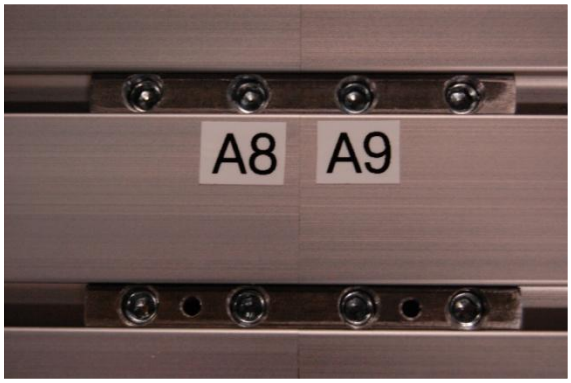
ASSEMBLY INSTRUCTIONS

MSA-14S-A-00-00-14668

Part 1: Butt Joint Assembly

1. Remove all general shipping material from each section of actuator.

2. Lay each section in line on floor on blocks that are at least 6" high, matching up the letter callouts (marked on tape) for each butt joint, i.e. A8-A9, A10-A11 etc.



3. Working on each butt joint in turn, Remove the packaging from between the rail and profile; bring the two sections together until there is a negligible gap between the two ends.

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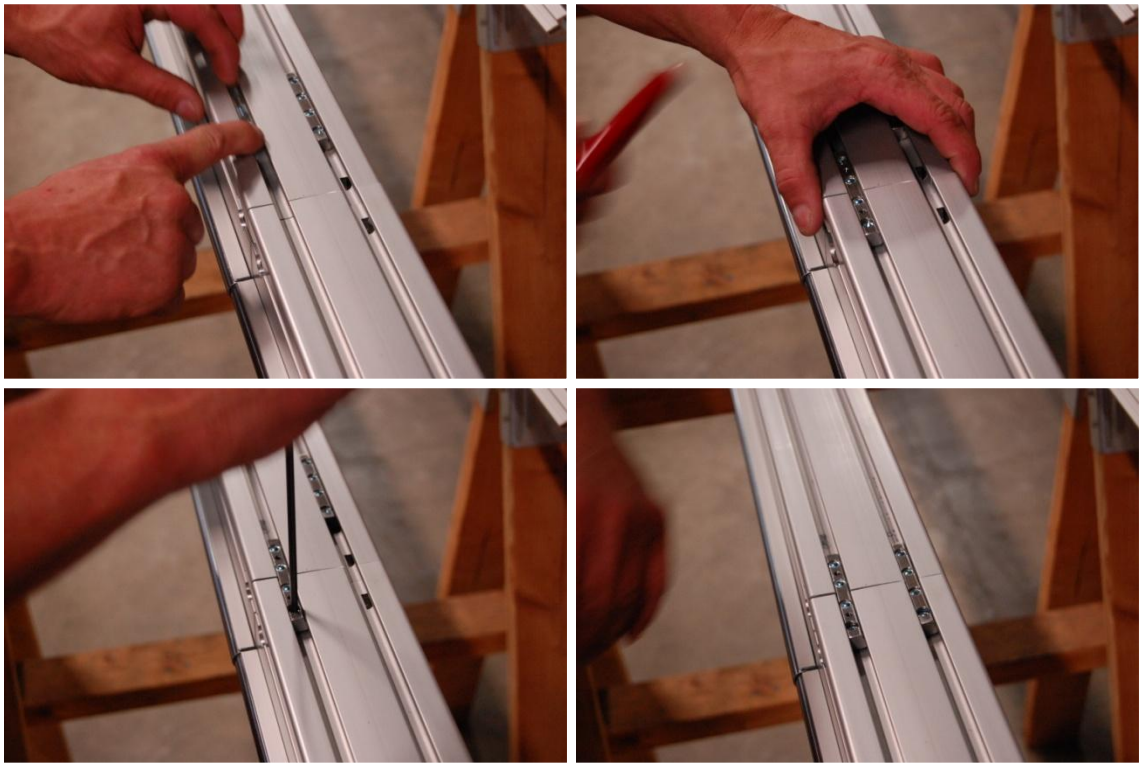
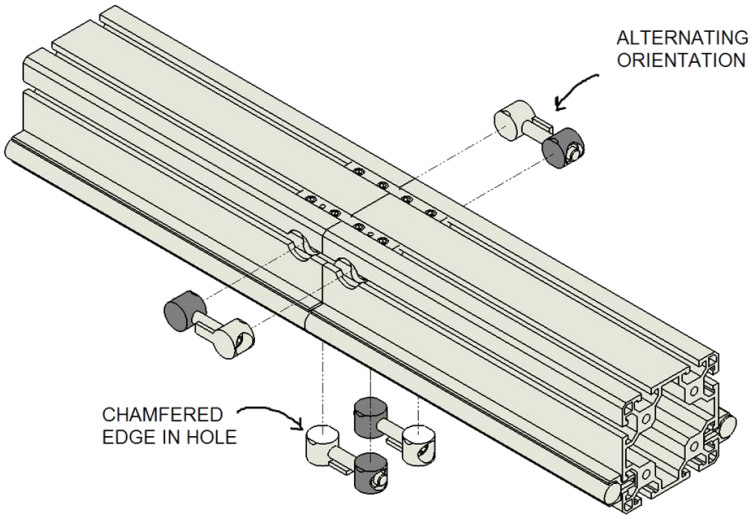
4. Slide the two heavy-duty T-Nut Bars so that they are centered over the seam of the beams. Moderately tighten the set screws with an 4mm Allen Key (shown below).



5. Insert four Butt Joint Fasteners in their respective slots along the seam of the beams (shown below). Add a strip of LOCTITE along the side of the threaded portion.



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6. Using a 5mm Allen Key, moderately tighten each butt joint fastener in turn until the ends of the section touch. DO NOT final tighten at this time.

7. Repeat steps 3 through 6 at each butt joint.

8. Once all connections are made and rails are aligned, final tighten each butt joint fastener at each joint along the actuator along with each heavy-duty T-Nut Bar.

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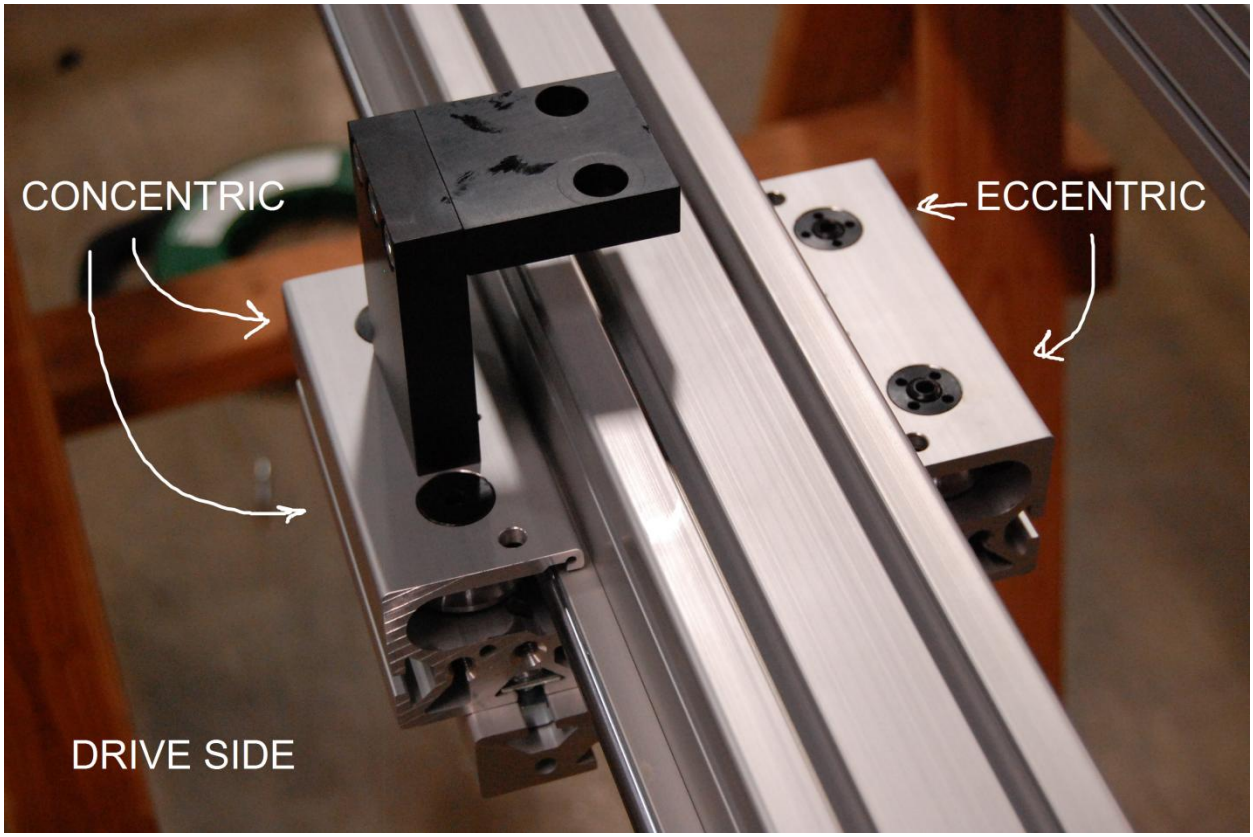
Part 2: Cart Assembly



The Macron Spanner Wrench (below) is used to tighten the Spanner Nut on a Macron 14 Cart. The Spanner Nut locks the Eccentric Shaft in place after appropriate Macron 14 Roller adjustment has been reached.

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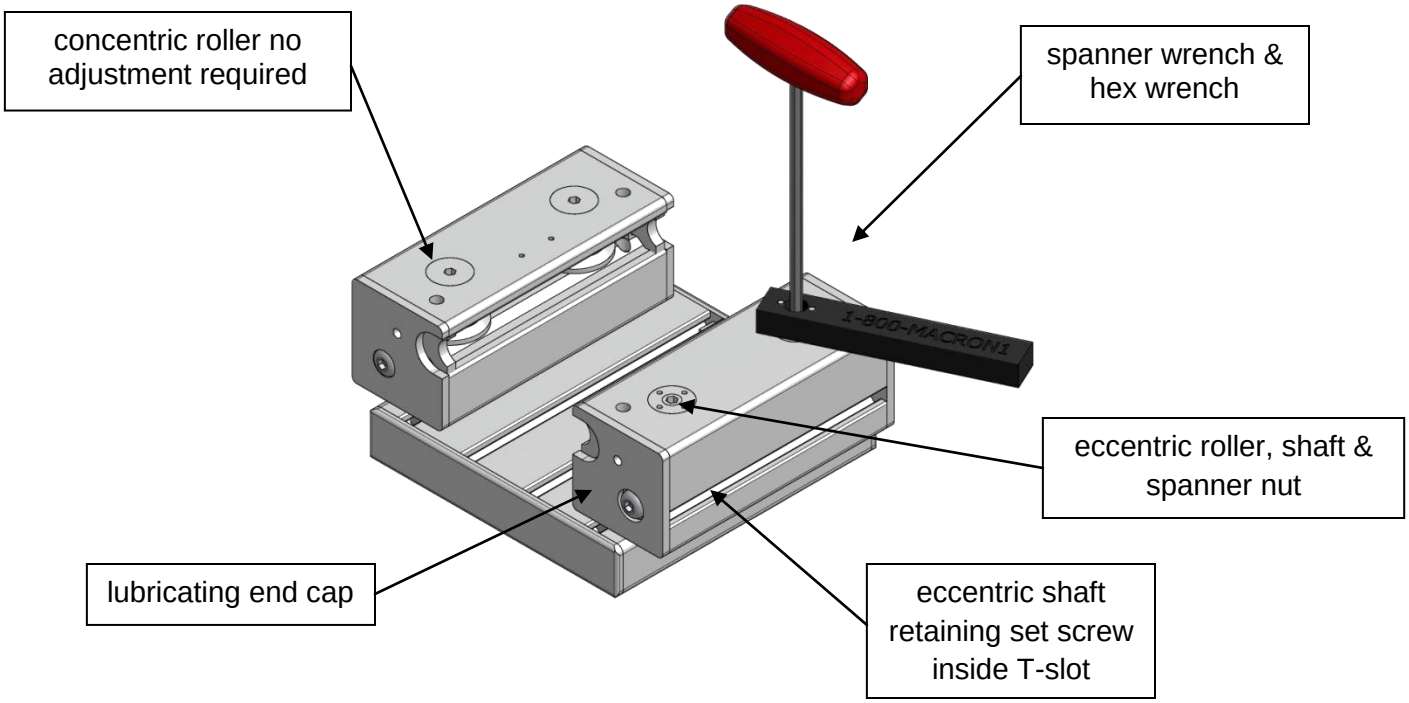

1. Remove lubricating end caps from replacement cart to simplify installation.
2. Slide cart onto actuator ensuring track rollers align with round rail.
3. Loosen the eccentric shaft retaining set screws visible inside T-slot.
4. Using spanner wrench & hex wrench, slightly loosen spanner nuts on all eccentric side rollers.
5. Pre-load adjustment: using hex wrench, rotate eccentric shaft until roller contacts the rail and does not slip - do not overload - holding hex wrench steady, tighten the spanner nut with spanner wrench until snug.
6. Repeat for all eccentric rollers.

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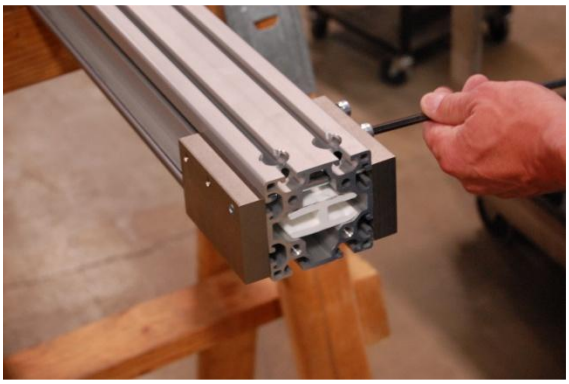
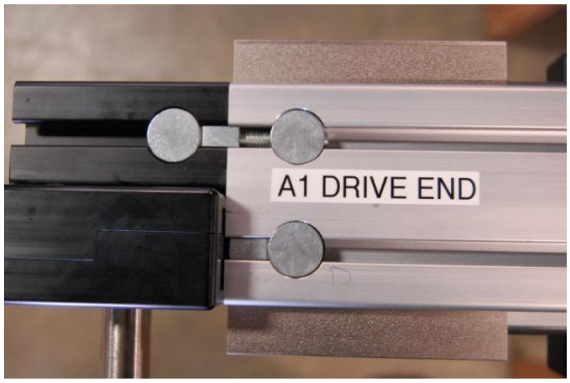
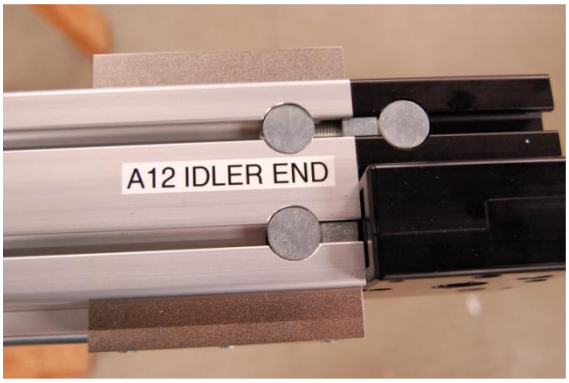
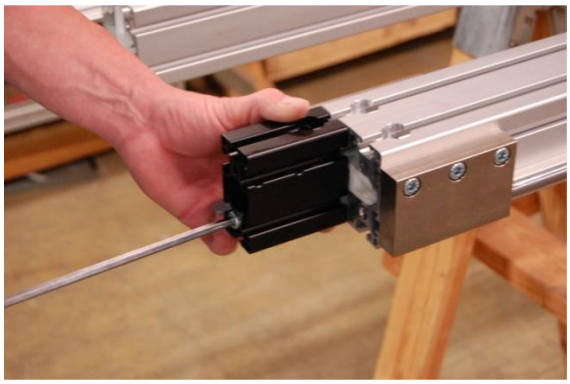
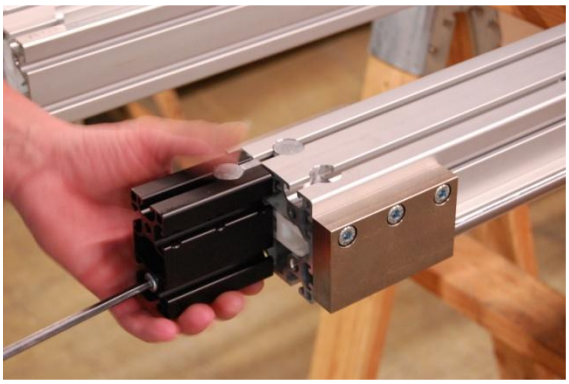
7. Slide cart back and forth along rail - there should be no play in any plane. observe roller for rotation. Cart should not bind. Re-adjust as required.
8. Tighten eccentric retaining set screws.
9. Replace lubricating end cap.
10. Mount the end brackets using the long M8 SHCS onto the DRIVE END (A1 & B1) and IDLER END (A12 & B12).



11. Attach the end block to the ends of each actuator (A1, B1, A12, & B12) using an M8 and a Butt Joint Fastener. Add a strip of LOCTITE along the side of the threaded portion.

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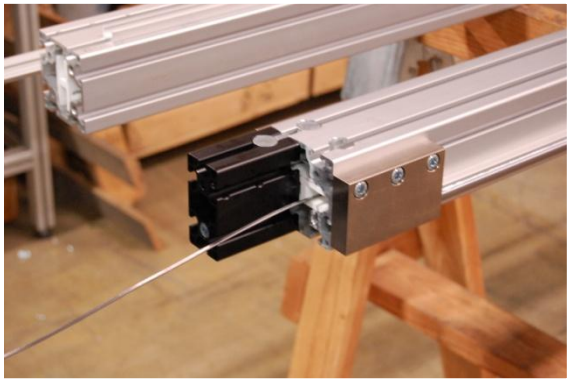
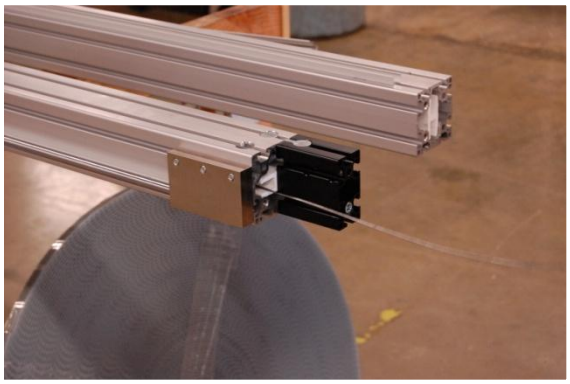
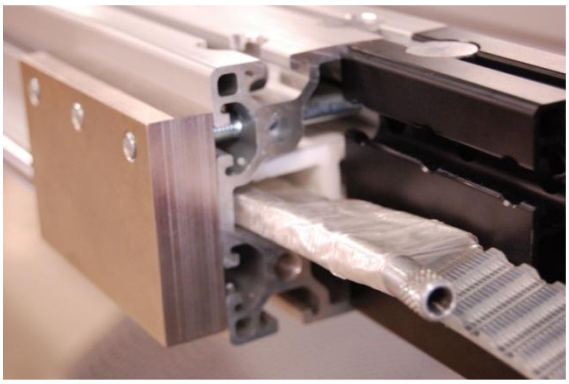
Part 3: Belt Assembly

1. Start at the drive end (i.e. A1, B1) and begin unspooling your Steel Fish Tape through the opening in the belt guide extrusion (shown below). **Note:** at least 100' of Fish Tape will be needed.




2. Once the Fish Tape is fed through the entire assembly, attach one end of the belt (teeth facing up) to the end of the Fish Tape; using a generous amount of Electricians Tape. Tape the wire along the side of the belt in order to ensure that it can slide through the belt guide with ease (do not pierce belt to attach).



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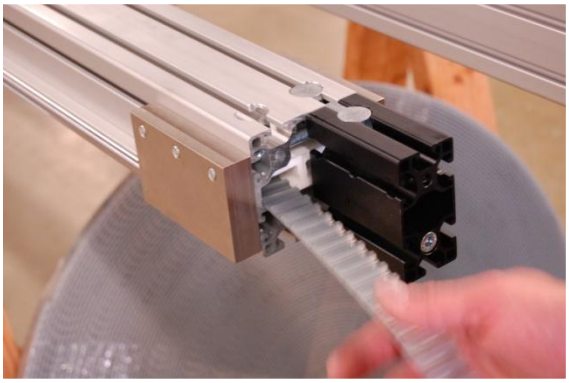
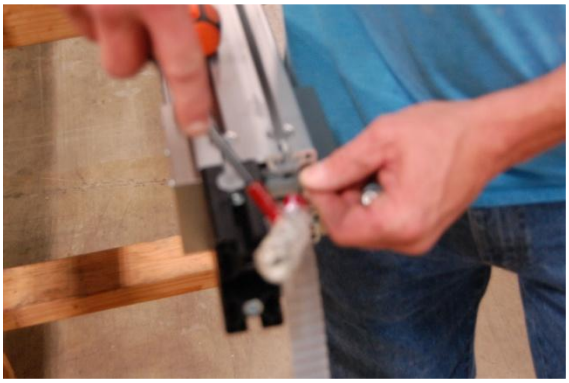
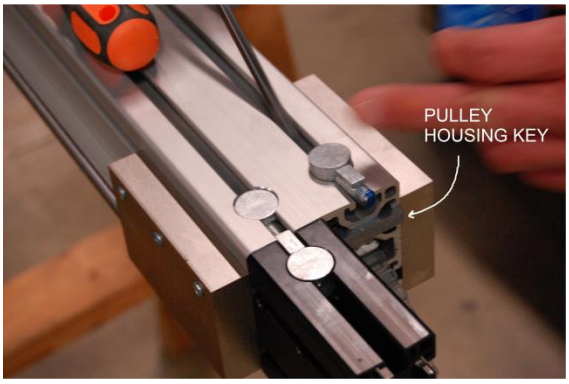
3. Spool the Fish Tape with the belt attached. While one person spools the cable, have another person feed the belt through the extrusion to ensure proper orientation and reduce entanglement.

4. Once the Fish Tape is completely spooled, detach the belt from the cable. Insert the pulley housing key and the butt joint fastener for purposes of mounting the pulley housing to the beam.



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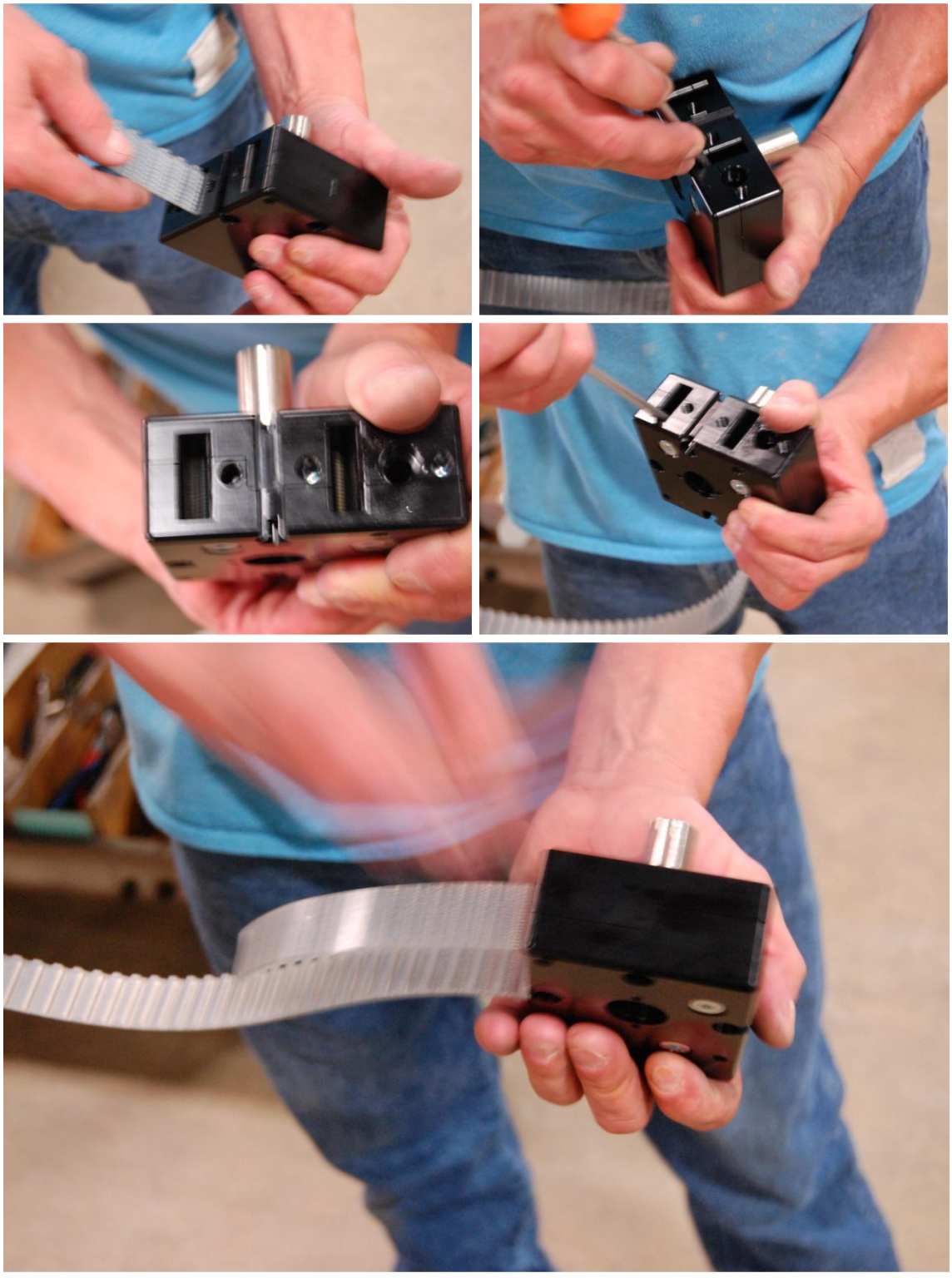
5. Begin by feeding the belt through the bottom slot of the housing. Use a Flat Head Screwdriver to guide the belt around the pulley. Continue to feed the belt through the housing using the Flat Head Screwdriver as an assist in the top slot as well.



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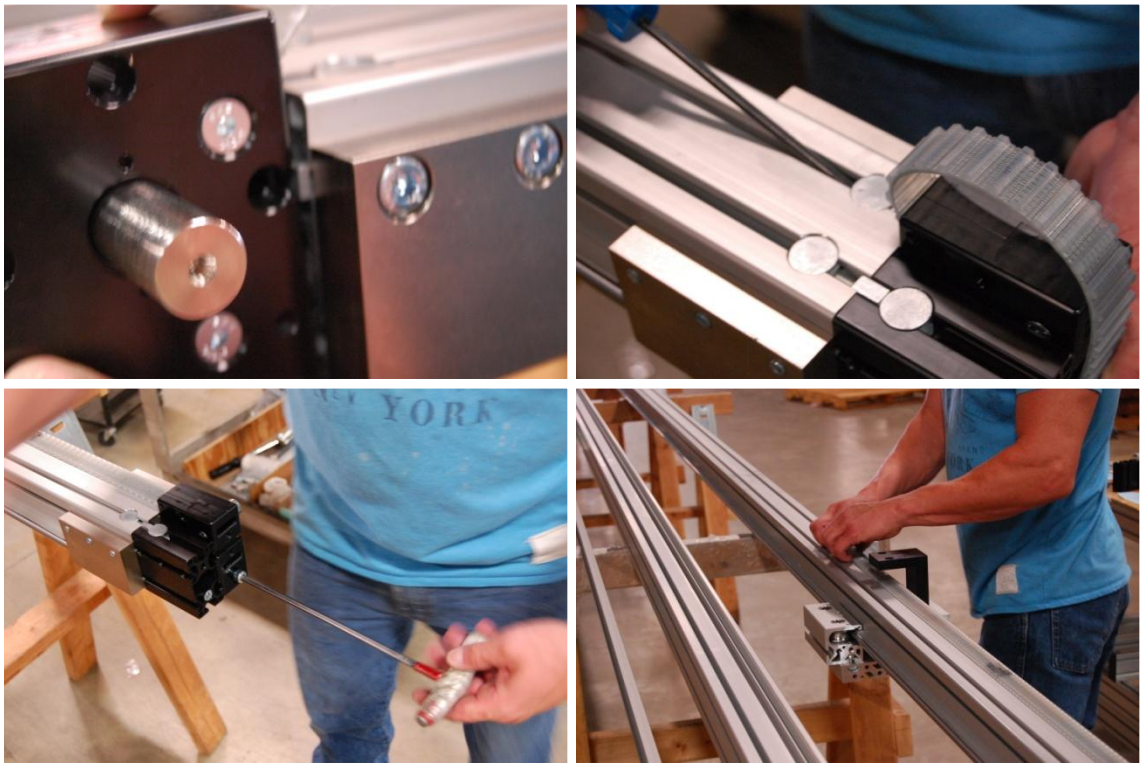
6. Once the belt is fed through the housing, final tighten the Butt Joint Fastener and the M8 SHCS to set the pulley housing in place. Add a strip of LOCTITE along the side of the threaded portion. Once fastened, pull the belt from the DRIVE END to the IDLER END.



7. Once both ends of the belt are by the IDLER END, repeat steps 4, 5, and 6.

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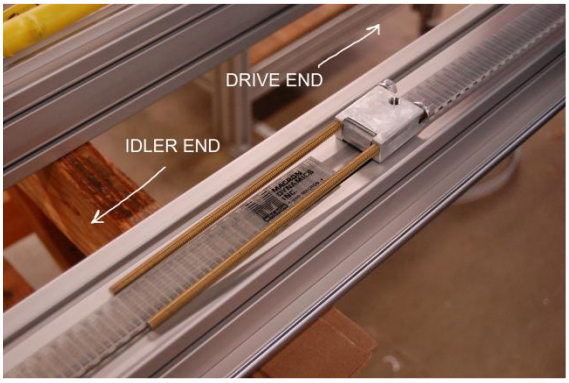
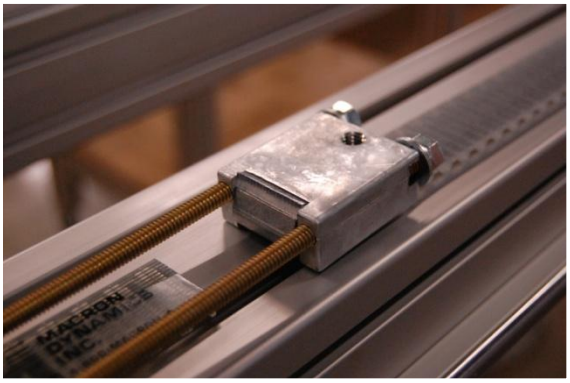
Part 4: Belt Tensioning

1. Feed the fully threaded M6 screws (temporary) as well as the belt through the holes and slot of the Tension Block, respectively. Match the belt teeth with the grooves in the Belt Wedge.



2. Follow the same process as step 1 but flip the orientation of the Tension block (shown below). The belt is already cut to length; there should be no excess teeth protruding from the Tension Blocks.



3. Tension the belt by tightening the nuts on the M6 screws. Continue to do so until the Tension Block (closer to IDLER END) has worked its way past roughly half the threads on the screws.
4. Use the MACRON Belt Tensioning Tool along with the Torque Wrench to check the belt tension.
5. Continue to tension the belt until the tension reaches 80lbs.
6. Once the belt tension is set, begin to unscrew one of the fully threaded M6 screws (keeping the other in place) and swap it for shorter zinc-plated M6. It helps to use a clamp during this process.

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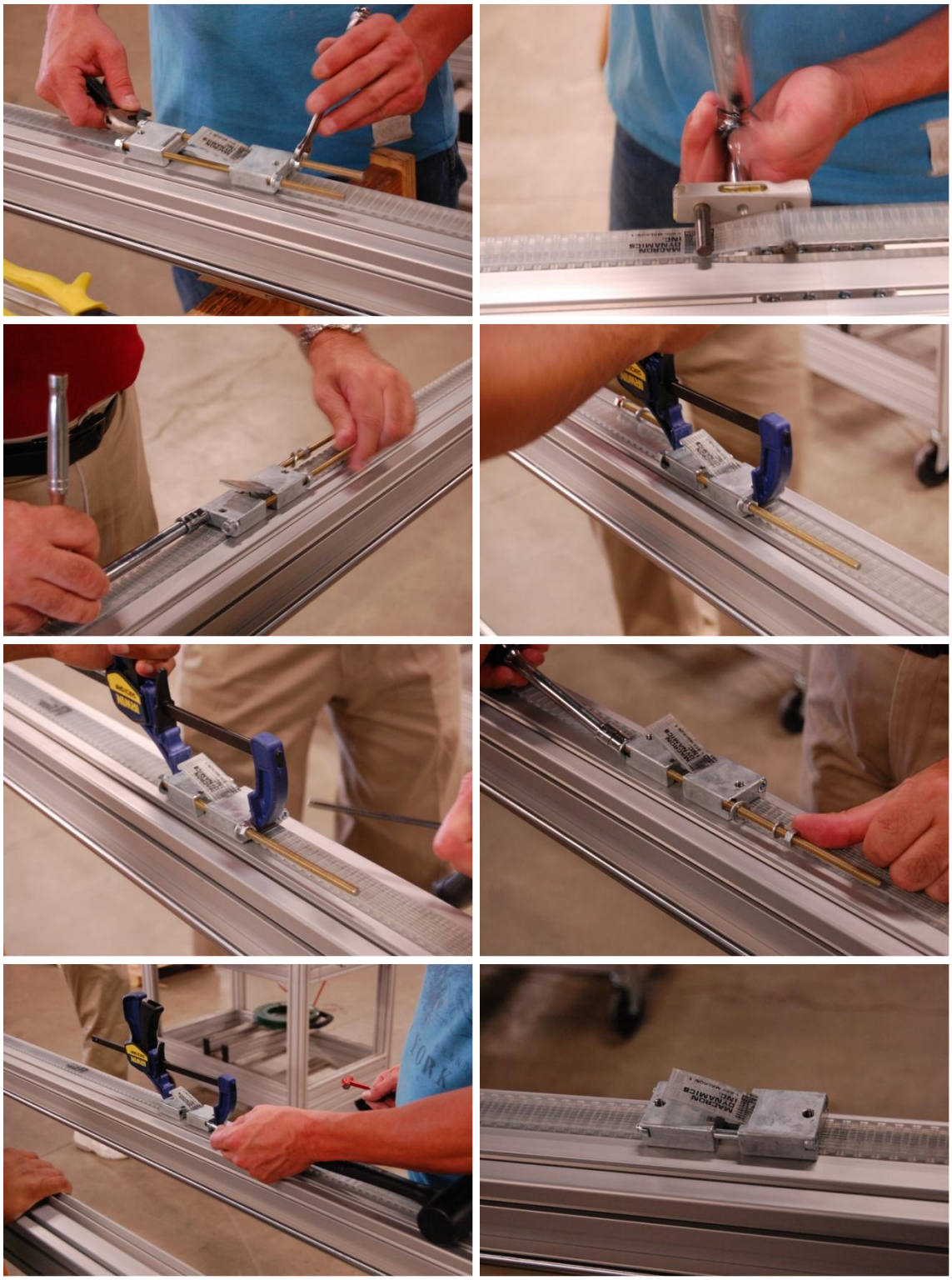
7. Repeat step 6 for the other M6 screw.
   Note: belt is cut to proper length (disregard excess belt in images below).



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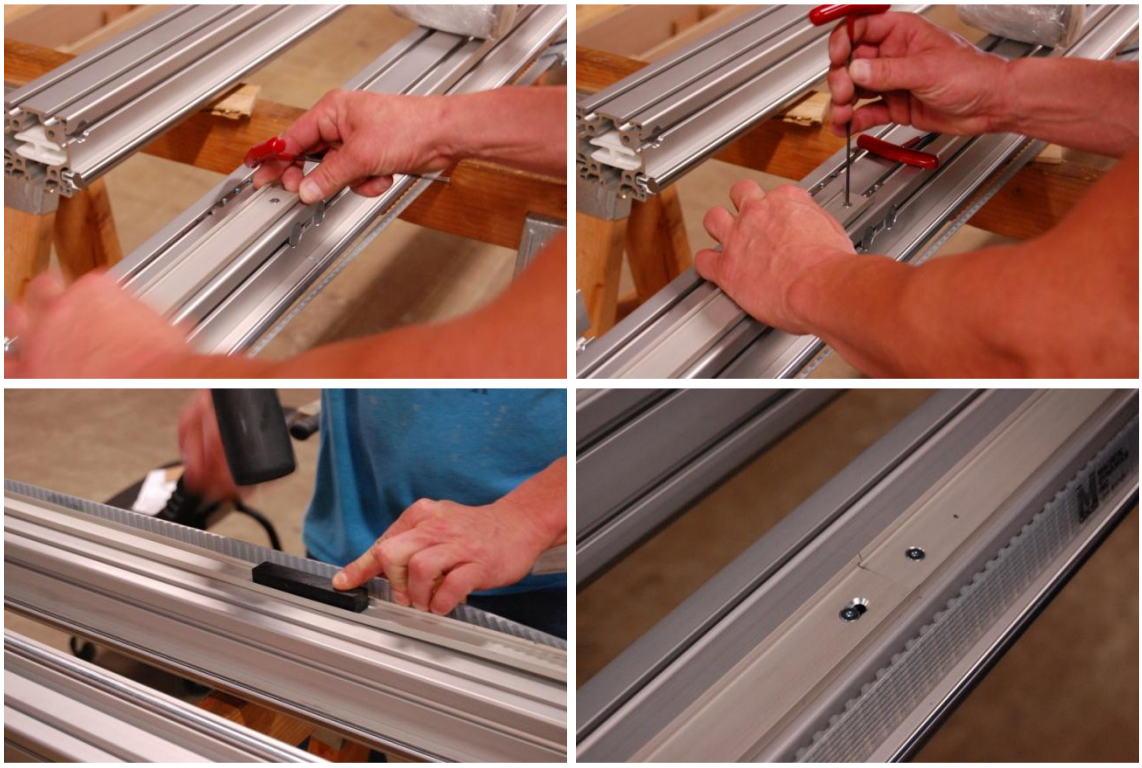
Part 5: Belt Track (aluminum extrusion press fit into T-Slot)

1. Move the belt to the side and position the belt track in the slot directly below where the belt will be resting.
2. Tighten one end to the heavy-duty T-Nut Bar and leave the other end with the Z-nut loosely set in the slot.
3. Use a dead blow hammer and strike the black block (included) along the track of the belt track to set it in place; strike every 8"-12" along the beam.
4. Tighten the Z-nut and final tighten (hand tight + 1/4 turn) the opposite end.
5. Repeat steps 2, 3, and 4 for the remaining belt tracks.



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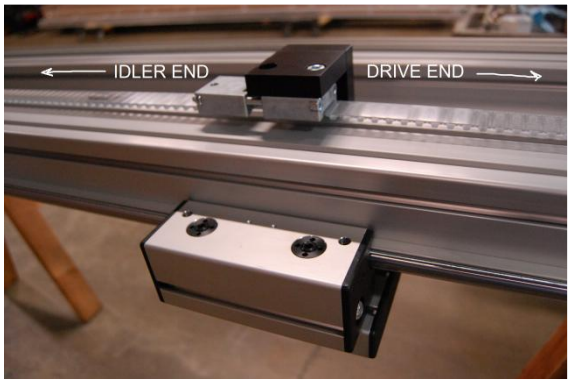
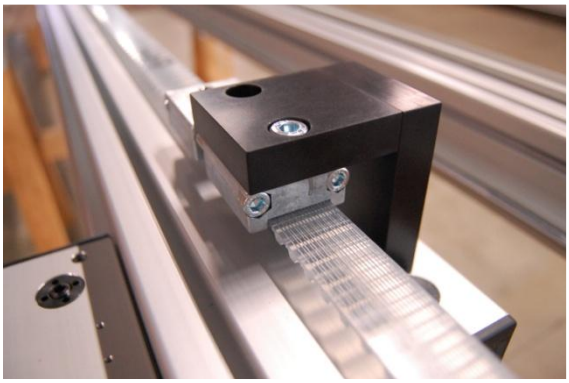
6. Attach the Tension Block closer to the DRIVE END to the cart (shown below)





7. Hand slide cart the length of the actuator. Cart should slide smoothly with no binding.

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