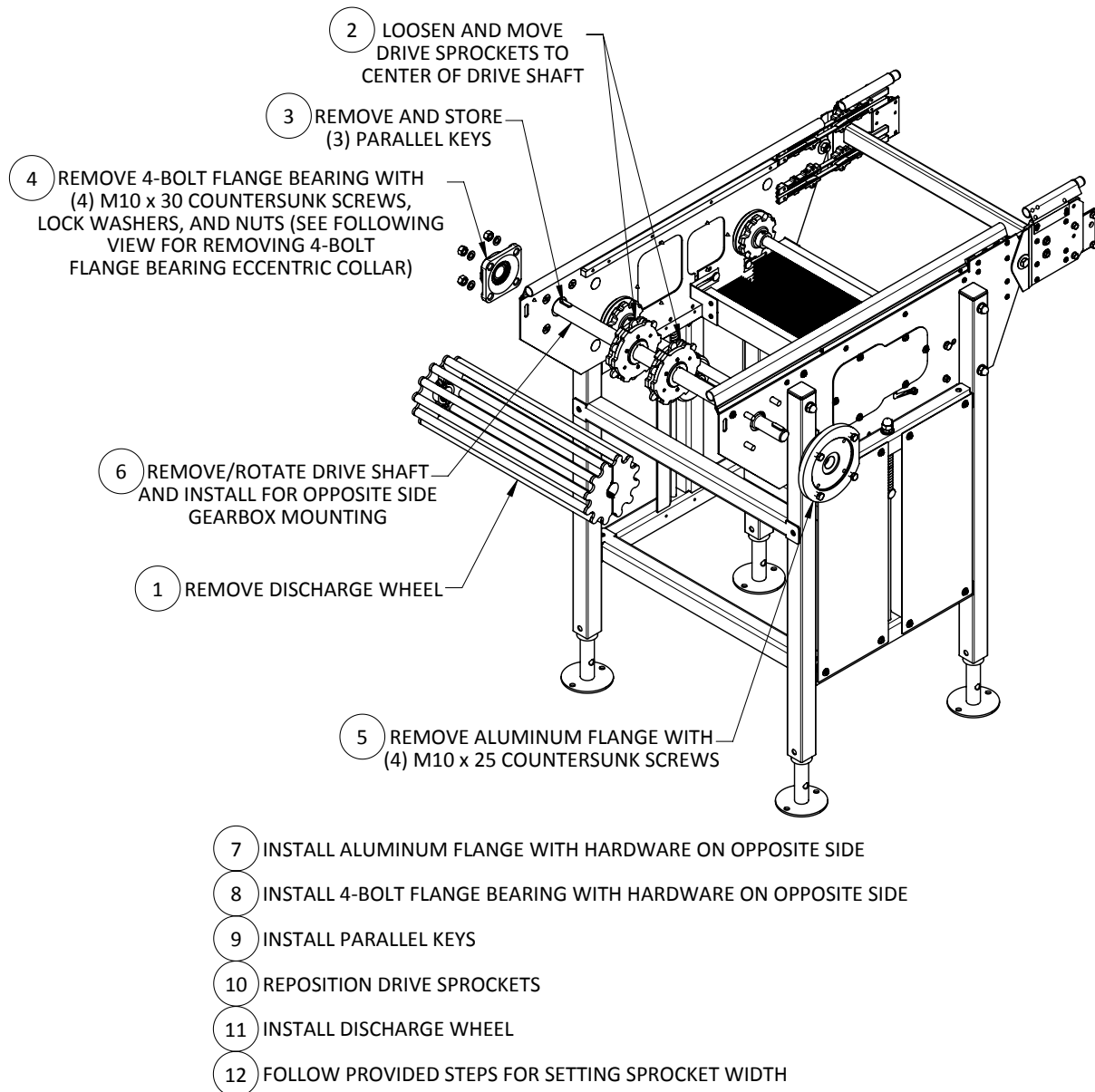
1. Before installation begins, remove all covers and transfers from new components to access Drive Sprockets for proper alignment and ease of installing chain.

Views below reflect the Front Drive, but are applicable to any components containing covers, transfers, etc.

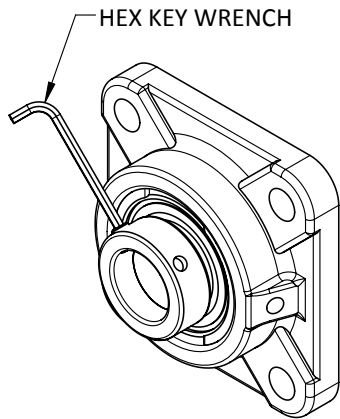


Converting Drives from Left Hand to Right Hand Configurations

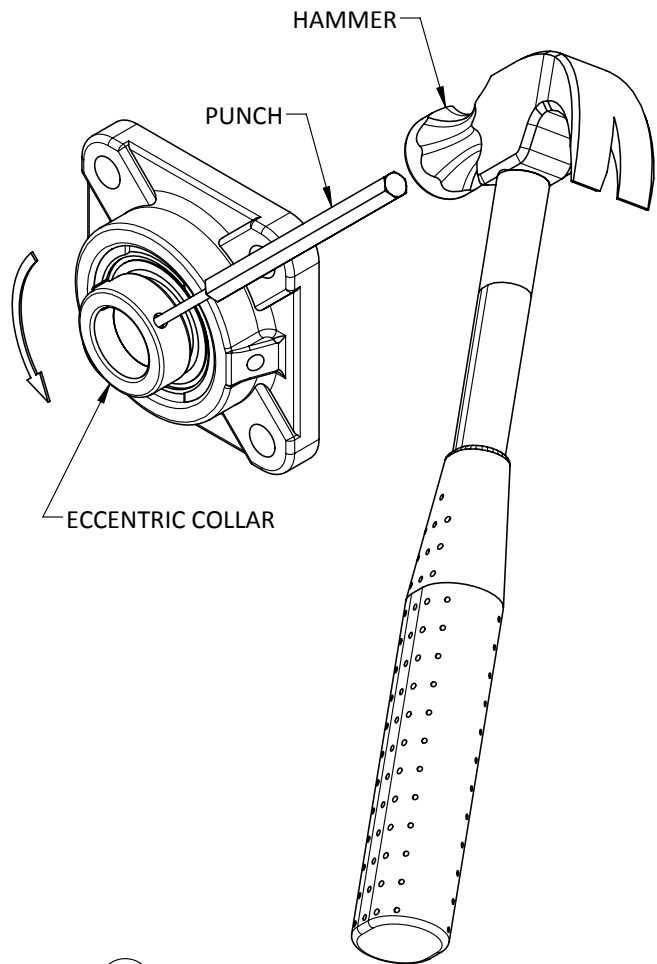
2. Verify all components requiring a motor and gearbox are setup with the Gearbox Flange on the appropriate side. The following view illustrates the steps involved in swapping the drive location from a left hand to right hand drive. See following page regarding the 4-bolt Flange Bearing.



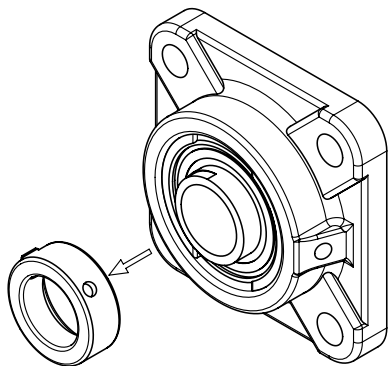
Section 3



1 LOOSEN SET SCREW



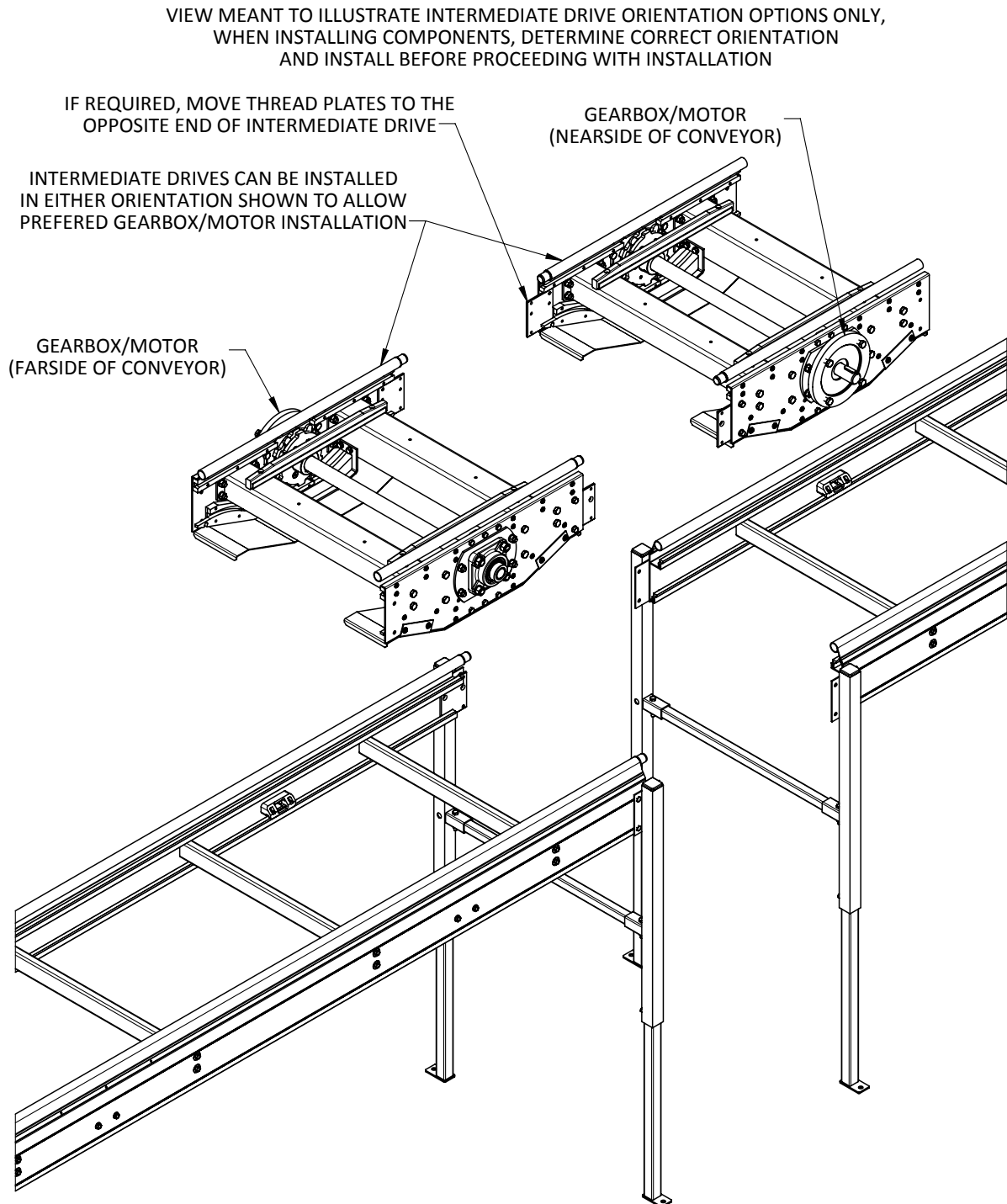
2 USING HAMMER AND PUNCH,
TAP ECCENTRIC COLLAR TO LOOSEN



3 REMOVE COLLAR

- 4 BEARING IS NOW FREED FROM THE SHAFT FOR SERVICING, REPLACEMENT, ETC.
- 5 REVERSE STEPS FOR ASSEMBLY, TIGHTEN SET SCREW TO SECURE

3. In the case of Intermediate Drives, left and right configurations can be determined when installing the component. Thread Plate locations are the only mechanical changes that may need to be addressed.

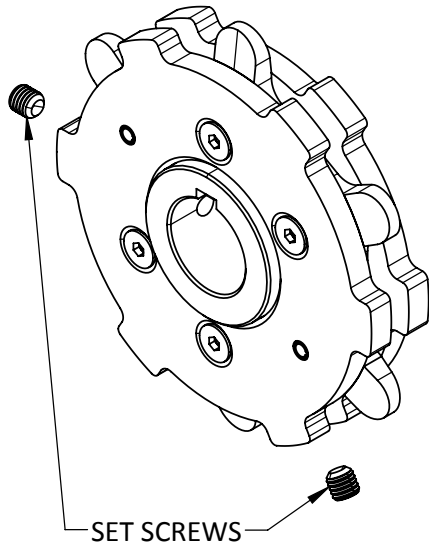


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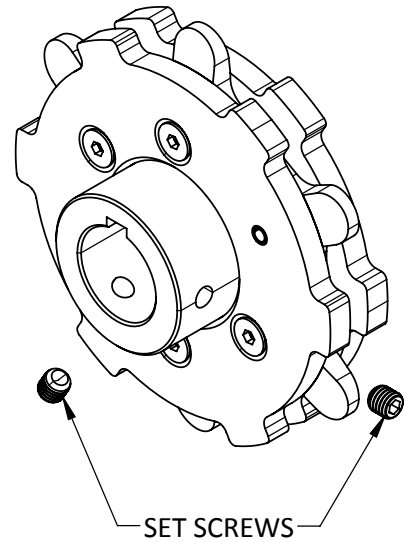
Setting Sprocket Width

- The view below shows the set screw locations for the Drive Sprockets, loosen the set screws to begin adjusting the sprockets to best fit the Conveyor Chain in the system.

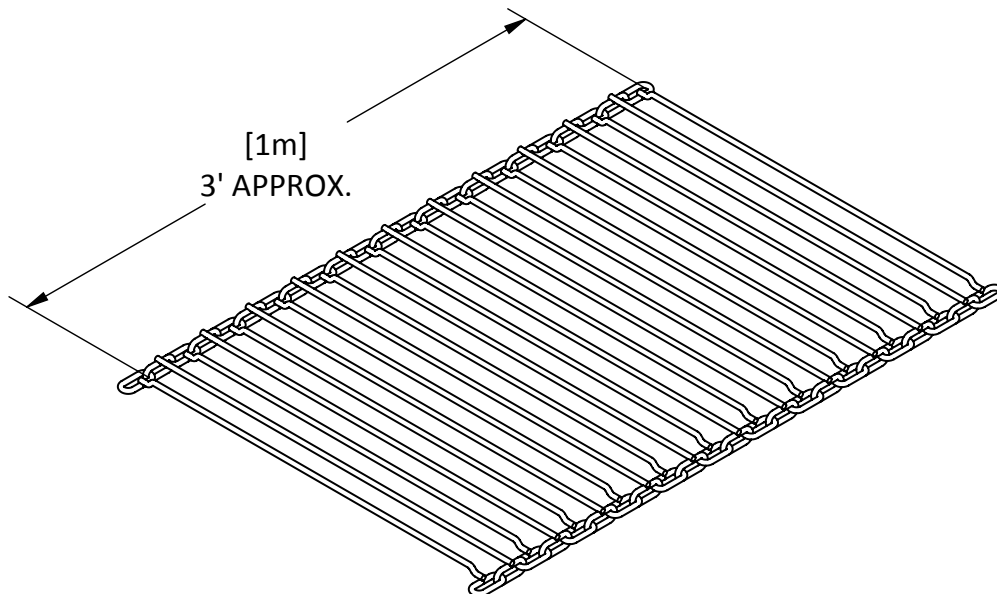
MAIN DRIVE SPROCKET
(SET SCREWS LOCATED IN CENTER GROOVE)



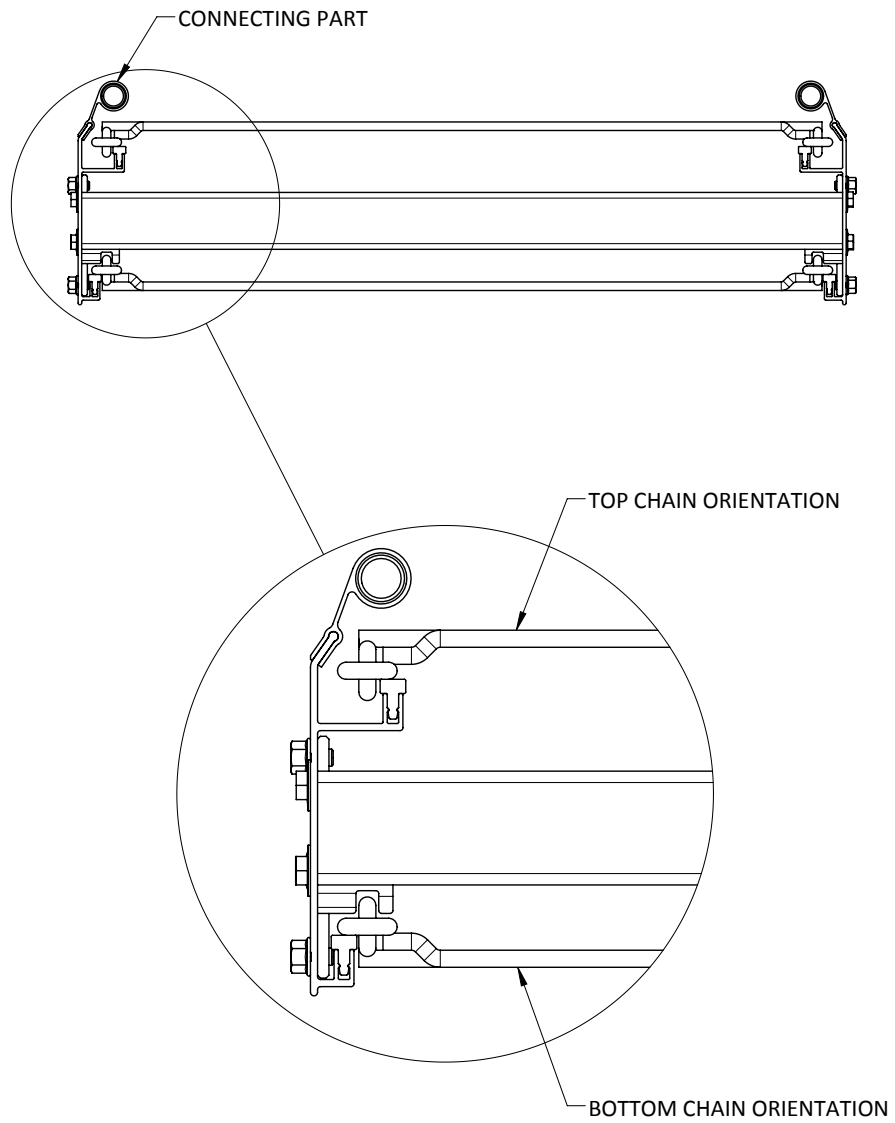
INTERMEDIATE DRIVE SPROCKET
(SET SCREWS LOCATED IN HUB)



- Using a roll of chain intended for the current installation, cut a short section as pictured below to use as a gauge while setting all sprocket widths for the system (any main drive, intermediates, and components containing drive sprockets).

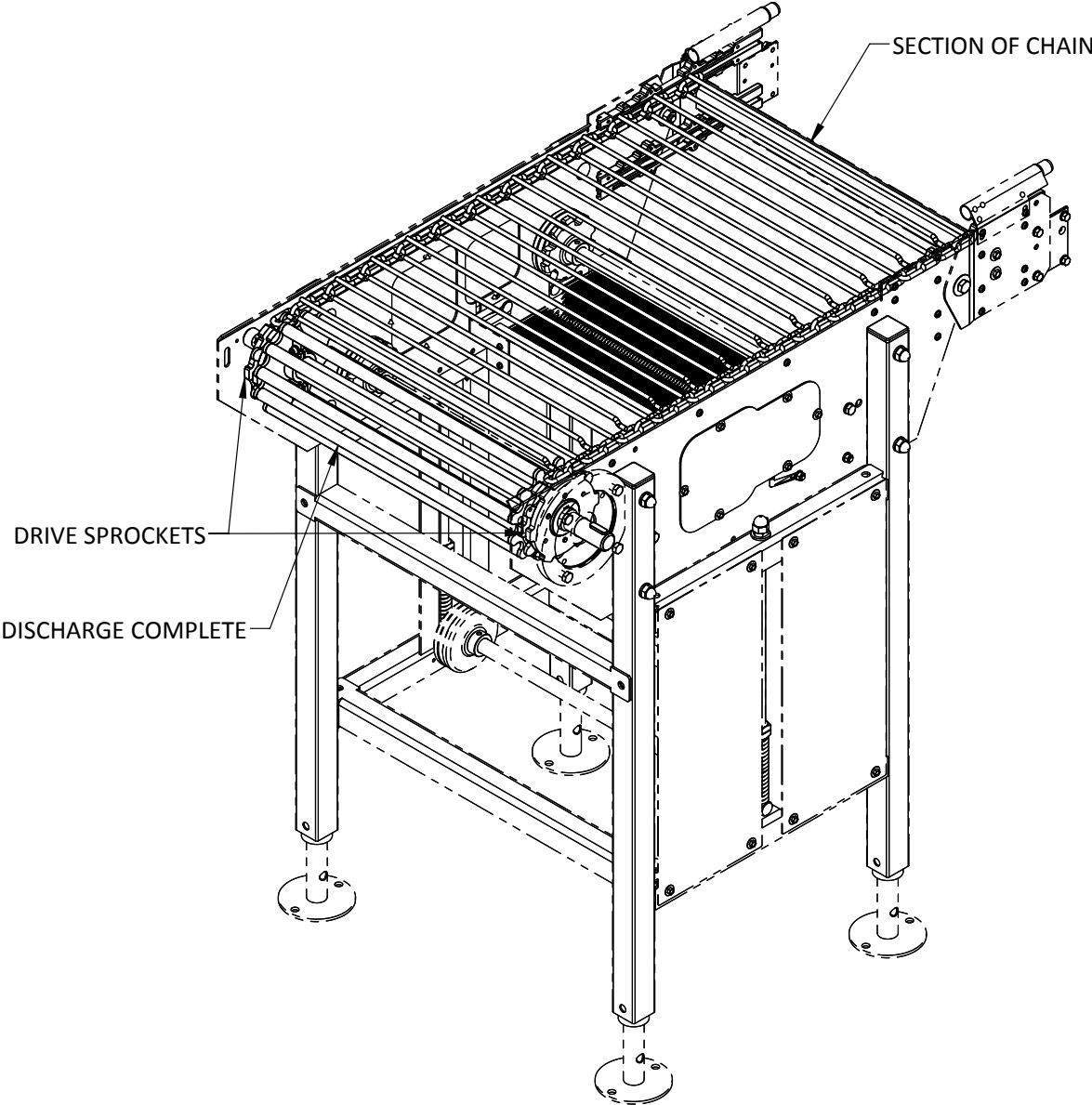


6. The following view illustrates typical chain orientation for all components.

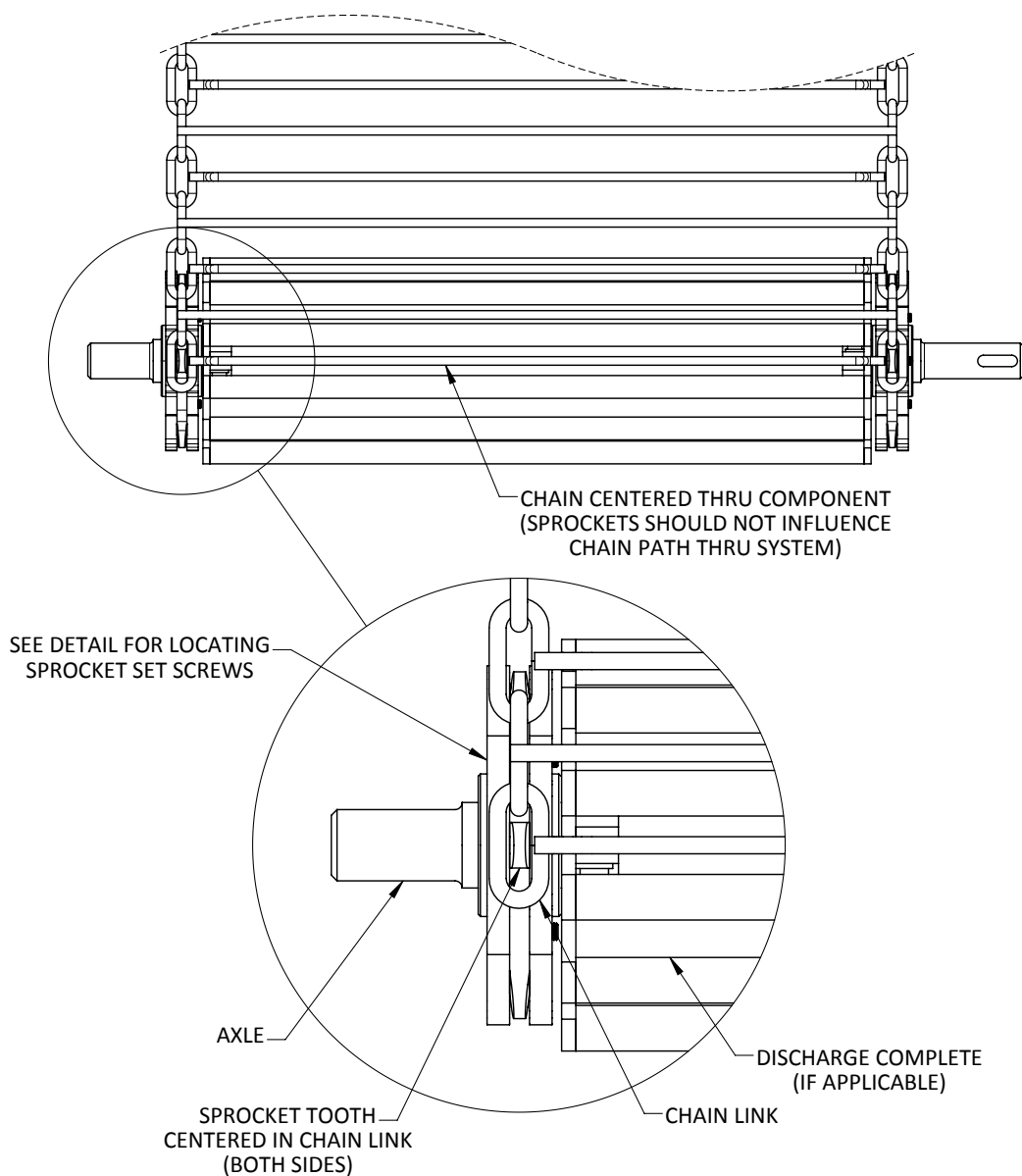


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- 7. Feed the chain section through the top side of the components until engaged with the Drive Sprockets.



- Adjust the Sprocket Tooth to be centered in the Chain Link on both sides of the component. Ensure the chain is centered through the component and tighten the set screws.



NOTE: USE SECTION OF CHAIN INTENDED FOR INSTALLATION IN SYSTEM
(DO NOT USE CHAIN FROM ANOTHER INSTALLATION OR CONVEYOR)

Section 3

Converting Intermediate Top Drives to Bottom Drives

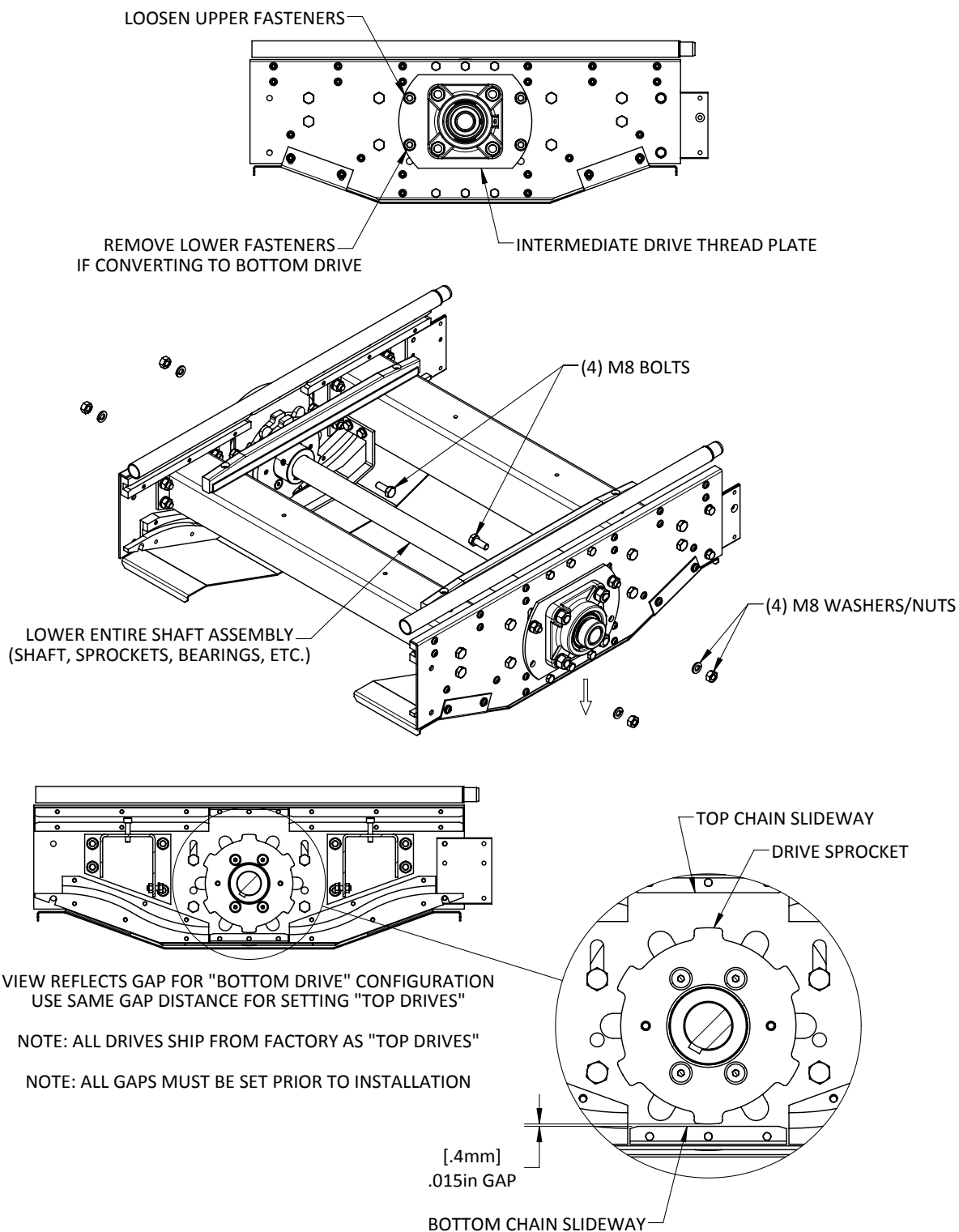
9. All Intermediate Drives ship from the factory as “Top Drives” or driving the top side of the chain. A layout is provided for each installation containing a Bill of Materials specifying the quantity of “Top” and “Bottom” Intermediate Drives. The following view details the conversion of a “Top Drive” to a “Bottom Drive” and setting the Sprocket Gap for best performance.

If no Top to Bottom change is required, follow the steps provided in setting the proper Sprocket Gap.

Set the Sprocket Gap for a “Top Drive” between the Drive Sprocket and top Chain Slideway, set the Sprocket Gap for a “Bottom Drive” between the Drive Sprocket and bottom Chain Slideway.

Note: A standard business card can be used to approximate the proper gap.

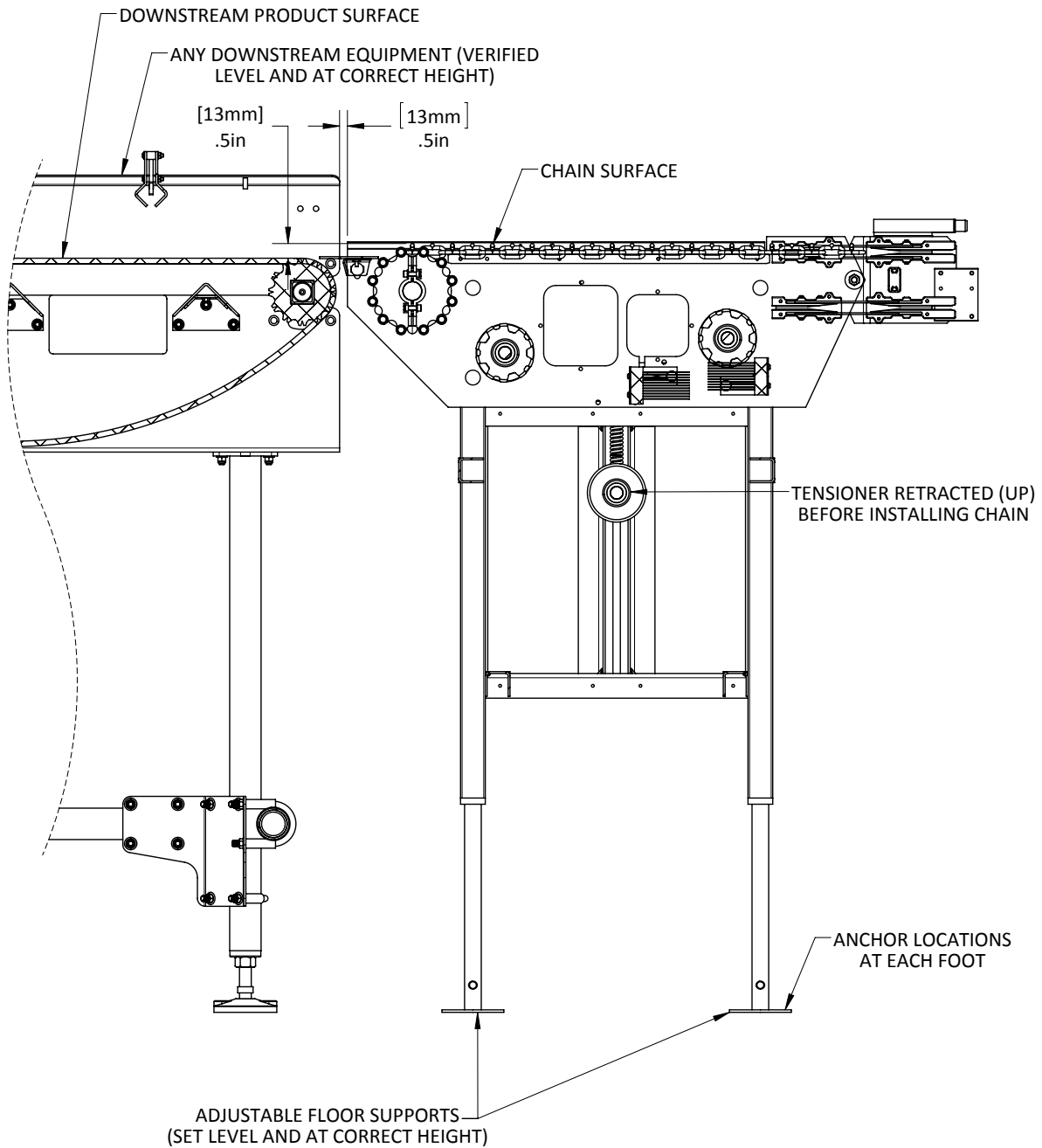
Set Sprocket Width as previously discussed.



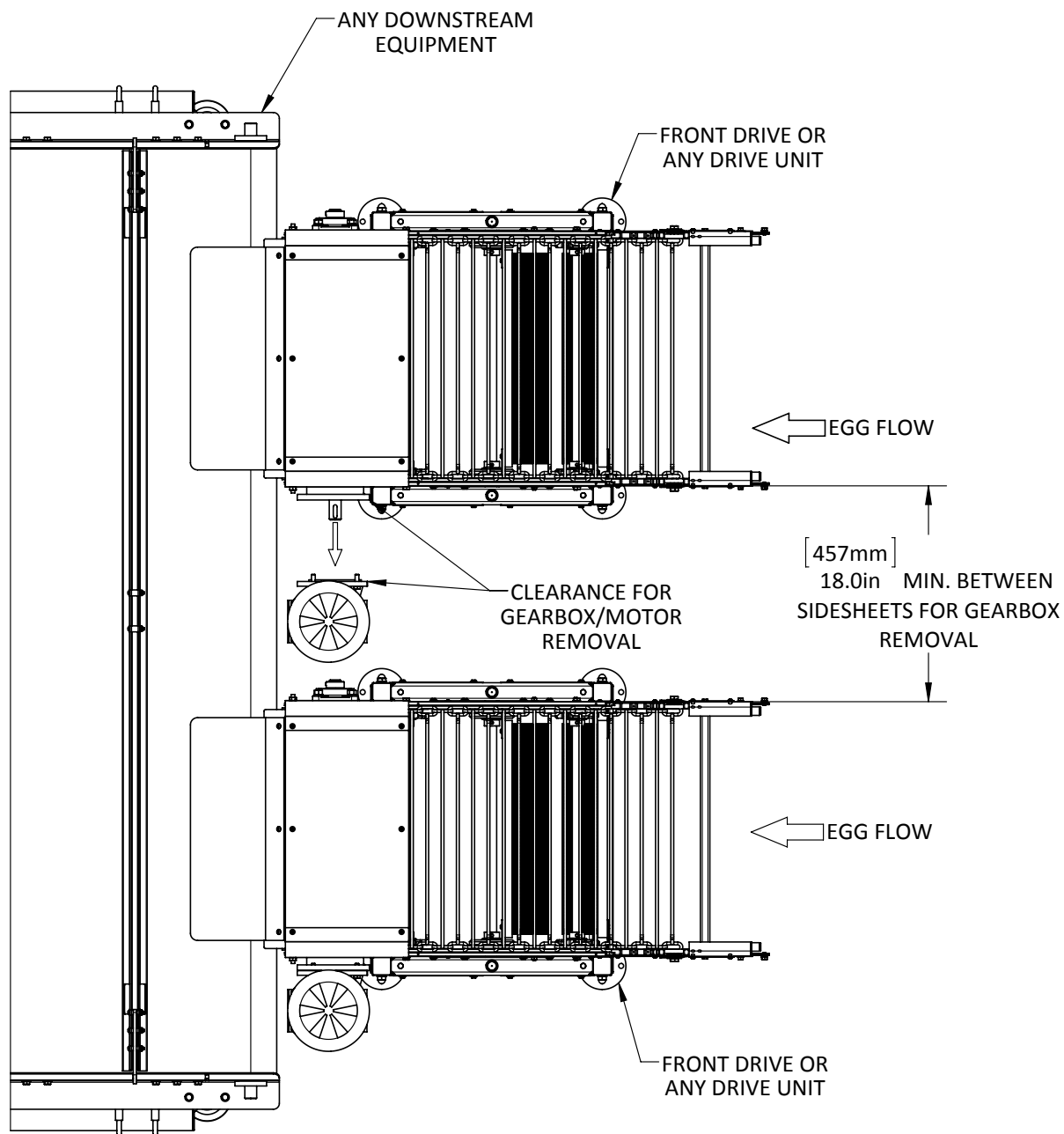
Section 3

Setting Components to Downstream Equipment

10. Verify any downstream equipment as level and at the correct height before proceeding.
11. Secure the first component as shown below. Adjust heights and level before proceeding.



12. If installing multiple conveyors, verify the clearances required for servicing the gearbox and motor.



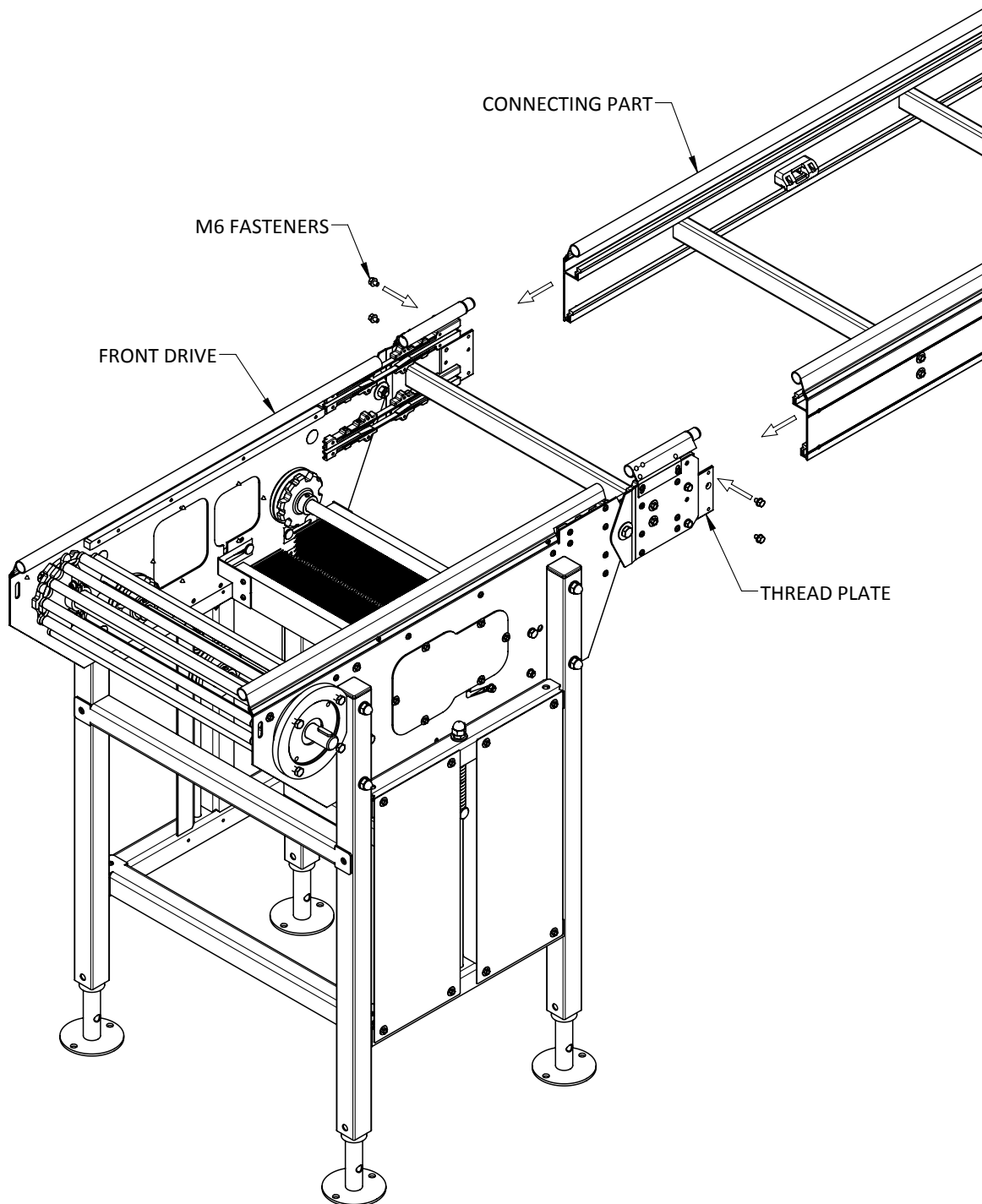
NOTE: IF NO GEARBOX/MOTOR IS PRESENT BETWEEN DRIVE UNITS, MINIMUM CLEARANCE CAN BE REDUCED TO [152mm] OR 6in

Section 3

Joining Components

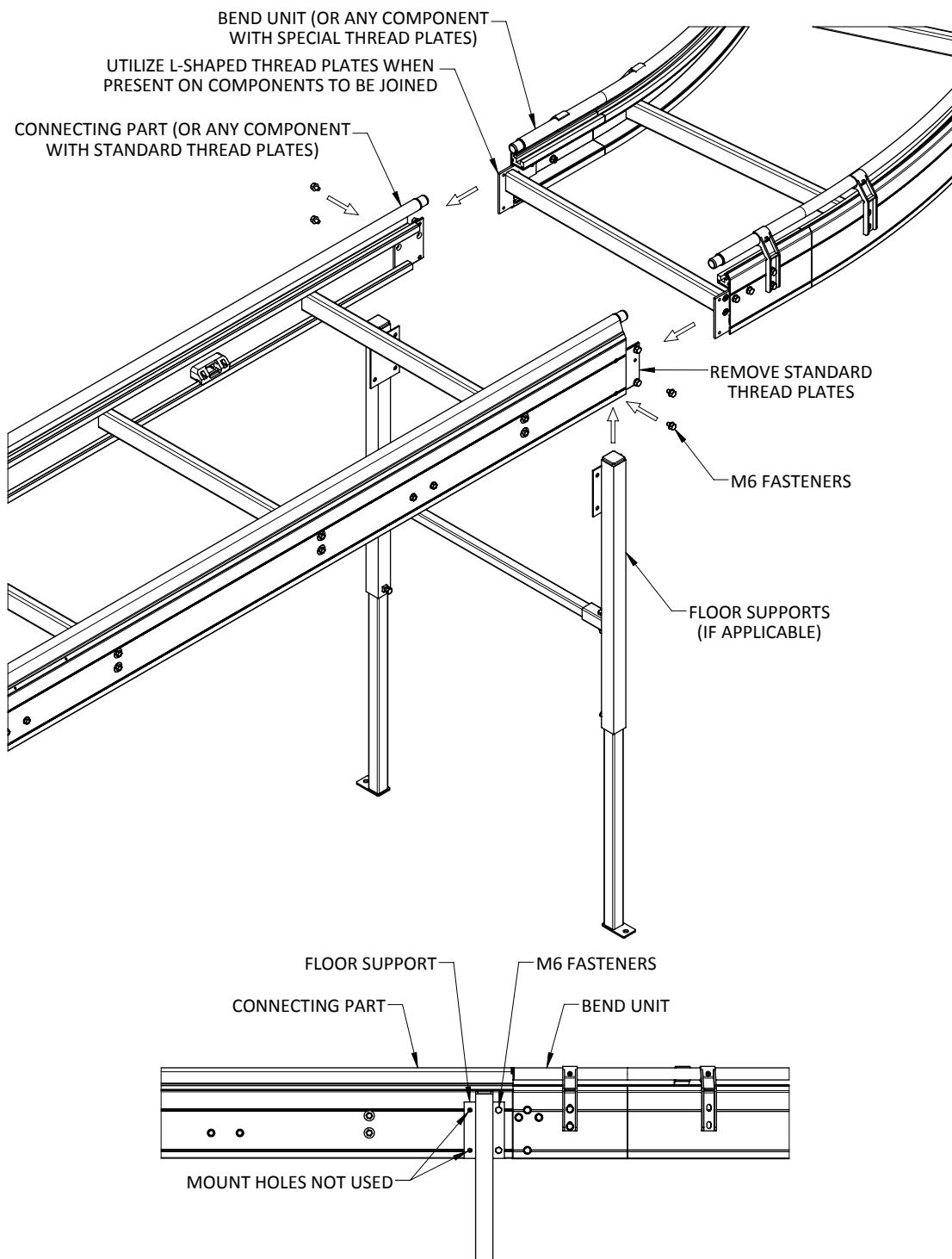
Standard Thread Plates

13. Install components per the provided layout drawing. Use the provided M6 fasteners to join components with the standard (square) Thread Plates as shown below.



Special Thread Plates

14. When joining components requiring special (L-shaped) Thread Plates, remove the standard (square) Thread Plates from one component and join as shown below.



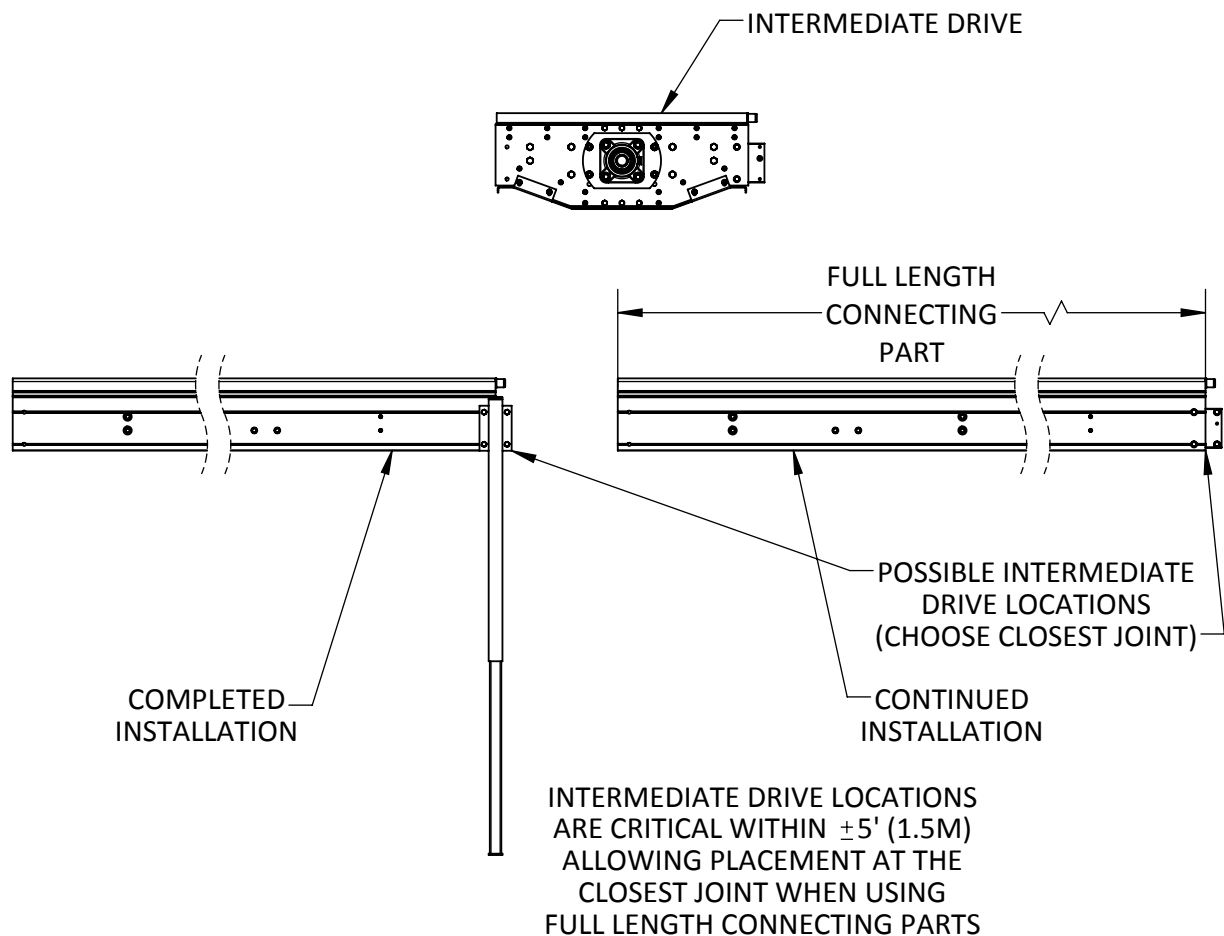
Section 3

Locating Components

15. Components should always be located per the supplied Conveyor Layout drawing. If issues are encountered during installation, contact your Lubing representative. Seemingly small compromises during installation may result in poor performance, delays, and/or damage to the system later.

Note: All drives should be located plus or minus (5) five feet (1.5 meters) of the provided dimensions. This allows for installation at the closest end of a Connecting Part without effecting the drive layout or balance of the conveyor. Any compromises exceeding this tolerance should be communicated with your Lubing representative before proceeding.

Note: The quantity and style of Drip Oilers are calculated based on the Conveyor Layout drawing. Although not as critical as drive placement, an attempt to match the layout as closely as possible should be made. Excessive deviations may result in oil starvation to certain areas within the system.



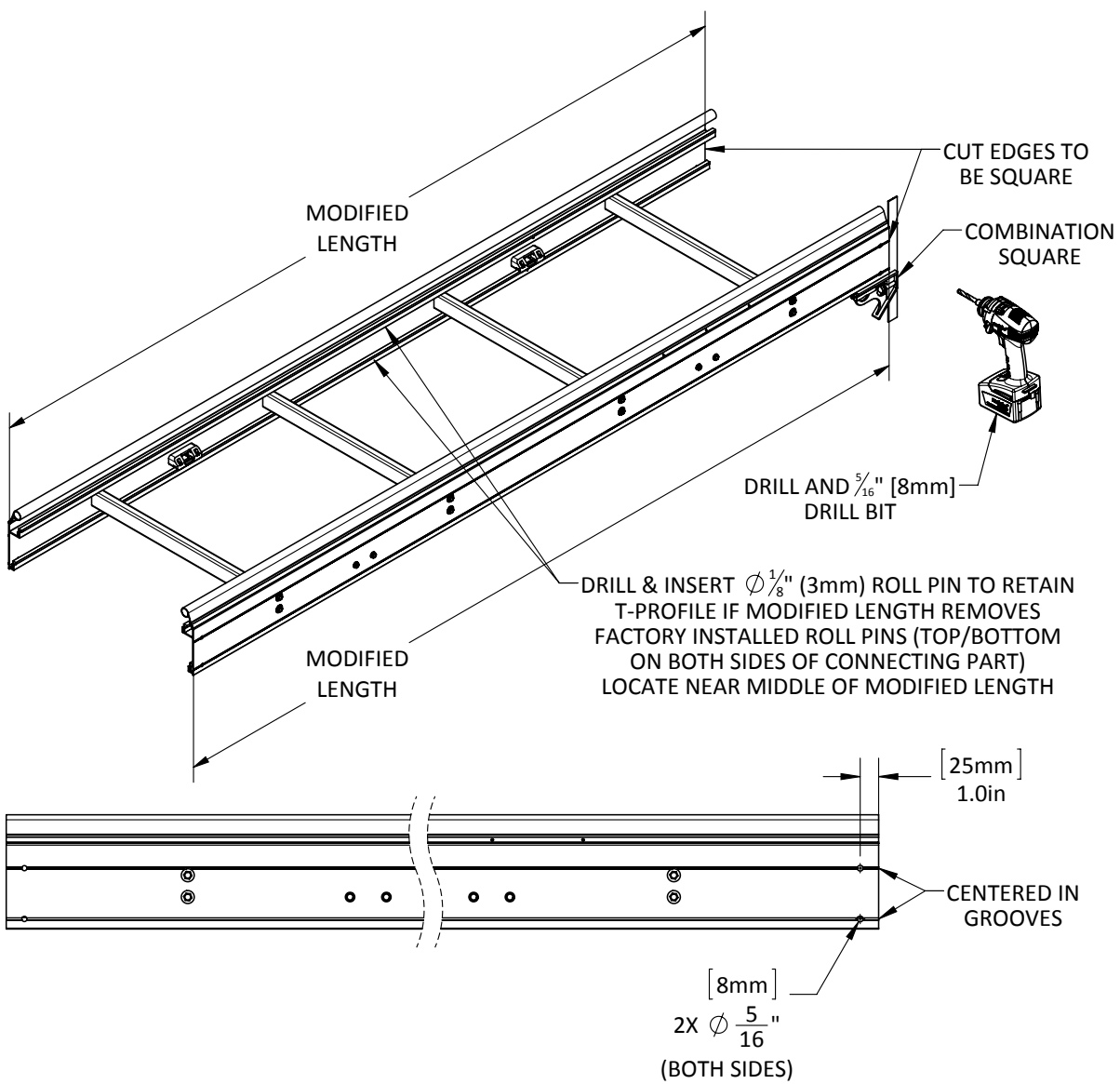
Modifying Connecting Part Length

16. The following view illustrates the cutting of Connecting Parts and adding the required holes.

Cut edges must be square and both side lengths must be equal to ensure correct mounting once modified.

Note: The following view illustrates the addition of Roll Pins to secure the T-Profile if the modified length removes the factory-installed roll pins. All T-Profile in the system should be secured to prevent the components from walking over time.

Note: It is not recommended to modify the length of stainless Connecting Parts.



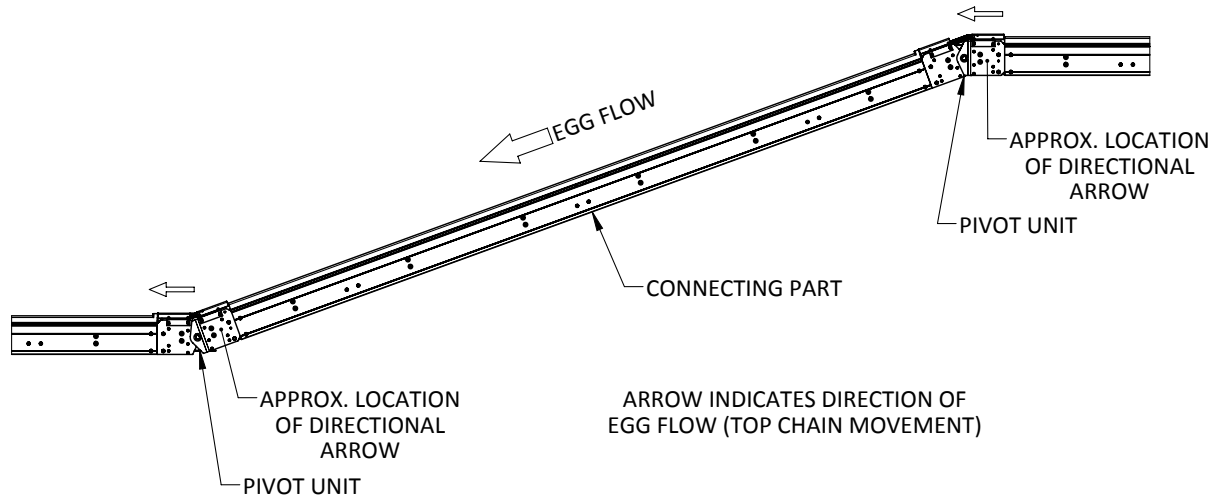
Section 3

Directional Components

Pivot Units

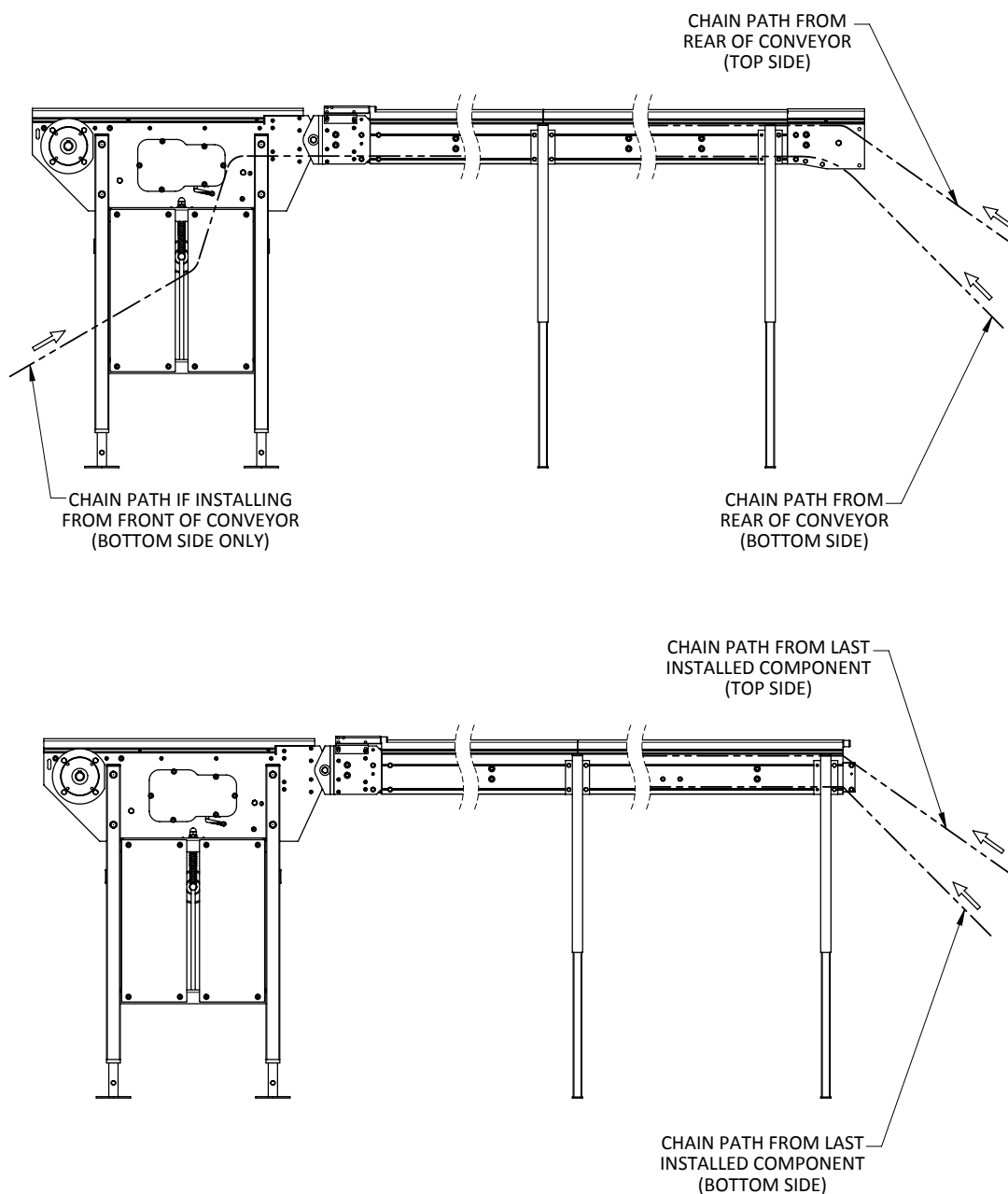
17. The following view illustrates proper orientation when installing Pivot Units.

Note: Locate the directional arrow on the Pivot Units when installing. Failure to install in the correct orientation can result in damage to Pivot Units and/or Conveyor Chain.



Installing Chain

18. Retract any tensioners before installing chain.
19. The following view illustrates the appropriate areas to feed chain into the system. Never force chain into an enclosed section of conveyor, damage to chain or other components may occur.

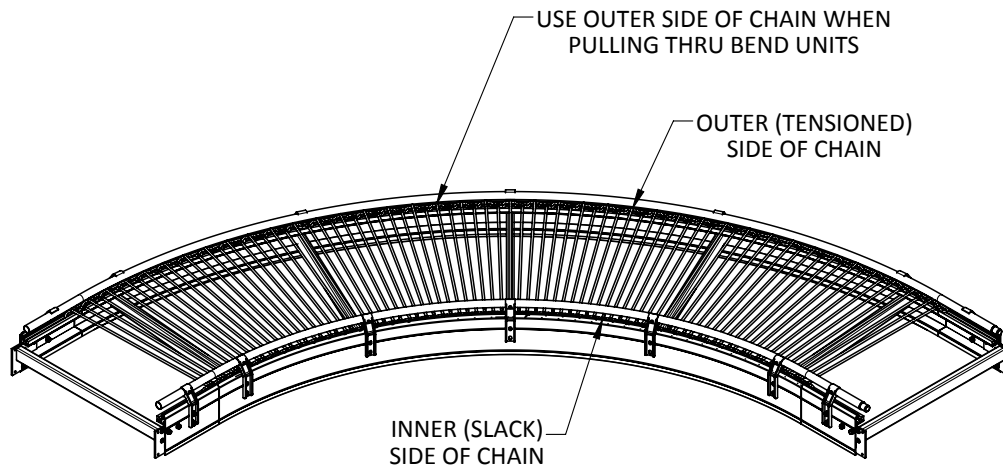


Section 3

Pulling Chain

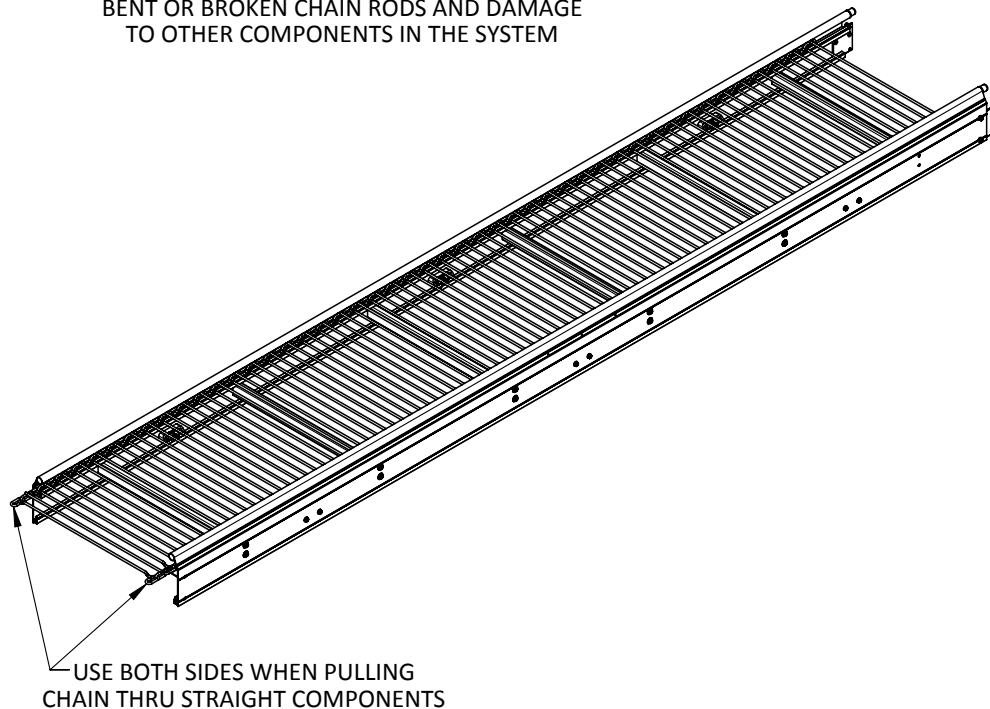
20. Stock lengths of chain rolls are 10 meters or 32'. When possible, there should be enough linear length of conveyor to accept a minimum of (1) one complete roll before installing chain.

21. The following view illustrates the proper techniques for pulling chain.



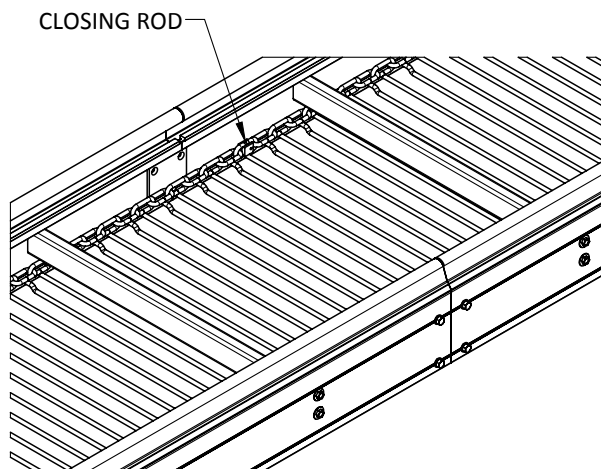
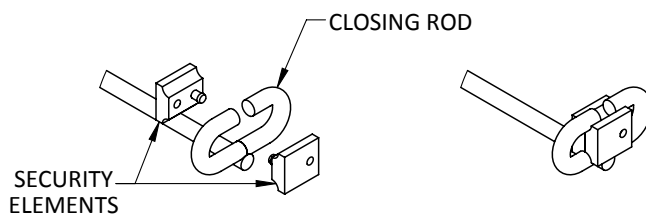
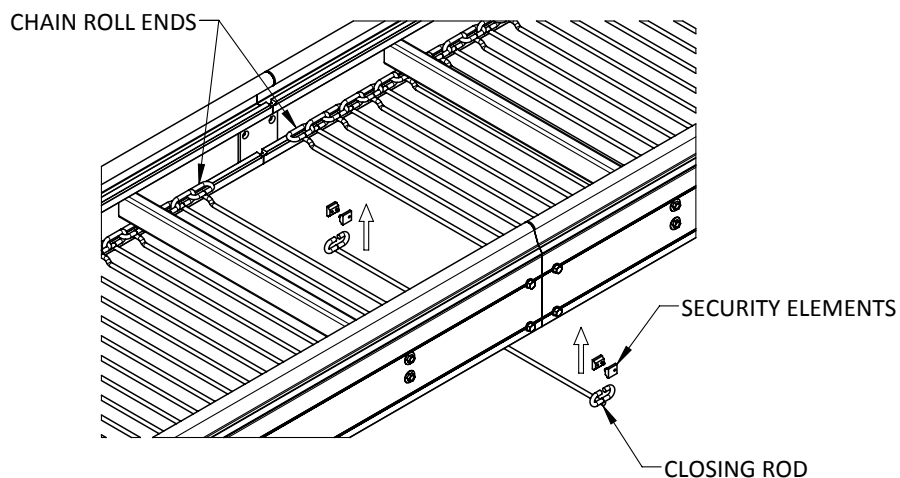
NOTE: NEVER USE THE CENTER OF THE CHAIN ROD TO PULL CHAIN!

IMPROPER PULLING TECHNIQUES MAY RESULT IN BENT OR BROKEN CHAIN RODS AND DAMAGE TO OTHER COMPONENTS IN THE SYSTEM



Joining Chain Sections

22. The following view illustrates joining chain sections with a Closing Rod and Security Elements.
23. Install complete sections of chain when possible to minimize the number of Closing Rods in the system.



VIEW REFLECTS CLOSING ROD INSTALLATION ON BOTTOM SIDE OF CONVEYOR. SAME PROCESS EMPLOYED ON TOP SIDE.
NOTE: VERIFY CLOSING ROD ORIENTATION IS CORRECT

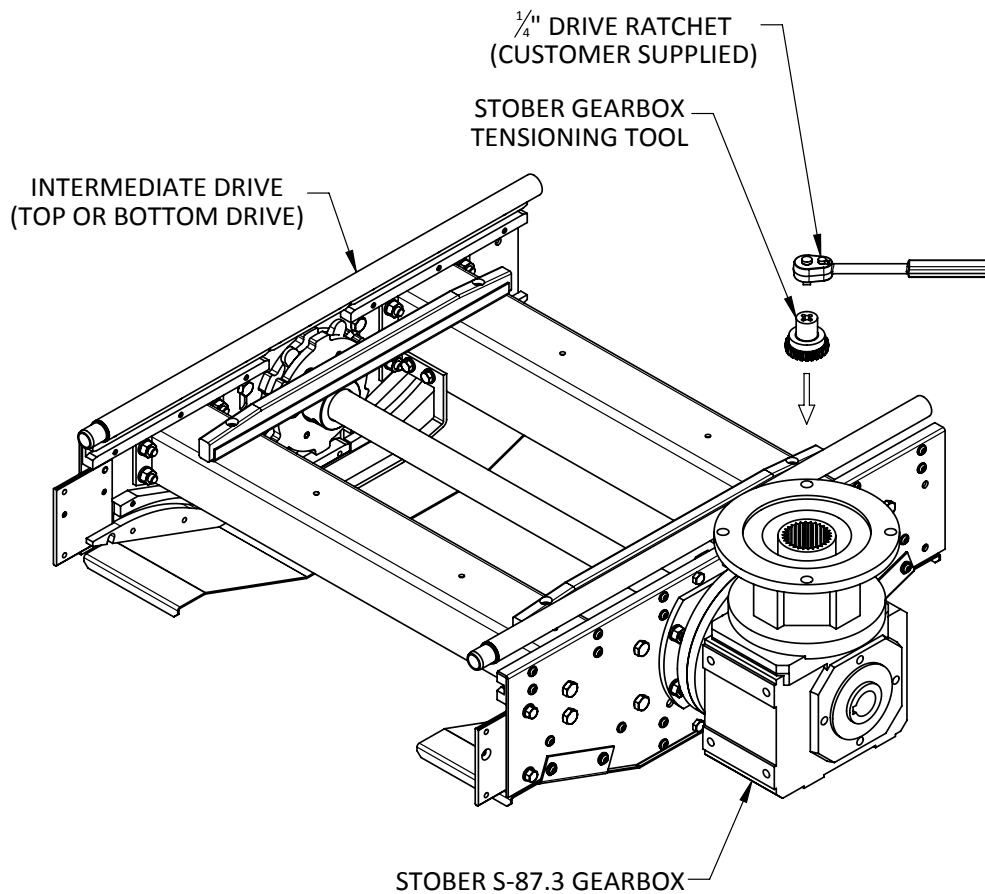
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Moving Chain Slack

24. The following view illustrates the use of the Stober Gearbox Tensioning Tool (purchased separately) inserted into the Stober Gearbox to move chain through the system. This is the safest method to move chain slack.

Start at the second “Bottom Drive” after the main driving unit and begin moving slack toward the next “Bottom Drive” or end of the conveyor. After the end is reached, move to the “Top Drive” closest to the end unit and continue moving slack forward to the main driving unit.

Remove excess chain at the tensioning unit and join with Closing Rod and Security Elements.



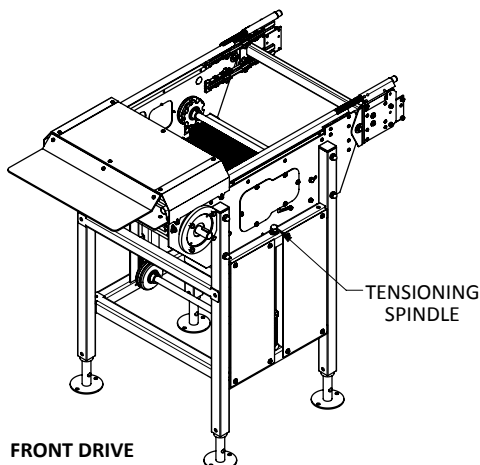
NOTE: USE CAUTION WHEN APPLYING TENSION TO THE CHAIN, OVER TENSIONING MAY DAMAGE CHAIN AND/OR CLOSING RODS. NEVER RELEASE RATCHET UNDER TENSION, HOLD AND ALLOW ROTATION UNTIL TENSION IS RELEASED.

Locating Tensioner Components

25. Proper chain tension is crucial to system performance and longevity. The following view details the components with integrated tensioning.

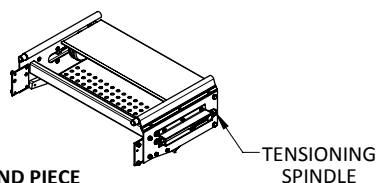
Refer to the layout drawing provided for the correct tensioning unit and its placement within your system. Before installing chain, retract all tensioners.

COMPONENTS INCLUDING TENSIONING



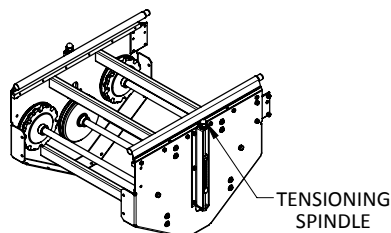
FRONT DRIVE

- USED AS MAIN DRIVE FOR CONVEYOR
- INTEGRATED TENSIONER
- ANY LENGTH SYSTEM



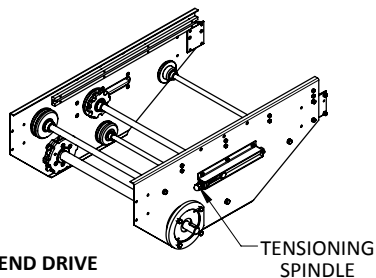
END PIECE

- USED IN CONJUNCTION WITH MAIN DRIVE UNITS OTHER THAN FRONT DRIVE
- LOCATED AT THE END OF CONVEYOR
- SHORT LENGTH SYSTEM



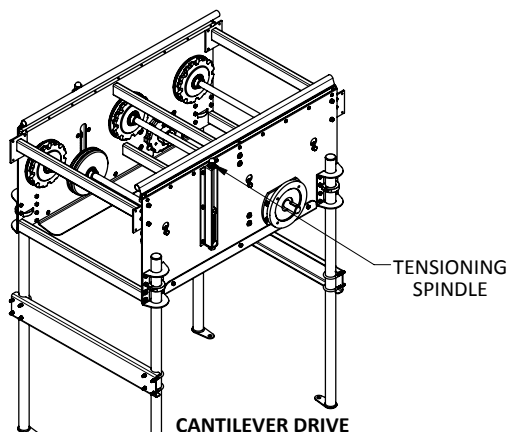
BOLT-IN TENSIONER

- USED IN CONJUNCTION WITH MAIN DRIVE UNITS OTHER THAN FRONT DRIVE
- LOCATED NEAR MAIN DRIVE UNIT
- ANY LENGTH SYSTEM



END DRIVE

- LOCATED AT THE END OF CONVEYOR
- INTEGRATED TENSIONER
- ANY LENGTH SYSTEM



CANTILEVER DRIVE

- USED AS MAIN DRIVE FOR CONVEYOR
- INTEGRATED TENSIONER
- ANY LENGTH SYSTEM

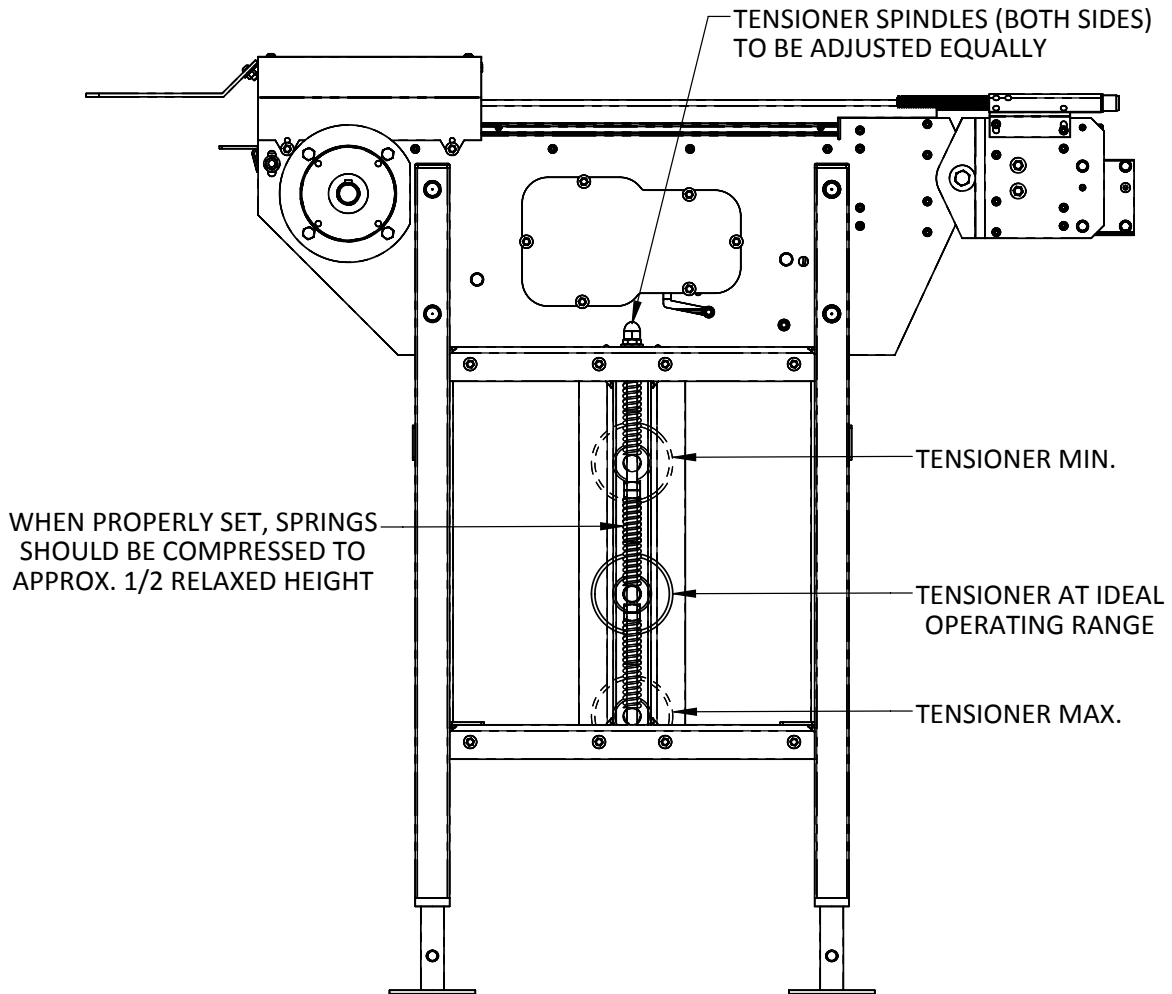
Section 3

Setting Chain Tension

26. After completing chain installation, apply tension to remove any slack from the system. The following view illustrates the proper adjustment and working location of tensioners within the system.

The correct amount of chain will allow the tensioner to work somewhere near the midpoint of its travel. Adjust the length of chain accordingly.

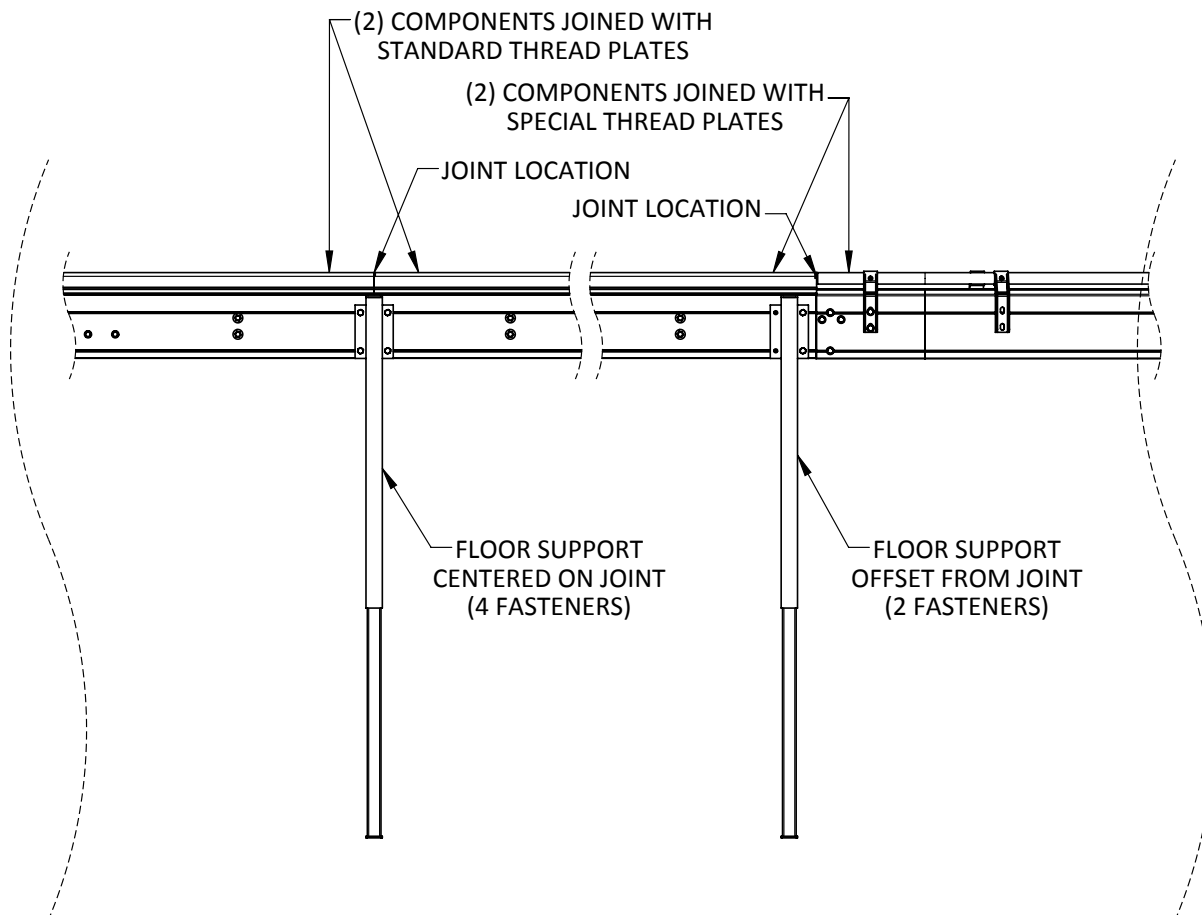
At initial startup, inspect chain tension at regular intervals as slack may move through the system and gather at this location. Remove excess chain as needed to maintain the correct operating location.



Floor Support Installation

Floor Supports at Standard Locations

27. Some type of support is intended at each joint location. The following view illustrates the installation of Floor Supports at standard locations where mounting holes exist.

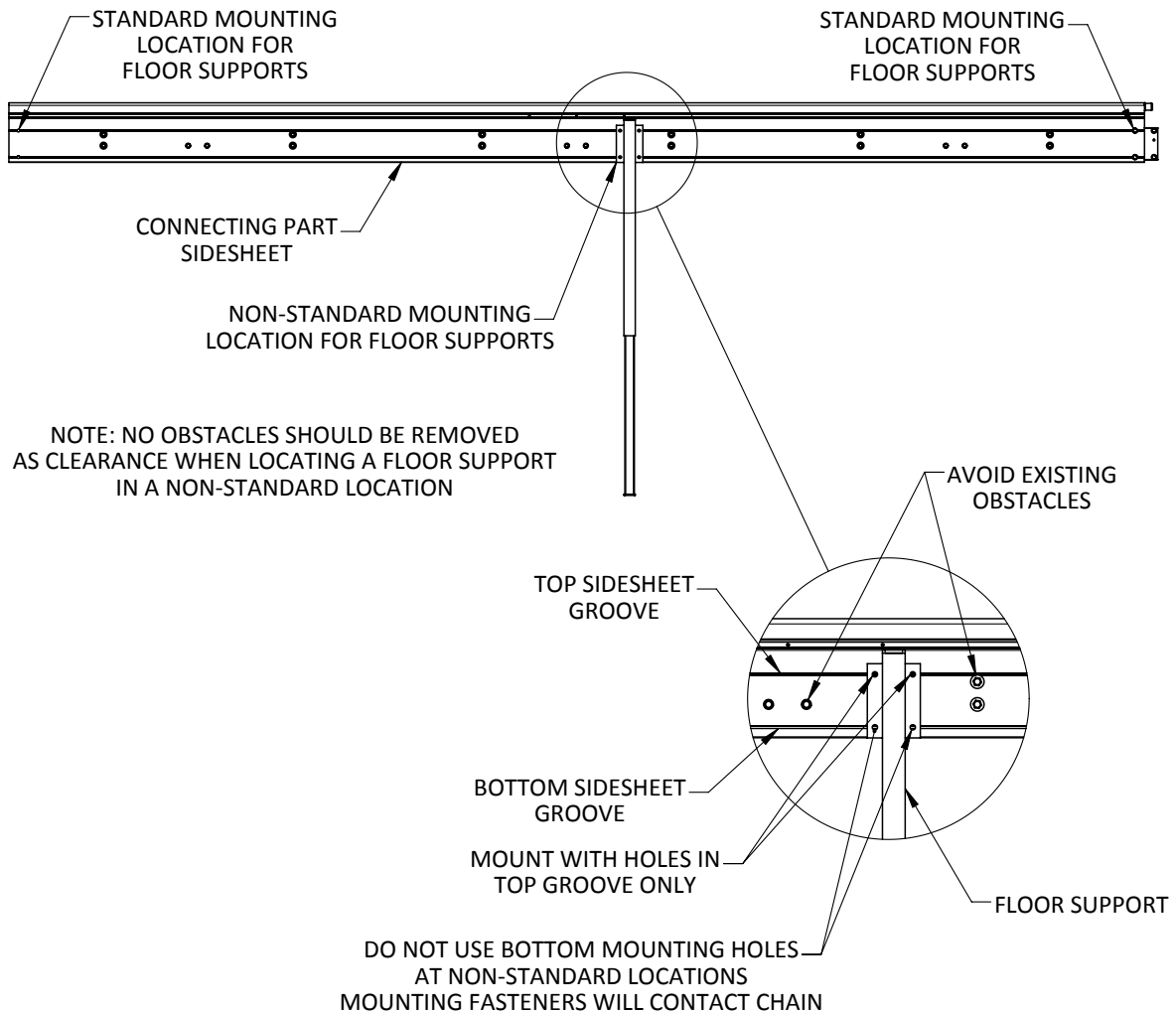


Section 3

Floor Supports at Non-standard Locations

28. The following view illustrates the procedure for installing Floor Supports at a non-standard location.

Note: See below regarding the placement of drilled holes when locating Floor Supports.



Suspending Components

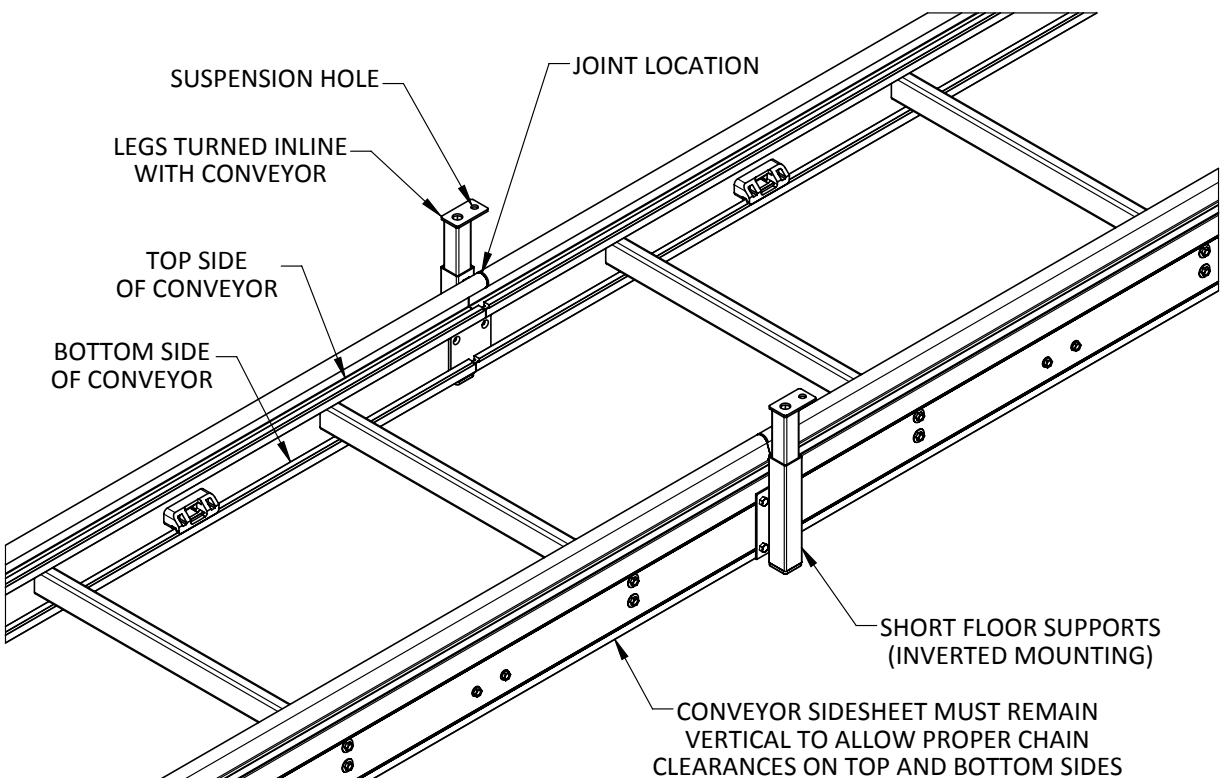
29. The following view illustrates suspending components using inverted Short Floor Supports.

It is the customer's responsibility to suspend components in a manner that satisfies all building and safety codes. Vertical suspension drops must be made for each joint location where components connect.

Turn legs in-line with Conveyor travel to prevent side loading the sidesheets of the conveyor. Side loading these components could result in binding the chain on the top side of the conveyor or the ability of the chain to fall out of the bottom side of the conveyor.

When properly suspended, conveyor will not sway when system is in operation or under load. If excessive movement is observed, action should be taken to improve suspension practices.

Suspend with threaded rod, washers, and nuts from overhead structure. Do not use chain and hooks for suspension components.

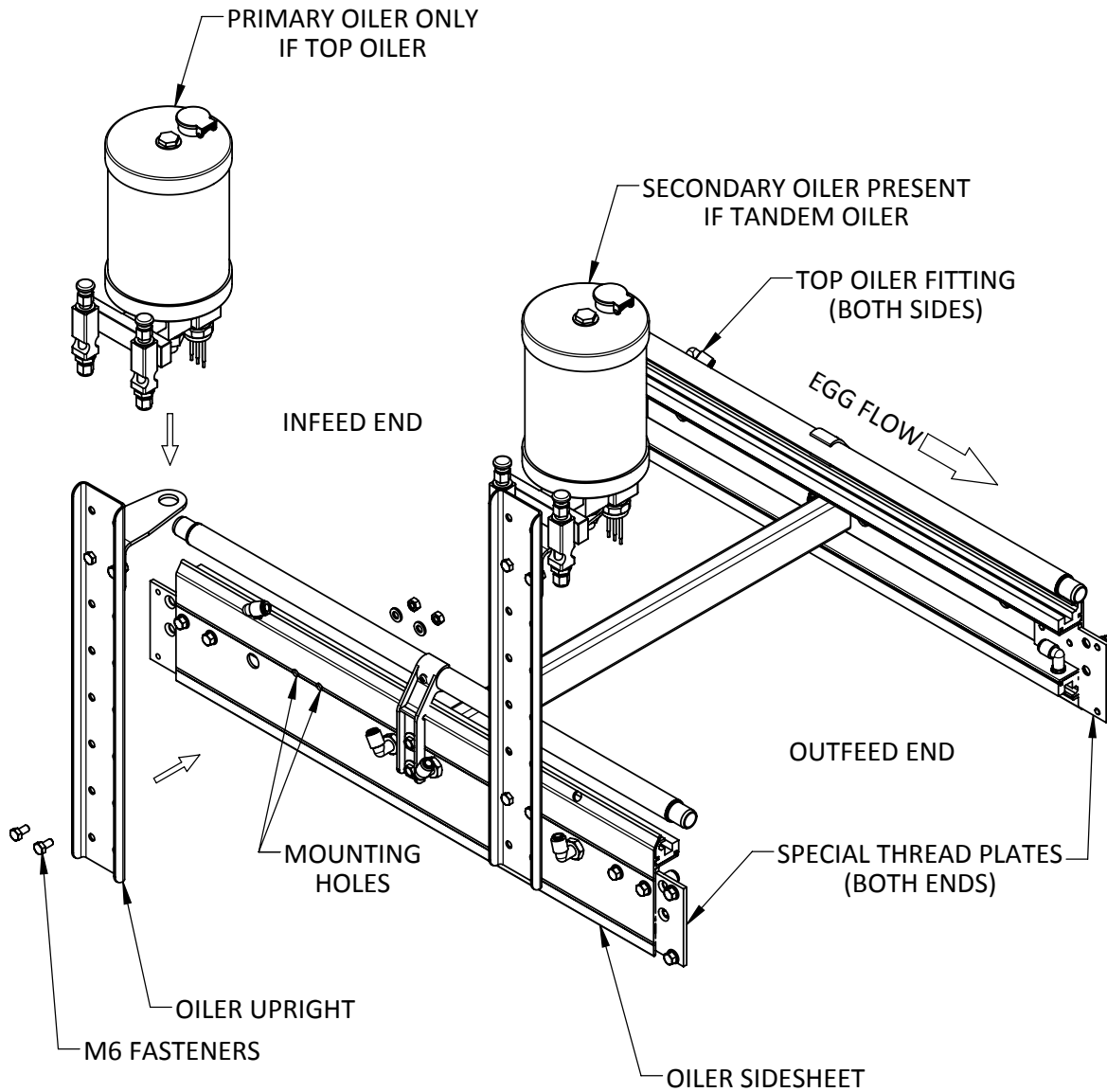


Section 3

Drip Oiler Installation

Drip Oiler Assembly

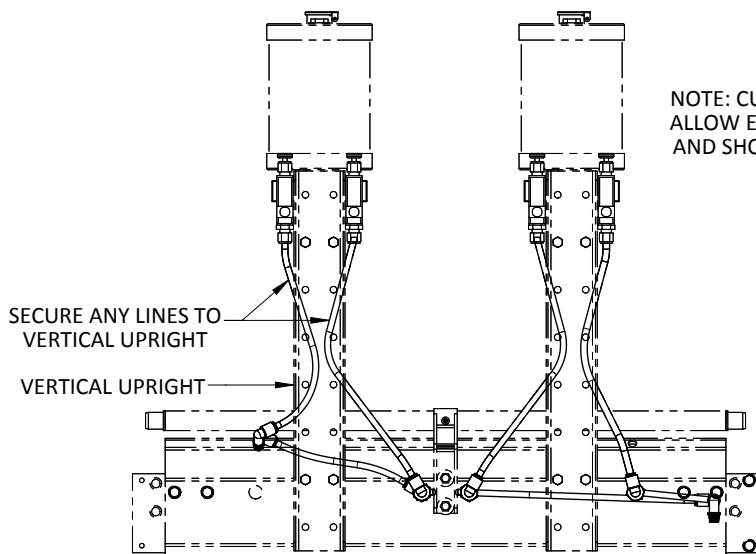
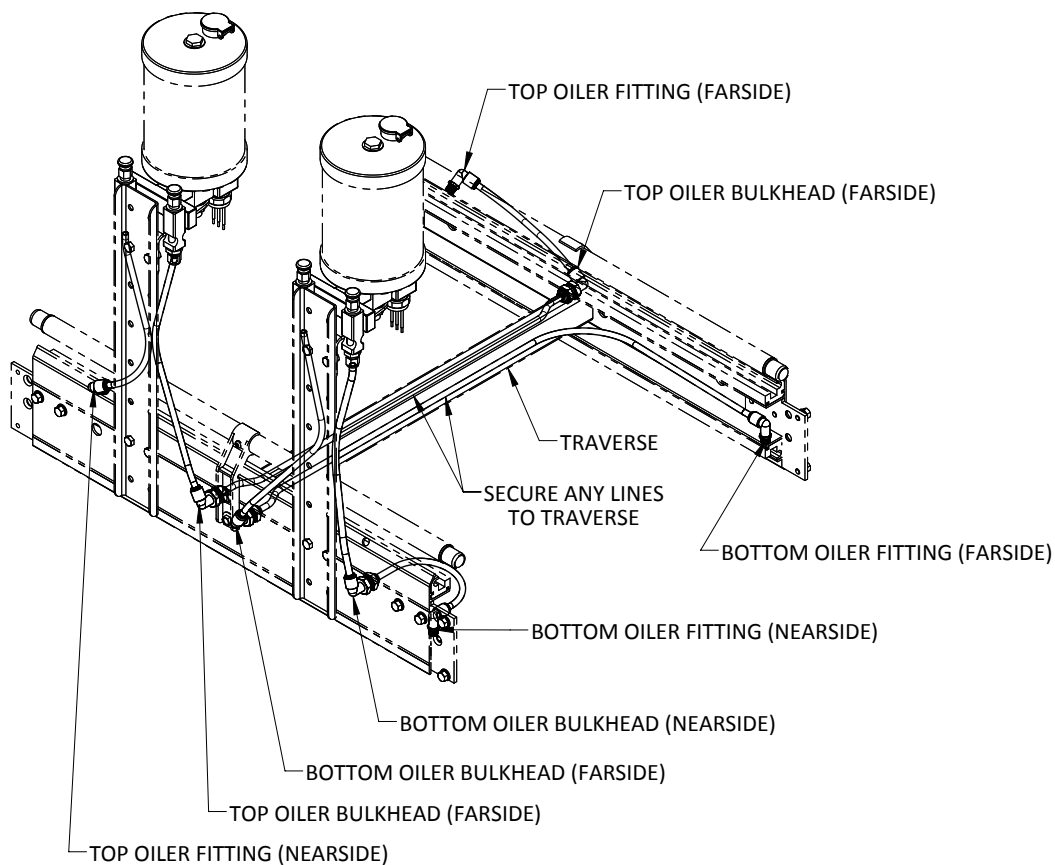
30. Top and Tandem Drip Oiler are shipped from the factory partially assembled. The following view illustrates the assembly process for either Top or Tandem assemblies.



Routing Supply Lines

31. Once assembled, cut and route the required supply lines for either Top or Tandem oiling.

Cuts should be as clean and straight as possible to prevent leaks. Secure tubing as needed.



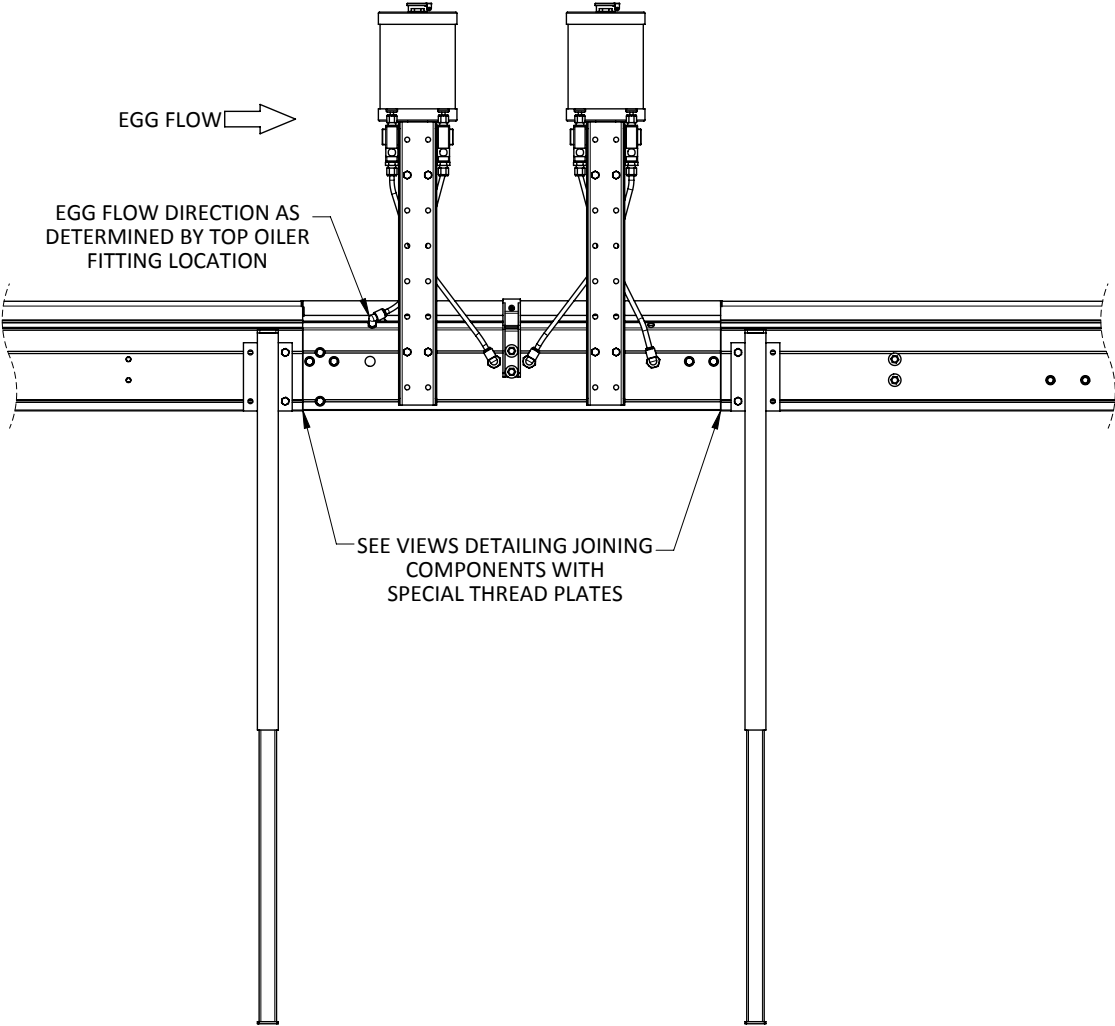
NOTE: CUT LENGTHS OF TUBING SHOULD ALLOW ENOUGH SLACK TO SECURE LINES AND SHOULD PREVENT KINKS OR STRESS ON THE FITTINGS

Section 3

Correct Orientation for Installation

32. Top and Tandem Drip Oilers are directional component and must be installed accordingly.

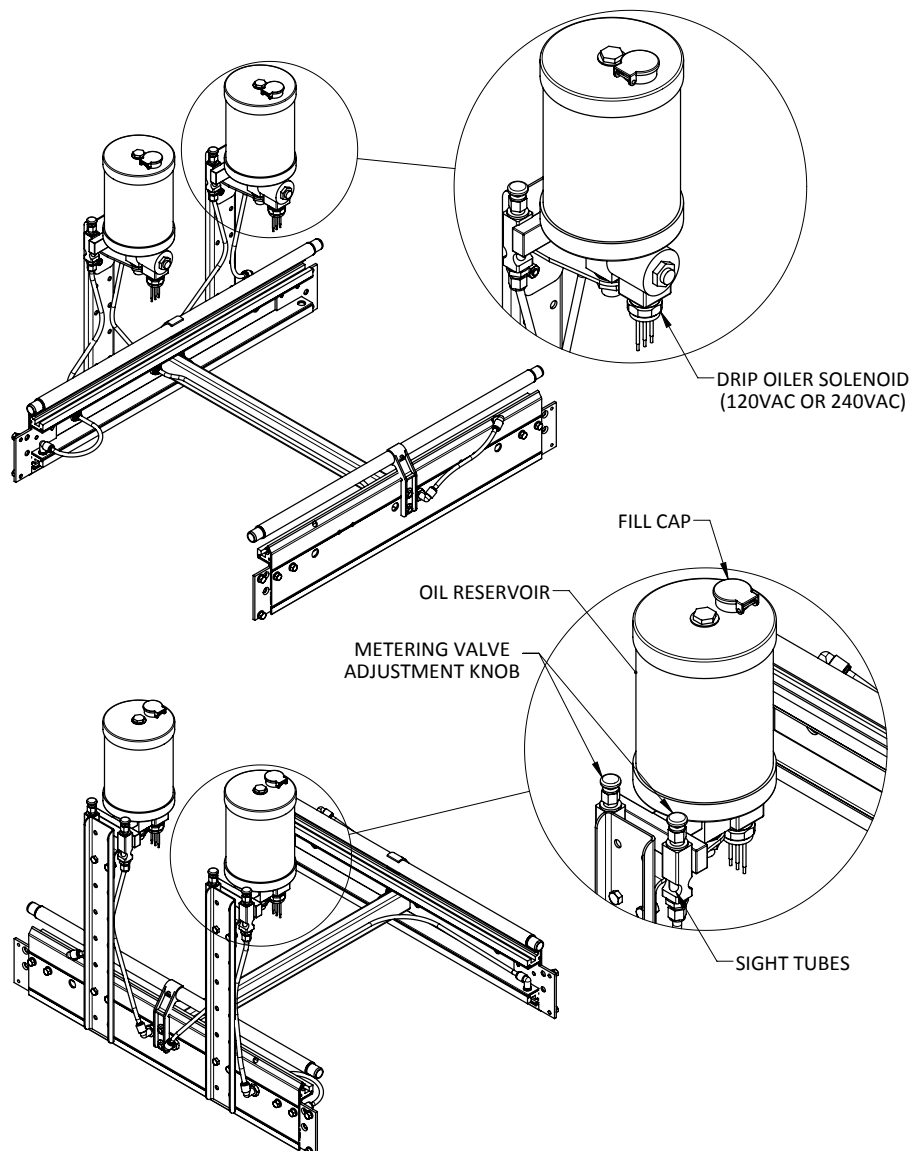
The following view illustrates the installation of Top or Tandem Oilers in the correct direction.



Drip Oiler Wiring and Adjustment

33. To perform correctly, any Drip Oiler Solenoid must be wired into the start/stop circuit of the conveyor. This will prevent the continued gravity feed of lubricant onto the conveyor when motion stops and allow flow to the conveyor when motion begins again.
34. Using the Metering Valve Adjustment Knobs, set the flow for adequate chain lubrication (see Break-in section for initial flow rates). Oil flow should be set to apply adequate lubrication to allow the chain to move smoothly without surging, but not overflow the conveyor and run to the floor or other equipment under the oiling area.

Improper electrical installation or flow adjustment may result in excessive usage or starvation of lubricant to the system leading to chain surging, increased current load on motors, or damage to chain and components in the system.



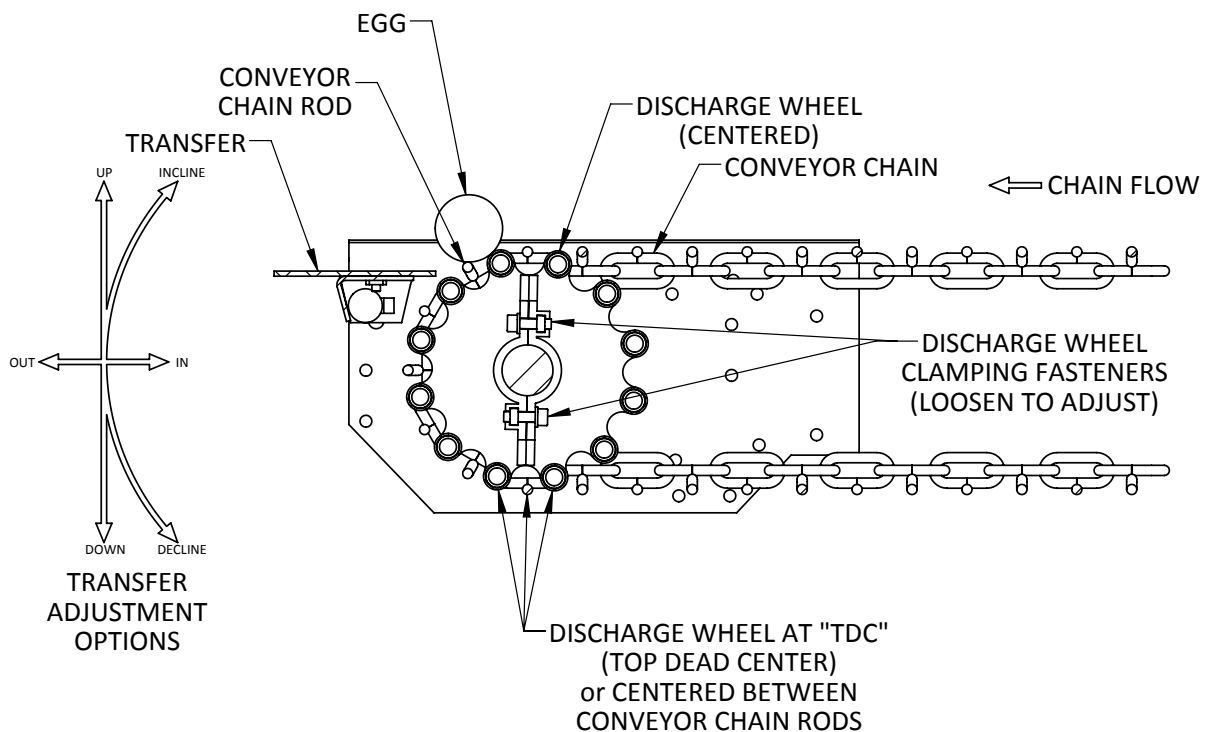
Section 3

Initial Setting of Discharge Wheels and Transfers

35. Once chain installation is complete and all chain sections have been joined, Discharge Wheels should be set at Top Dead Center (TDC) relative to the Drive Sprockets.

The following view illustrates the positioning of the Discharge Wheel at TDC. Product (egg) is shown as reference only, the purpose of the view is to detail a safe starting location for the Discharge Wheel prior to startup.

36. Loosen the Clamping Fasteners on both ends of the Discharge Wheel and rotate around the Drive Shaft until approx. centered as shown. Tighten fasteners and repeat process as needed for all Discharge Wheels.
37. Install any Transfer previously removed. As with the Discharge Wheel, final adjustments will be made after installation is complete. Temporarily set the Transfer leaving the widest possible gap for chain clearance.

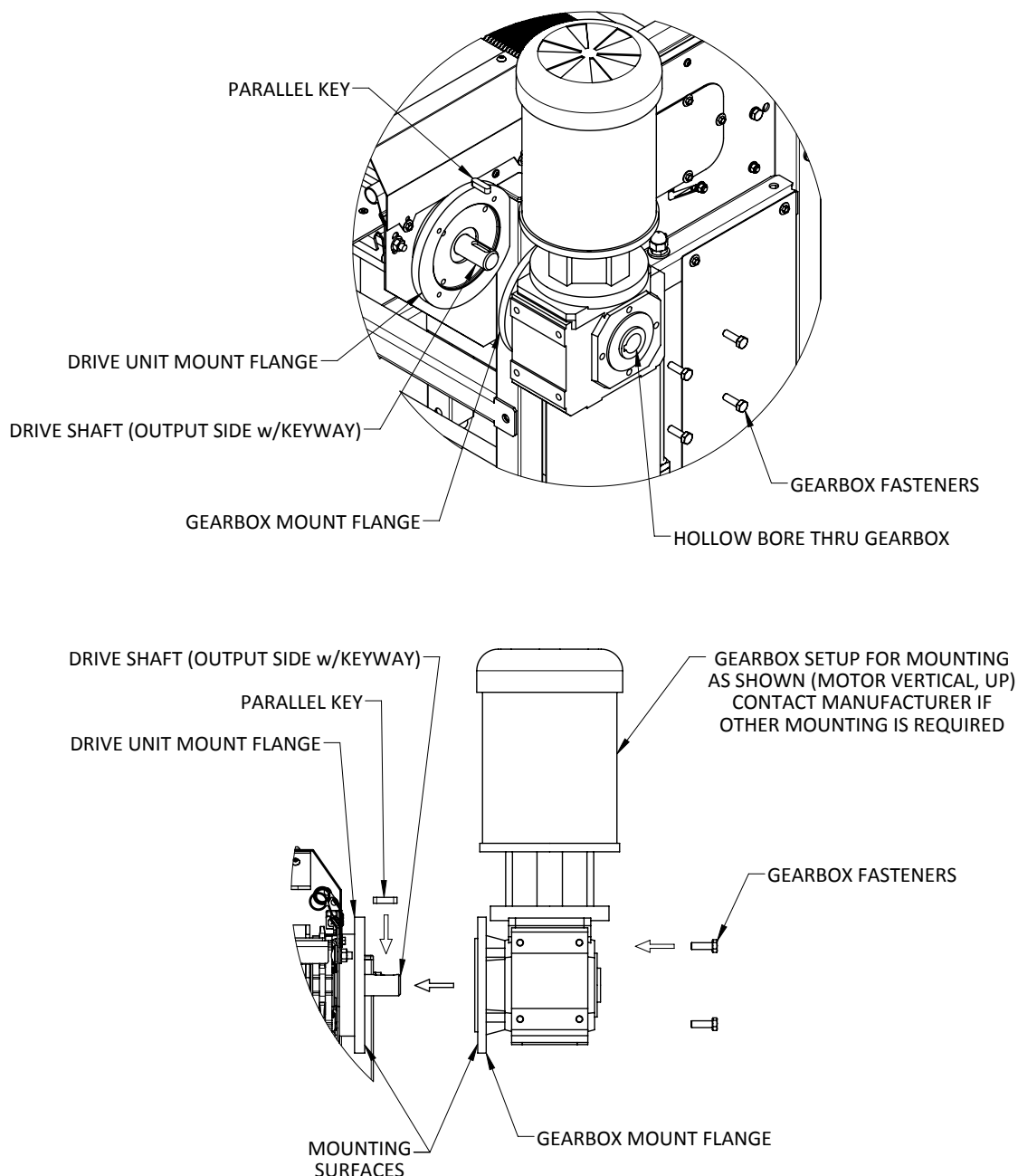


Attaching Gearboxes and Motors

38. Once chain installation is complete, attach Gearboxes and Motors to the respective components. The following view illustrates typical gearbox and motor assembly onto drive components.

Ensure the correct motor horsepower is paired with the appropriate drive units and all Parallel Keys are installed on Drive Shaft Outputs.

Note: Verify rotation of motors before installing onto conveyor. Failure to do so will result in damage to chain and conveyor system.



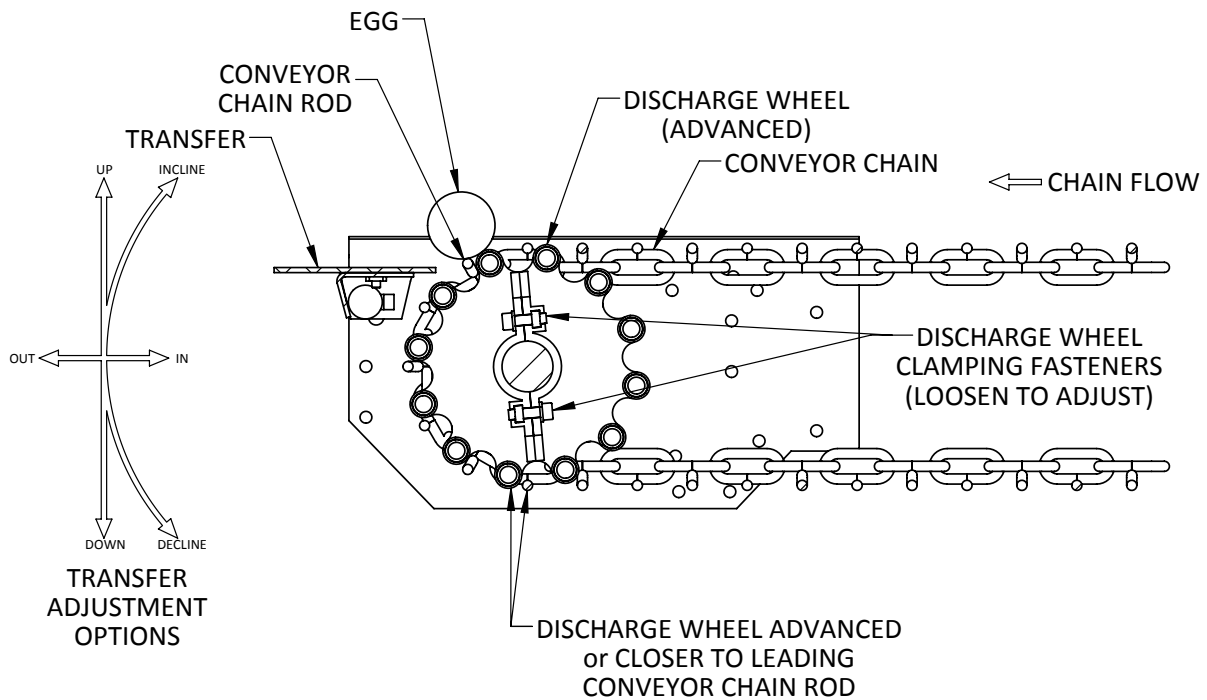
Section 3

Final Setting of Discharge Wheels and Transfers

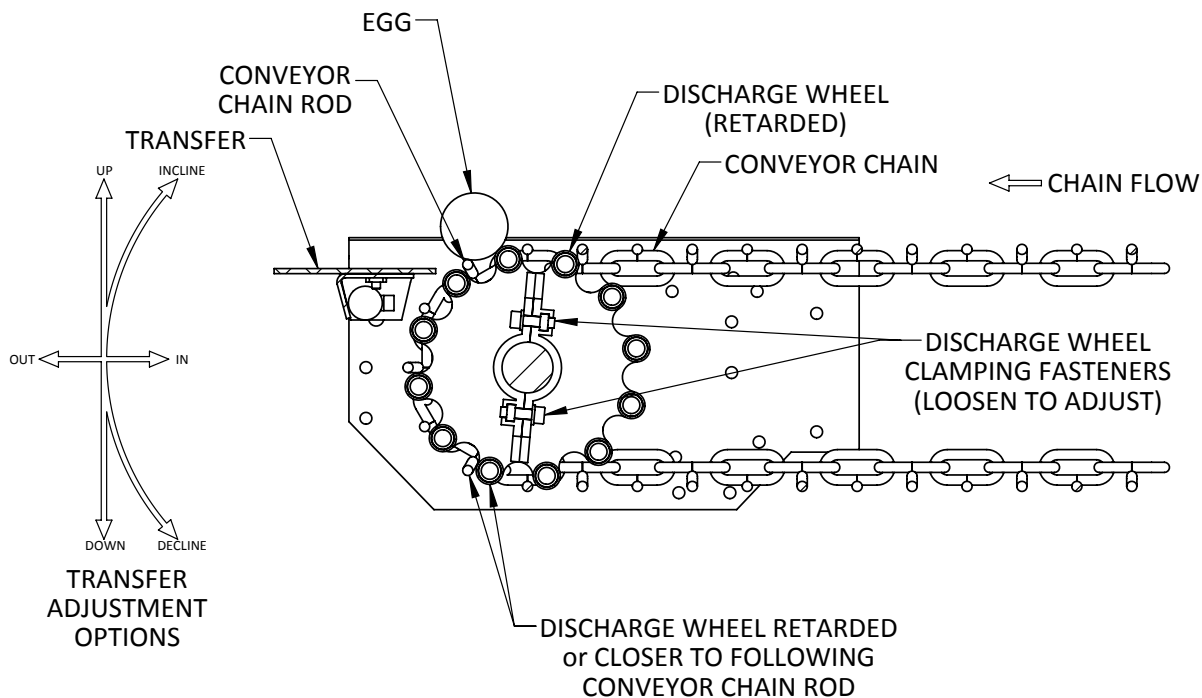
39. After the conveyor has been powered and run at least one full revolution of chain, set the final gap for Transfers and the desired Discharge.

Transfers are set to customer preference. These views demonstrate the functionality of the components not a recommendation by Lubing Systems.

40. Advancing the Discharge Wheel as shown causes the egg to ride higher in the cradle formed between the Discharge Wheel Tube and Conveyor Chain Rod.



41. Retarding the Discharge Wheel as shown causes the egg to ride lower in the cradle formed between the Discharge Wheel Tube and Conveyor Chain Rod.



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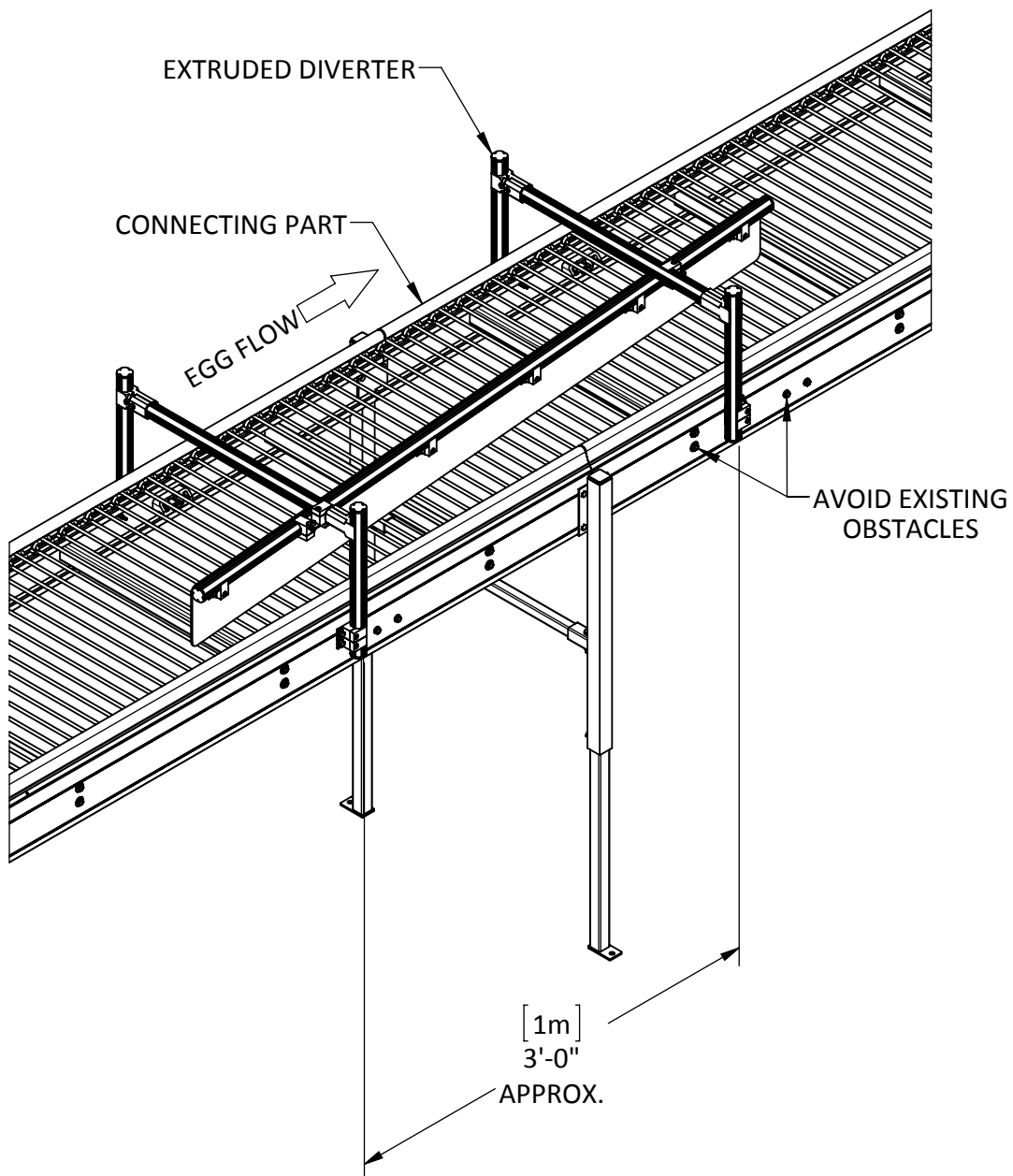
Diverting Eggs

Extruded Diverter Installation

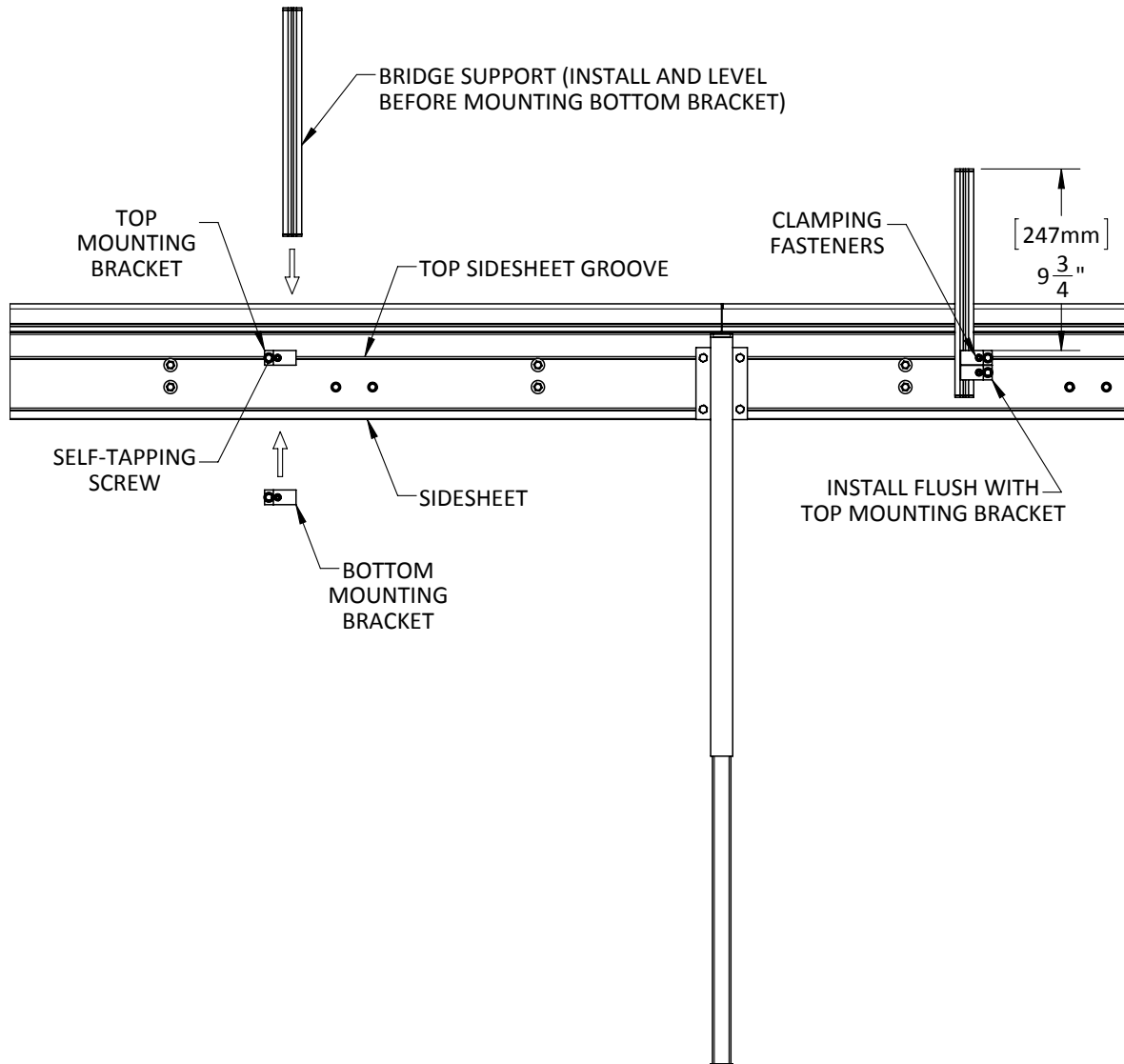
42. The following views illustrate the installation of the Extruded Diverter if needed for the system. Use the view below to determine the proper location for this component.

Diverter angles should be set at the most gradual angle possible to move eggs the given distance across the conveyor. If additional movement is required, install multiple Diverters.

Note: Never exceed 30 degrees of diverter angle.

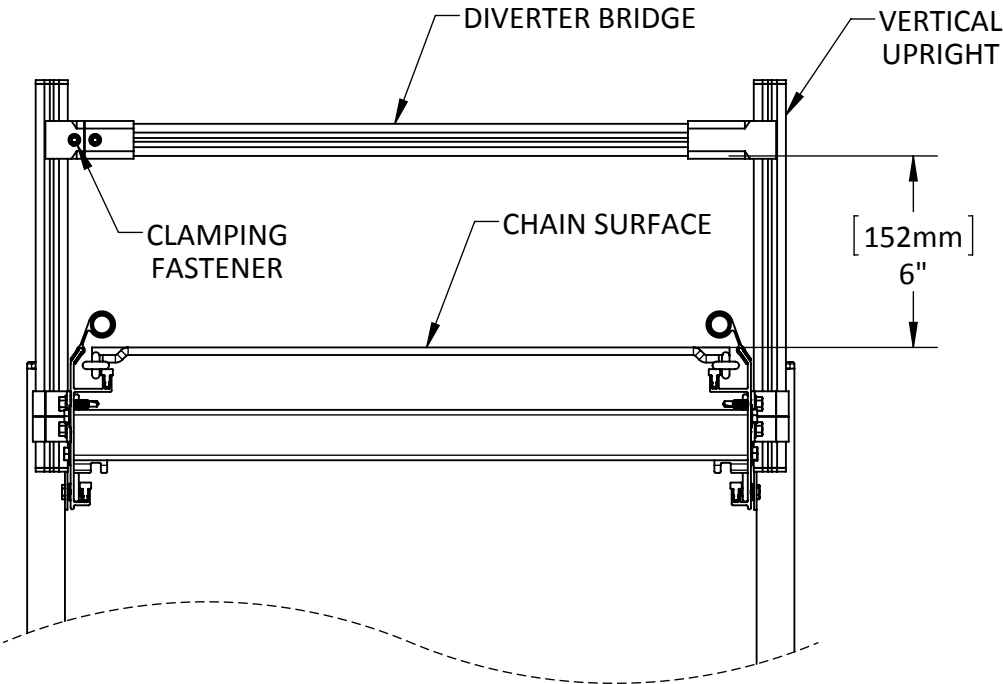


43. Mount the Top Mounting Brackets with the provided self-tapping screws on both sides of the conveyor at the specified distance apart (shown previously).
44. Install the Bridge Support to the height shown and secure with the Clamping Fasteners.
45. Level the Bridge Support and install the Bottom Mounting Brackets as shown.



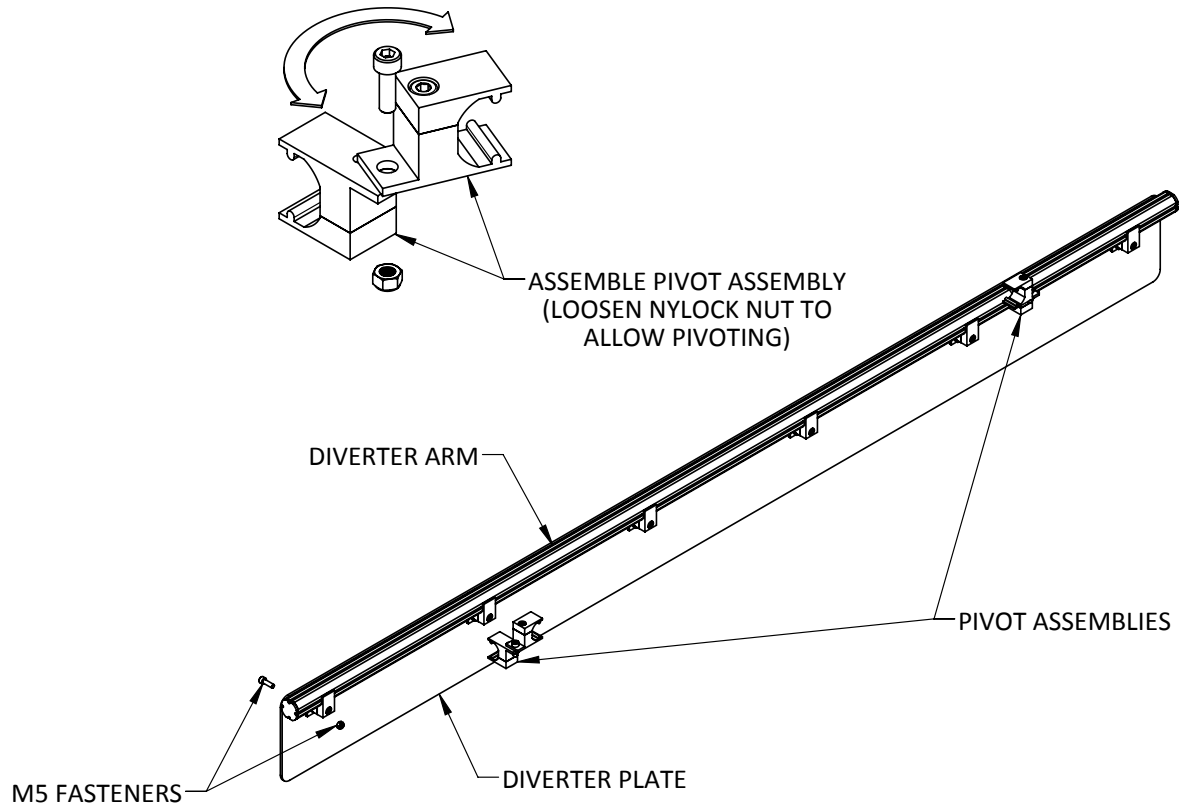
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46. Install the Diverter Bridge to the specified height and secure with the Clamping Fasteners.



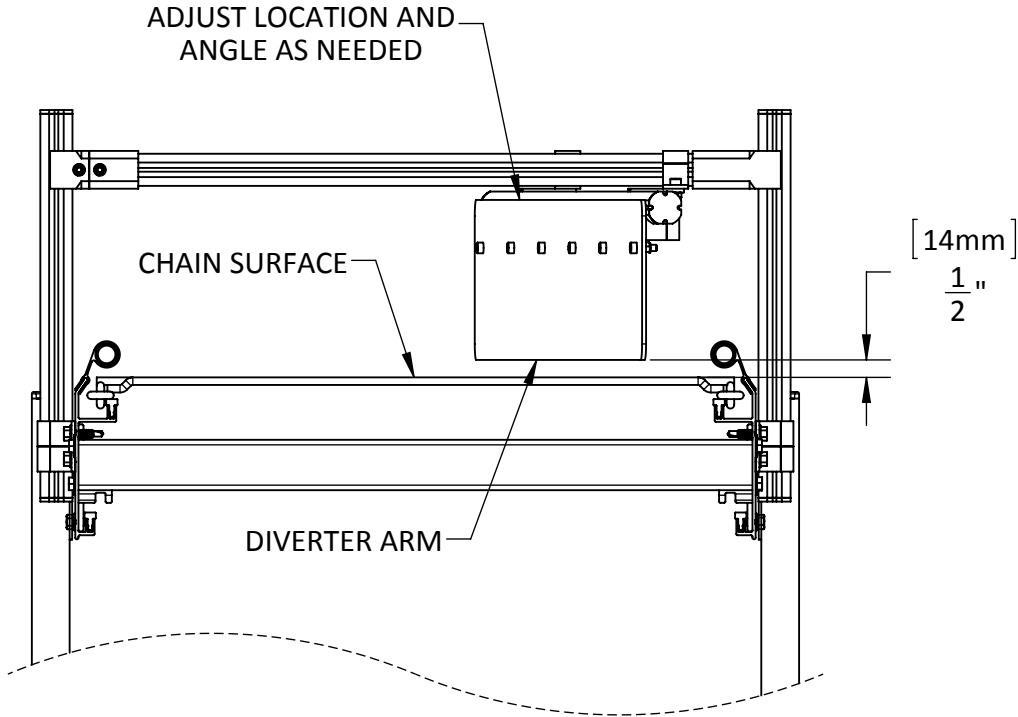
47. Assemble the Pivot Assemblies and Diverter Arm as shown.

The Pivot Assemblies must support the Diverter Arm and allow for pivoting movement.



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48. Attach the Diverter Arm to the Diverter Bridge and verify clearance as shown.

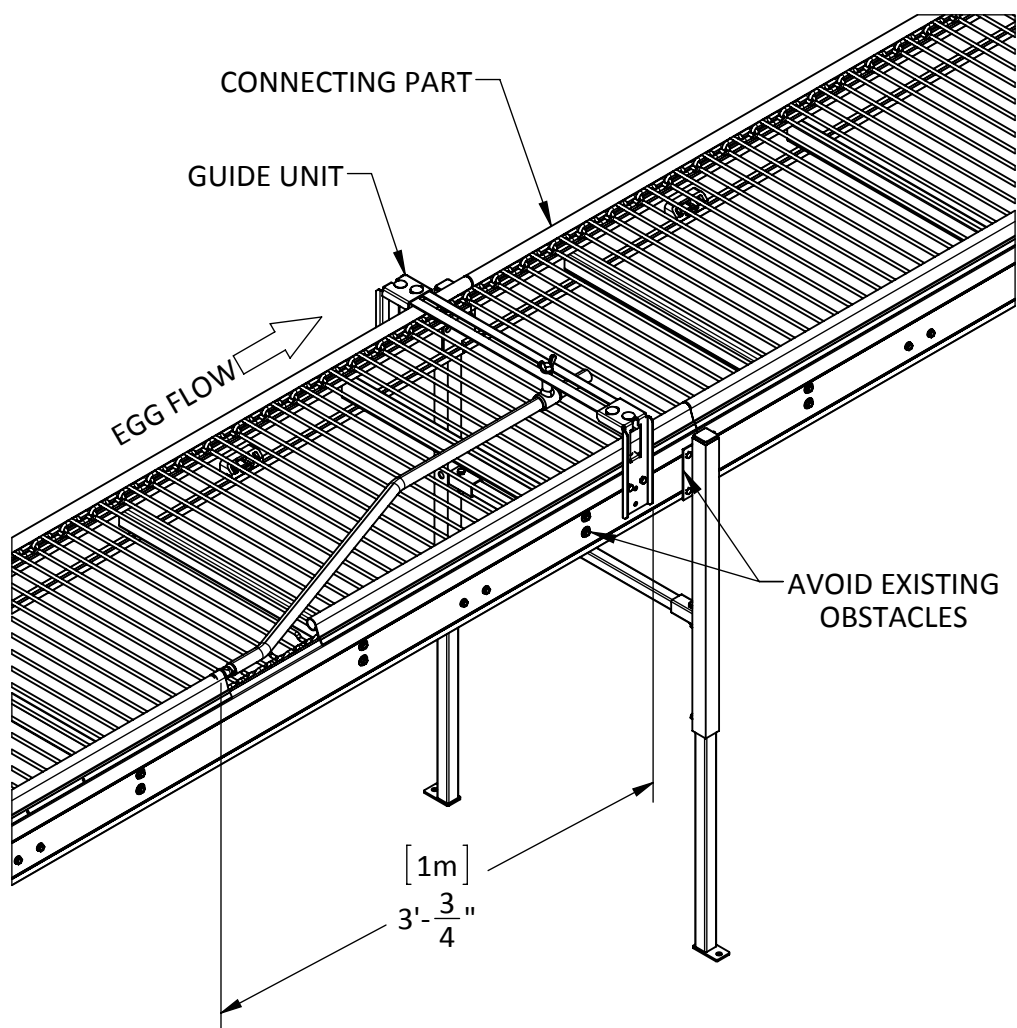


Guide Unit Installation

The following views illustrate the installation of the Guide Unit if needed for the system. Use the view below to determine the proper location for this component.

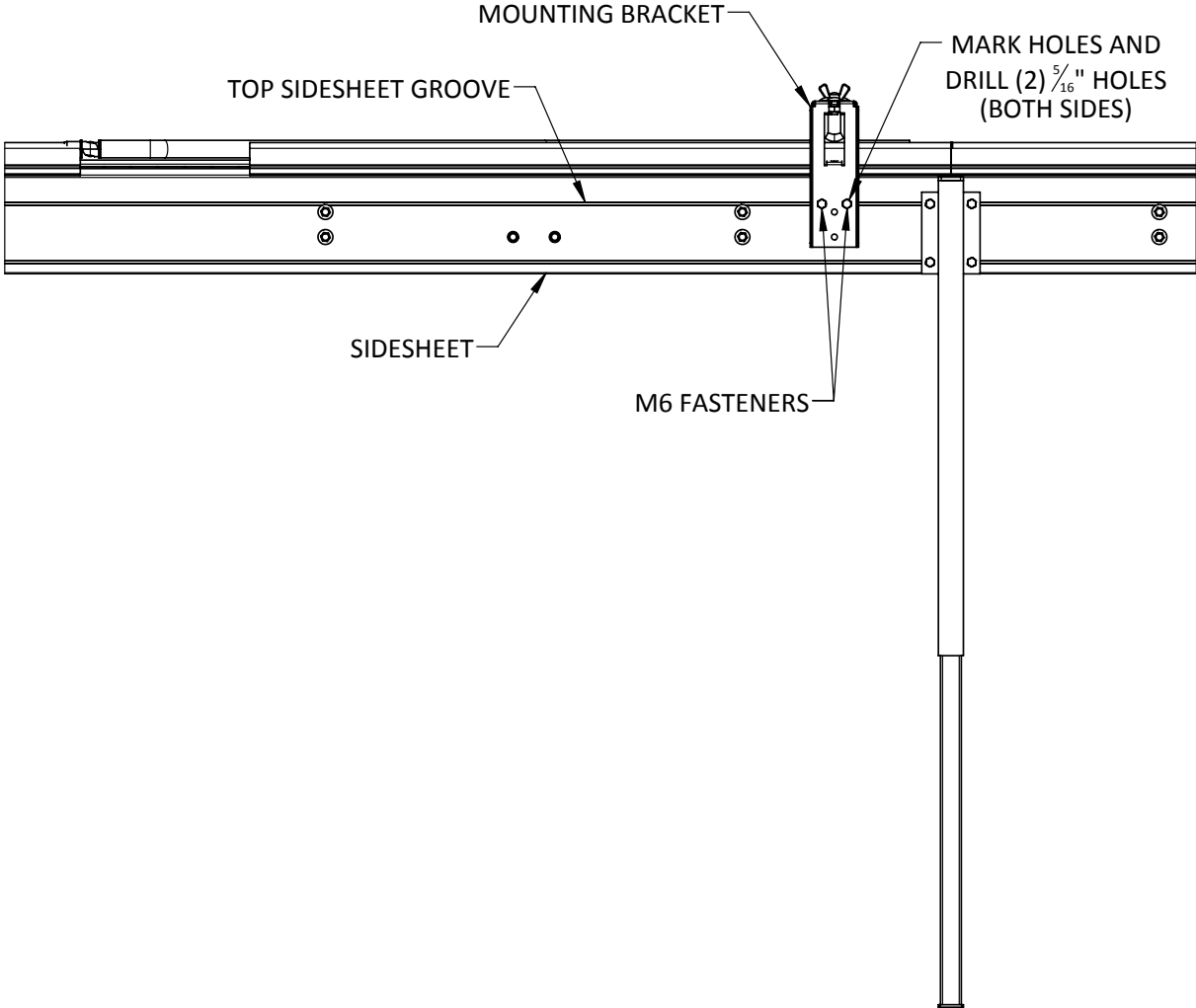
Guide Units are intended to divert the egg path at Collector locations.

Note: Never exceed 30 degrees of diverter angle.

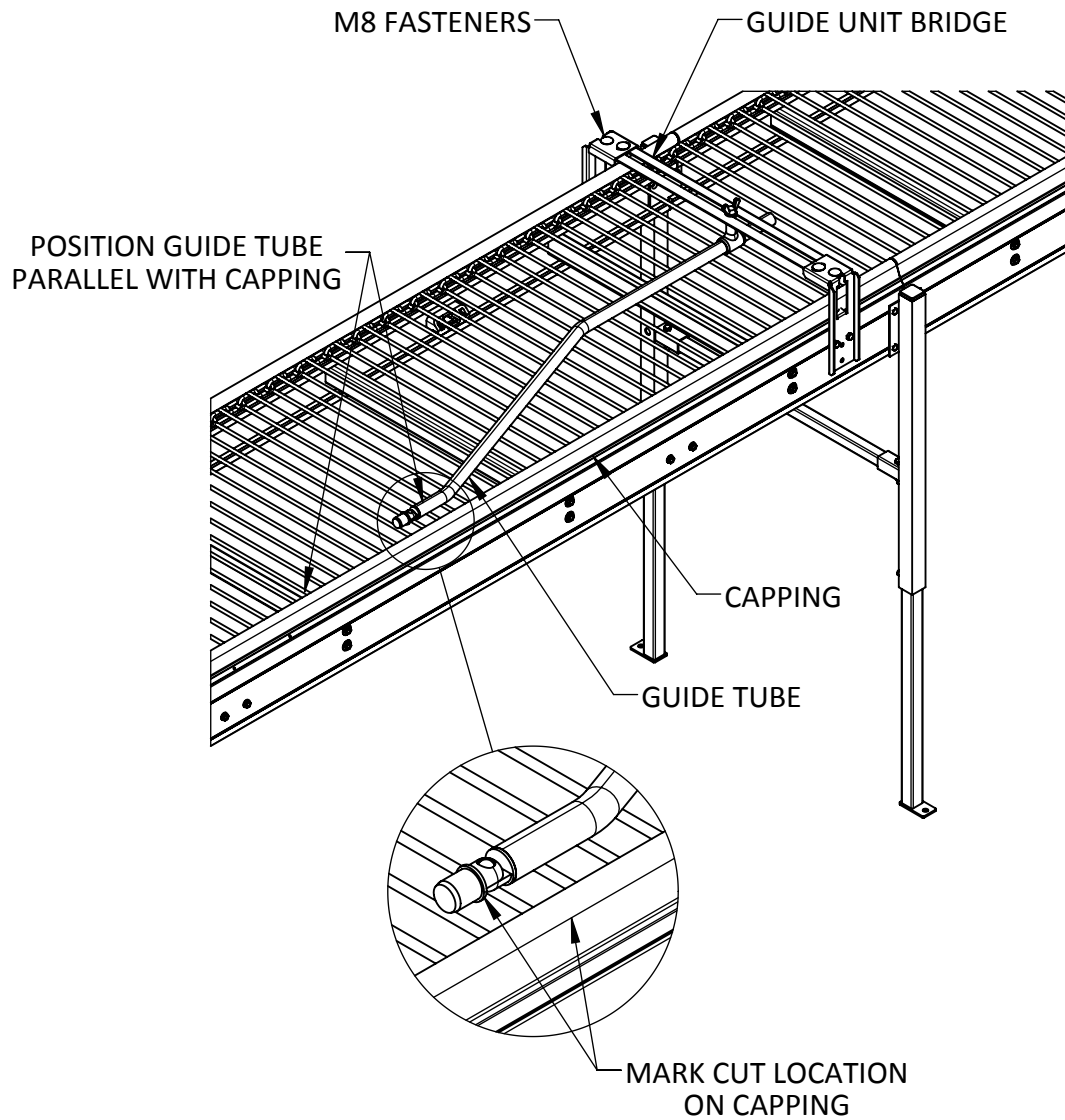


Section 3

49. Once a location is chosen, use the Top Sidesheet Groove as reference when marking and drilling the holes required for the Mounting Brackets. Install the provided fasteners and level.



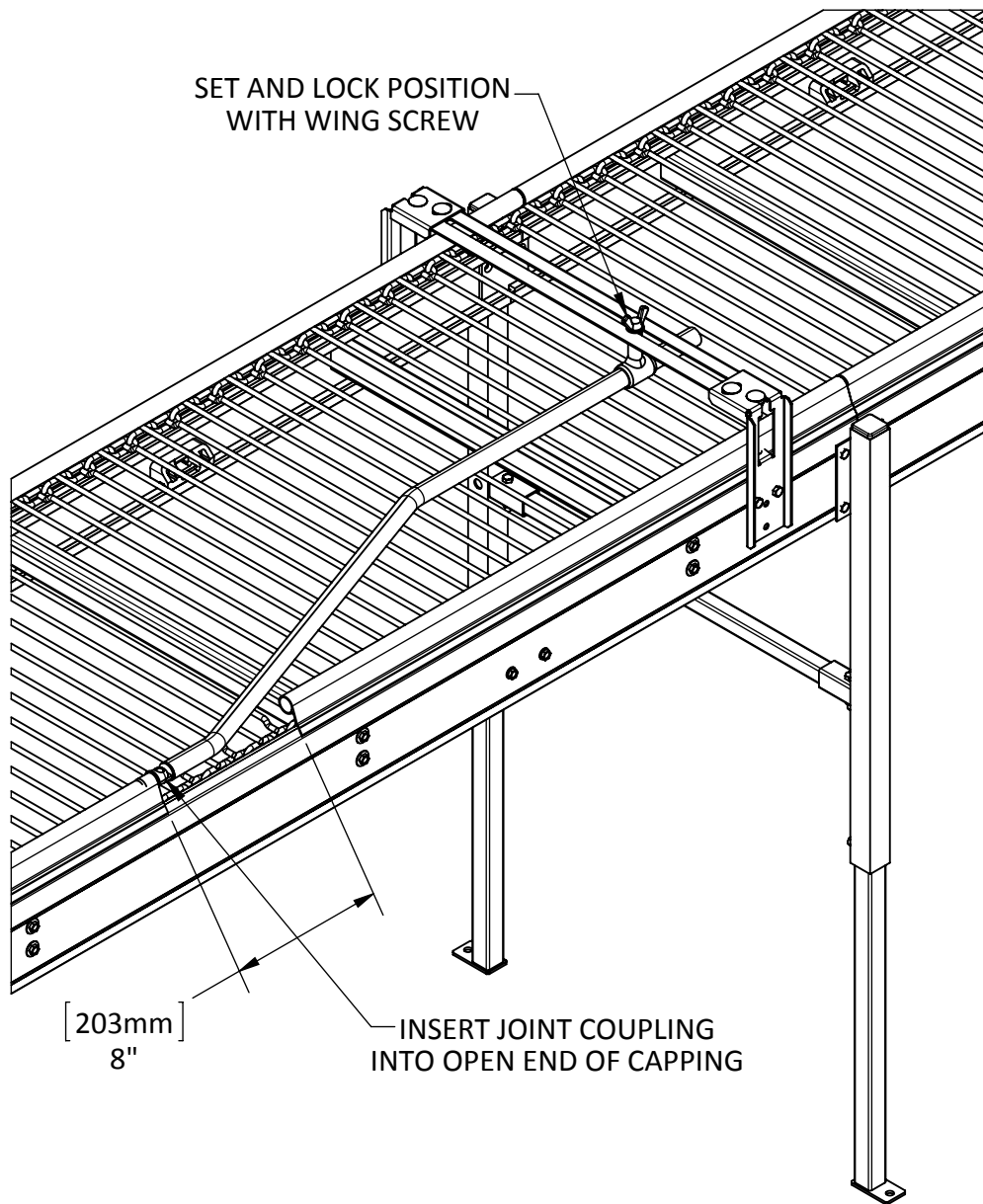
50. Attached the Guide Unit Bridge with the provided fasteners.
51. Loosely attach the Guide Tube and position parallel with the Capping along the edge of the conveyor.
52. Mark the approx. cut location on the Capping.



Section 3

53. As shown below, cut and remove a section of the Capping. Insert the Joint Coupling into the open end to create a smooth transition for the eggs onto the Guide Tube.

54. Set the desired angle (less than 30 degrees) and secure.



Final Assembly Considerations

55. Any system option(s) provided by Lubing Systems that require fastening or securing to the conveyor will be covered in the respective manuals. These manuals detail areas of attachment that will not interfere with the chain path, other moving components, or cause stresses on components that may result in damage to the system.

Note: Auxiliary components or systems not provided by Lubing Systems and intended for fastening or securing to the conveyor will be installed at the customer's own risk.

56. Electrical systems must be installed according to all state and local codes applicable to the installation site.

Note: Lubing Systems makes no claims for safety systems and their employment within each installation. It is the customer's responsibility to ensure safety systems are in place and operational.

Note: All drives within the system must start/stop together to avoid damage to the system. Verify these operations before attempting to start-up the system.