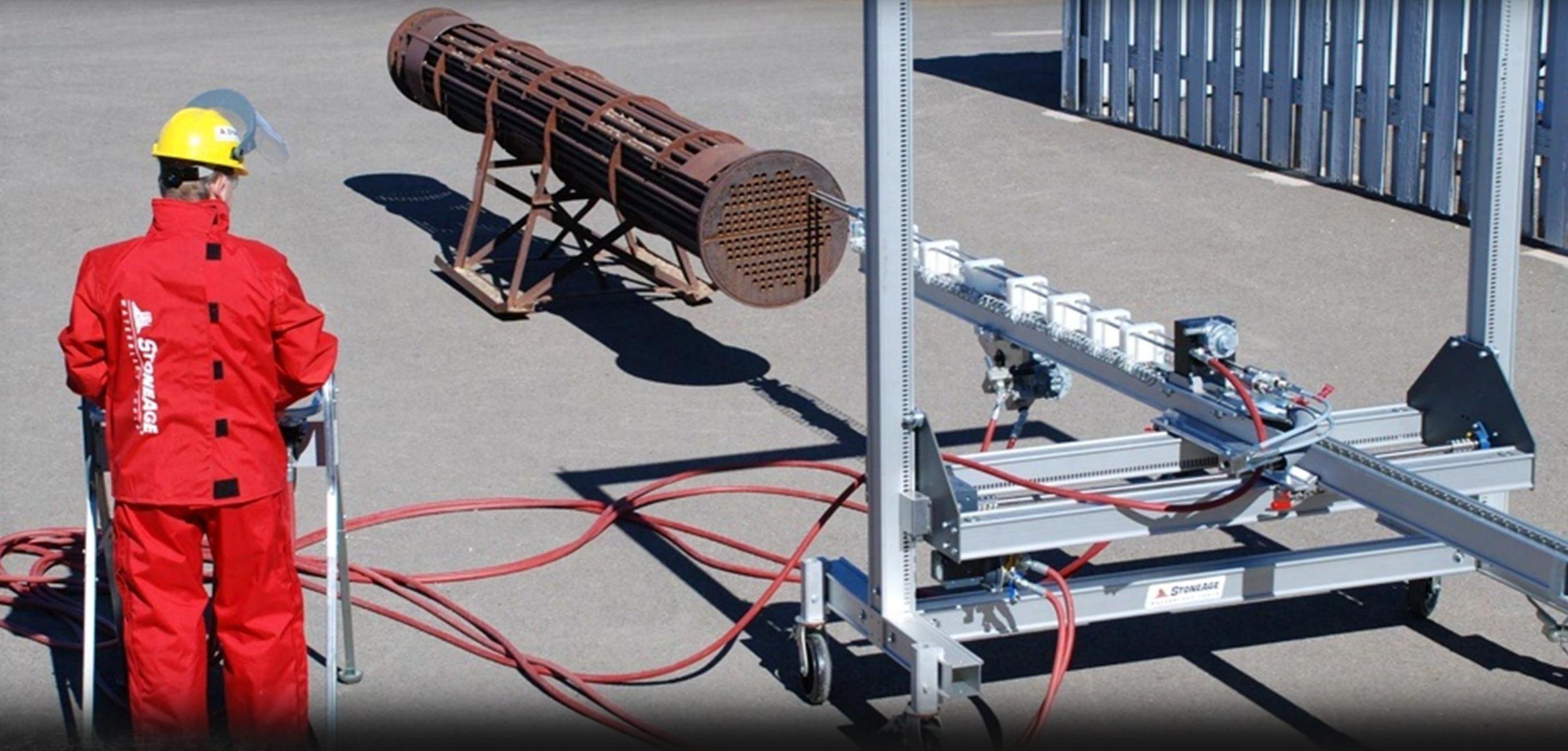


TUBE LANCING SYSTEM

Assembly Instructions



Lancing Machine Assembly Chapters

1. Getting Started - Tools & Organizing
2. Base, Wheels & Beam Rails
3. Carriage Assembly & Vertical Rails
4. Rear Support Assembly
5. Drive Rail & Drive Motor
6. Drive Rail Extension & Rear Idler
7. Guide Blocks & Lance Guides
8. Rotary Package & Swivels
9. Control Box Assembly
10. Mounting Lances & Carriage Stop
11. Operating the System



1. Getting Started

When the boxes & crate arrive they should look like this.



Tools Required

Tools needed for the assembly process.

- Tin Snips
- 3/16" Allen Wrench
- 7/8" Wrench or Adjustable Wrench
- Two 9/16" Wrenches
- Utility Knife
- Drill Driver
- Pliers
- Slotted or "Common" Screwdriver



Unpacking Boxes

Remove packaging with tin snips and drill.



Organize Contents

Organize contents by “like pieces” across the work area.



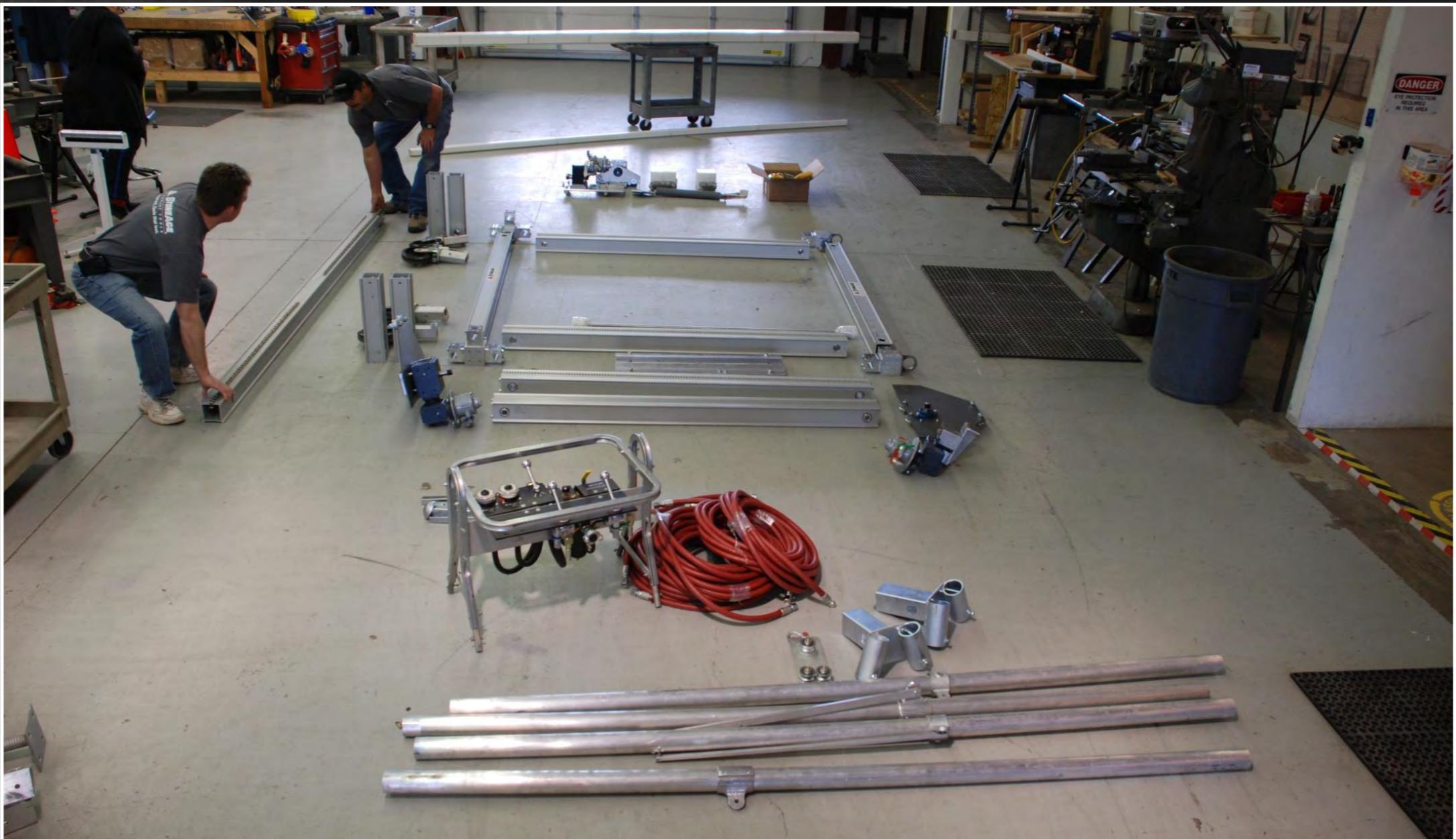
Open Crate

Open crate and remove plastic packaging.



Organize Contents

Arrange work area with all components.



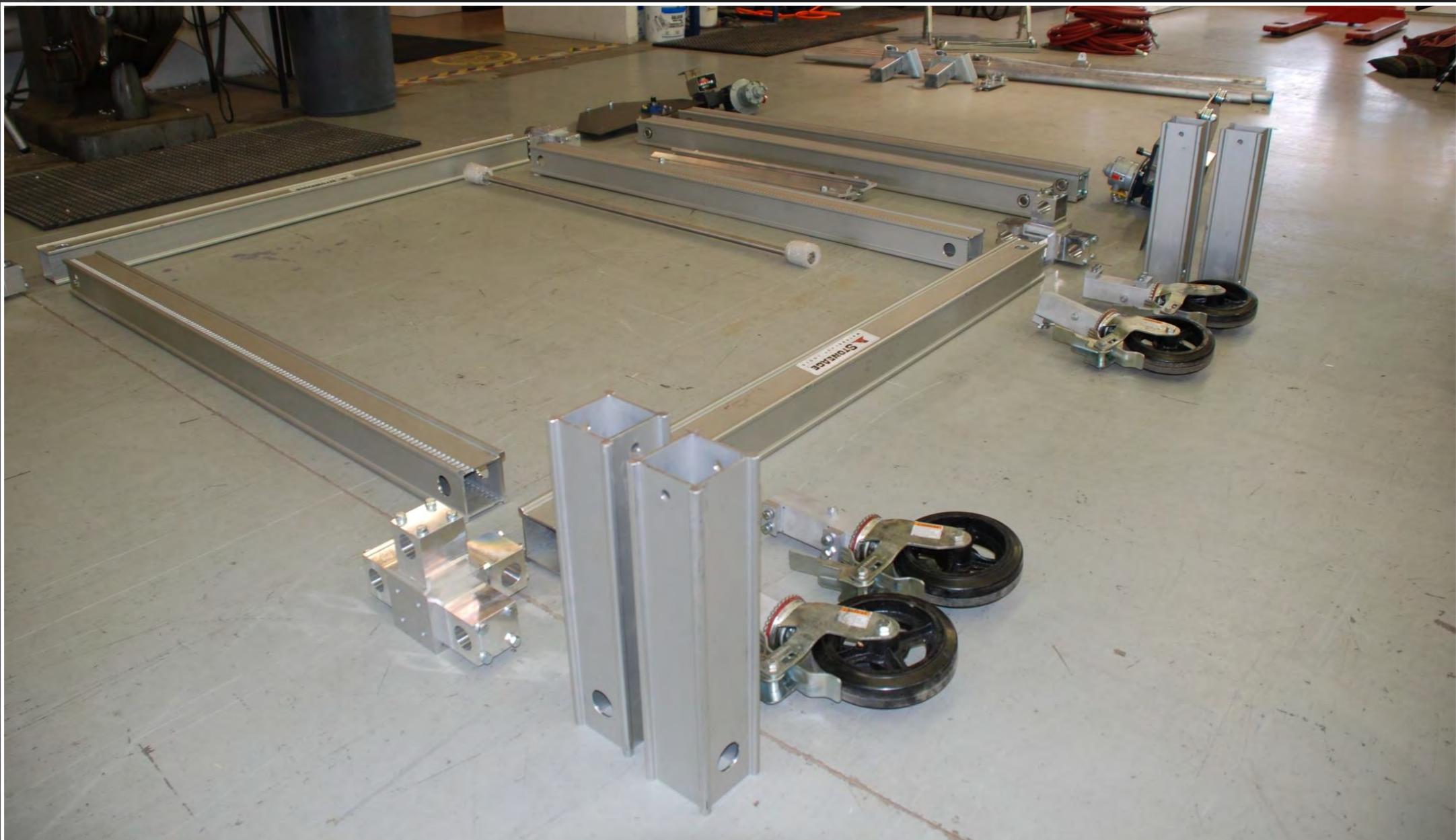
2. Base & Wheels

Completed base with wheels shown below.



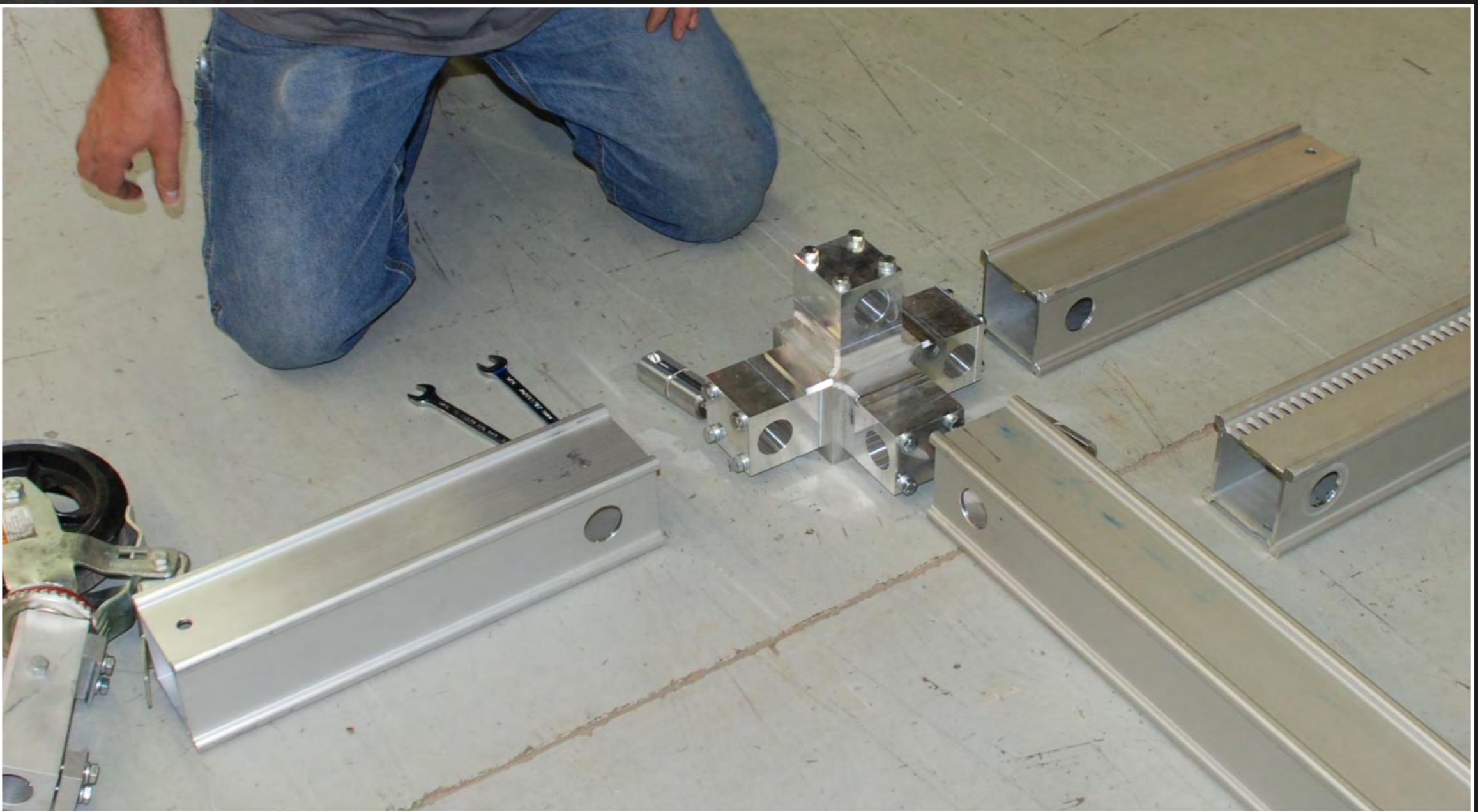
Building the Base

Organize base rails, wheels and corner blocks.



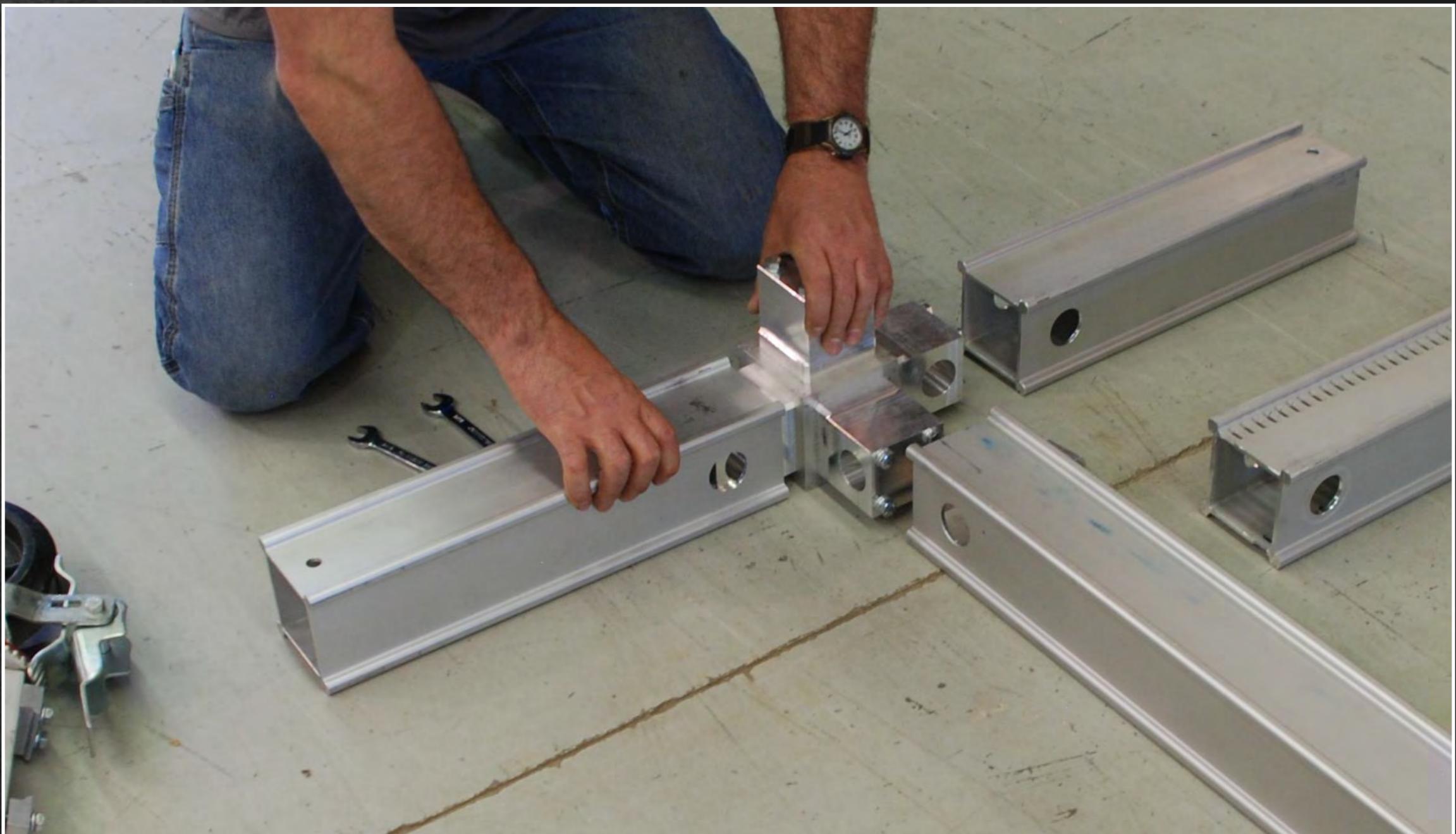
Corner Block Assembly

Prepare corner block and base rails on floor.



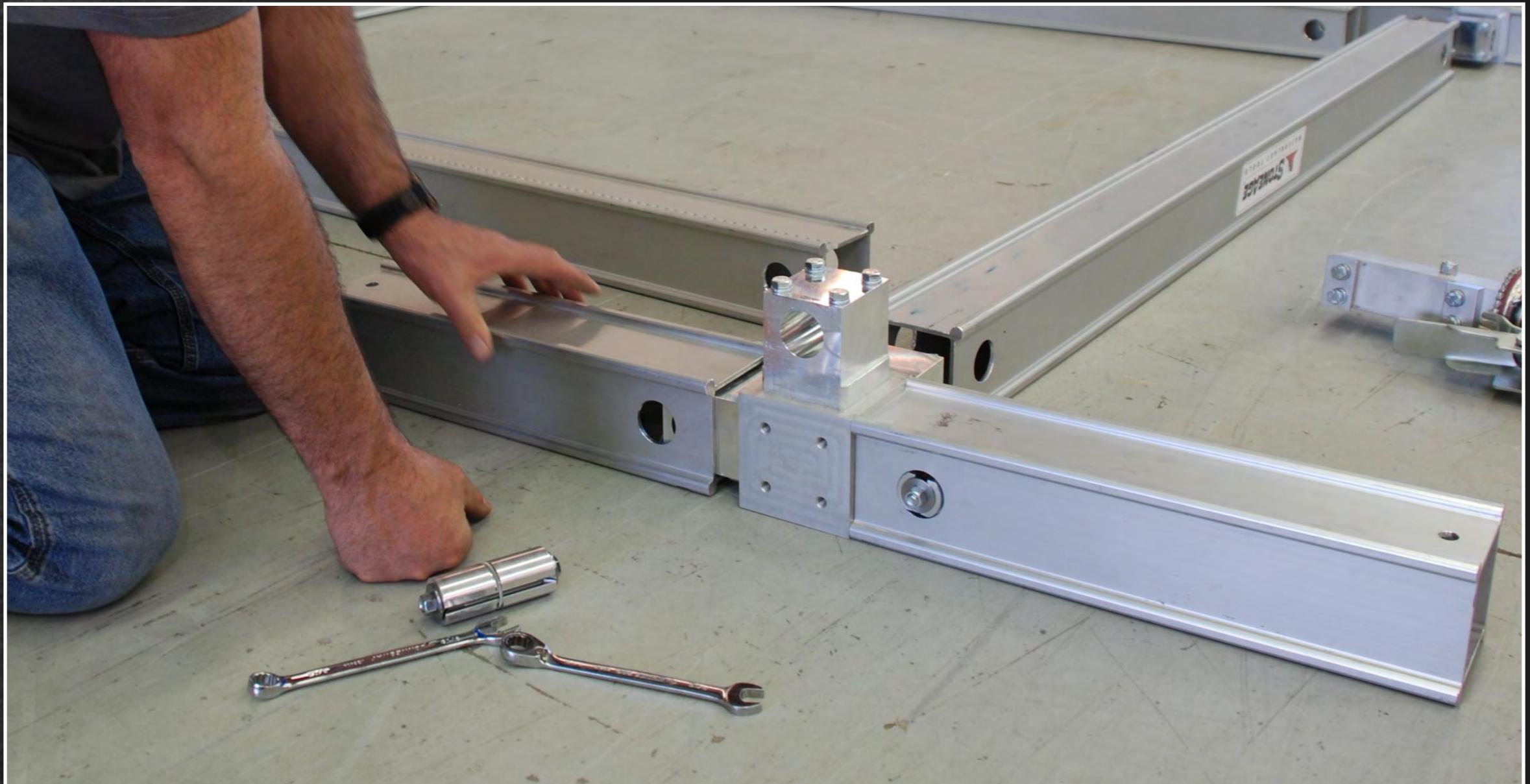
Corner Block Assembly

Slide base rail onto corner block.



Insert Next Rail

Repeat procedure with second base rail.



Insert Wedge Bolts

Note proper and improper wedge bolt assembly.

Note: The slots should be vertical as shown on the right.



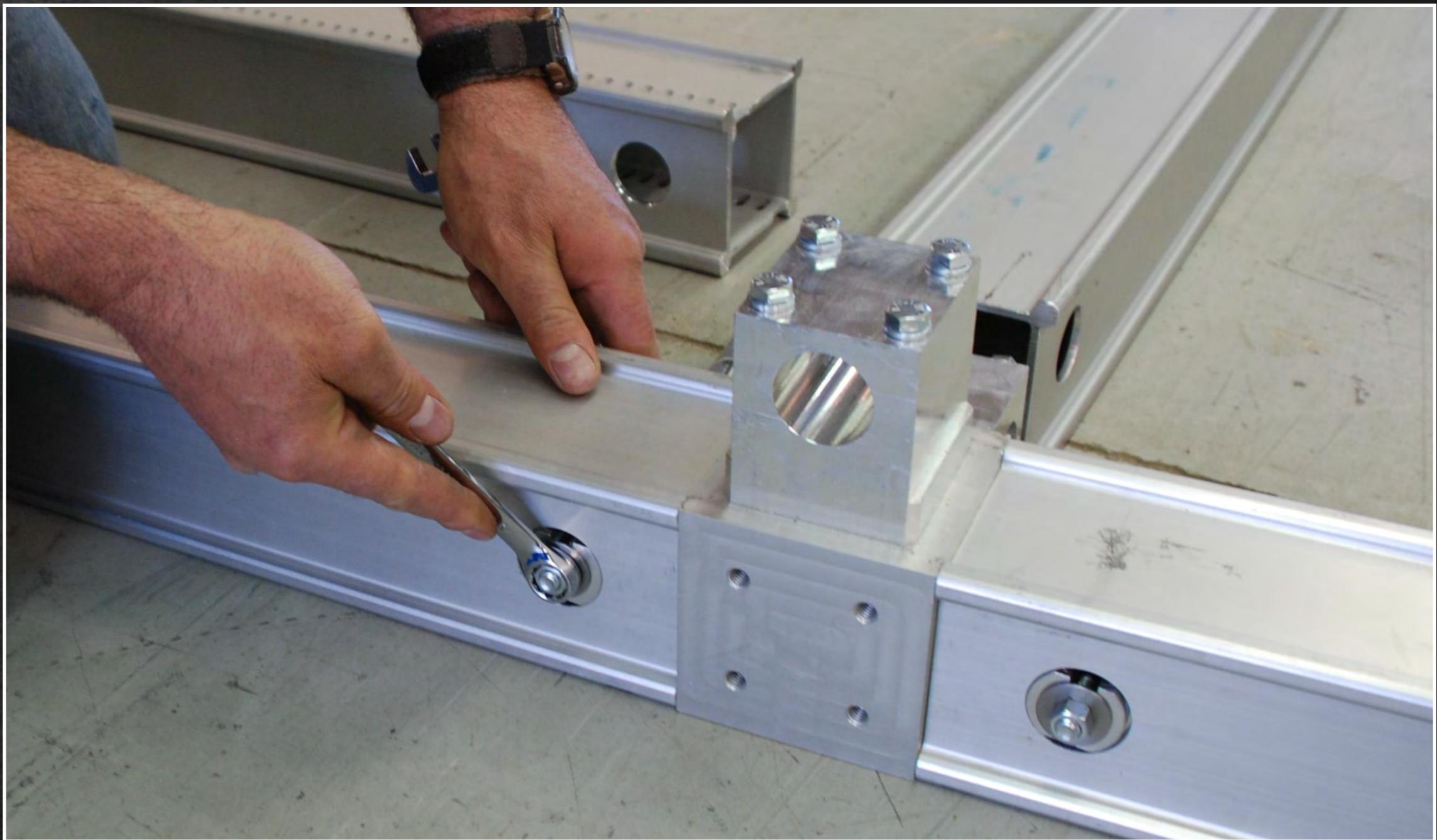
Incorrect!



Correct!

Tighten Wedge Bolts

Use two 9/16" wrenches to tighten the wedge bolts.



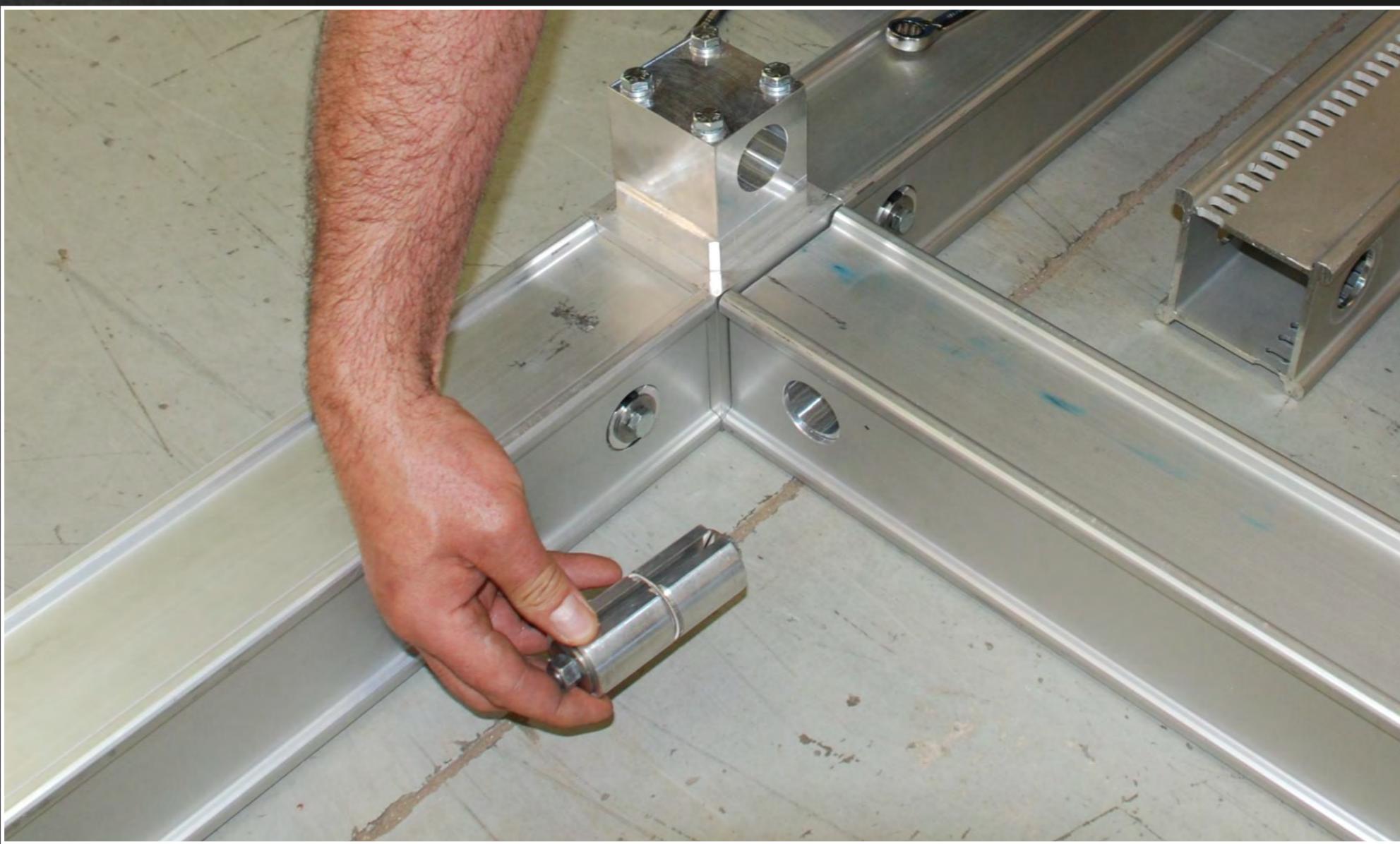
Insert Center Rail

Repeat procedure with the cross member for the base.



Next Wedge Bolt

Insert and tighten the cross member wedge bolt.



Assemble Other End

Repeat all assembly steps for the second end of the base.



Wheel Assembly

Each wheel unit slides over the ridges on the rail.



Additional Wheel Options:



Swivel Wheel Kit
LP-335-WE



Jack Stand Kit
LP-335-JE



Swivel Wheel & Jack Stand Kit
LP-335-WJE

Repeat the procedure for all four wheels.

Tighten Wheel Bolts

Two bolts are on top and bottom of each wheel unit.



3. Carriage Assembly

Completed carriage assembly on wheel base shown below.

1. Carriage on Beam Rails
2. Adding the End Plates
3. Installing Cross Shaft
4. Ruland Collars



Note: Carriage assembly at our factory is optional.

If your carriage came pre-assembled skip ahead to Chapter 4.

Carriage Plate Assembly

Place the two beam rails to receive the carriage plate.



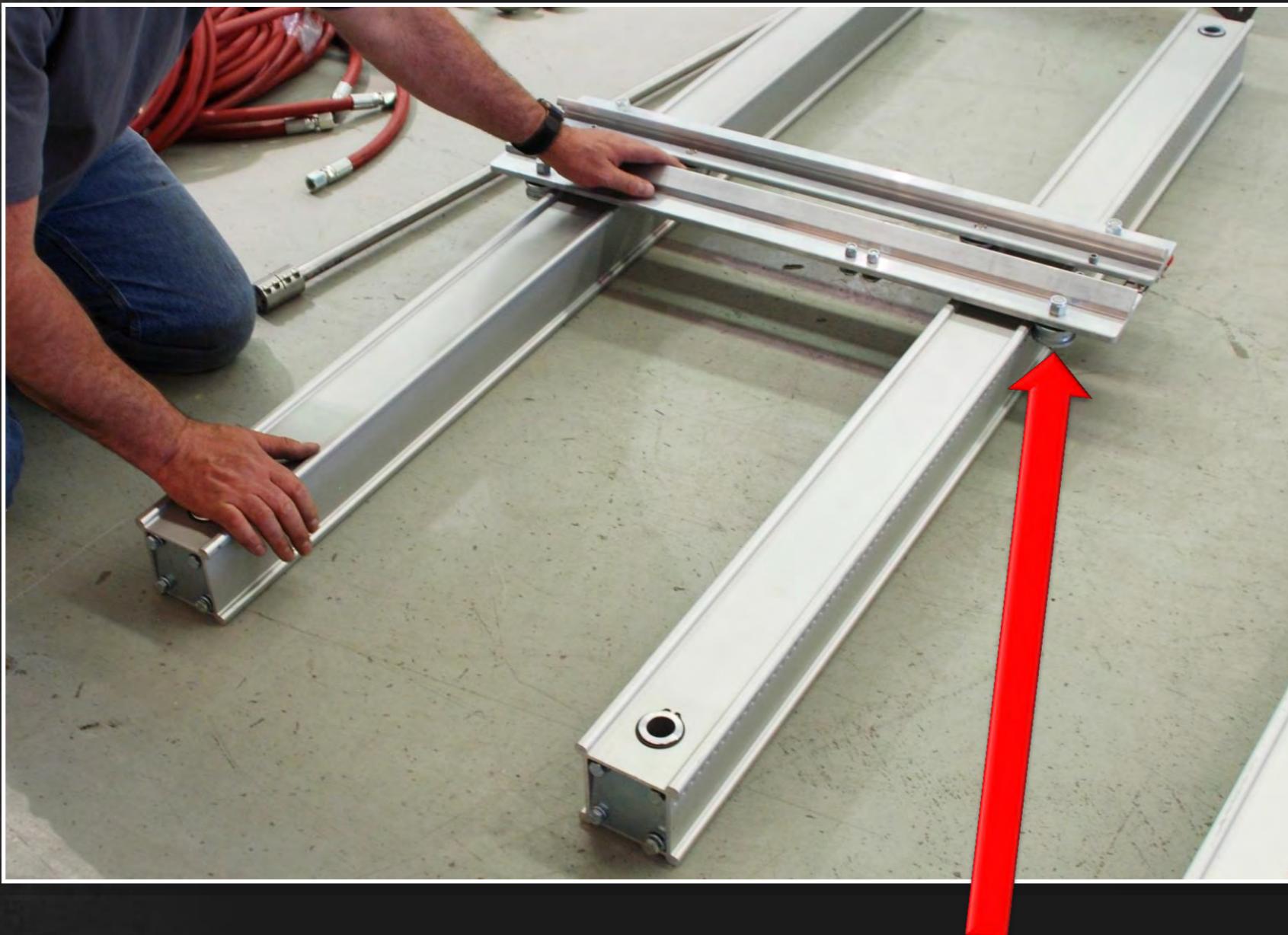
Carriage Plate Assembly

Use the rollers to slide the plate on to the rails.



Carriage Plate Assembly

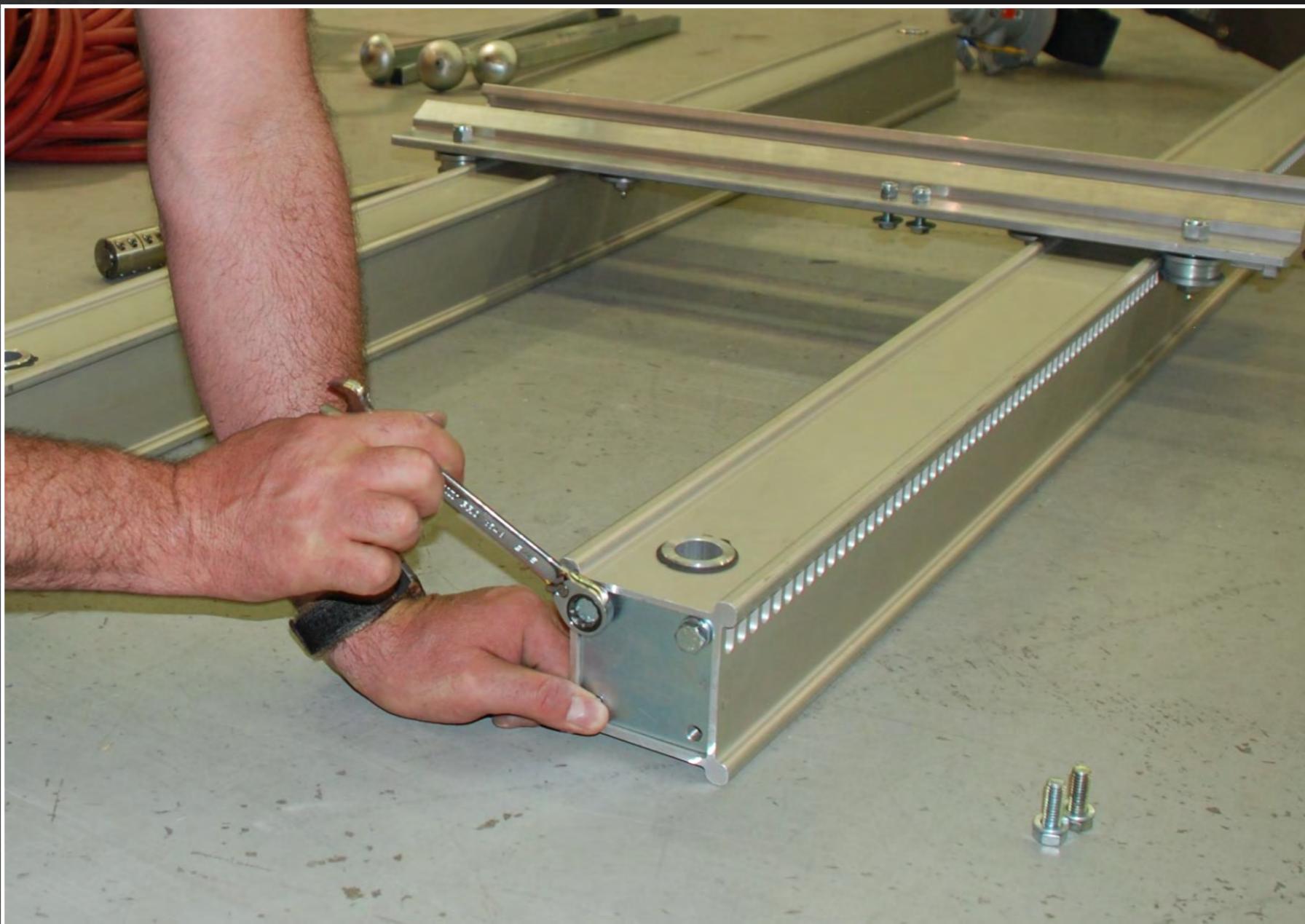
Slide the carriage plate to the center of the rails.



Note: The carriage plate rollers fit on the outside of each beam.

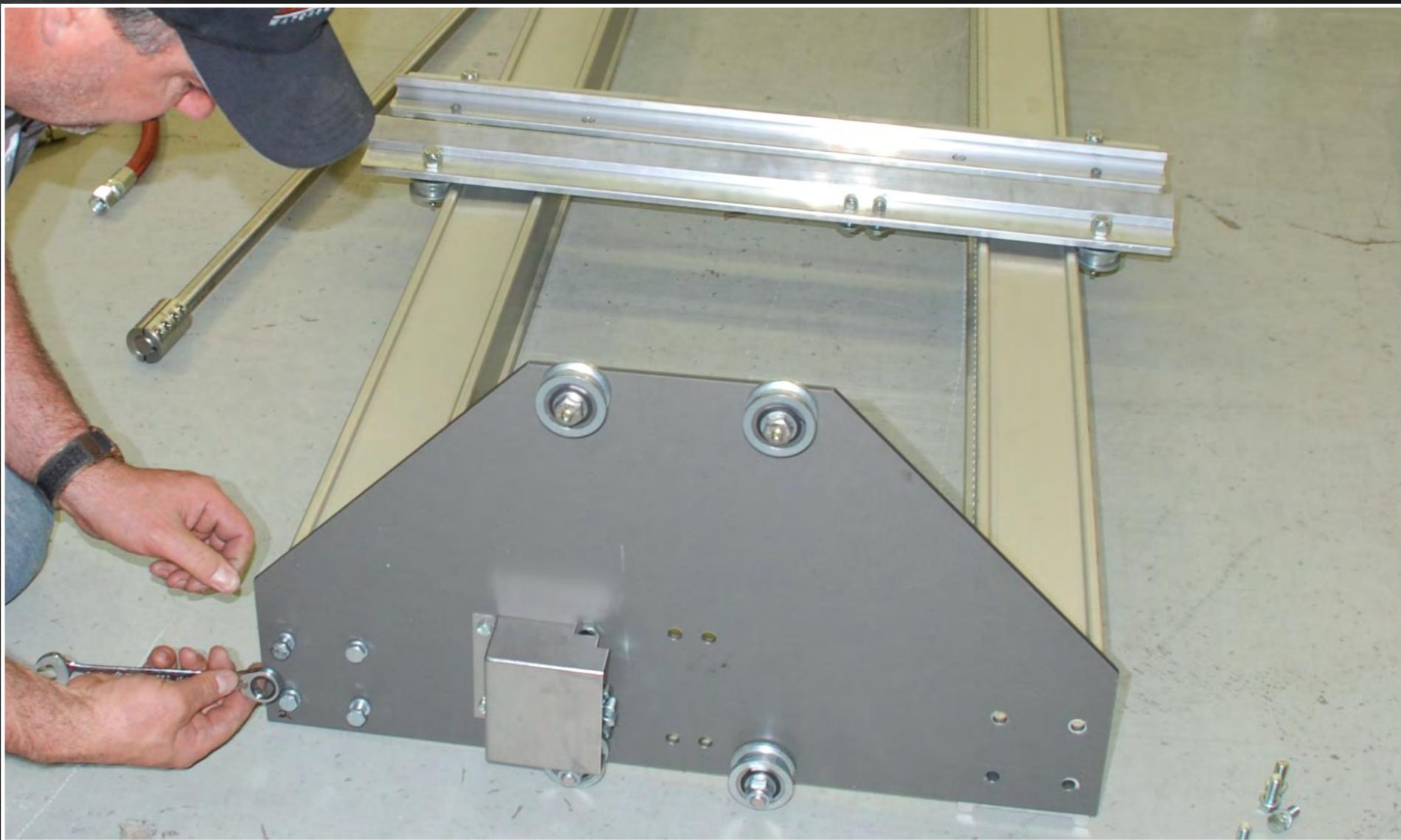
End Plate Preparation

Remove the 4 bolts at the end of each rail.



End Plates On

Position first end plate to receive the 8 bolts.



Note: Hand-tighten bolts to the lock washers only for now.

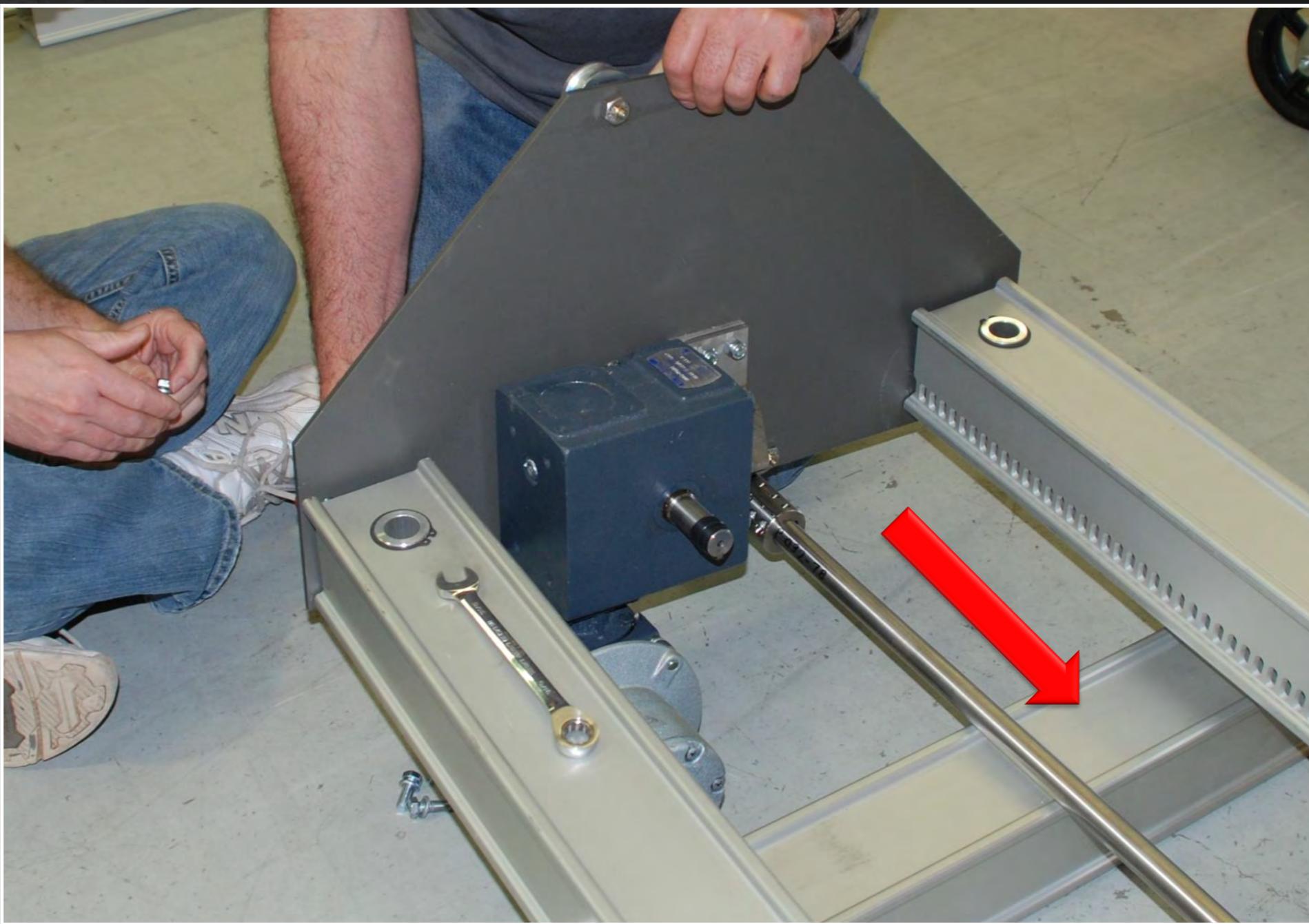
End Plates On

The stub shaft should face the inside of the assembly.



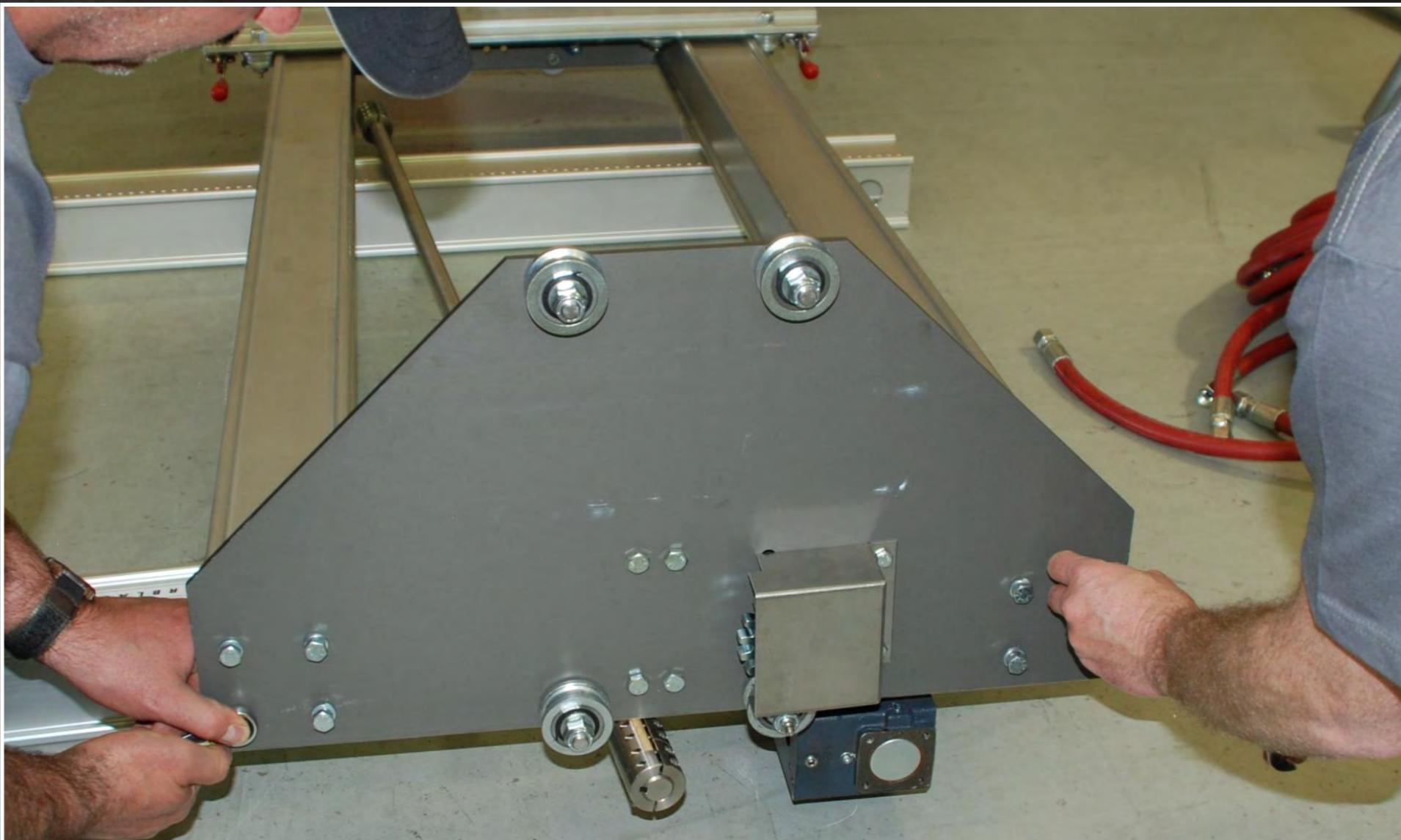
Second End Plate

Place extra beams underneath assembly to lift off floor.



Second End Plate

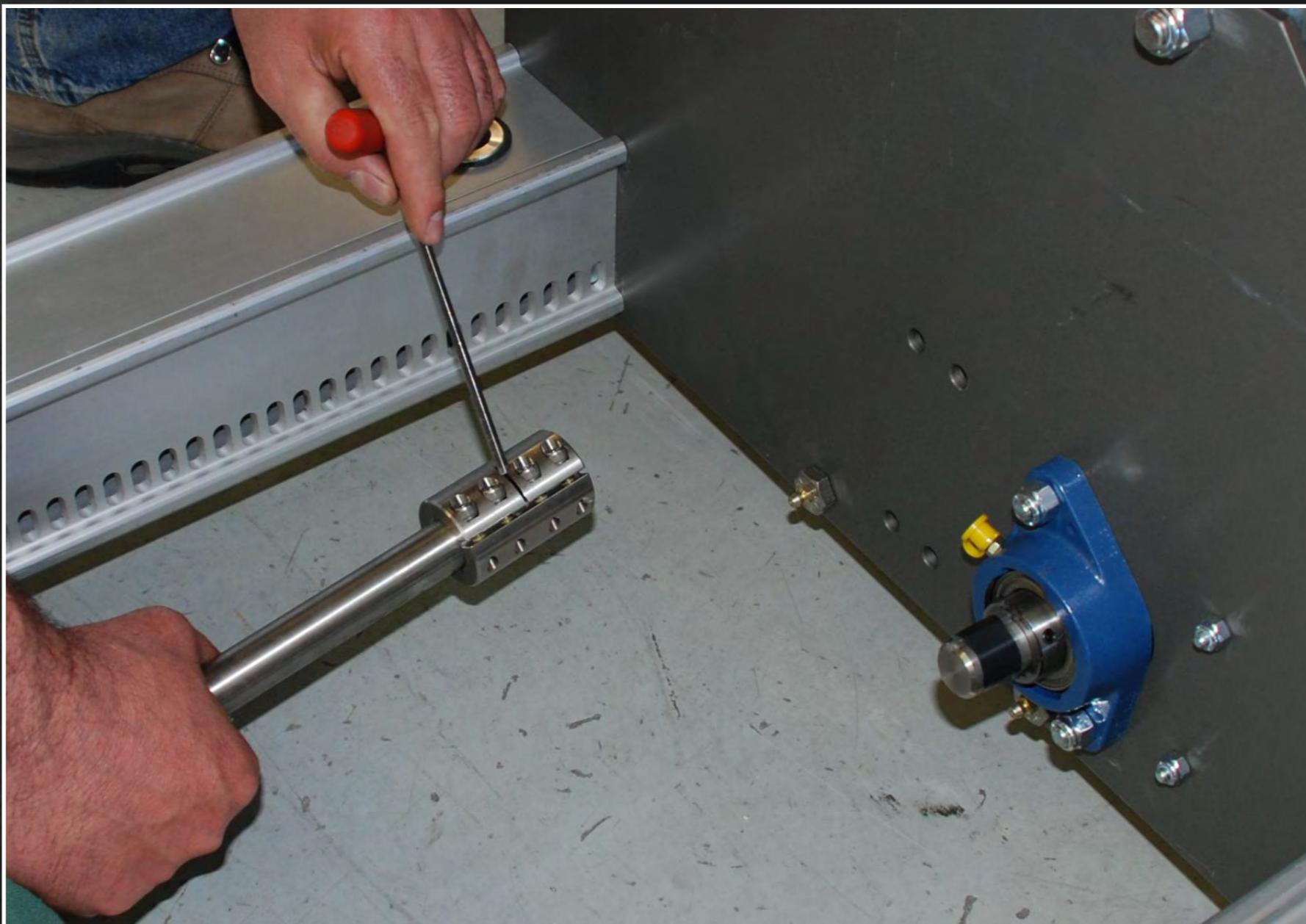
Secure 2nd end plate to rails. Tighten to lock washers for now.



Note: Once all bolts are in, rotate tightening pattern to ensure proper alignment.

Second End Plate

Loosen Ruland Collar screws with a 3/16" Allen wrench.



Drive Shaft

Remove tape from coupling shaft. Leave shaft key in.



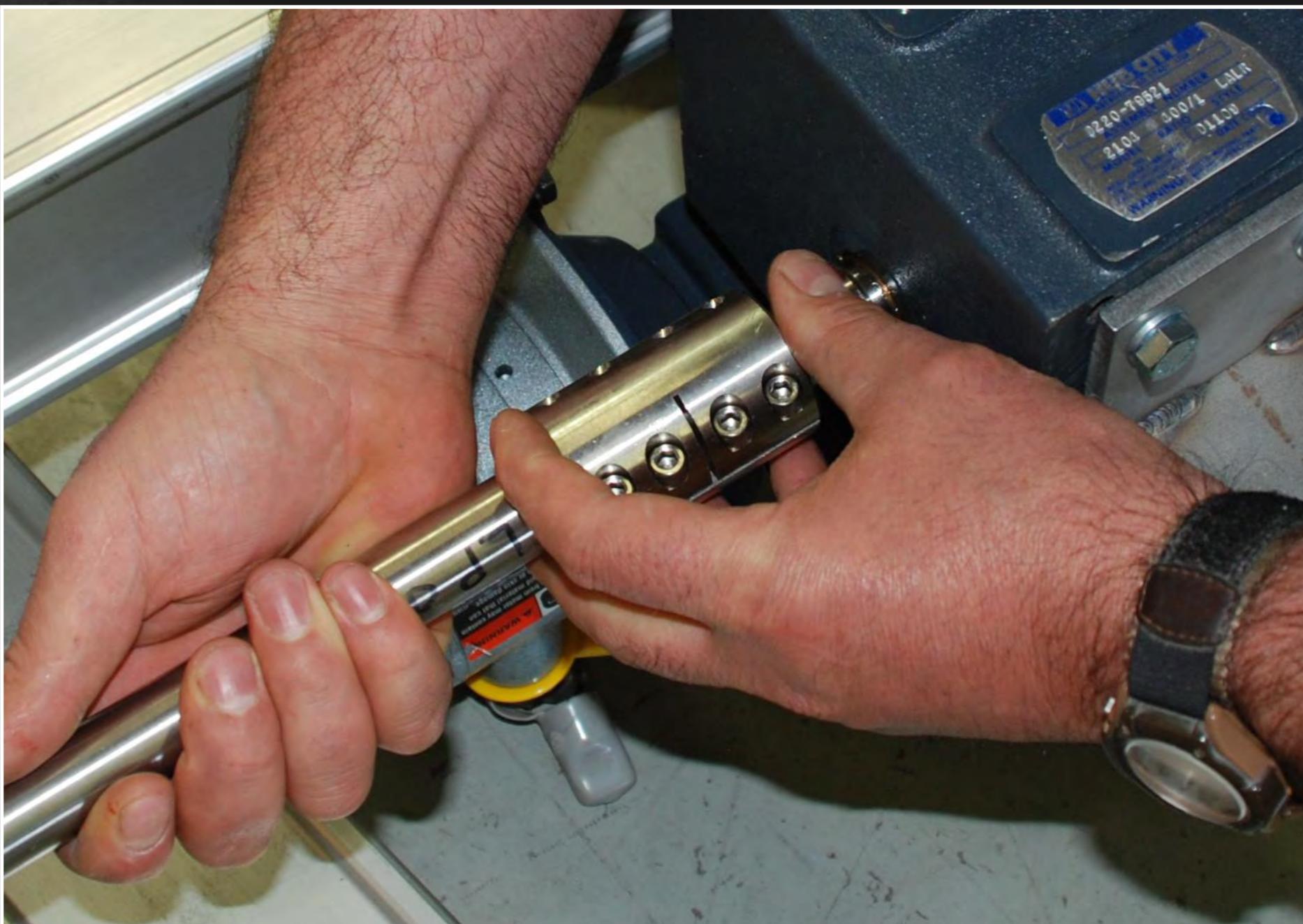
Drive Shaft

Repeat procedure at opposite end plate. Note shaft key.



Position Drive Shaft

Mount drive shaft. Shaft key slides into notch on each collar.



Secure Ruland Collars

Tighten both Ruland collars with 3/16" Allen wrench.



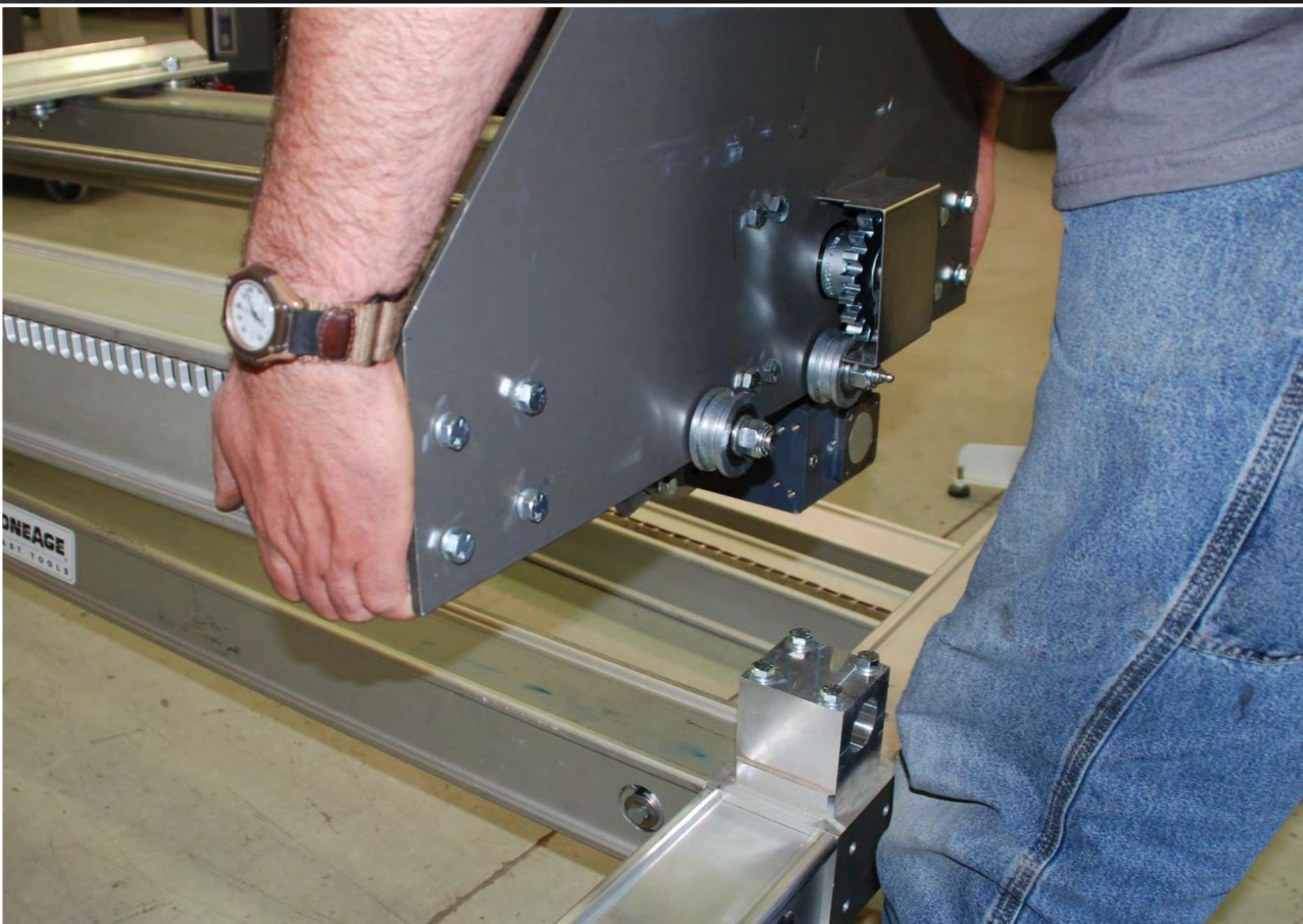
4. Vertical & Top Rails

1. Position Carriage Plate on Base
2. Add the Vertical Rails
3. Assemble & Add Top Rail
4. Mounting Gear Box



Position Assembly

Set carriage plate assembly on base at corner block.



Carriage Plate on Base

Assembly should look like this before installing vertical rails.



Vertical Rails

Position vertical rails at both ends of base.



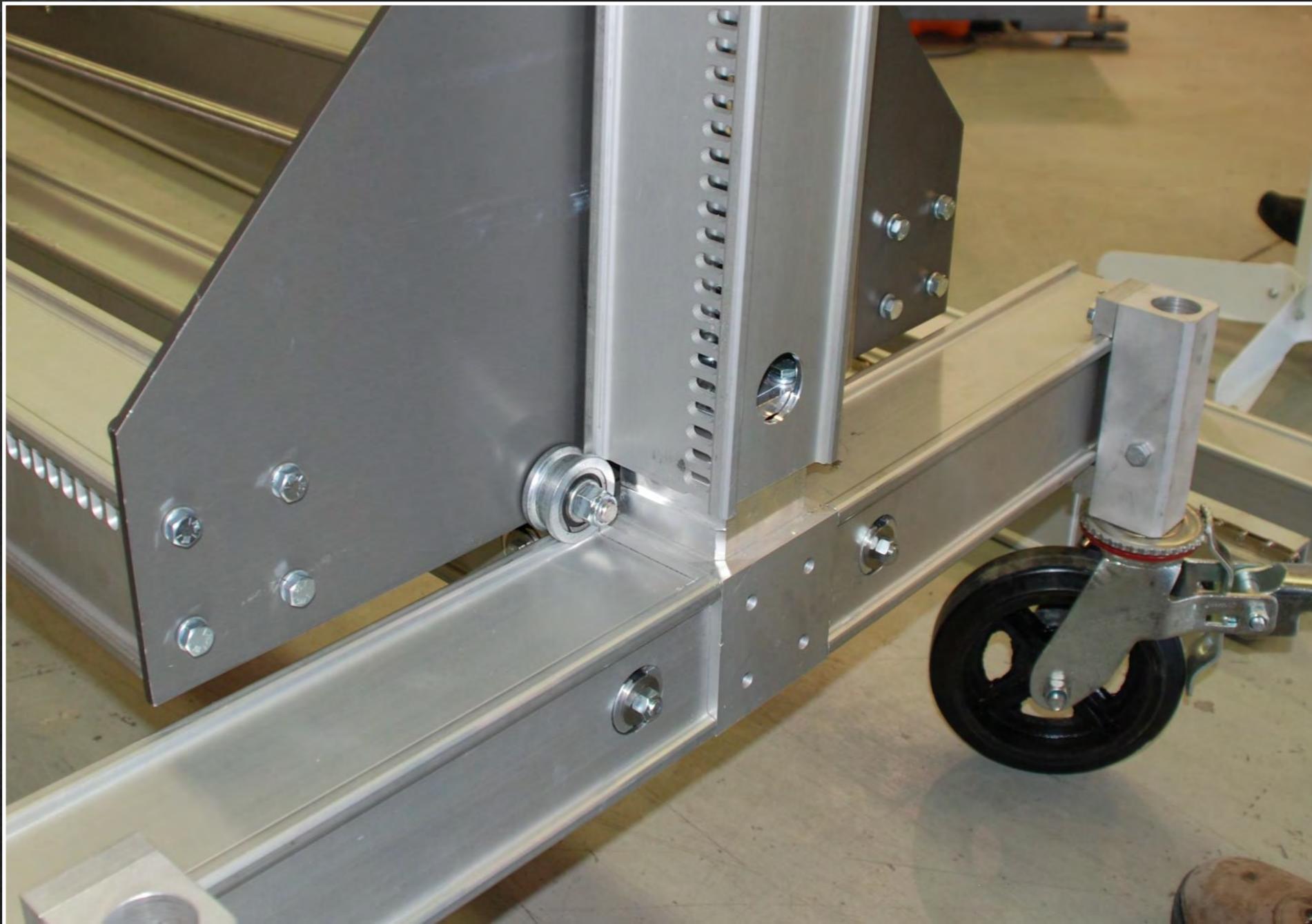
Vertical Rails

Make certain slots on vertical rail line up with gear.



Vertical Rails

Slide vertical rails over corner blocks at both ends.



Power up the Motor

Use air power to raise the carriage plate on the x-axis.



Raise the Carriage

Moving the carriage up will drive the rails into place.



Note: Make certain carriage is level on both vertical rails.

Insert Wedge Bolts

Moving the carriage up will drive the rail into place.



Insert Wedge Bolts

The slots should be horizontal for these vertical rails.

Note: These slots are opposite from those installed horizontally.

Incorrect!



Correct!



Tighten Wedge Bolts

Repeat the procedure for the vertical rail on opposite end.



Top Corner Blocks

Install a corner block on each end of the top rail.



Tighten Wedge Bolts

On both ends of top rail with the slots vertical.



Top Rail Into Place

Slide the corner blocks down into the vertical rails.



Install Gear Box

Position gear box to the bottom of the carriage plate.



Bolt the Gear Box

Slide 3 bolts through the pre-drilled holes. Tighten bolts.



5. Drive Rail & Motor

The carriage assembly is now ready to receive the drive rail.

1. Positioning Drive Rail
2. Clamping Rail to Carriage



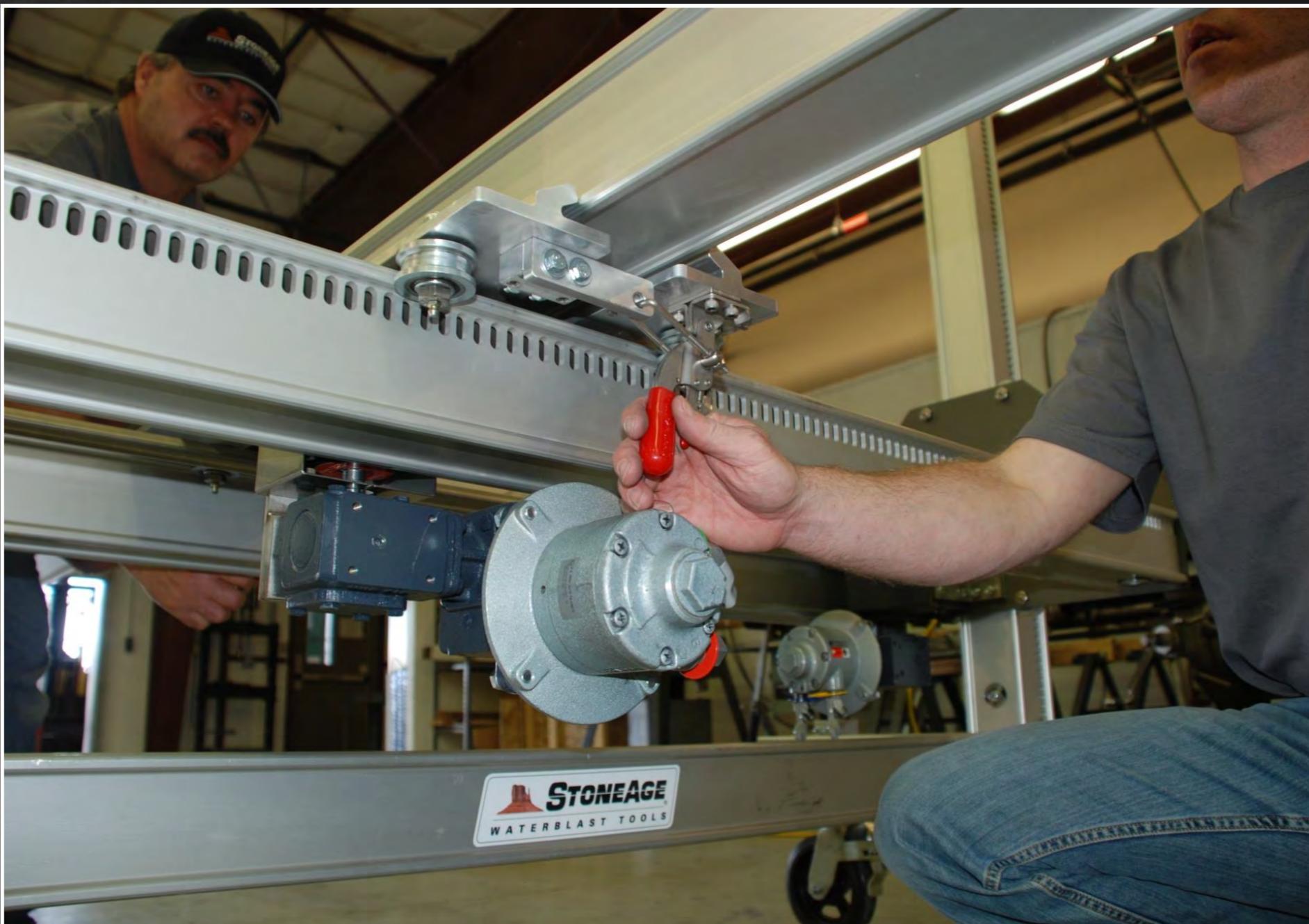
Position Drive Rail

Drive rail fits in between the sides of the carriage plate.



Lock Drive Rail

Secure drive rail in position with clamps underneath.



6. Rear Support

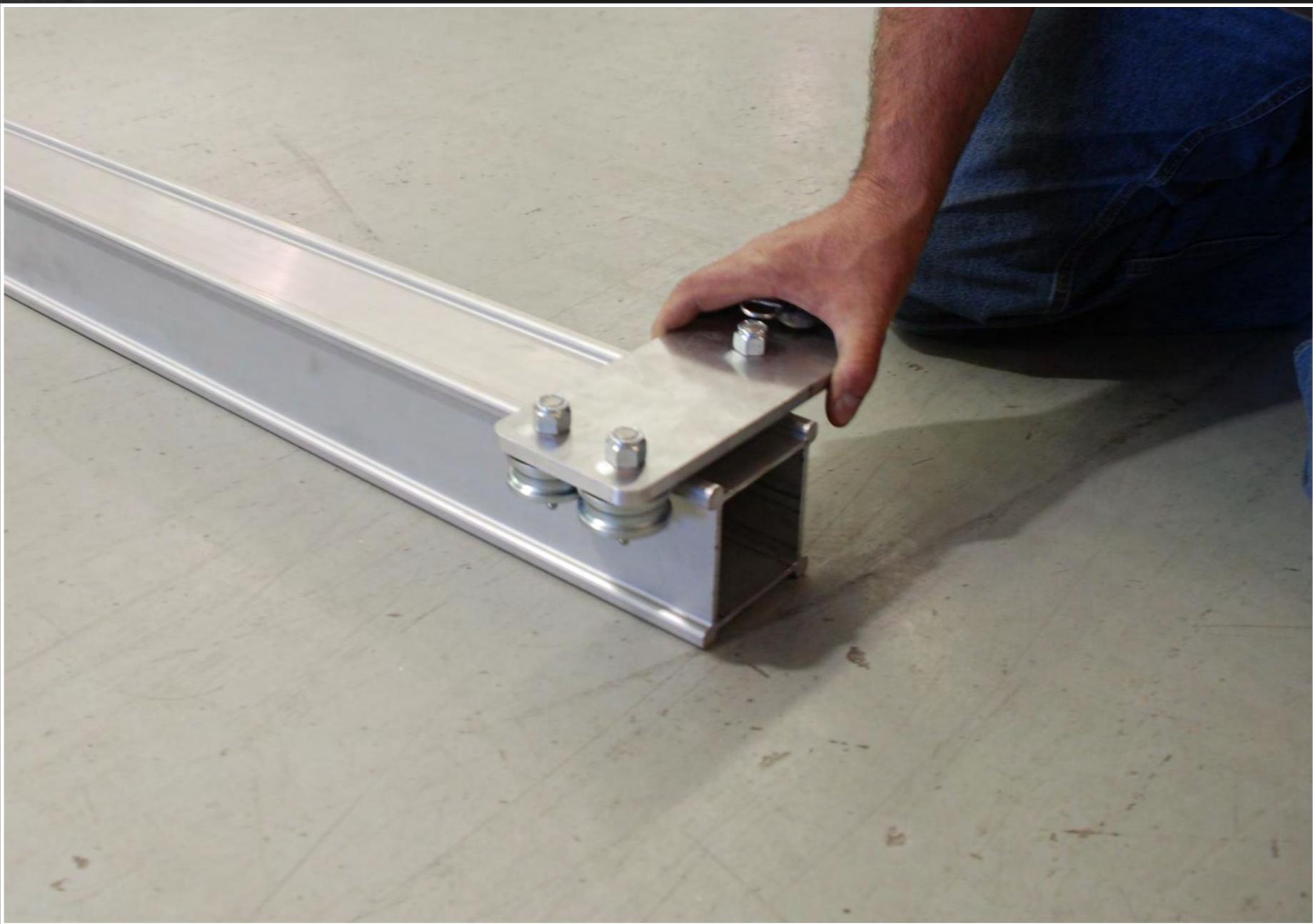
The rear support looks like a small swingset, shown below.

1. Trolley & Yokes
2. Adding the Legs
3. Tightening Cross Bars
4. Adding Block & Tackle



Rear Support

First, slide the trolley on what will become the top rail.



Rear Support

Insert a yoke on each end of top rail. Tighten wedge bolts.



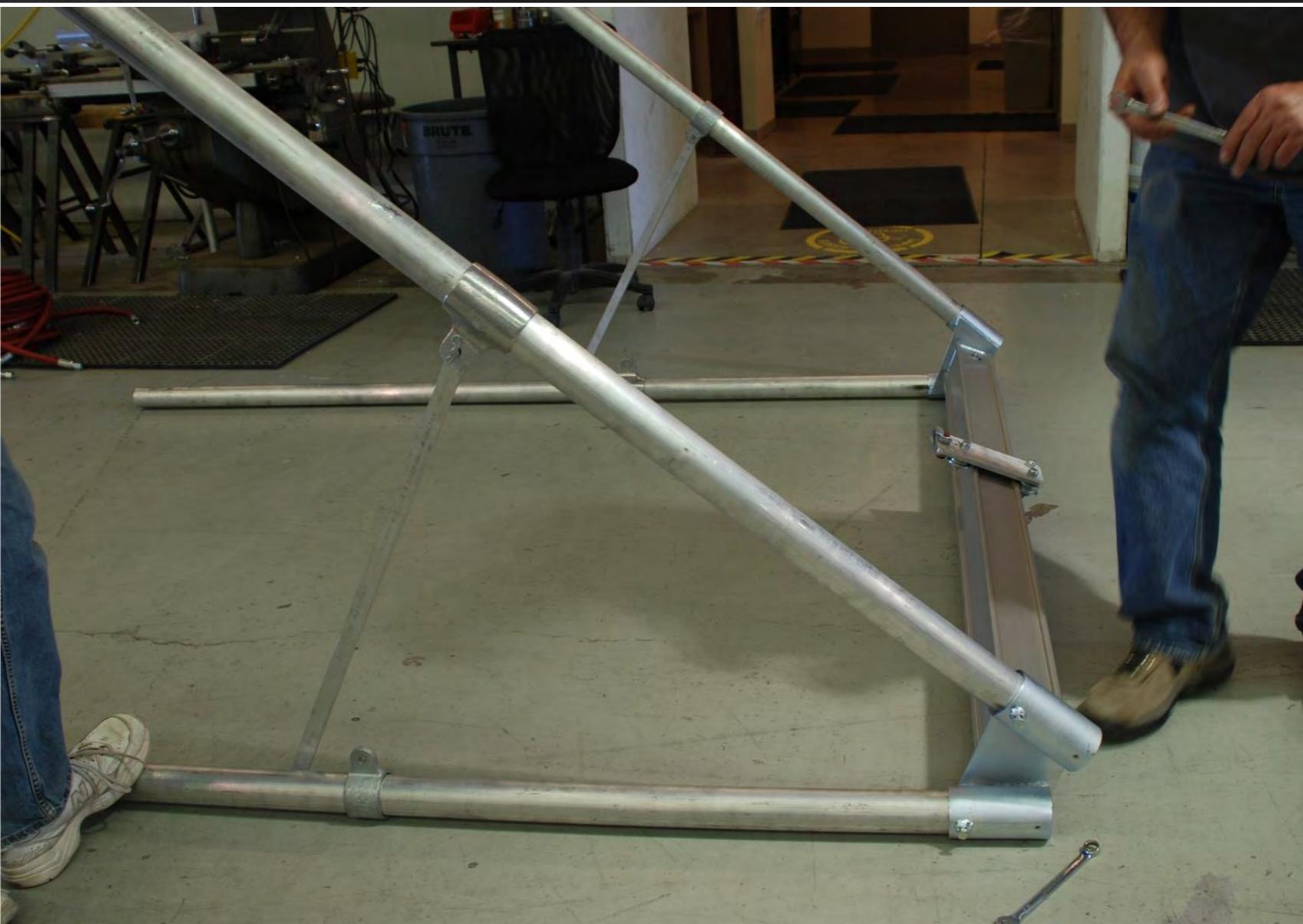
Rear Support

Insert wedge bolts to secure yokes. Slots should be vertical.



Rear Support

Insert 4 legs into the yokes and tighten the bolts.



Stand assembly upright when all 4 legs are completed.

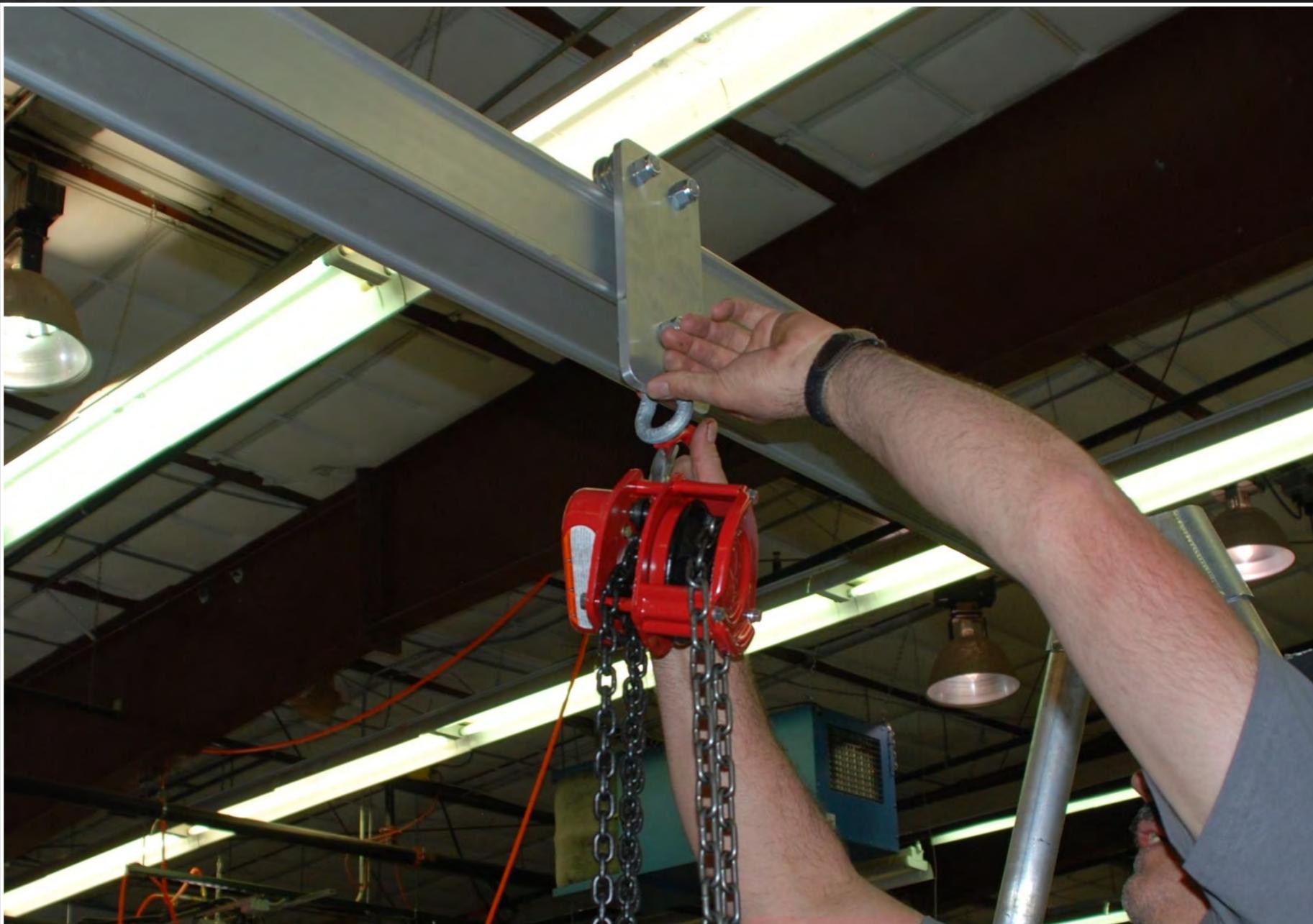
Rear Support

Attach cross bars on both sets of legs.



Rear Support Complete

Hook the block and tackle to the trolley.



7. Thread the Chain

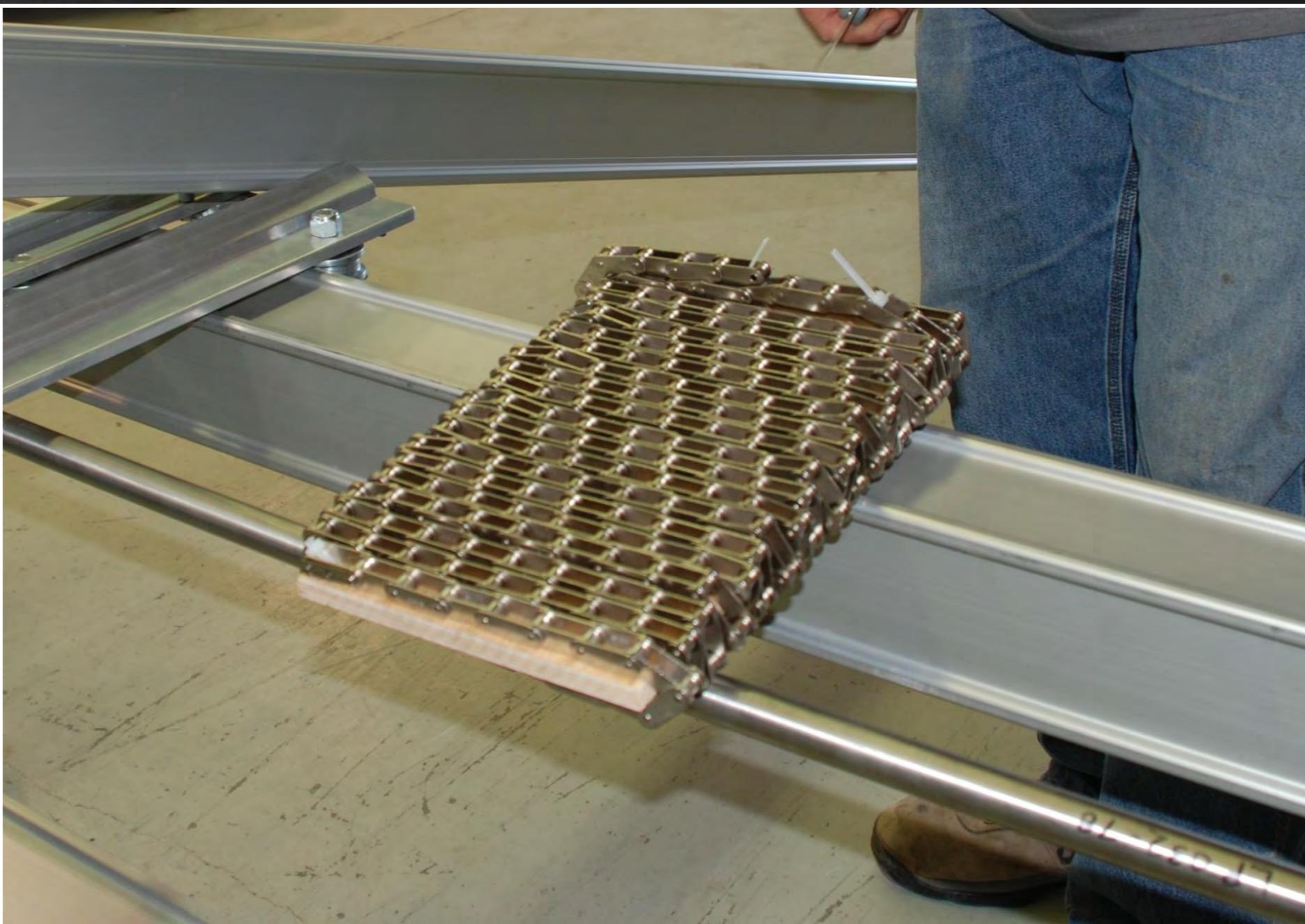
Preparing to mount the drive motor shown below.

1. Unpacking Chain
2. Threading Drive Rail
3. Front Idler Plate
4. Mounting Drive Motor



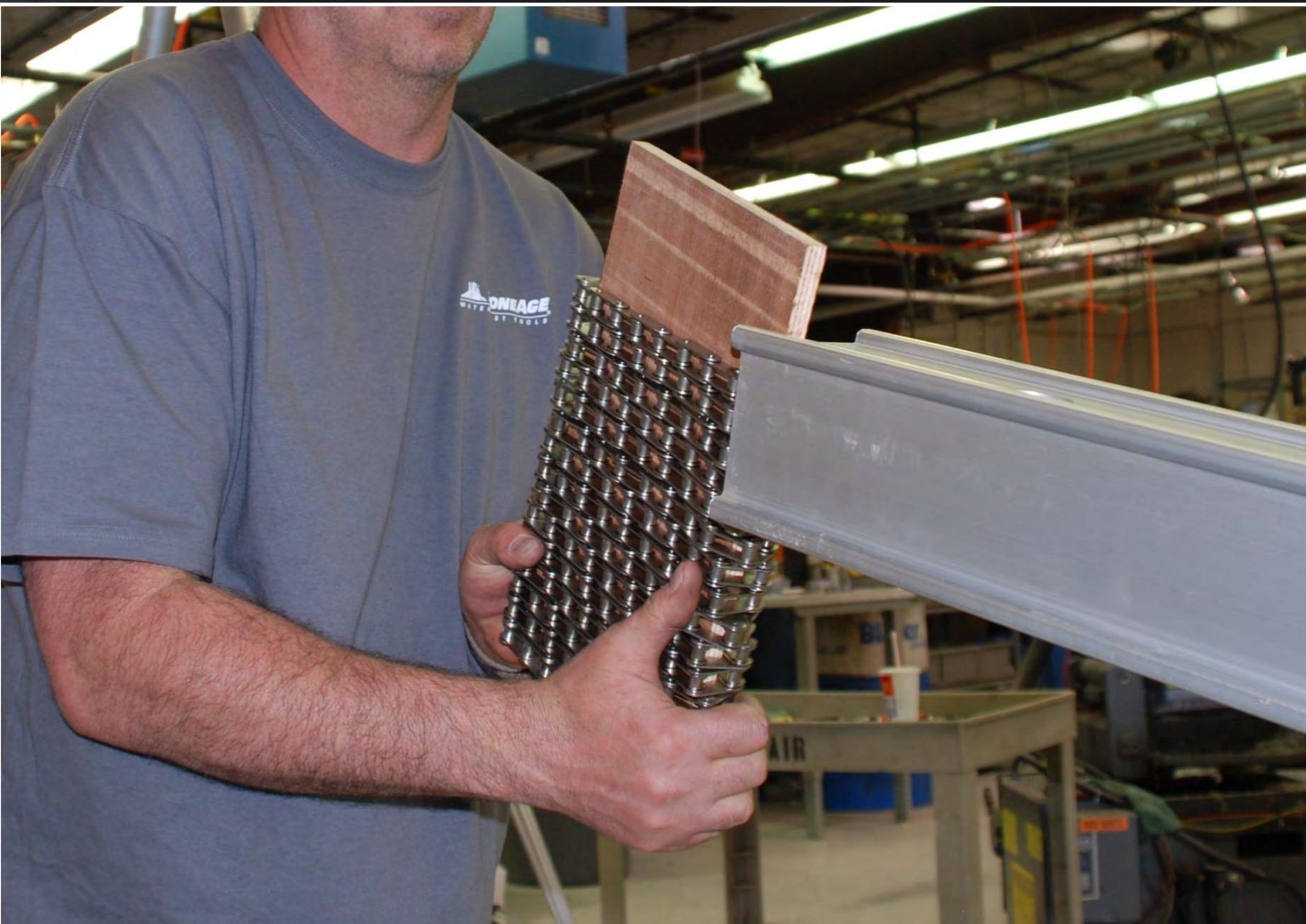
Threading the Chain

Unpack the chain and unwind to thread into the drive rail.



Threading the Chain

Tilting the drive rail makes feeding the chain easier.



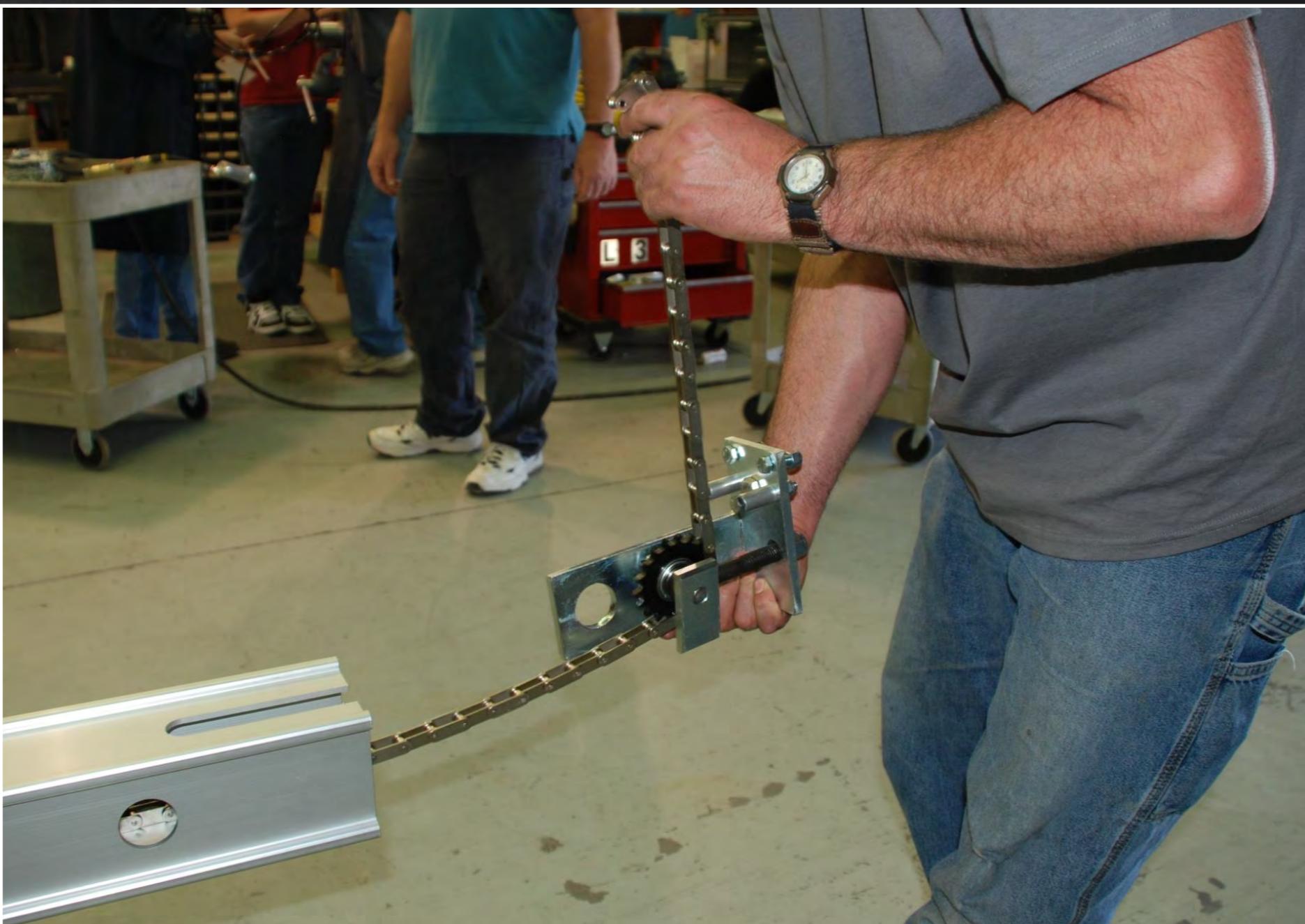
Threading the Chain

Pull chain through rear slot and re-thread into the drive rail.



Front Idler Plate

Pull chain and thread around front idler sprocket.



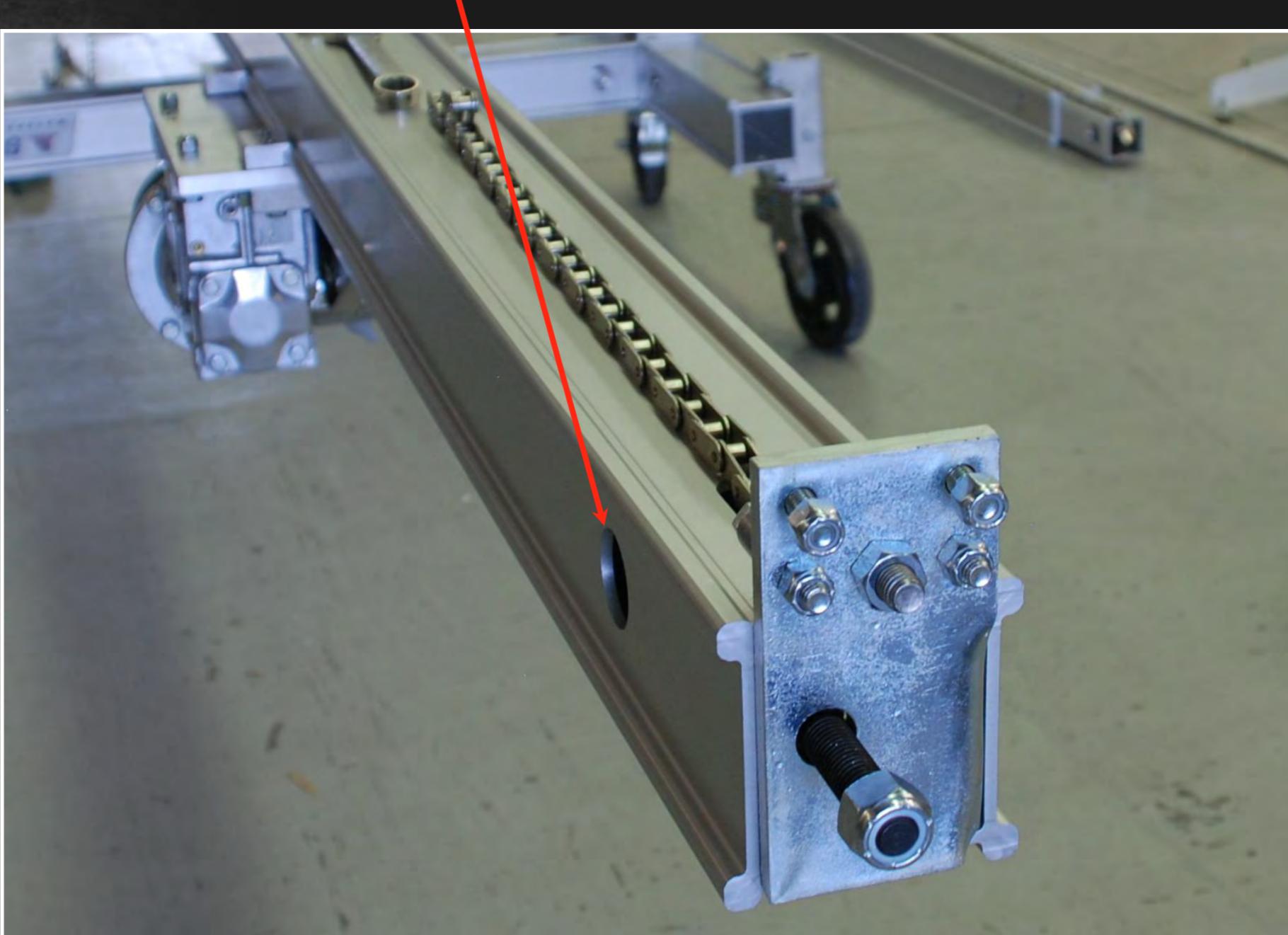
Front Idler Plate

Prepare to insert into drive rail. Make certain chain is on top.



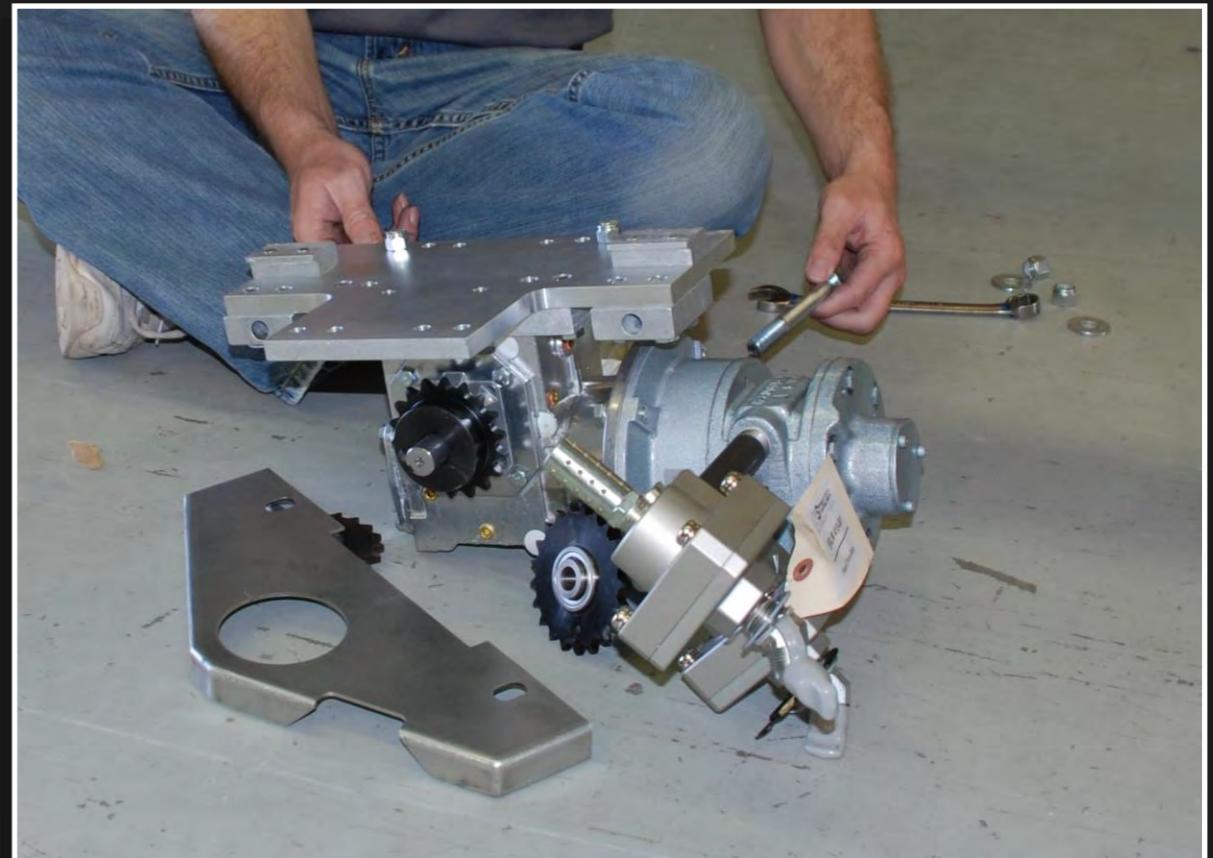
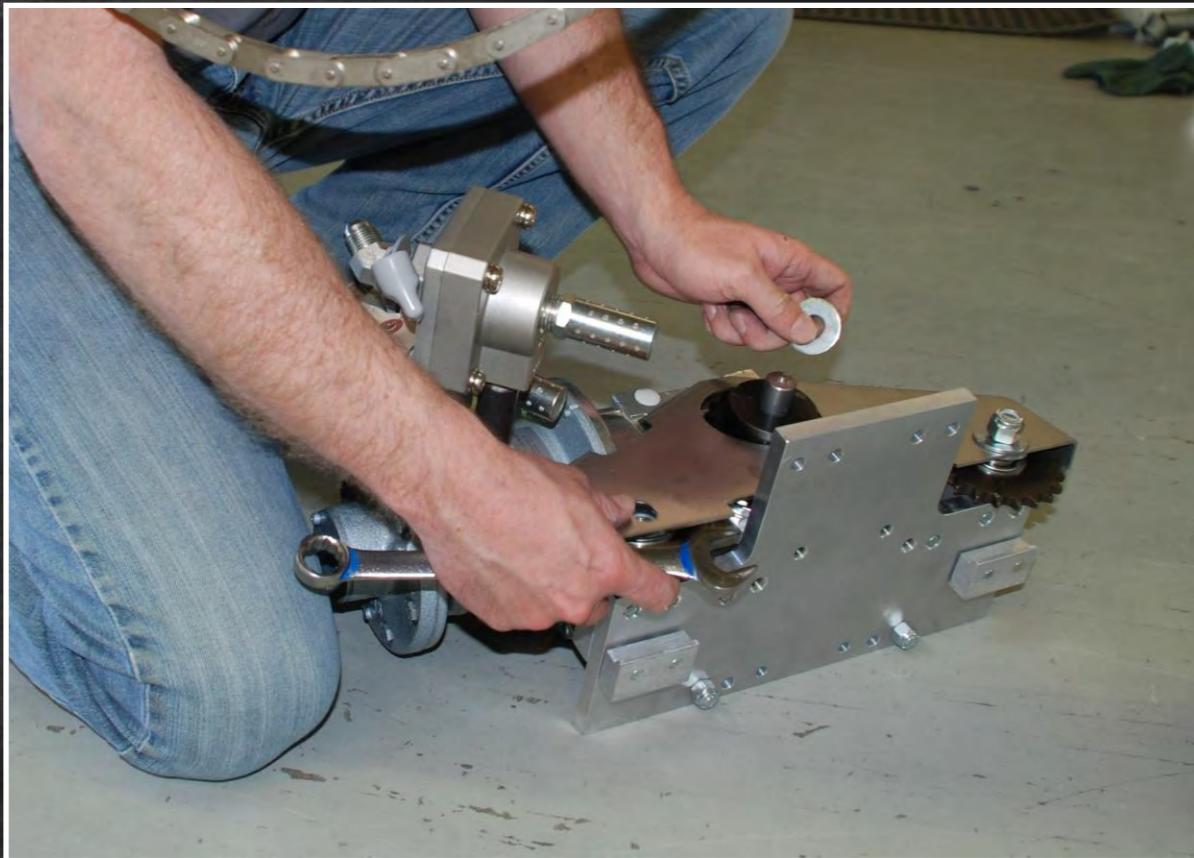
Front Idler Plate

Do not insert and tighten wedge bolt until final adjustments.



Drive Motor

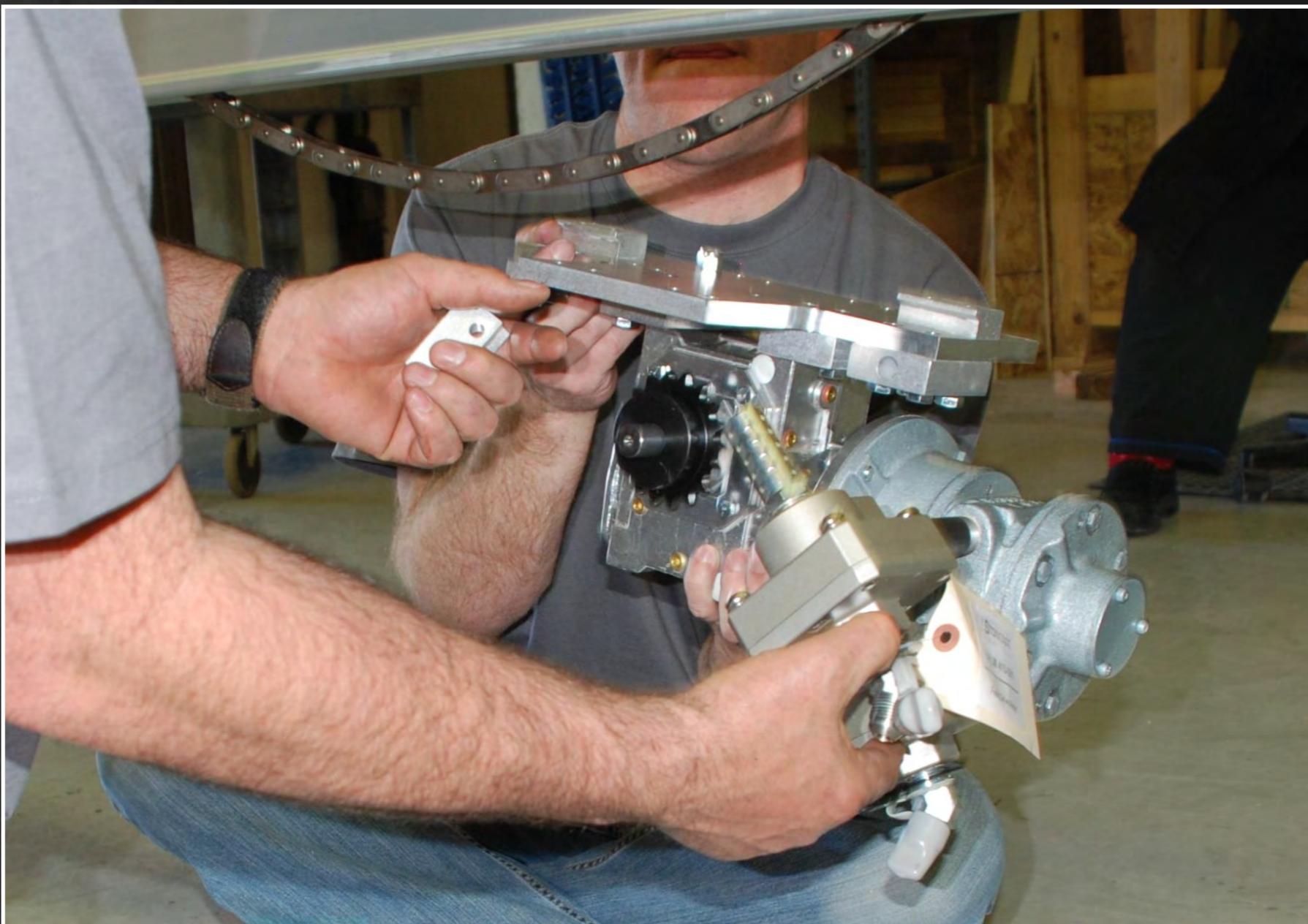
Before mounting to the drive rail remove the chain guard.



Note: Removing the guard will allow you to thread the chain.

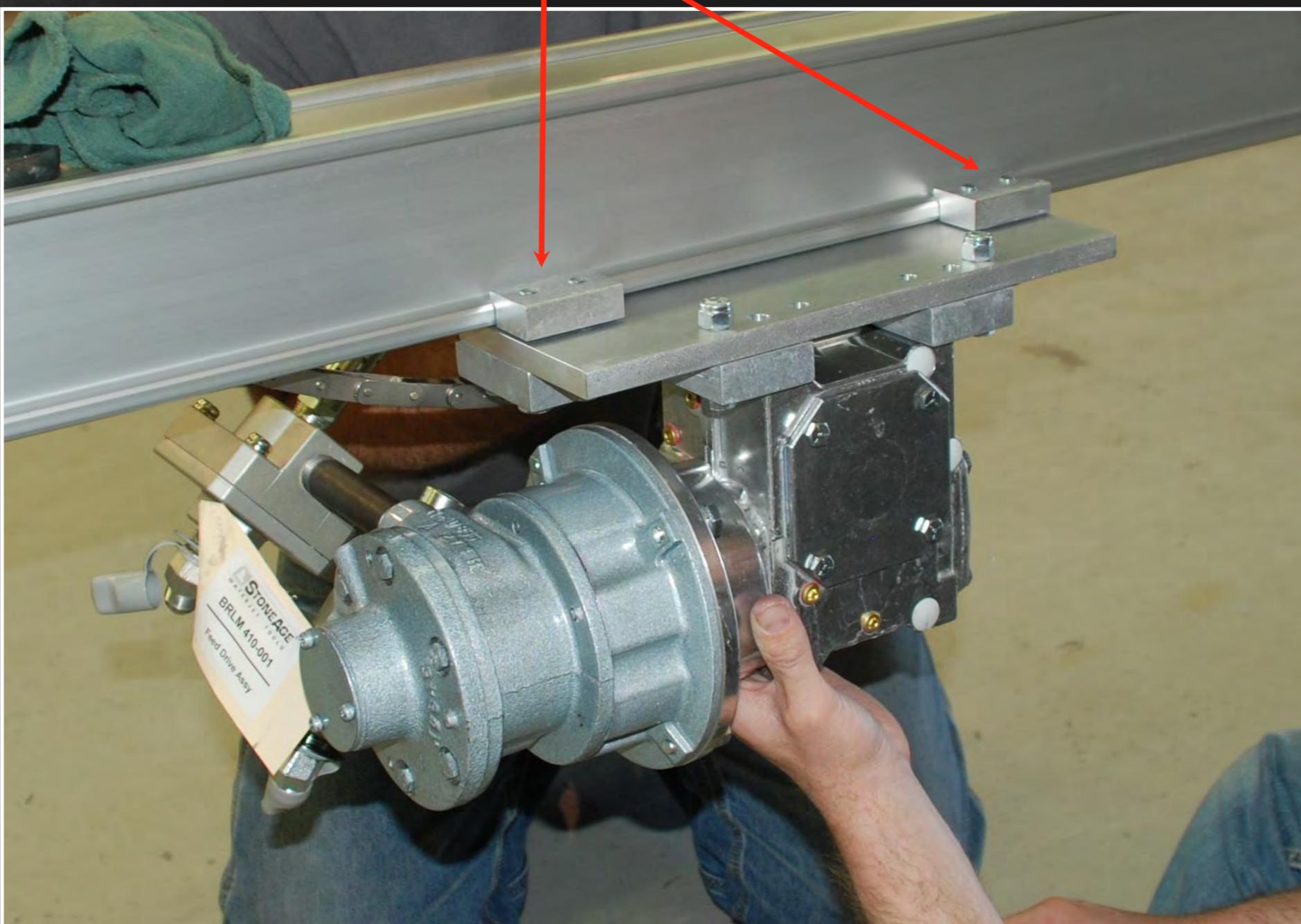
Position the Motor

Position motor between the two rail slots to receive the chain.



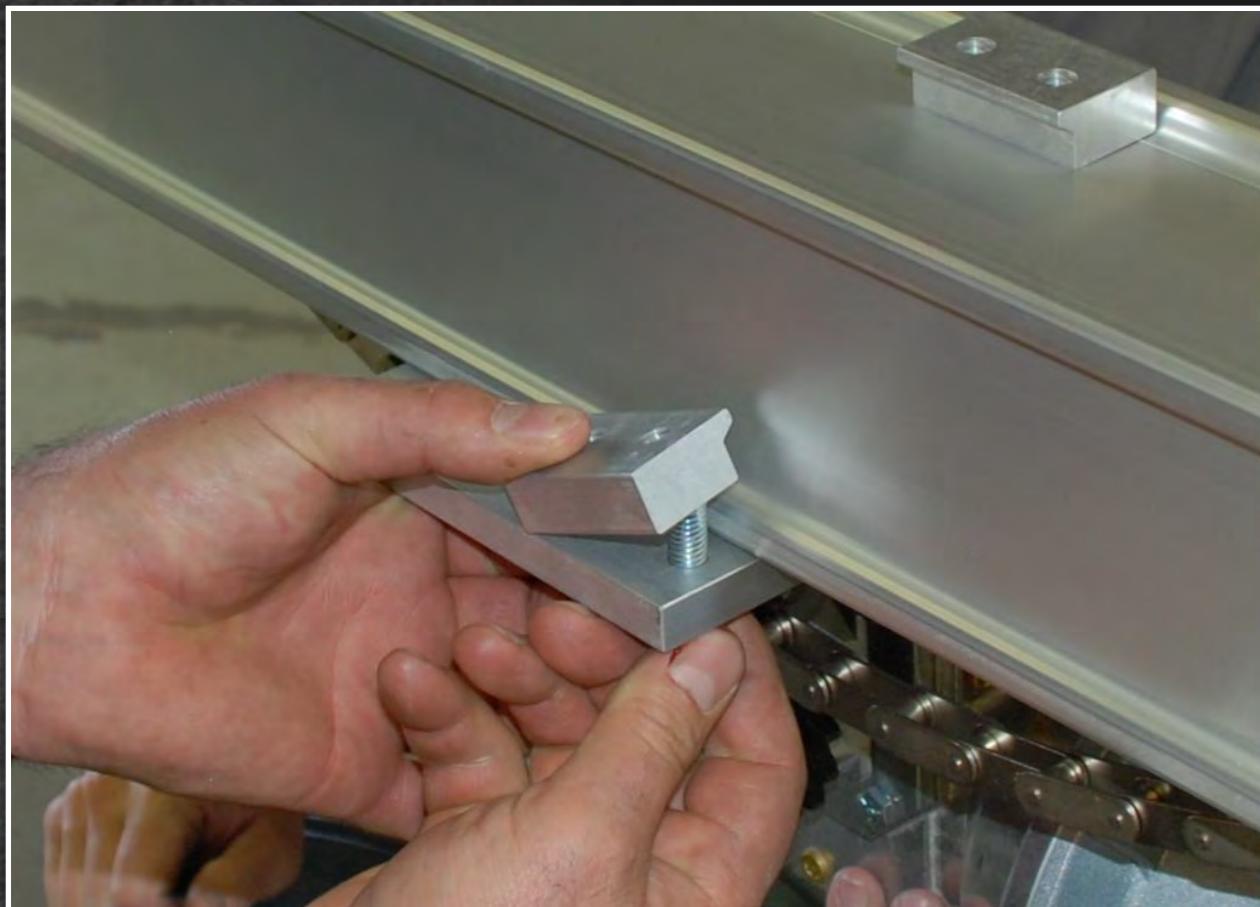
Mount the Motor

Position the first set of clamps on motor to fit on the rail lip.



Mount the Motor

Position and bolt the clamps on the other side of the rail.



Note: The bolts go in from the bottom.

Thread the Chain

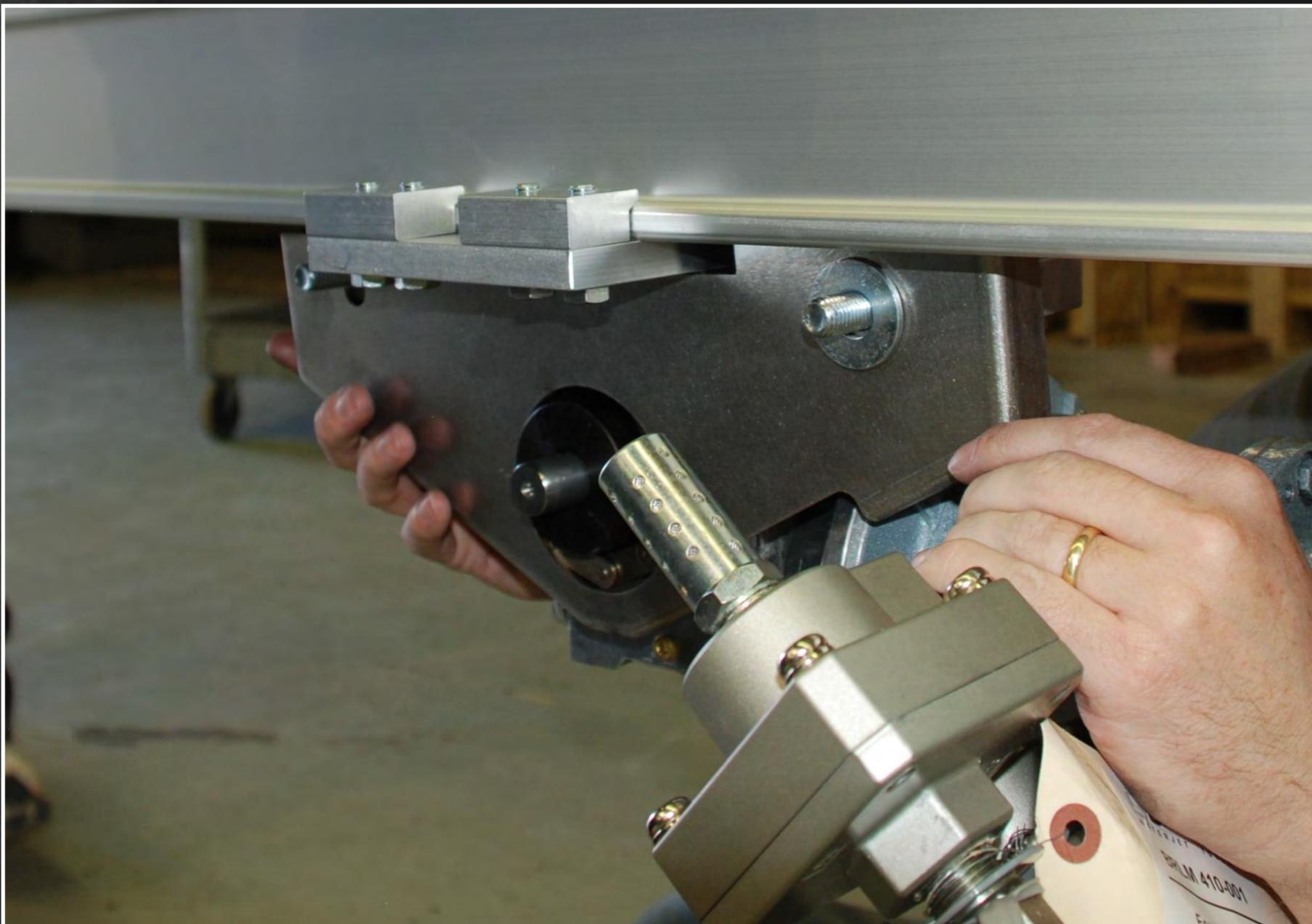
Thread the drive sprocket first. Then the two idler sprockets.



Idler sprockets: Remove bolt, position sprocket, replace bolt.

Replace Chain Guard

Replace guard and washers. Tighten nuts w/ 3/4" wrench.

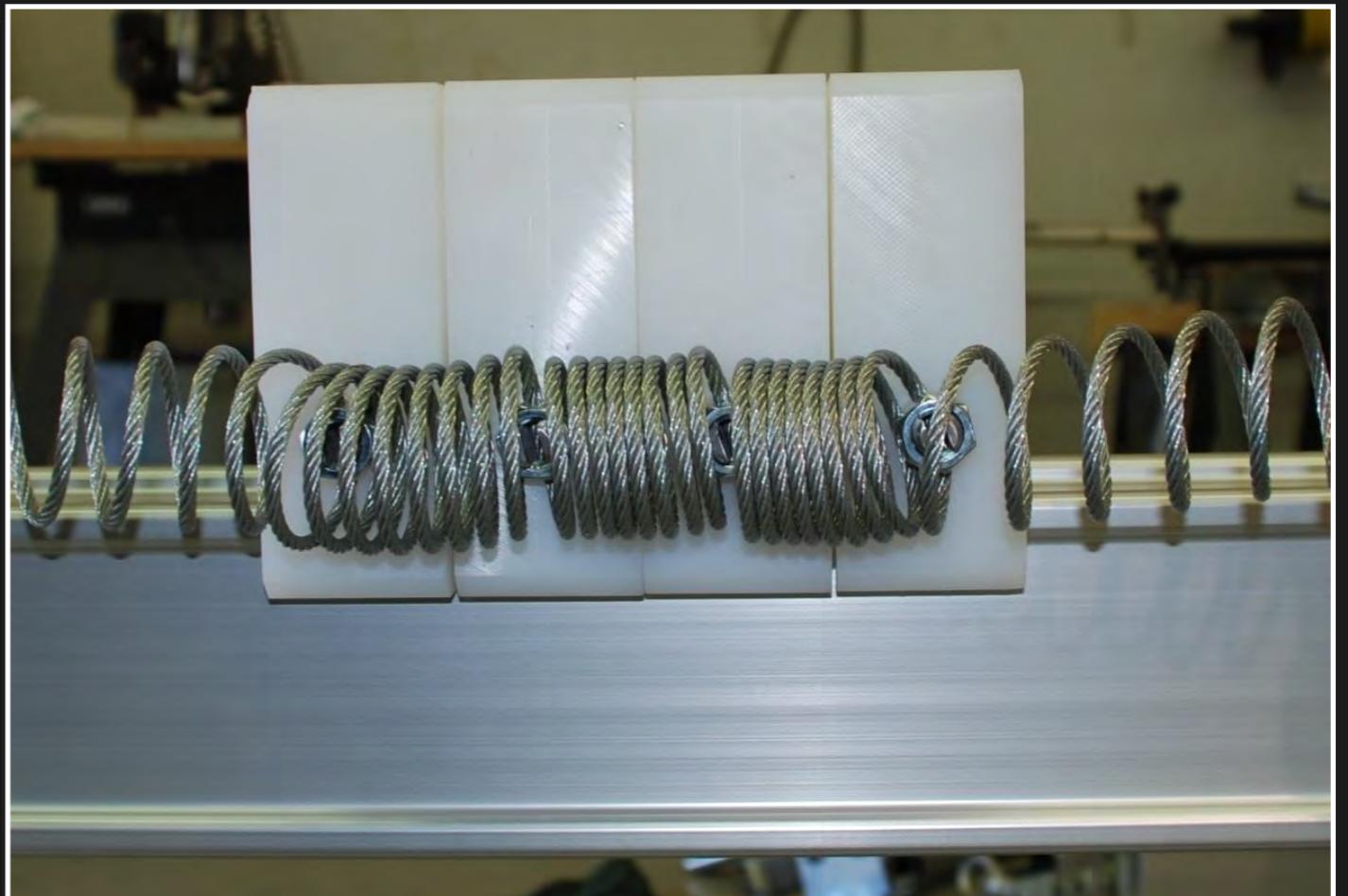


8. Guide Blocks & Coils

Side view of guide blocks and wire coils

1. Mount Guide Blocks
2. Connect Rail Extension *
3. Add Rotary Power Package
4. Connect Guide Blocks
5. Add Lancing Tube Guides

* If necessary.



Guide Blocks

Slide both sets of guide blocks onto drive rail.



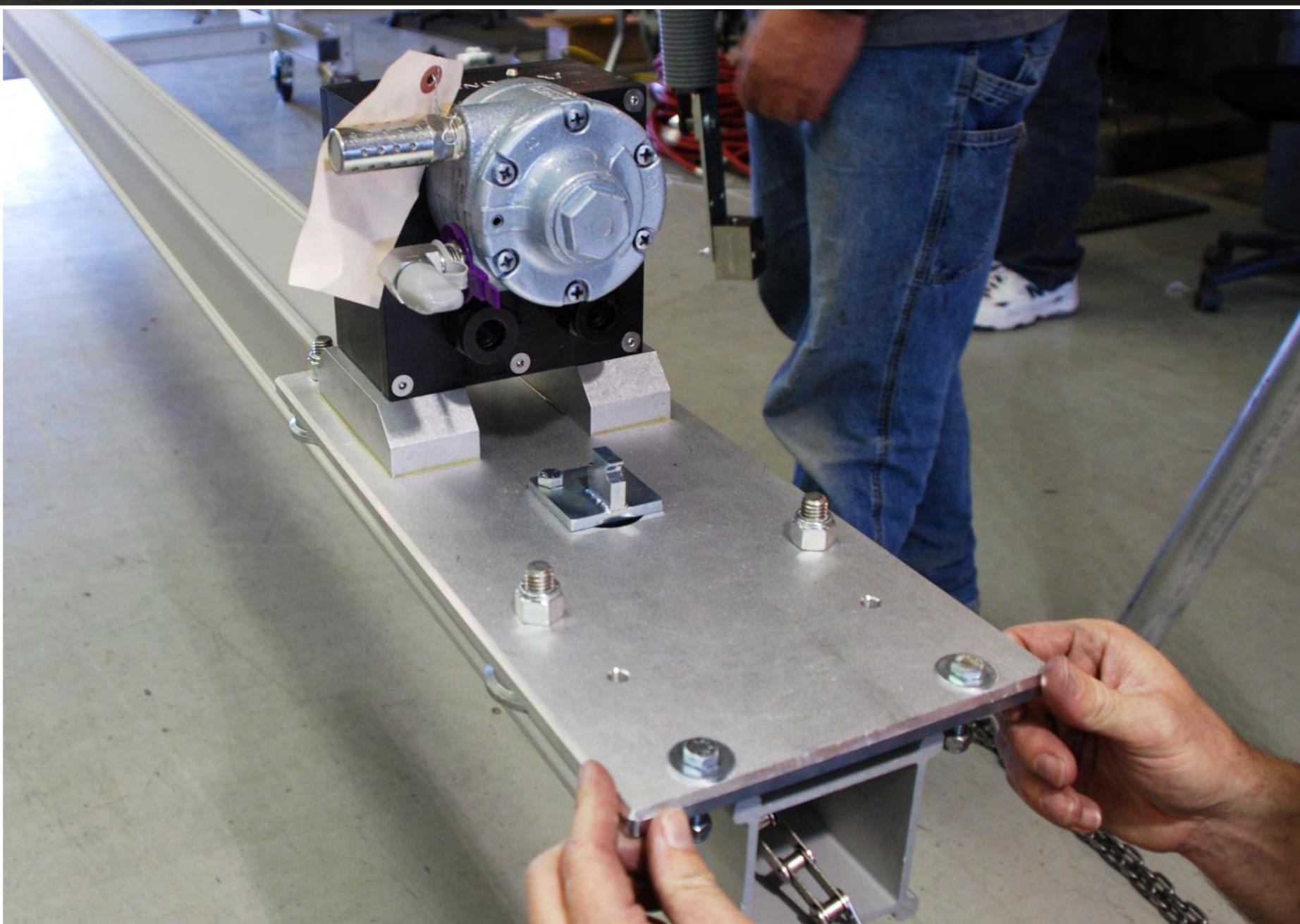
Drive Rail Extension

Before adding extension thread the chain through the rail.



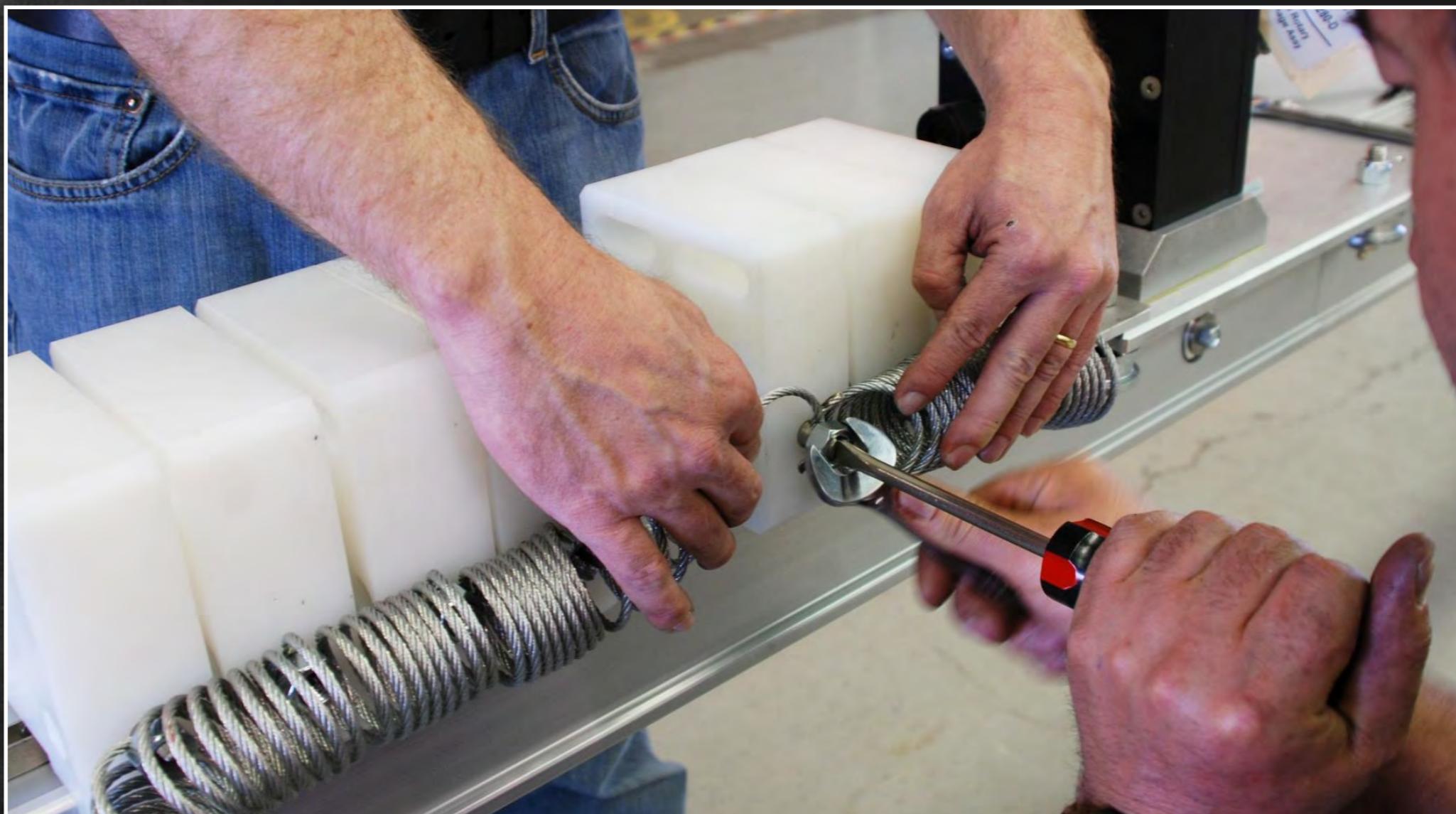
Rotary Power Package

Slide the power package plate onto the drive rail.



Connect Guide Blocks

Begin by connecting the two sets of blocks to each other.



Note: Thread coil end through hole in coil bolt and tighten.

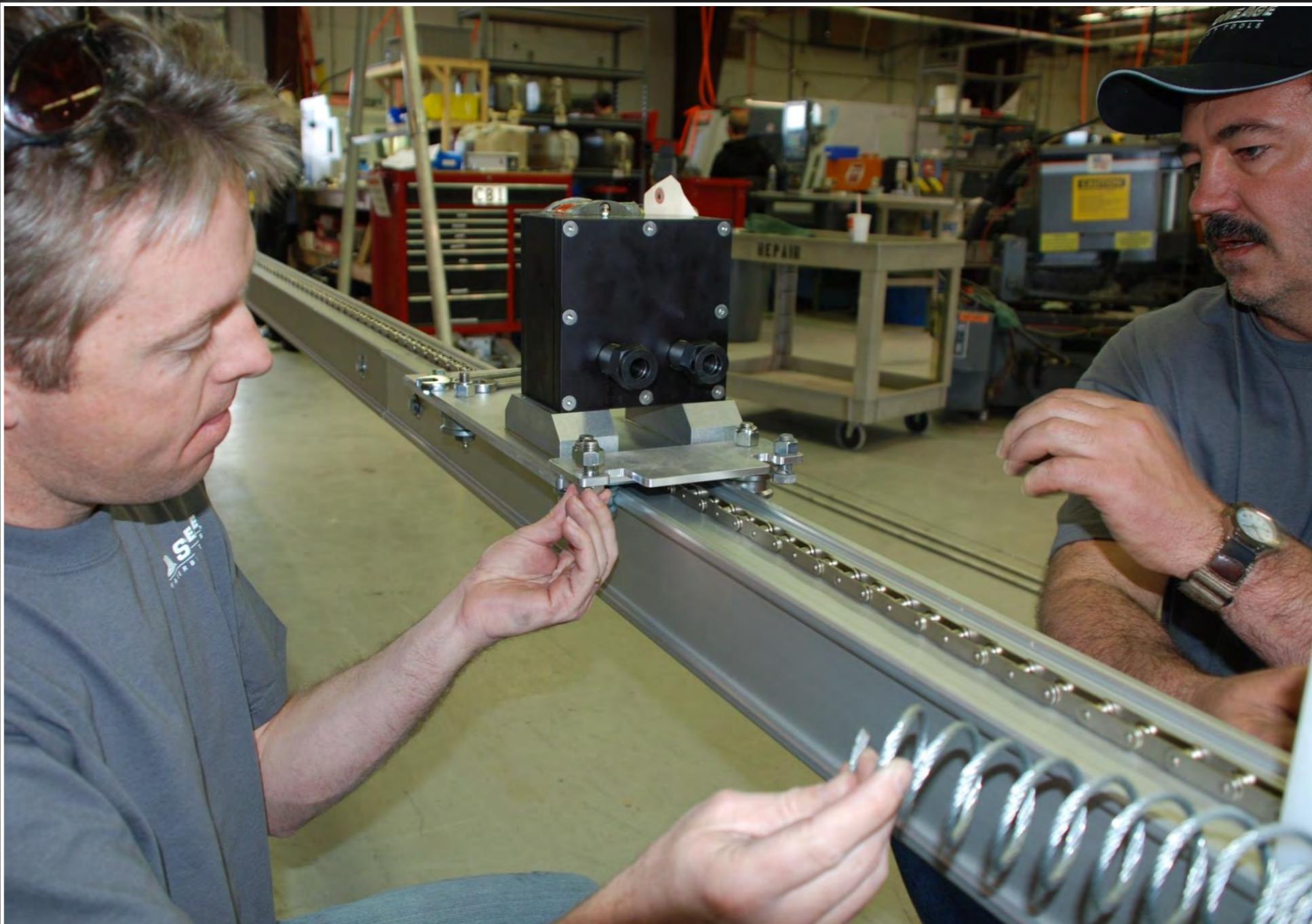
Connect Guide Blocks

Repeat procedure for coil ends in the coil bolts.



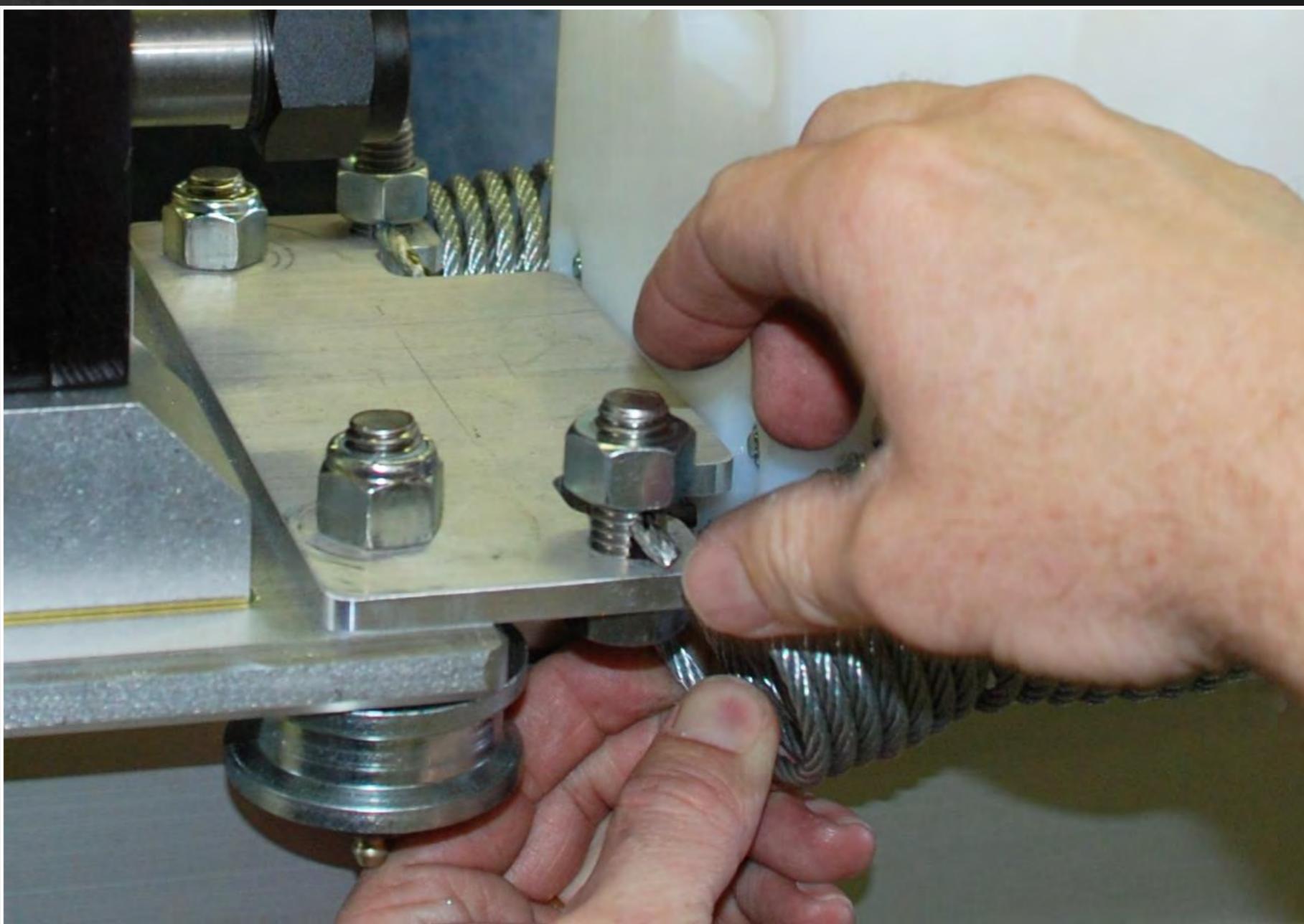
Connect Guide Blocks

Finally, connect the coils to the rotary package.



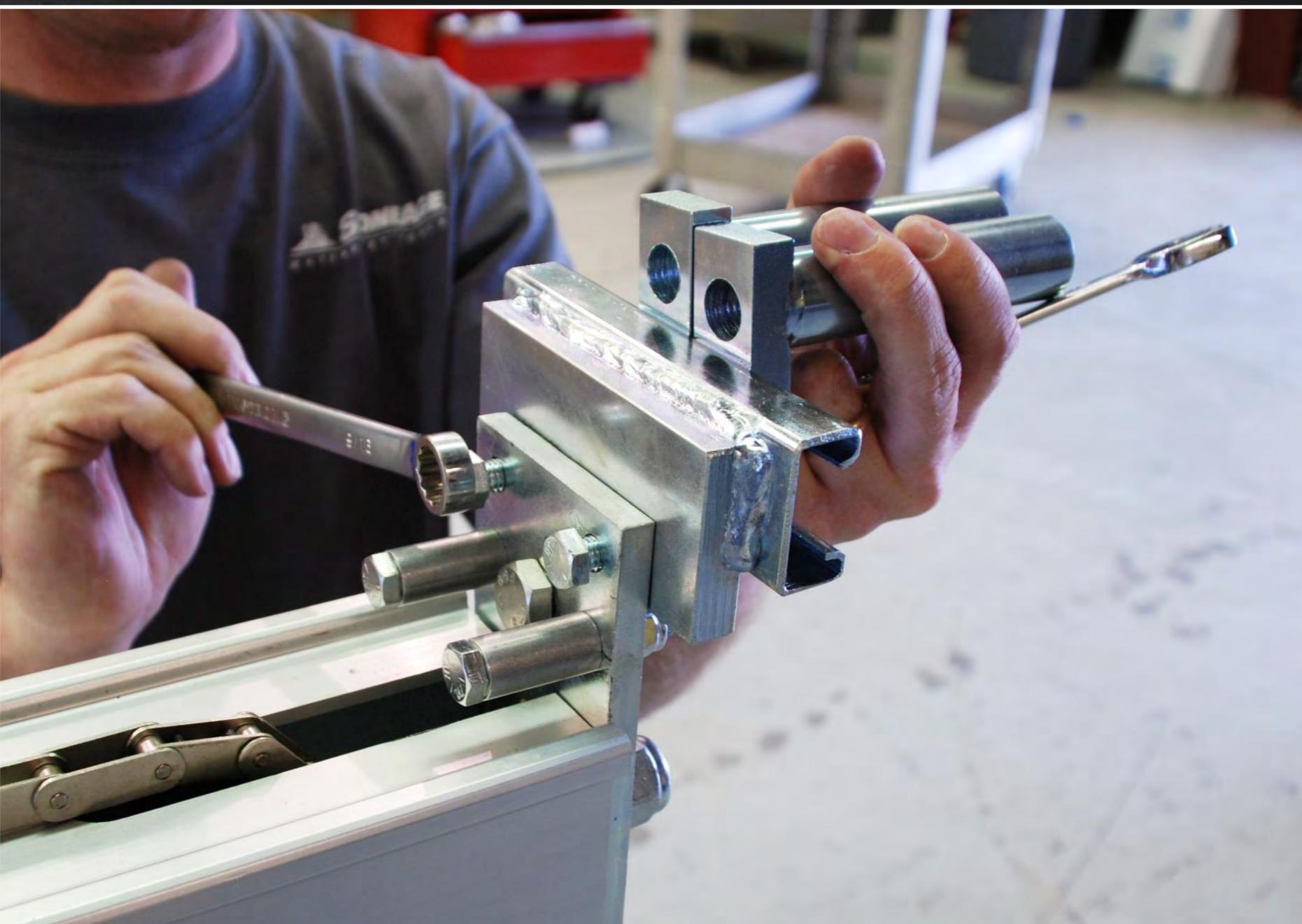
Connect Guide Blocks

Repeat the threading procedure and tighten the coil bolts.



Channel Plate

Bolt the channel plate to the front idler as shown.



Tube Guides

Slide the tube guides into the channel plate slot.



9. Rear Idler & Chain

Inserting the rear idler into the drive rail shown below.

1. Rear Idler Prepped
2. Connecting Chain Master Link
3. Rear Idler Wedge Bolt
4. Flip the Chain Hook



Rear Idler Assembly

Thread chain through rear idler before mounting to drive rail.



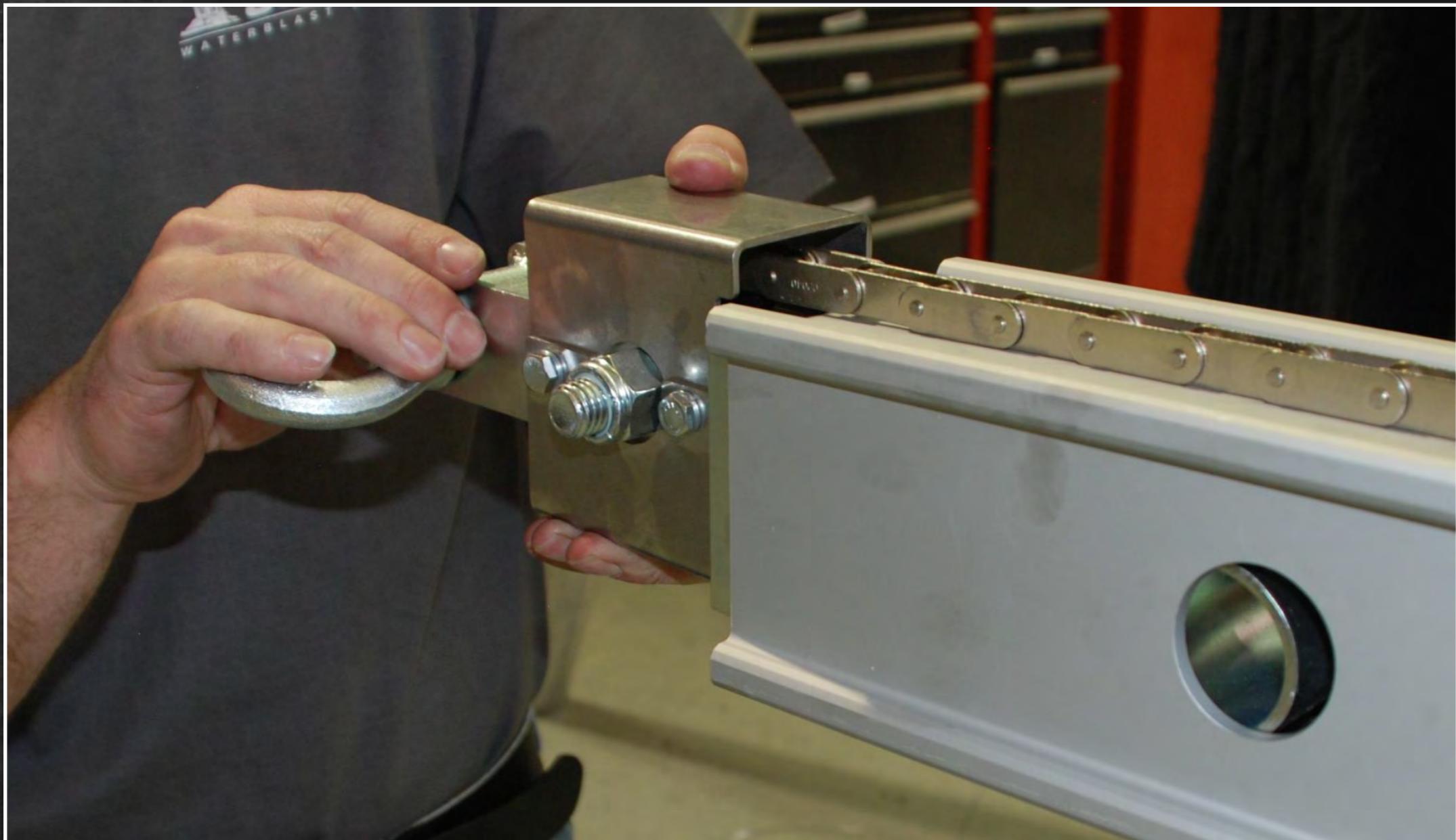
Rear Idler Assembly

Pull excess chain through the idler before mounting.



Mount Rear Idler

Slide rear idler assembly into drive rail.



Note: Do not tighten idler wedge bolt until chain is connected.

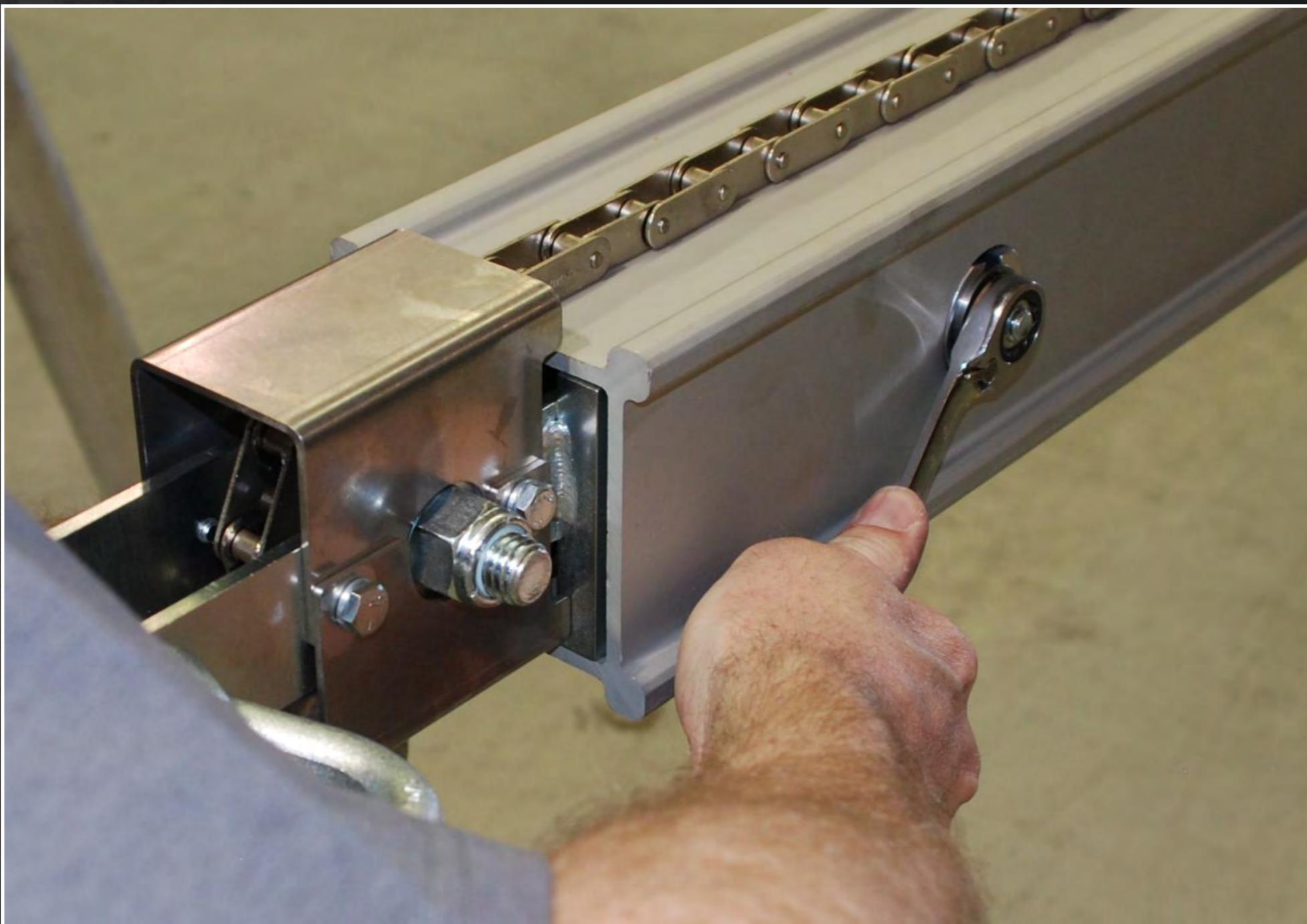
Connect the Chain

Locate the master link and connect the chain.



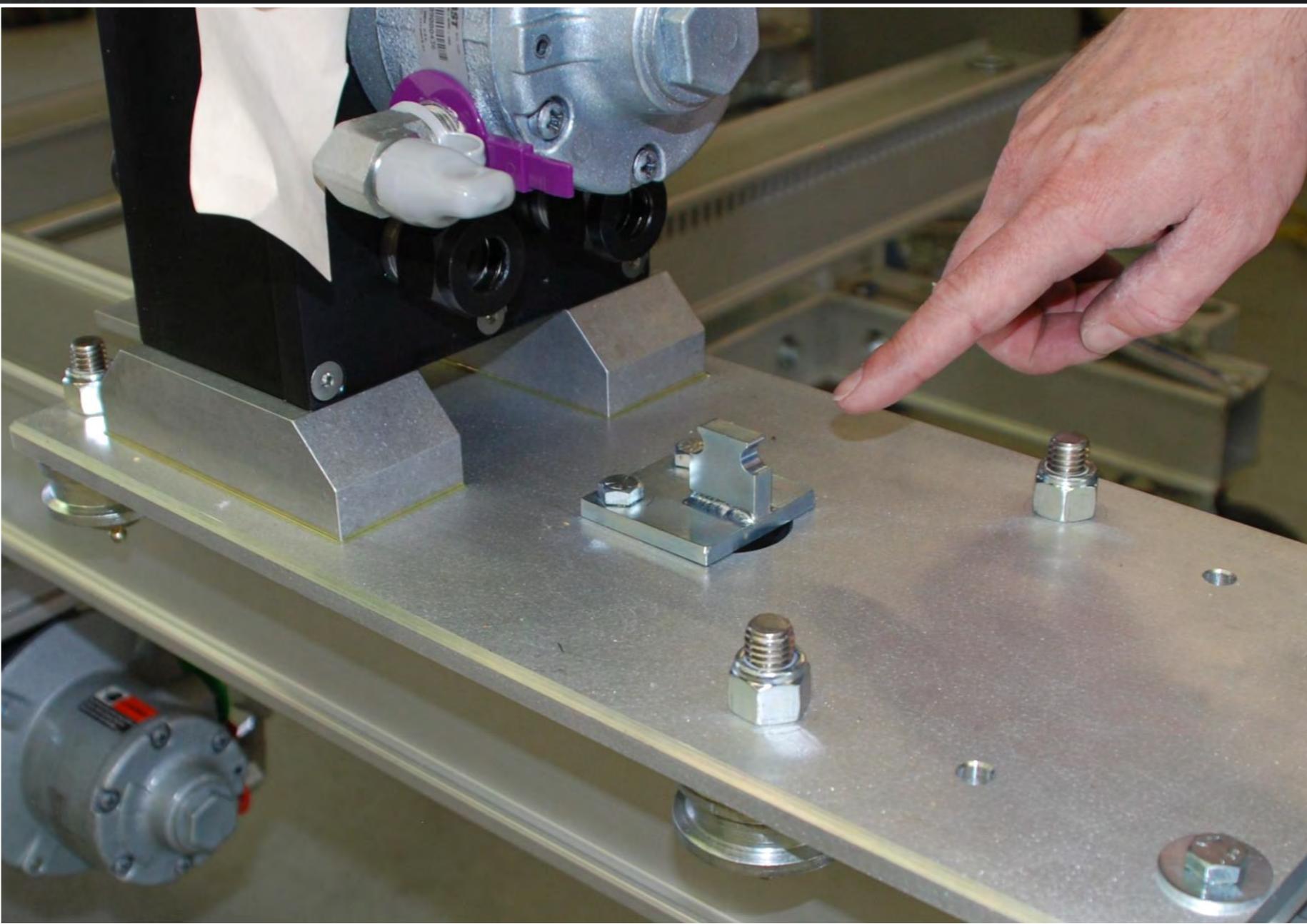
Mount Rear Idler

Insert and tighten wedge bolt in drive rail. Slots vertical.



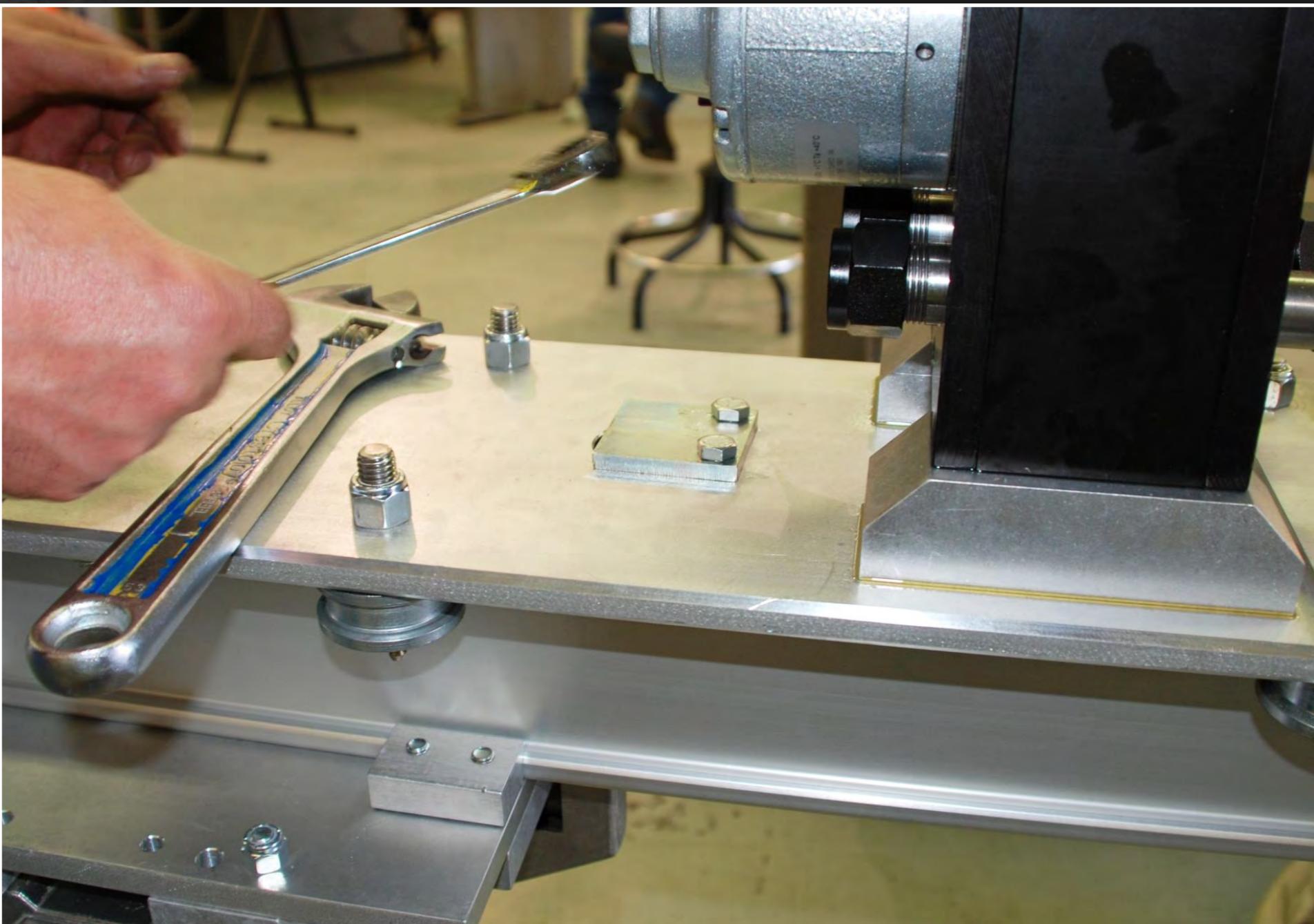
Flip Chain Hook

Locate the chain hook, loosen bolts and flip.



Flip Chain Hook

After flipping the chain hook, tighten the two bolts.



10. Tail Bracket

Positioning the tail bracket to power package shown below.

1. Mount the Tail Bracket
2. Insert Swivels
3. Connect Hose Adapters
4. Connect Tail Hoses
5. Lance Adapters & Collets



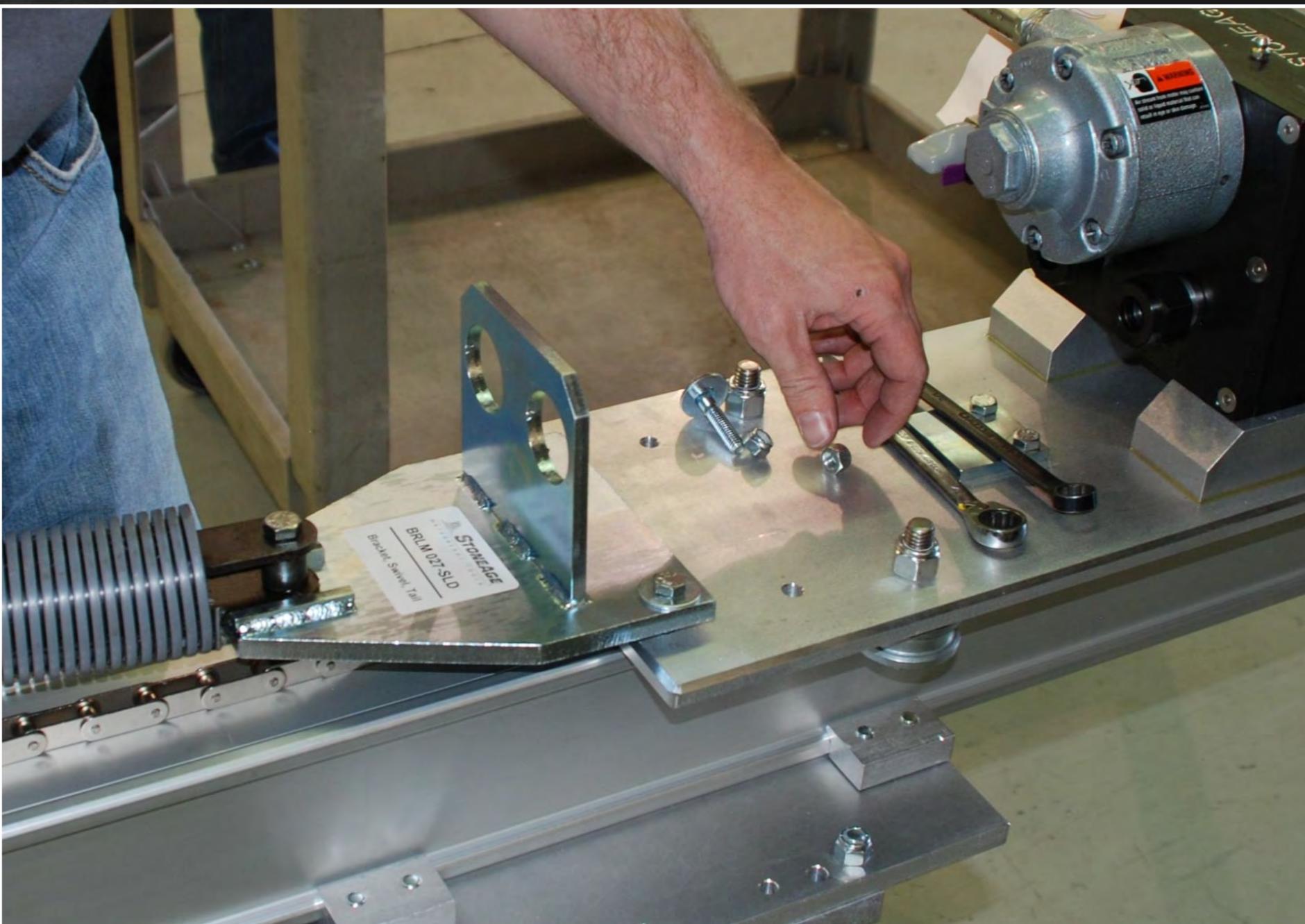
Tail Bracket

Loosen 2 bolts on rotary plate to receive the tail bracket.



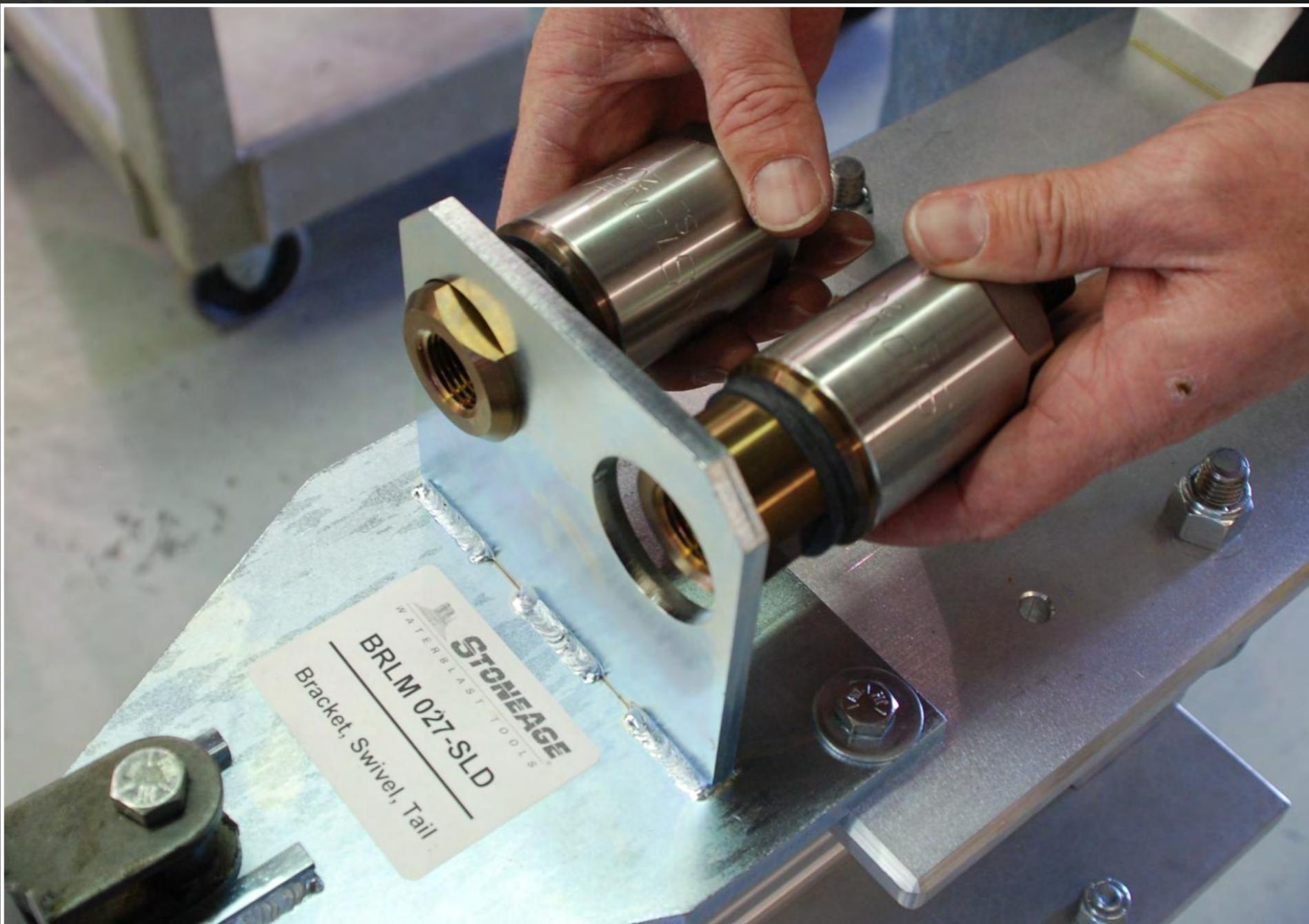
Tail Bracket

Mount tail bracket on plate and replace bolts.



Trail Bracket

Insert two swivels into holes on tail bracket.



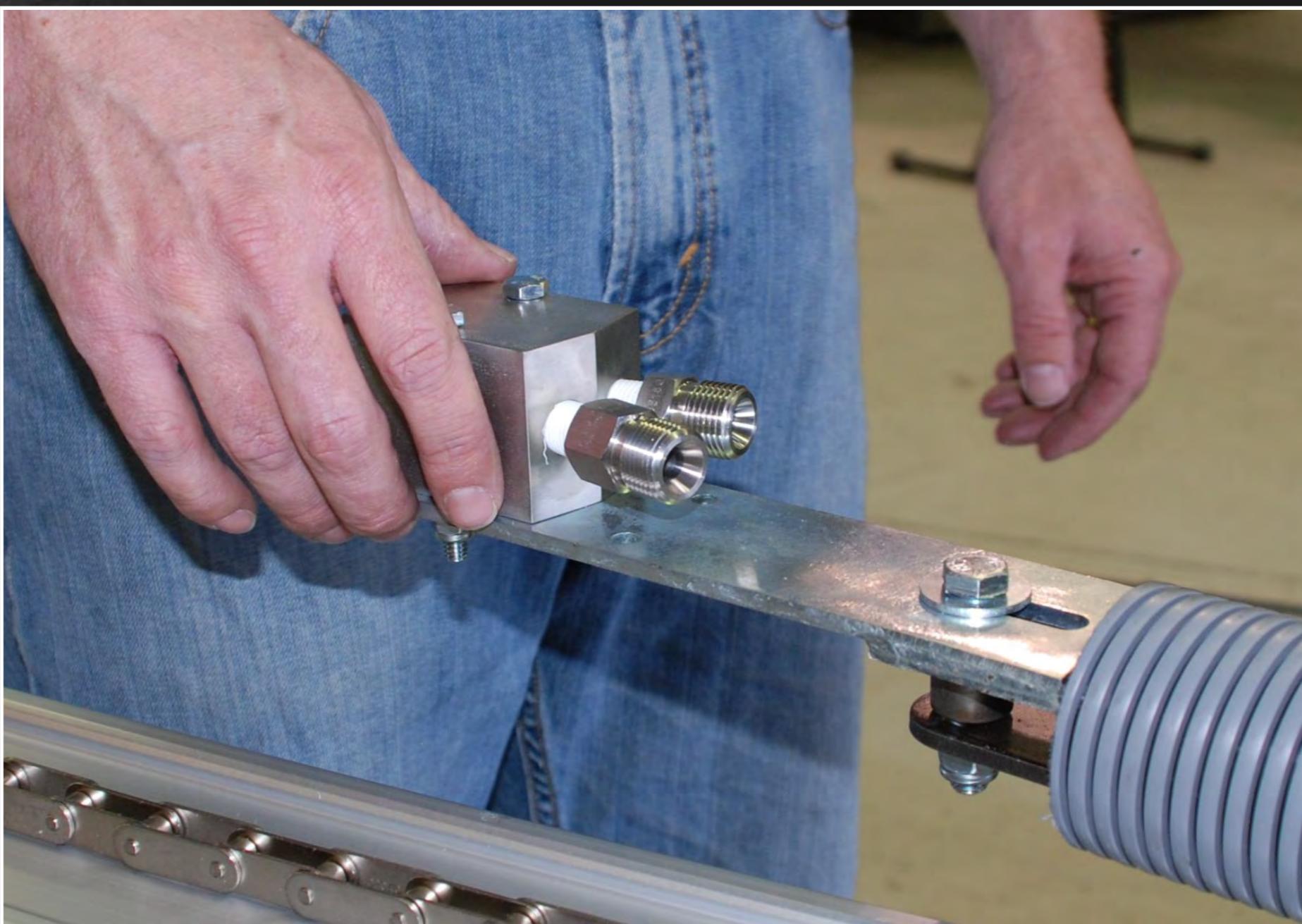
Tail Bracket

Screw hose adapters onto the swivels.



Tail Bracket

Screw hose adapters to the manifold block on tail bracket.



Tail Bracket Hoses

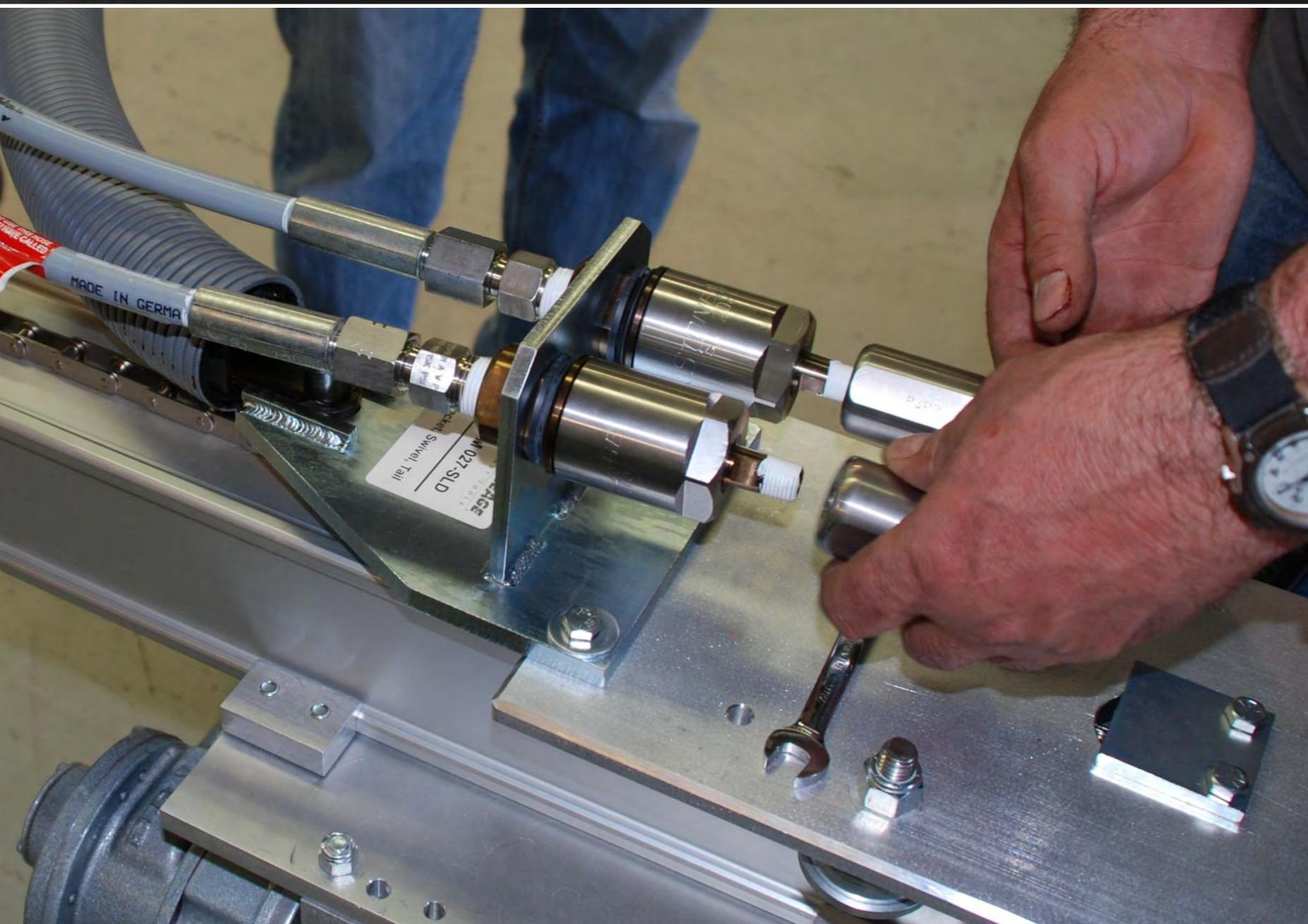
Connect tail hoses from manifold to swivels.



Important: Hoses should cross over, inside to out, outside to in.

Lance Adapters

Screw on both lance adapters to the front ends of the swivels.



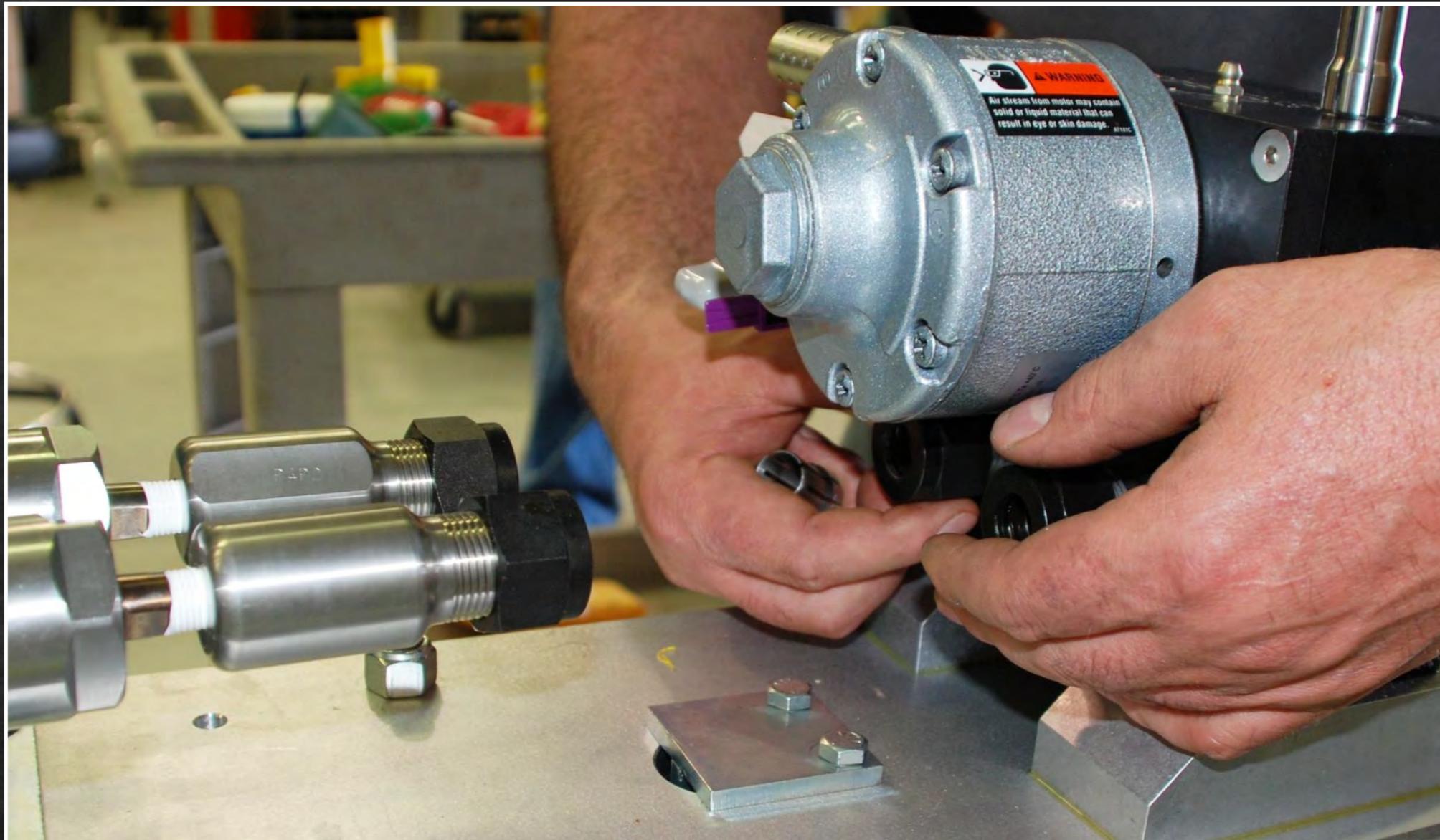
Lance Collets

Insert collets into adapters, and 4 more into the rotary package.



Collet Nuts

Install 6 black collet nuts. Hand tighten until lances are in place.

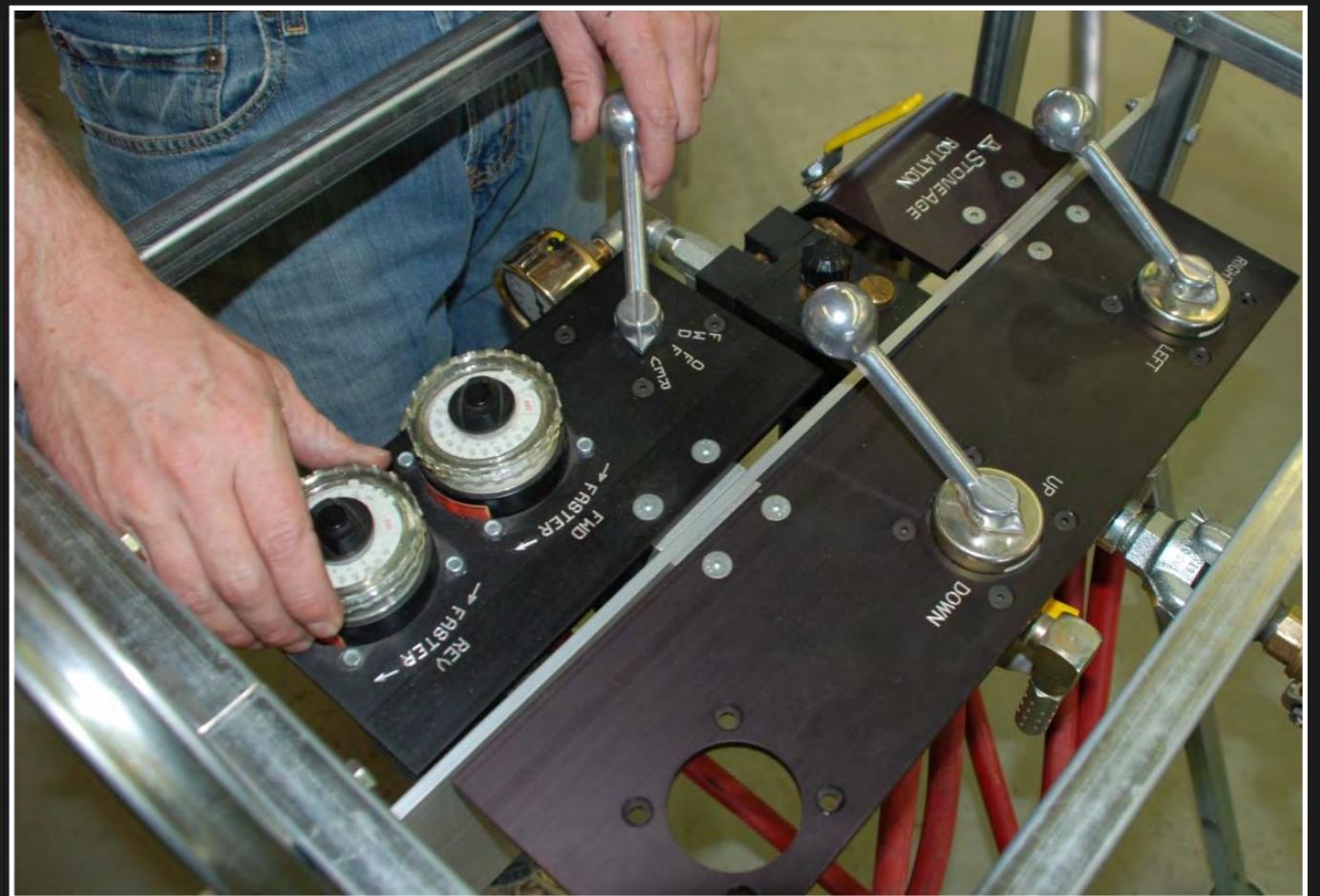


Note: Do not install lances until air supply hoses are attached.

11. Control Box

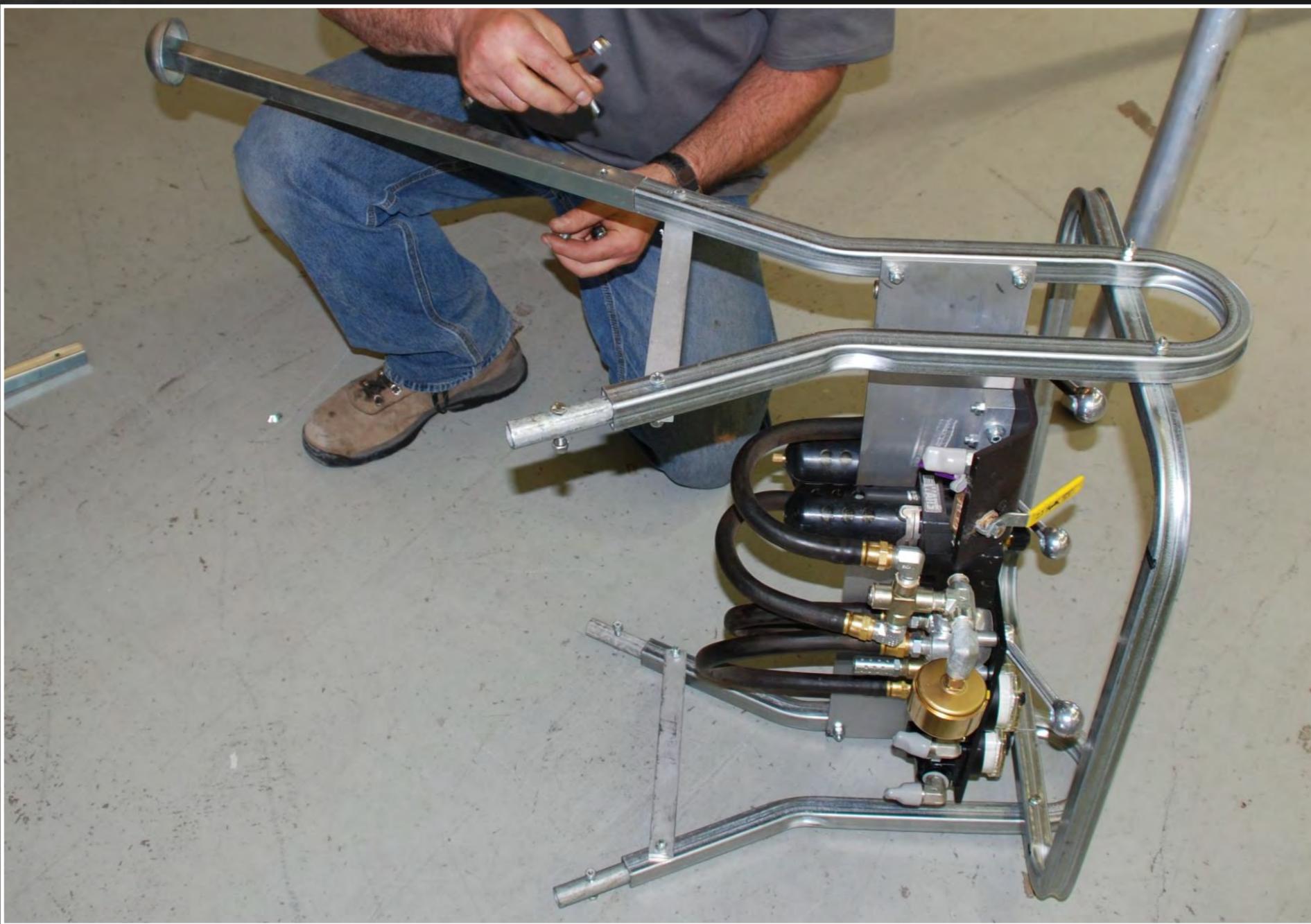
Building the control unit, top view shown below

1. Inserting the Legs
2. Connecting the Lines
3. Color Coded Connections
4. Connecting to Air Supply



Control Box

Attach legs to the control box. Insert and tighten screws.



Control Box

Connect the proper fitting on control box with positioner.



Note: Color coded tags on fittings match those on positioner.

Connecting Hoses

Connect the air hoses to the corresponding motor fittings.



Note: Blow out all air lines prior to connecting hoses

Main Air Supply

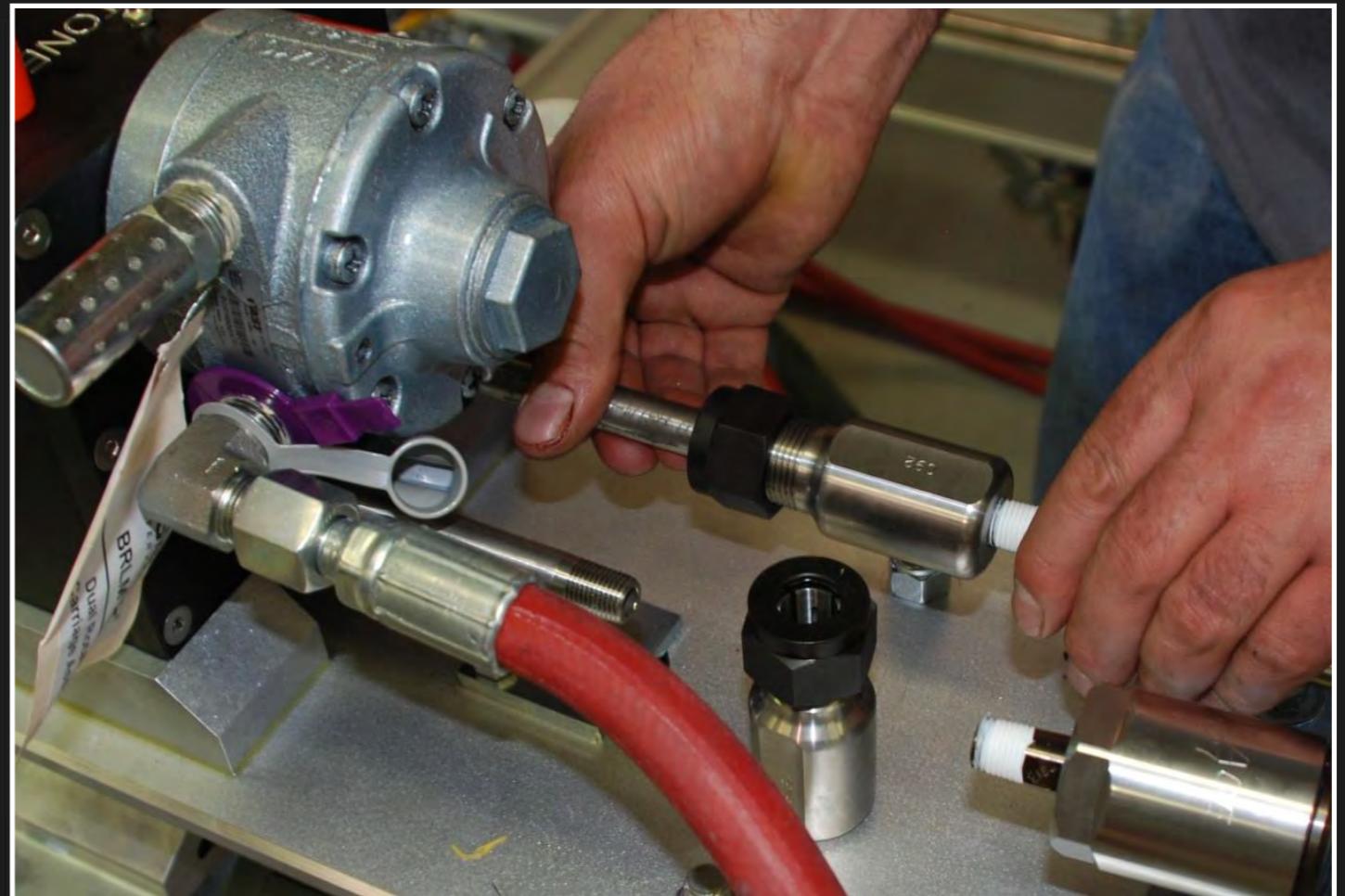
Connect the control box to your air supply.



12. Final Adjustments

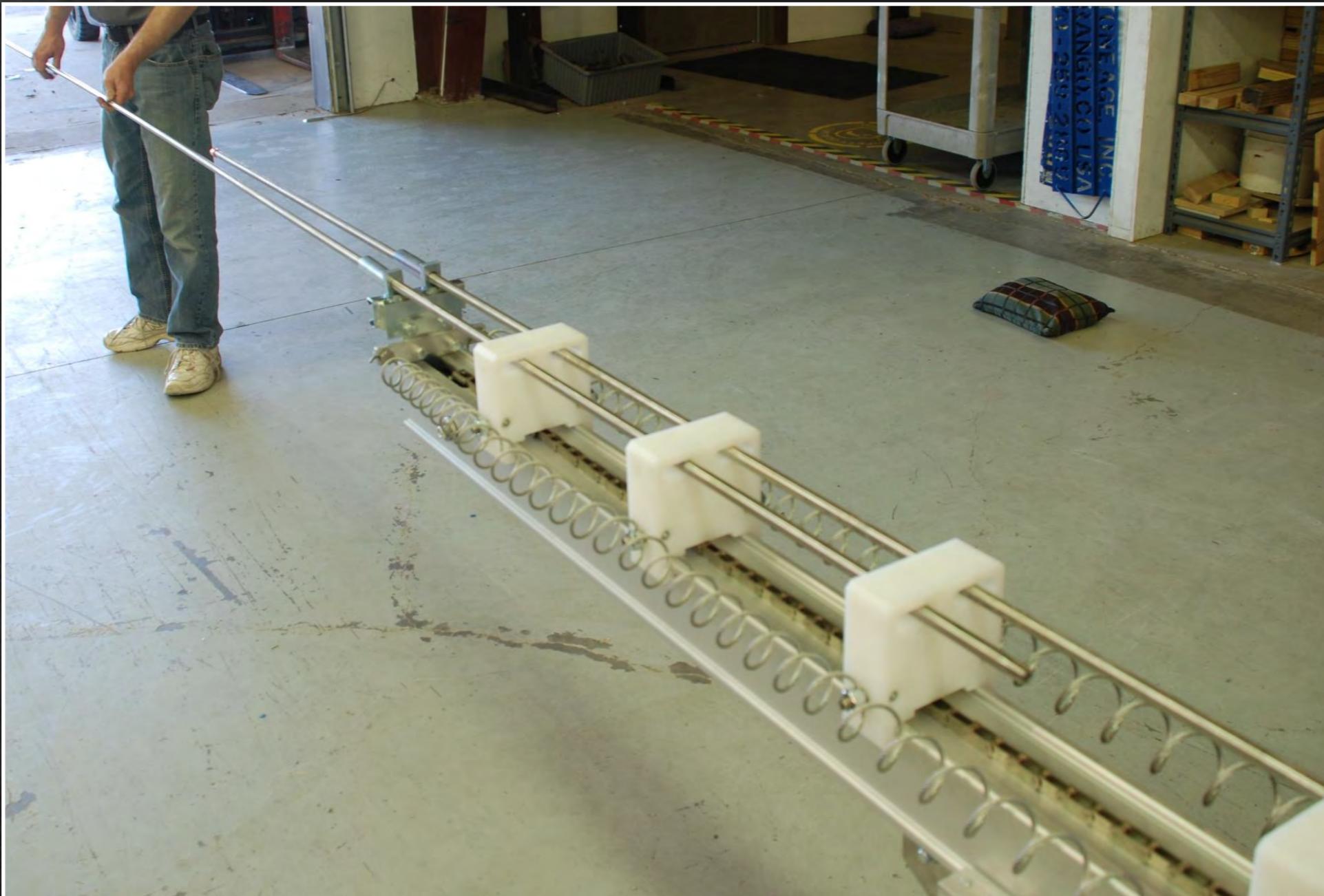
Final touches to making your system operational

1. Lances & Lance Tips
2. Mounting the Carriage Stop
3. Adjusting Chain Tension



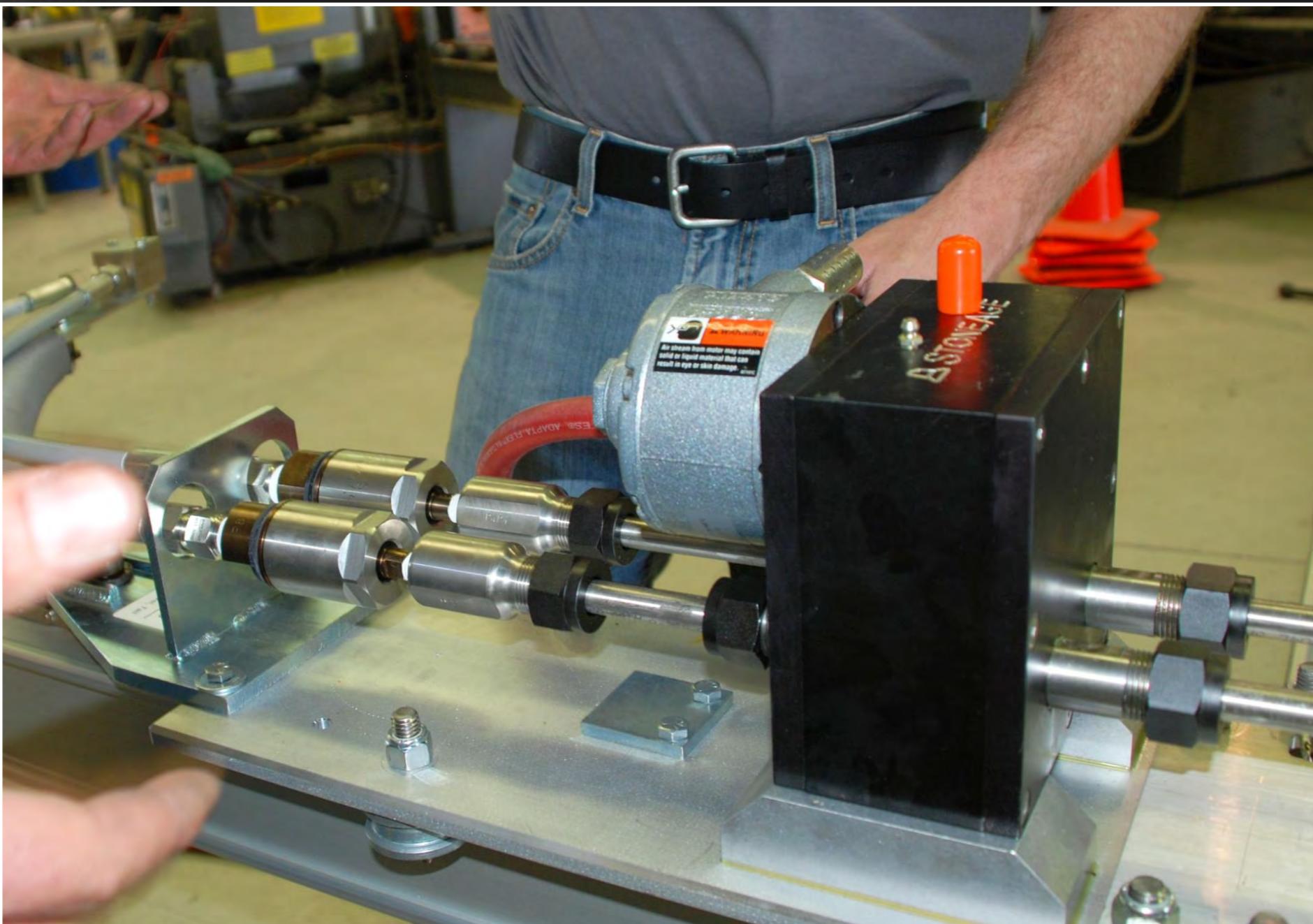
Installing Lances

Thread lances through blocks & rotary package to swivels.



Installing Lances

Lances go through collets and adapters. Screw ends into swivels.



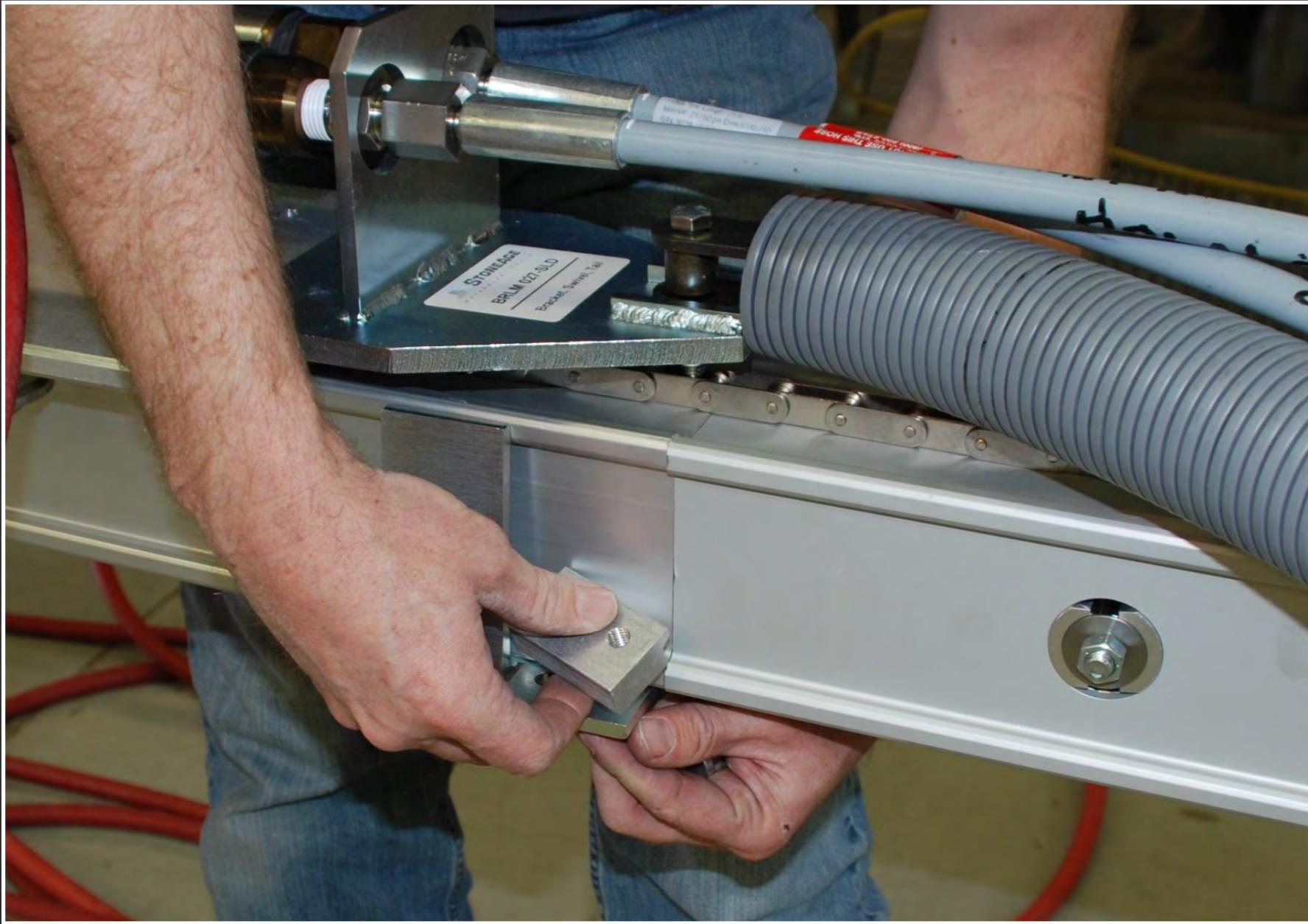
Installing Lances

Screw lance tips on front end of lances.



Carriage Stop

Bolt the adjustable carriage stop bracket to drive rail.



Note: Carriage Stop prevents the lances from retracting too far.

Chain Tension

Test chain tension by lifting off drive rail.



Note: Proper tension is 8" of slack for each 20' of drive rail.

Chain Tension

Adjust chain tension by turning bolt on front idler plate.



Need More Information?

We're here to help!

StoneAge Technical Specialists

1-866-795-1586

www.STONEAGTOOLS.COM