

Dart Linear Actuator

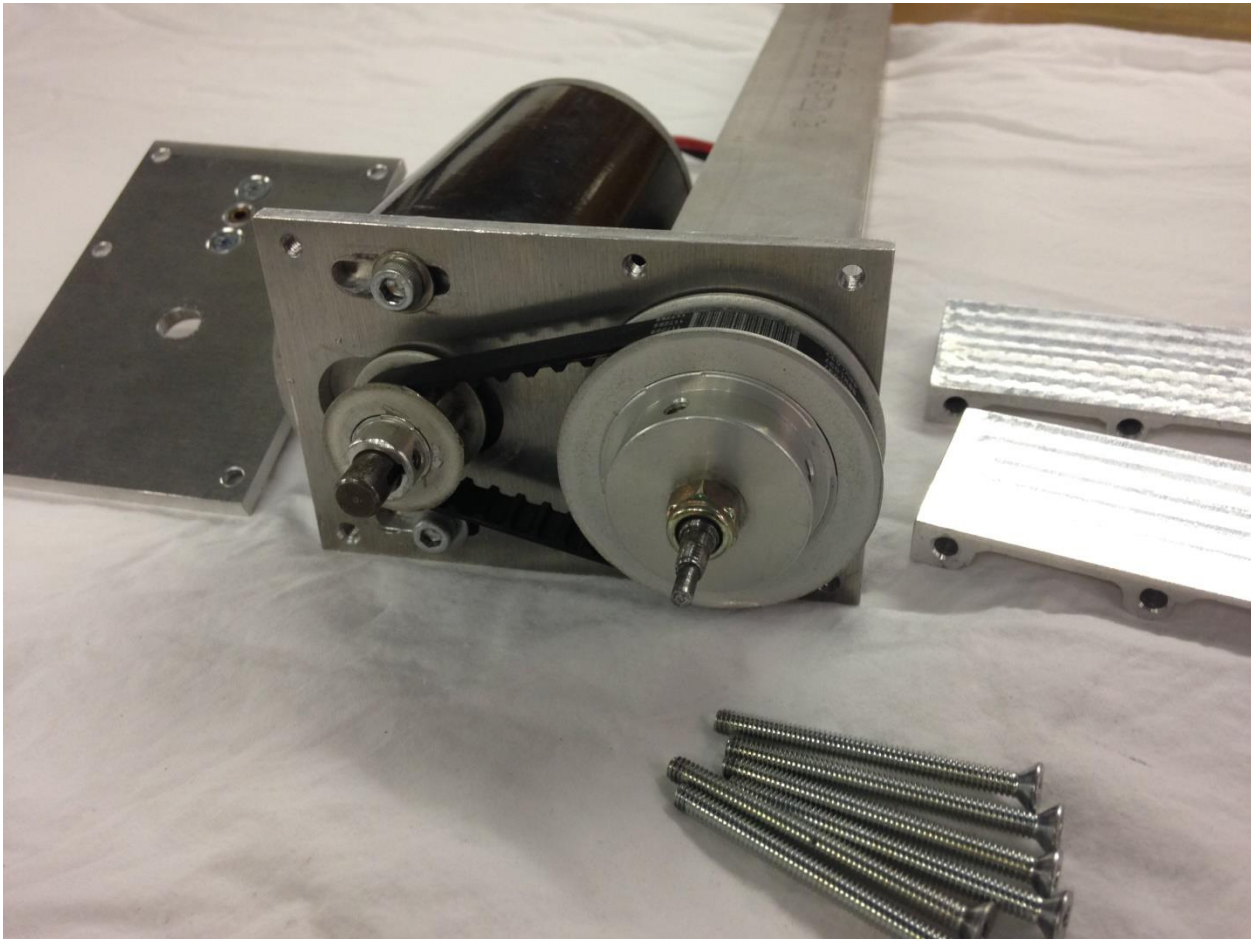
Ratio/Pulley Change Instructions

DART Linear Actuators come standard with a 2.50:1 ratio pulley set consisting of a 12 tooth drive pulley mounted to the motor and a 30 tooth driven pulley mounted to the lead screw. Both a 2.00:1 and 1.00:1 ratio pulley set are available and come with a 24 tooth or 12 tooth pulley, respectively, as well as appropriately sized timing belt. These ratios are accomplished by replacing the 30 tooth driven pulley mounted to the lead screw. Other ratios are possible by changing the drive pulley with any of these pulleys as shaft and key sizes are identical.

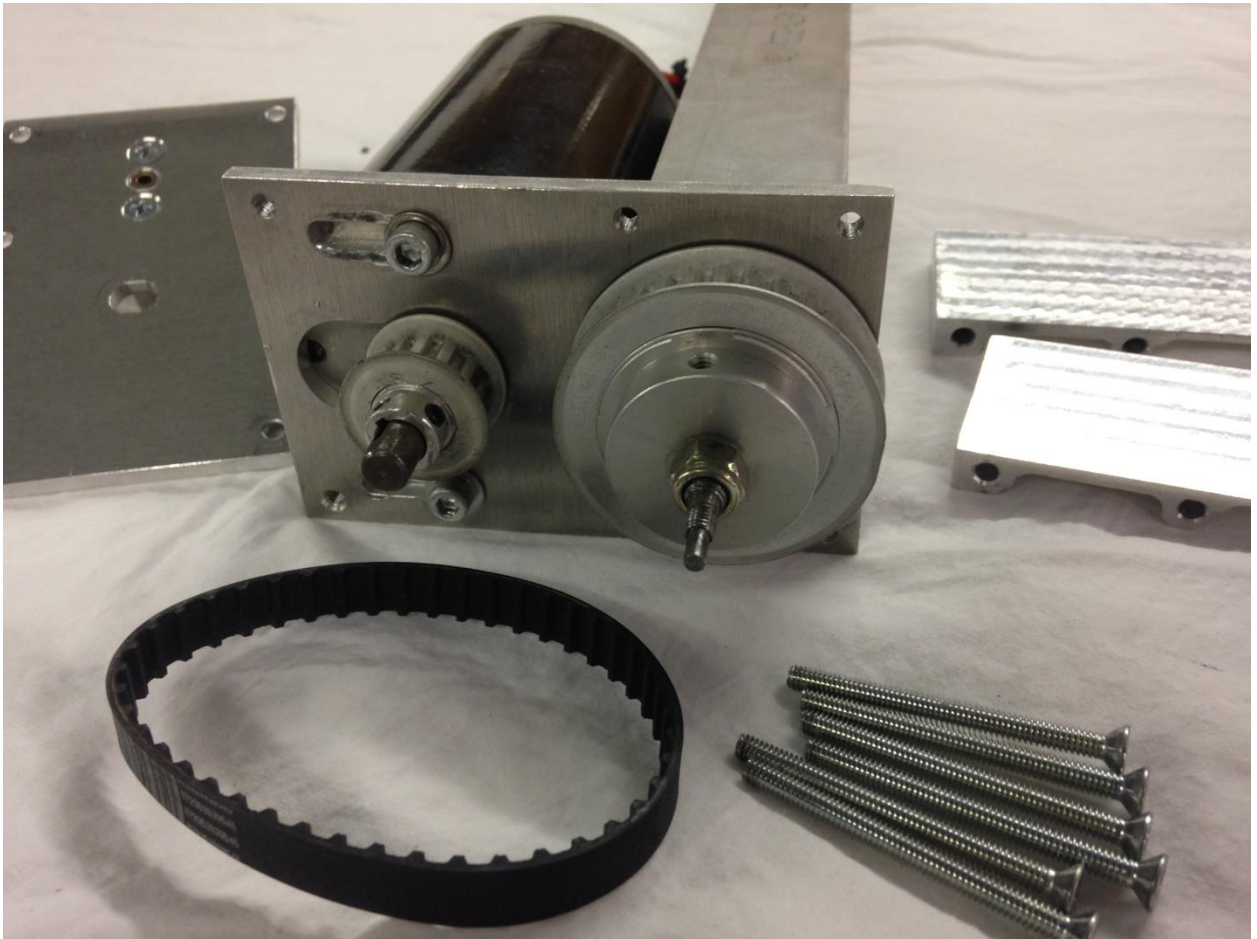
To change ratios the drive enclosure portion of the actuator must be taken apart, to do this you will need the following tools: #2 Philips screw driver, 5/16" box wrench or socket, 1/2" box wrench or socket, 5/32" Allen wrench. 2.00:1 and 1.00:1 ratio pulley and belt kits shown below from left to right respectively.



1. Begin by removing drive enclosure top and sides by removing the 6 #8 Phillips screws passing through the top and side plates.

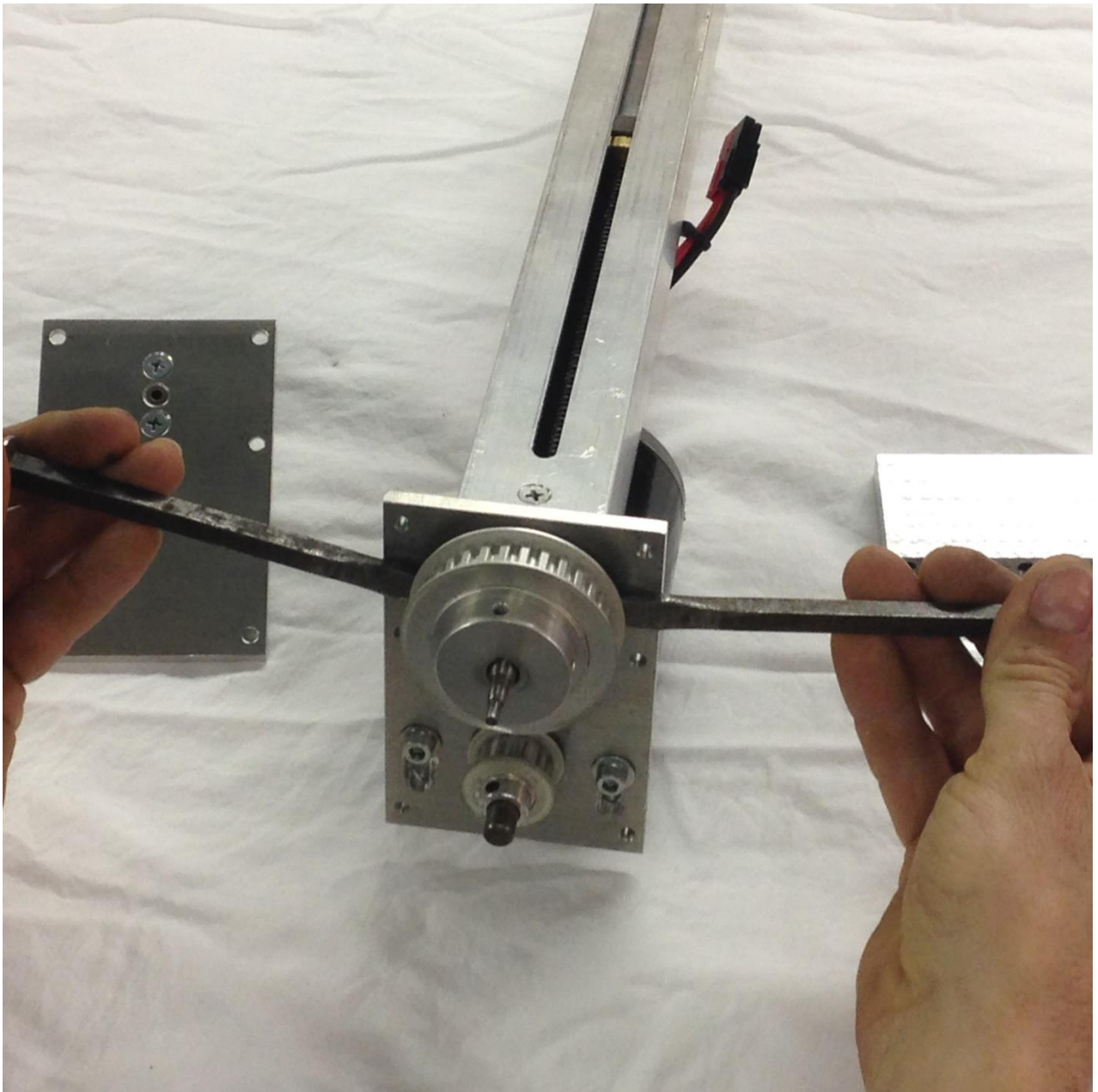


2. Loosen, but do not remove, the two #10 socket head cap screws securing the motor to the motor plate. Slide the motor toward the actuator housing such that the belt can be removed.



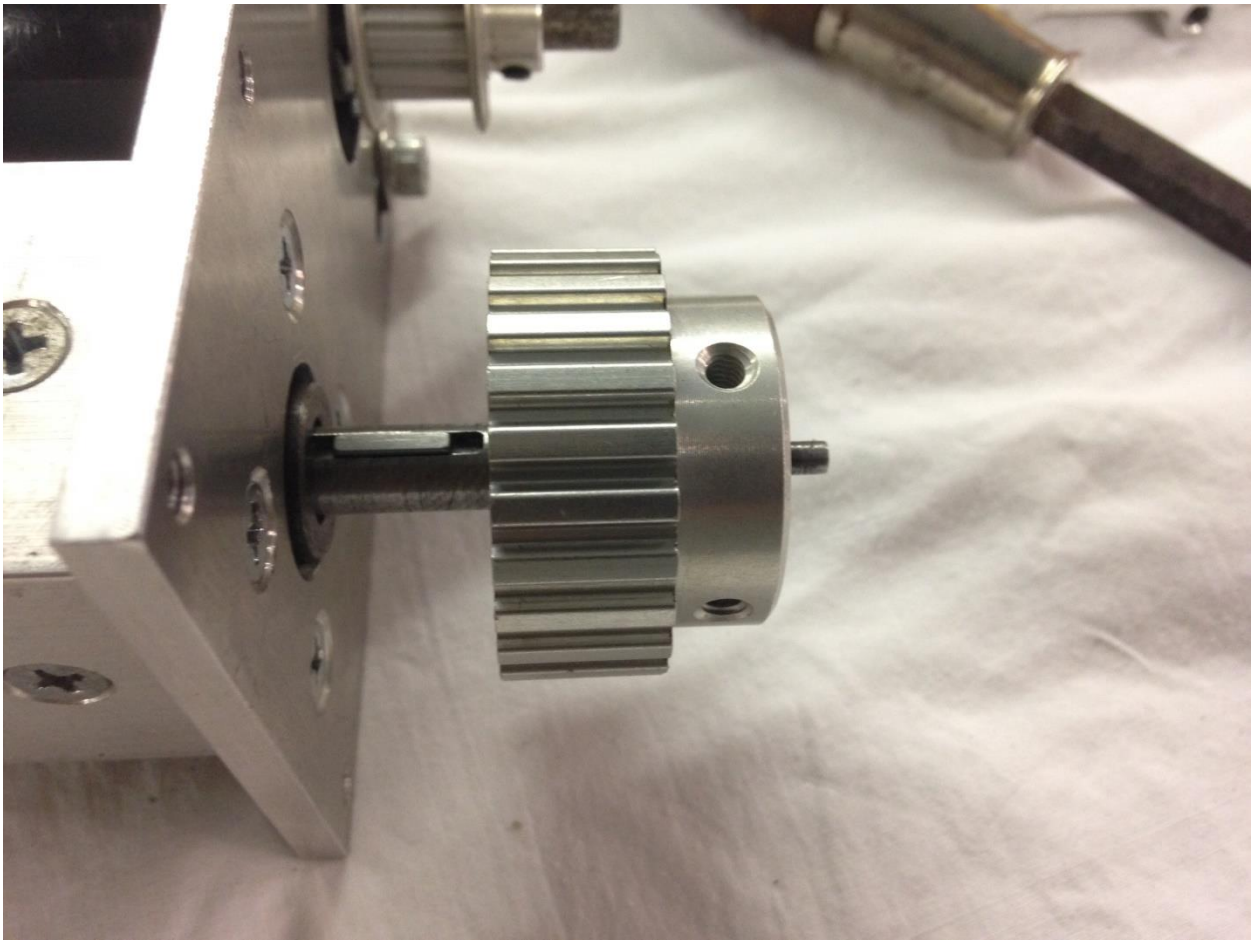
3. Remove the 5/16-24 Nylock nut securing the driven 30 tooth pulley to the lead screw. Using 2 flat blade screw drivers, carefully pry the pulley off the lead screw shaft as shown. Be careful not to lose the 2mmx10mm machine key captured between the pulley and shaft. Do not remove the

race spacer located under the pulley, this will support the new pulley as it did the original.



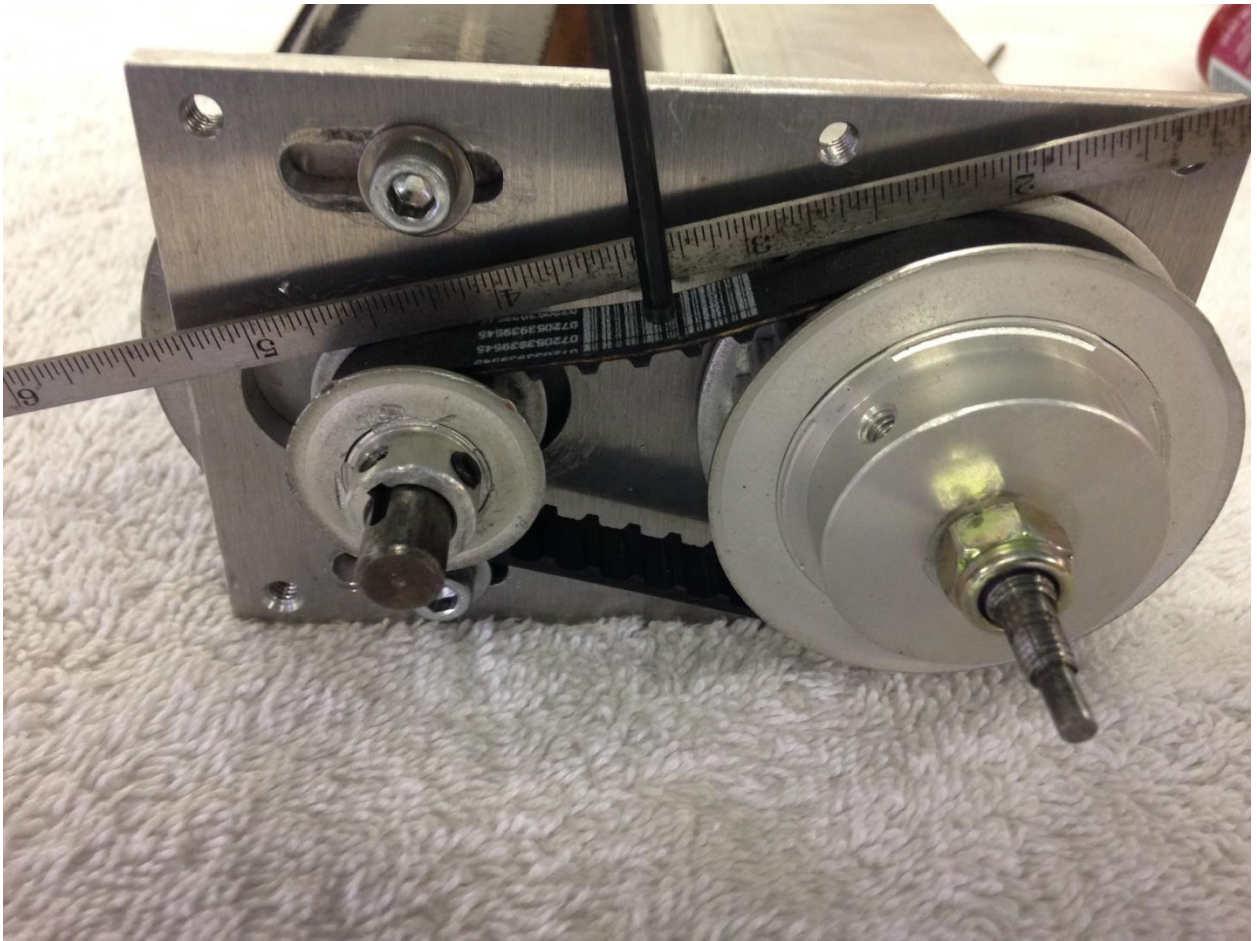
4. Place the 2mmx10mm machine key back in the keyway in the lead screw shaft if dislodged during step 3. Place the pulley from your desired pulley/belt kit onto the lead screw shaft. Take care to align the keyway in the pulley with the key placed in the lead screw shaft keyway. If the pulley does not slide all the way to down to the race spacer by hand it can be tapped into place using a socket placed over the end of the lead screw shaft and a hammer. Be sure the actuator is standing on end when this is performed to avoid driving the lead screw shaft out of the bearing

block.



5. Replace the 5/16-24 Nylock nut that was removed in step 3. Torque till snug or 35 inch pounds holding the pulley to keep the lead screw shaft from rotating.
6. Place the new timing belt, included with the pulley kit, over the drive and driven pulley. Slide the motor in its screw slots to tension the belt. Tighten the two 10-32 motor screws to hold the motor in position and timing belt at tension. Belt tension is correct when moderate pressure from one finger deflects one belt span about 1/8". No prying or levers should be necessary to

achieve sufficient belt tension. Motor screws should be tightened to 30 Inch pounds.



7. Replace the top and side plates of the drive enclosure using the 6 #8 screws removed in step 1. Start all 6 screws then tighten in two steps crisscross pattern. Pulley swap is complete.