Dart Linear Actuator Assembly

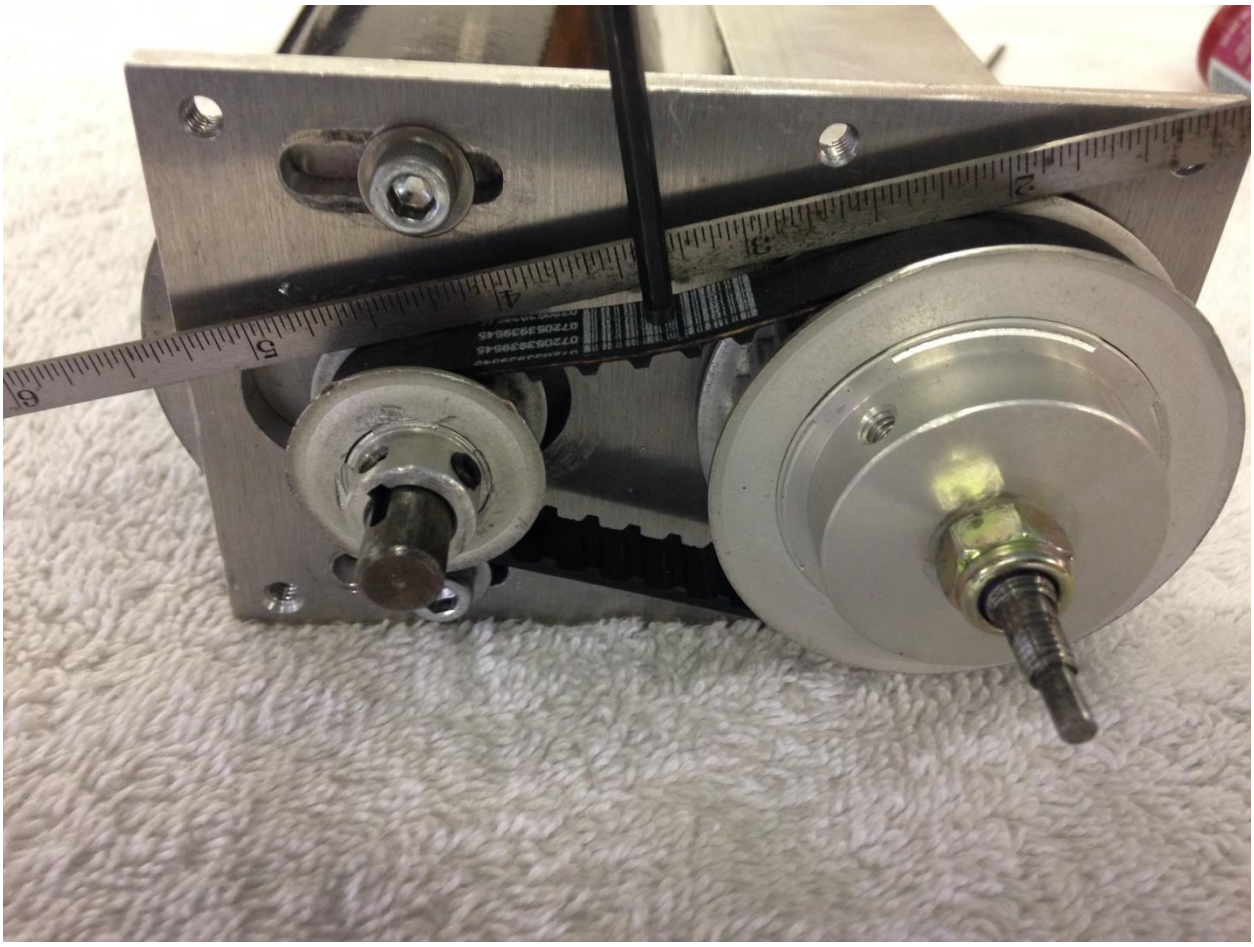
Your DART Linear Actuator should come partially assembled with a 30 tooth driven pulley already installed and the remainder of the parts to be assembled along with motor installation by the consumer. See picture below.

Assembly of your DART 6” or 12” Linear Actuator as follows.

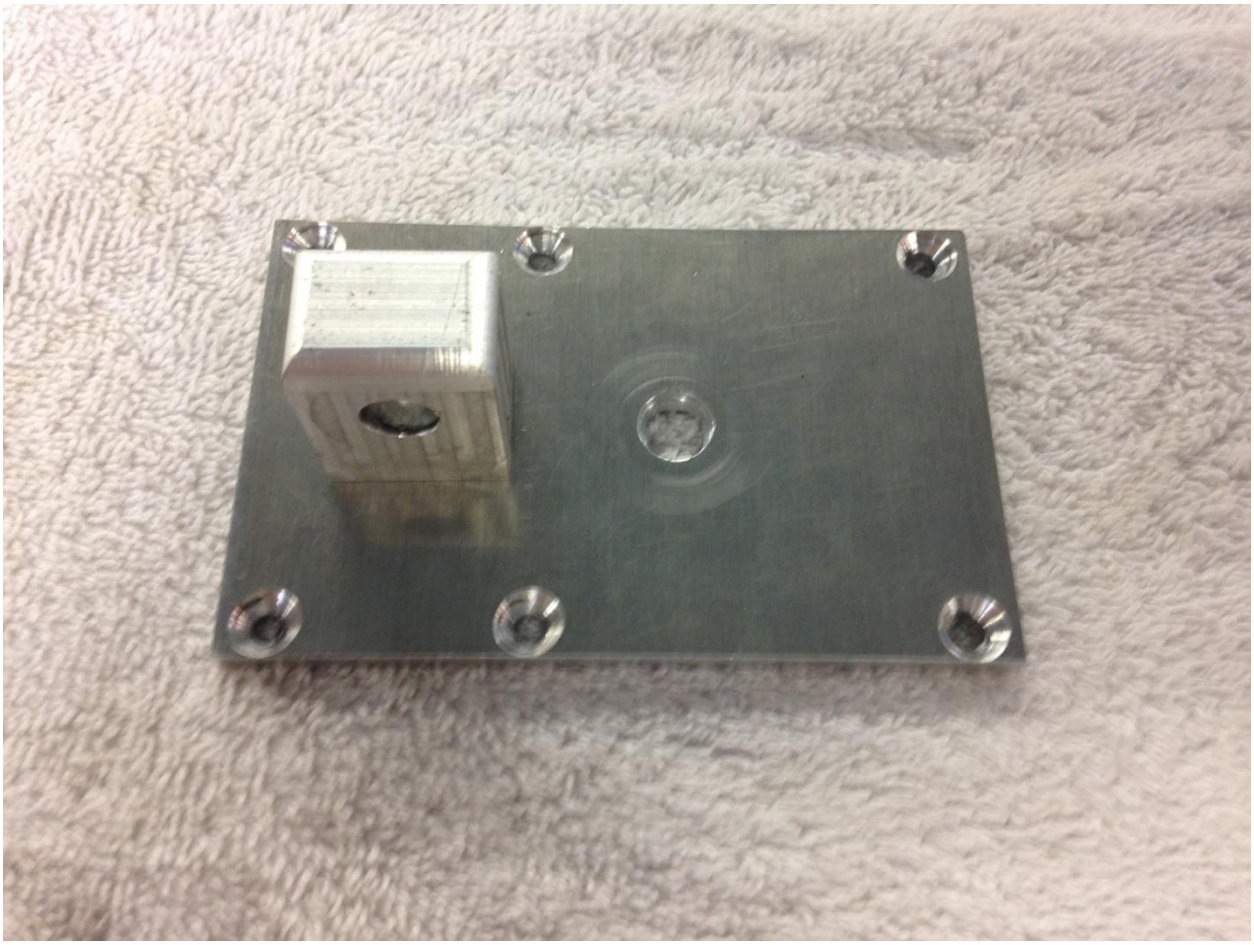
(Use medium strength (blue) LOCTITE #243 on all fasteners)

1. Loosely install your CIM (sold separately) or other appropriate motor onto the motor plate using the two #10 flat washers and two 10-32 socket head cap screws.
2. Install the 12 tooth timing pulley onto the CIM motor shaft using the 2x2x10mm machine key. Ensure the pulley is at the same height as the driven 30 tooth pulley for proper belt tracking. Tighten the pulley set screw to lock the pulley position on the motor shaft.
3. Place the 88XL037 timing belt for the 2.5:1 ratio pulley set onto the 30 tooth driven and the 12 tooth drive 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.

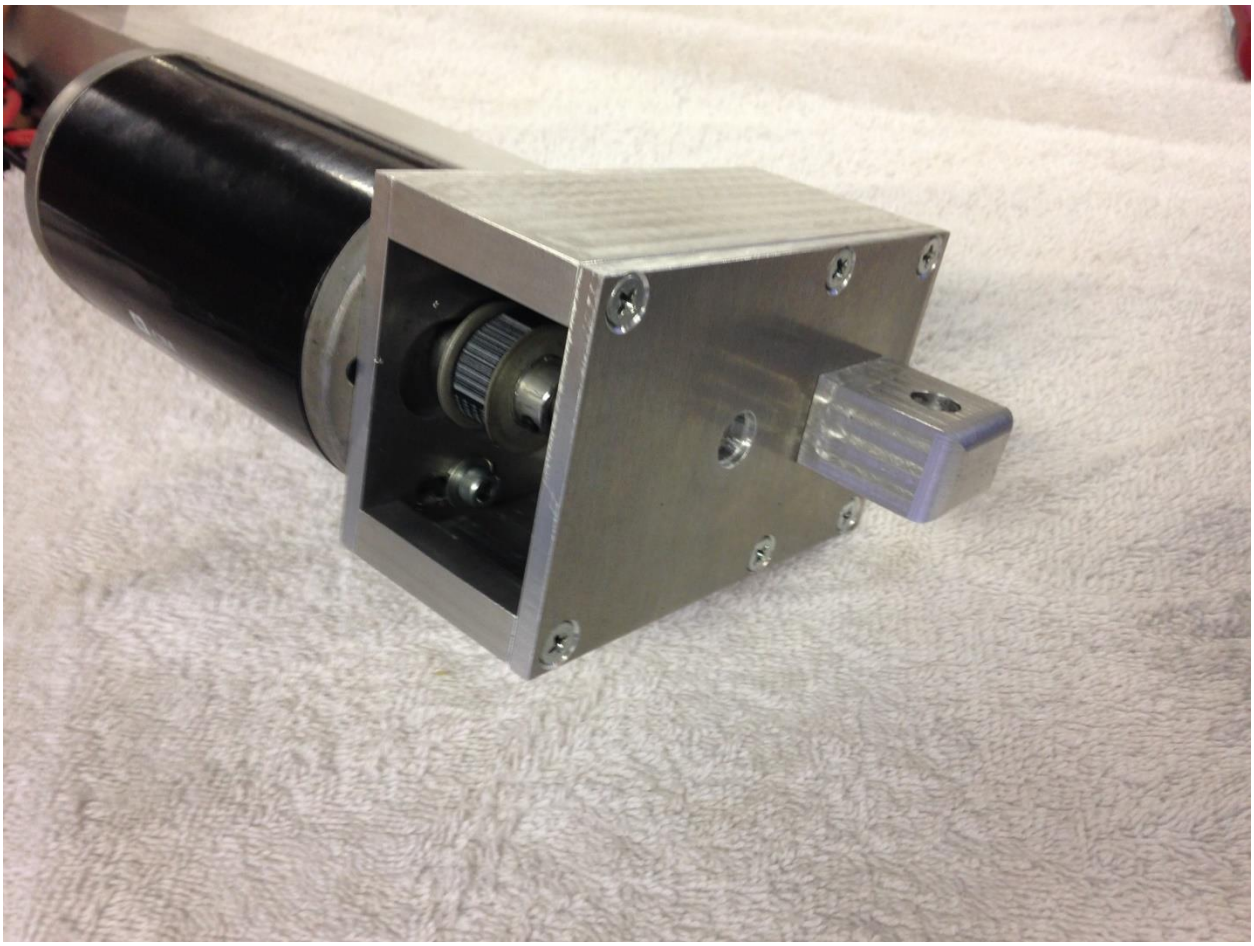


4. Install clevis mount onto the top of the motor plate using two 8-32 x .625 philips flat head machine screws. Tighten to approximately 25 inch pounds.



5. Install side plates and top plate to the actuator assembly using the six 8-32 x 2” phillips flat head machine screws. The 1/8” bushing in the top plate should fit onto the end of the lead screw shaft and serves to position the top plate. Tighten the six screws to approximately 25 inch

pounds.



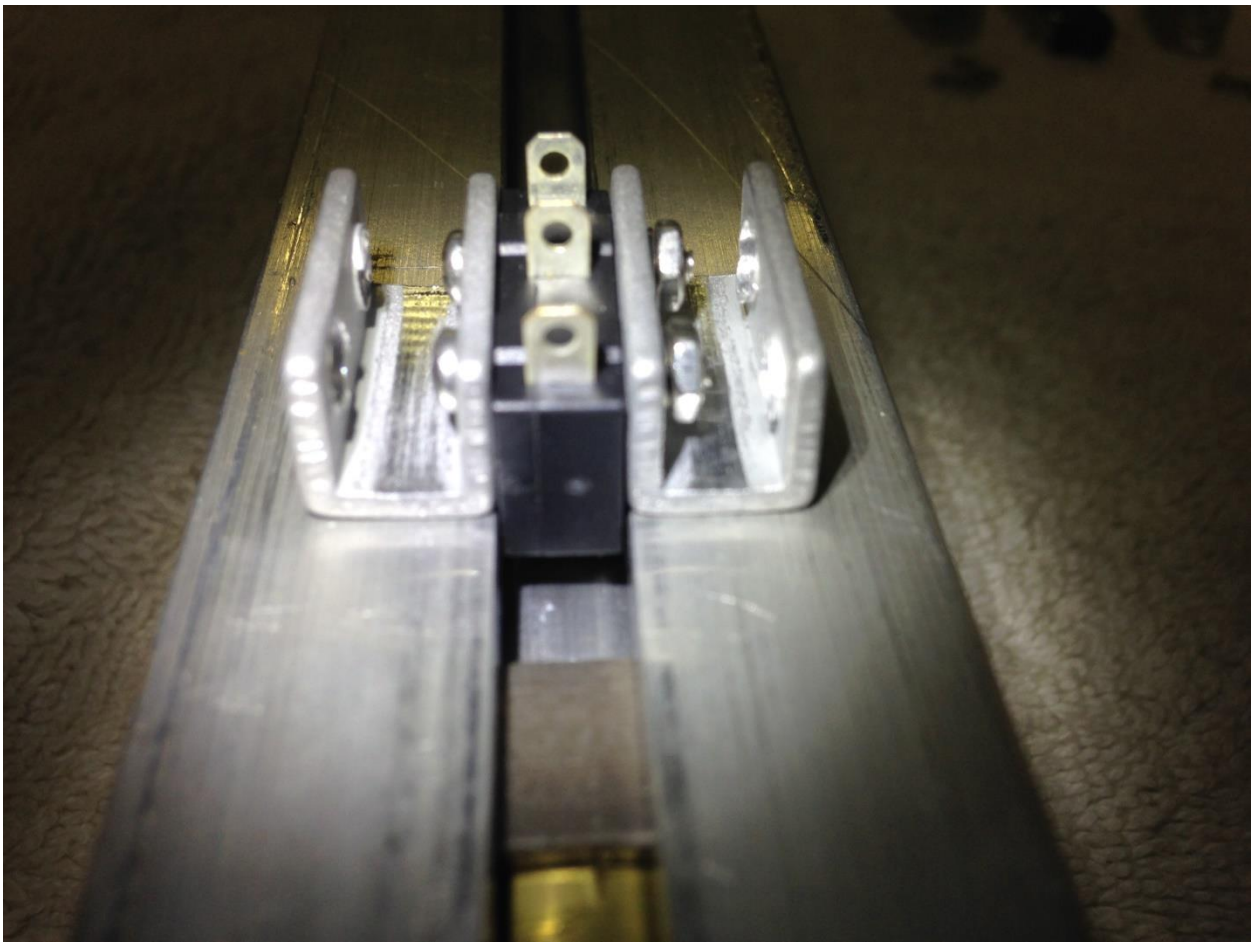
Limit Switch installation.

1. Assemble both limit switch assemblies as pictured below. Each one of these two assemblies should include one limit switch, two limit switch brackets, two 2-56 x .500 philips machine

screws, two #2 lock washers and two 2-56 hex nuts. Leave screws slightly loose.

2. Place each limit switch assembly into the limit switch slot on the actuator as shown. With the switch positioned such that the actuator tang will slide over the actuator anti rotation block, slide the switch toward the anti-rotation block. Ensure the switch is at the appropriate height such that the body of the switch clears the block but low enough that it contacts the tang as

early as possible. The screws can now be tightened.



3. Use the rubber band to affix each switch assembly to the desired retraction and extension positions. Again, orient each switch such that the anti-rotation block will slide smoothly under it until the switch is actuated. Because the rubber bands may lose some elasticity over time it is advised to adhere the limit switches to the DART once their final configuration is determined. To do this you may use 3m VHB tape or SpeedTape to fix the limit switches brackets in place. Cut a small piece and mount it to the bottom of the bracket. Mark your position on the DART and stick the bracket in place. You may need to bend the limit switch tang down slightly to adjust for the additional height of the tape. Verify that the limited lead screw block will make contact with the limit switch tang before operation.