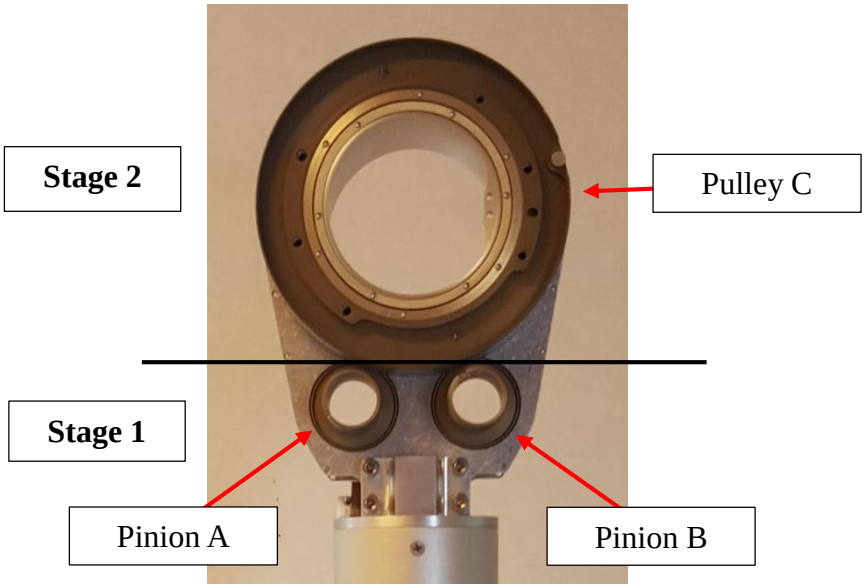
BURT Joint 3 Cabling

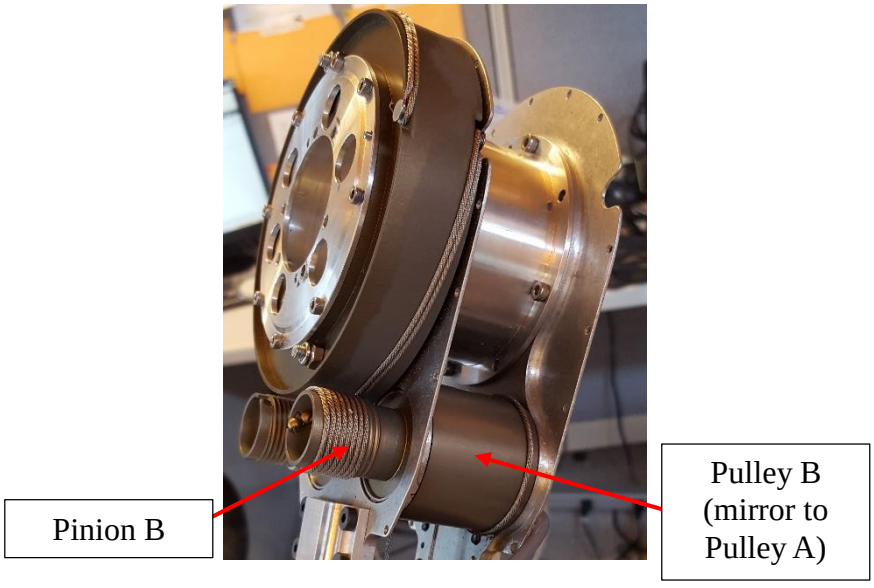
BARRETT MEDICAL
REV 01.01
29 DEC 2016

Terminology:

Cable – a “wire rope” typically made from very fine strands of stainless steel. The composite tensile strength and stiffness is very high in a stranded cable yet it maintains flexibility in bending.
Termination – a brass sphere swaged or crimped onto the end of a cable, which serves as a point to hold onto the cable.
Anchor – location on the Pulley or Pinion that the cable terminations are inserted into for retention and tensioning.
Pinion – the small diameter, high speed cylinder in a pair of cabled transmission elements.
Pulley – the large diameter, slower speed cylinder in a pair of cabled transmission elements

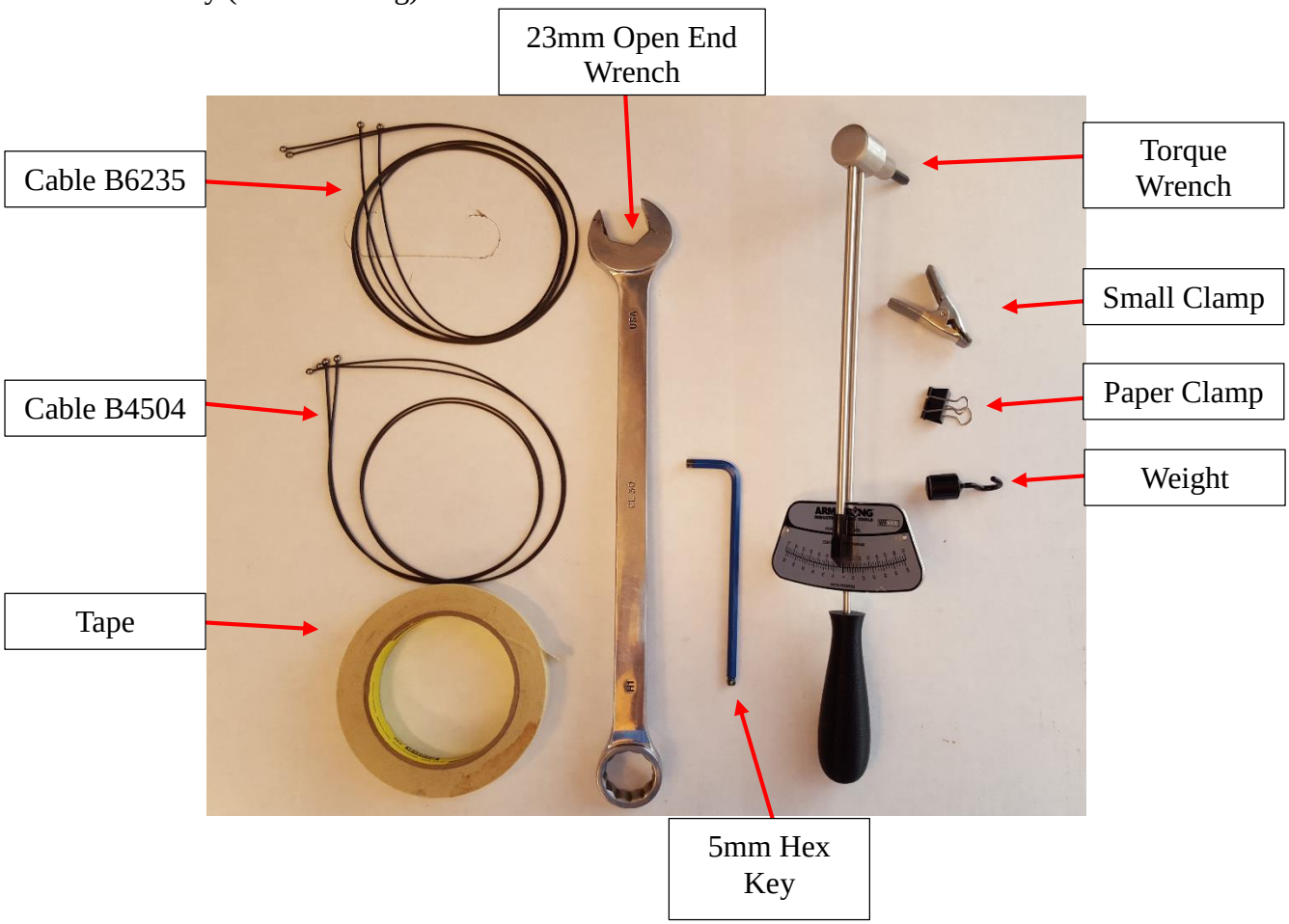
General BURT Diagrams



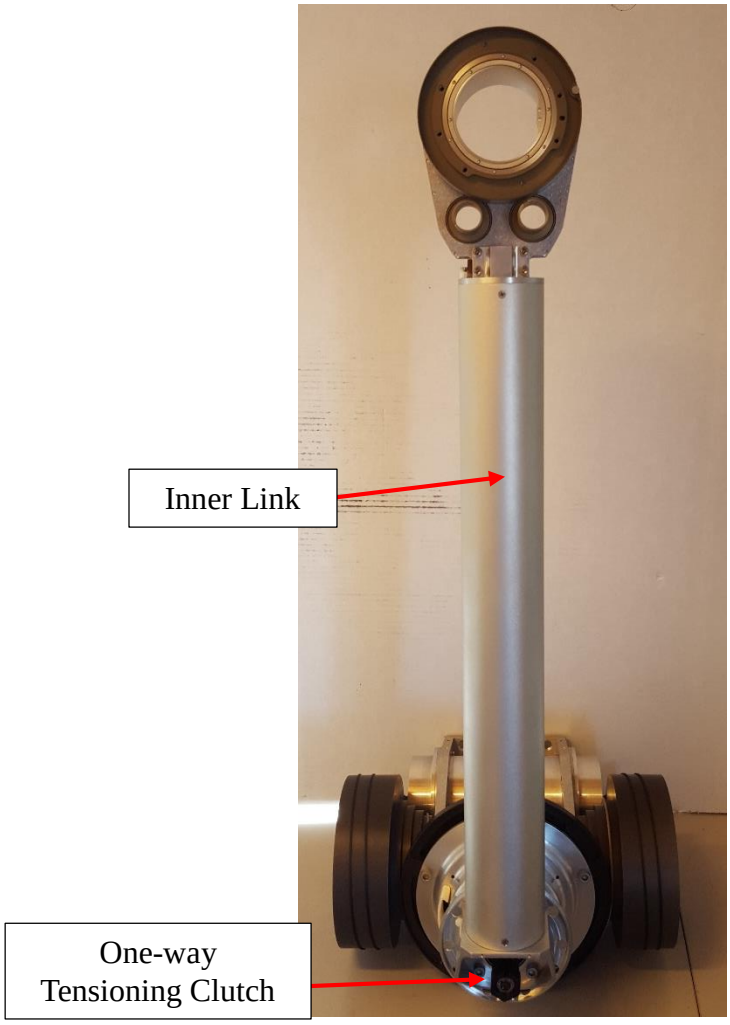


Tools:

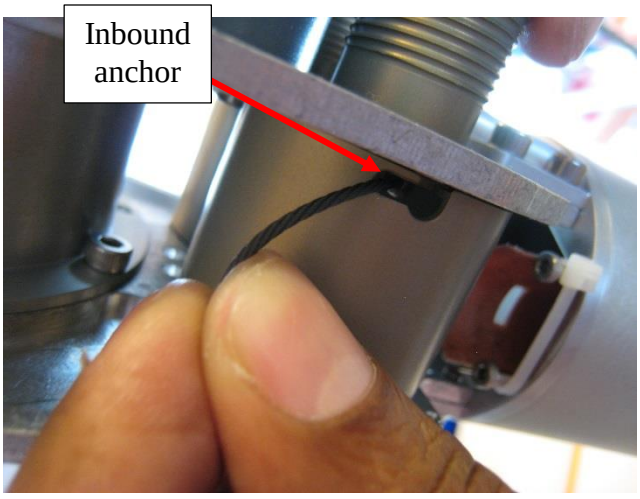
2 – Cable B6235 (long cable)
2 – Cable B4504 (short cable)
1 – Masking Tape (Scotch 232 recommended)
1 – 23mm Open end wrench
2 – Weight (20g mass sufficient)
1 – Paper claps
1 – Torque Wrench (60 in-lb range)
1 – 5mm hex key (for tensioning)

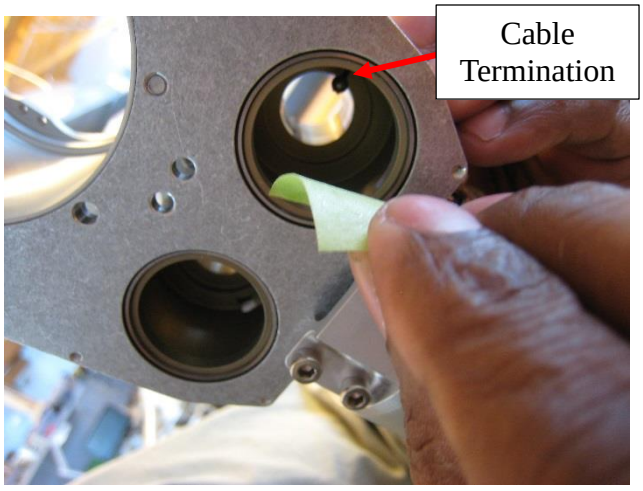


1. Position BURT system so the Inner Link is vertical.



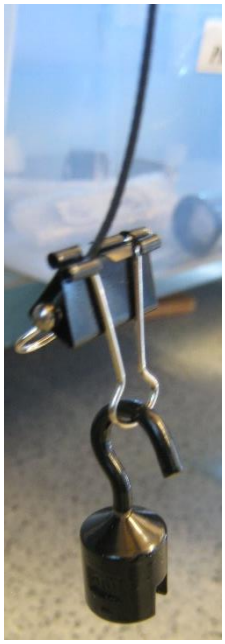
2. On Pulley A (inner portion) put Cable B6235 Termination in inbound anchor hole. Use tape to hold cable in anchor.

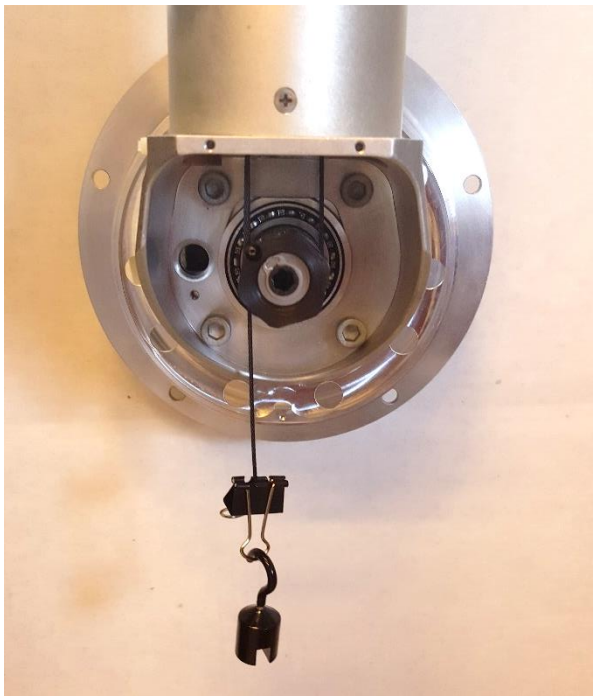




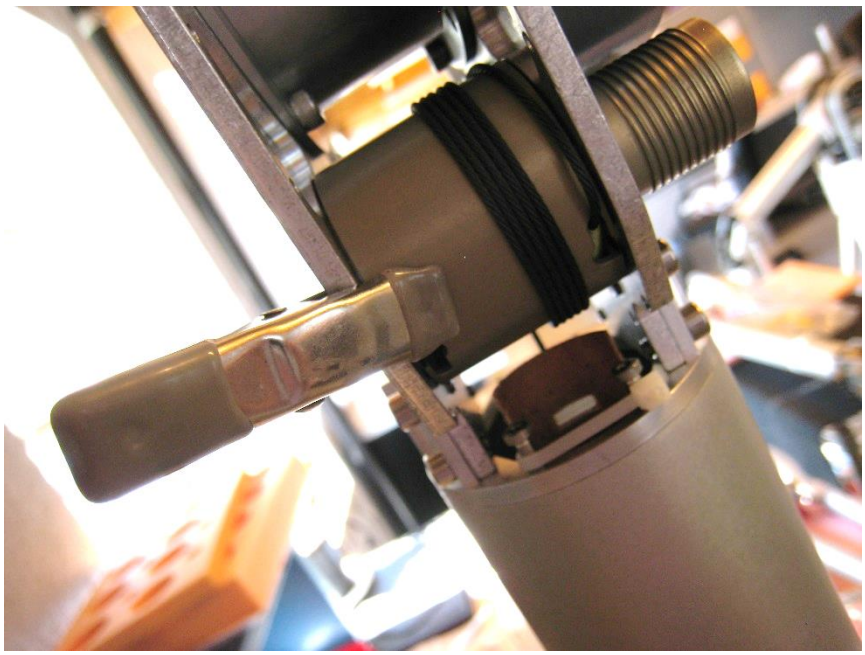
3. Drop the cable B6235 down the Inner Link between Pulley A and B.

4. The cable should now be visible at the one-way tensioning clutch. Connect the paper clamp to the end of the cable B6235 and add the weight.

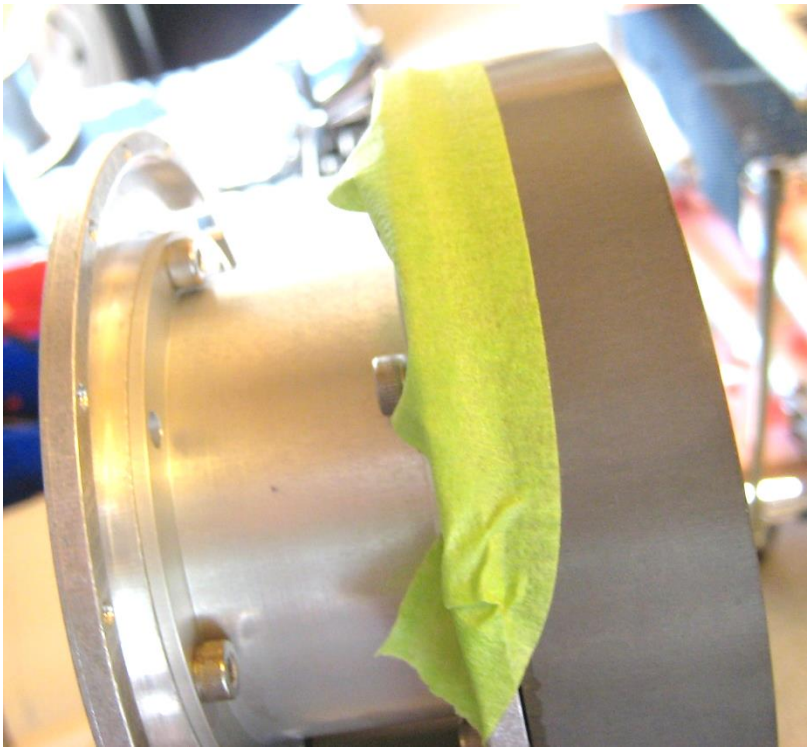




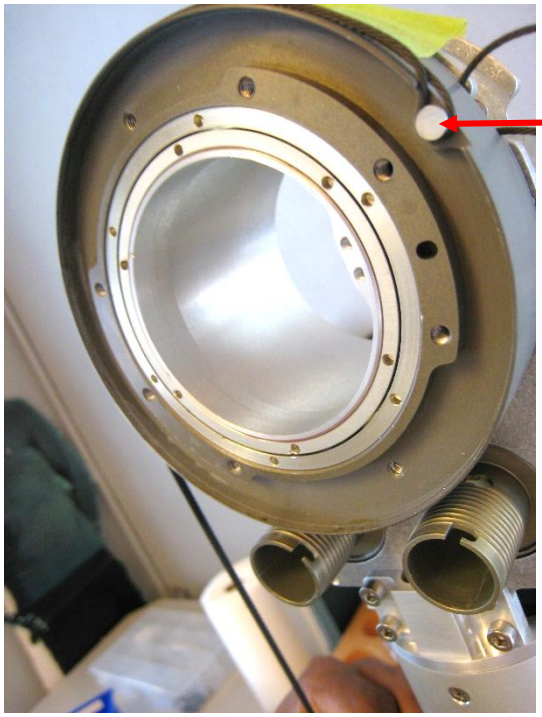
5. Wrap Cable B6235 around Pulley A 5 times and position the mini clap as shown. The cable and weight should no longer be visible at the one-way tensioning clutch.



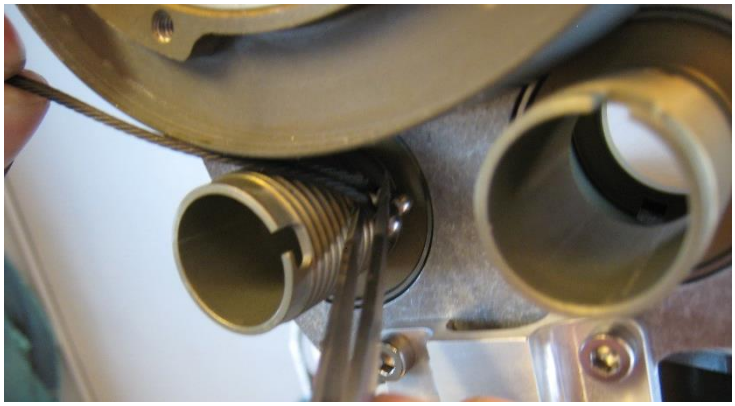
6. Tape Stage 2 Pulley C as shown.

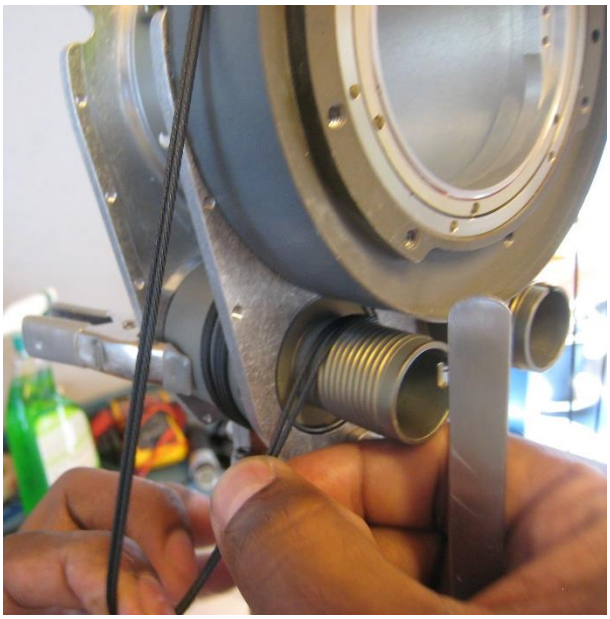


7. Take Cable B4504 and match the two termination ends together. Attach the middle portion of cable B4504 to the Stage 2 Pulley C top anchor as shown.



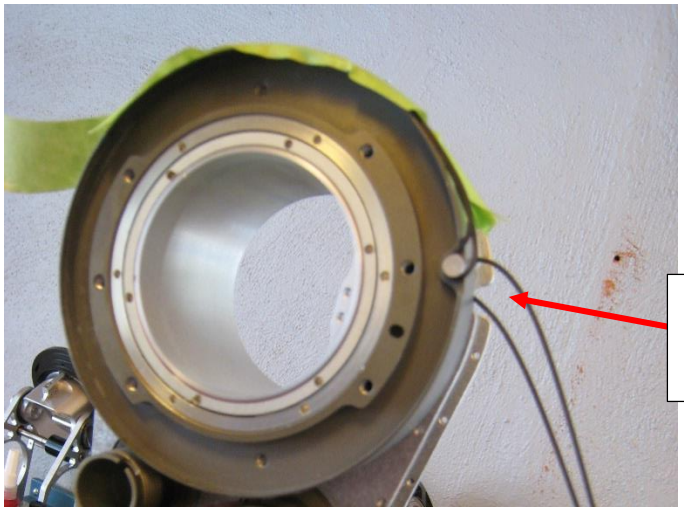
8. Attach Cable B4504 as shown to Pinion A outbound anchor. Pull tension manually on Cable B4504 remove the Mini Clamp, and turn Pinion A till the Cable has no slack.



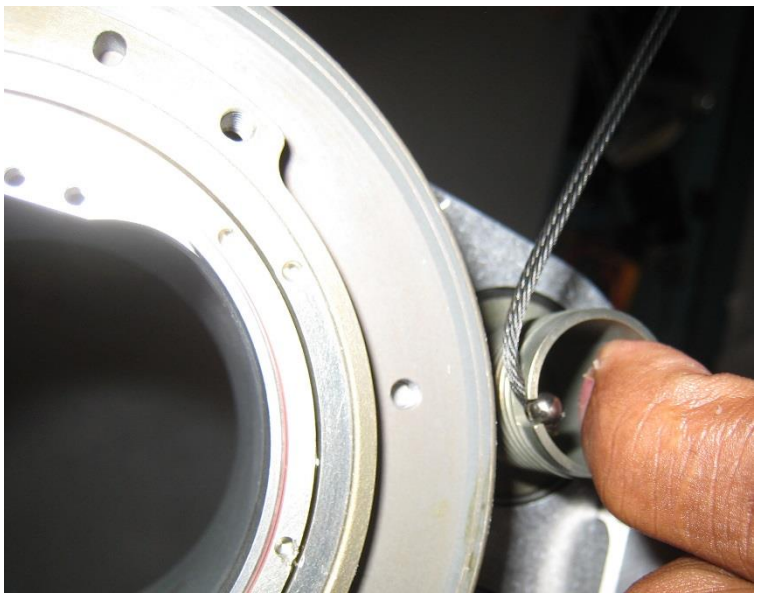


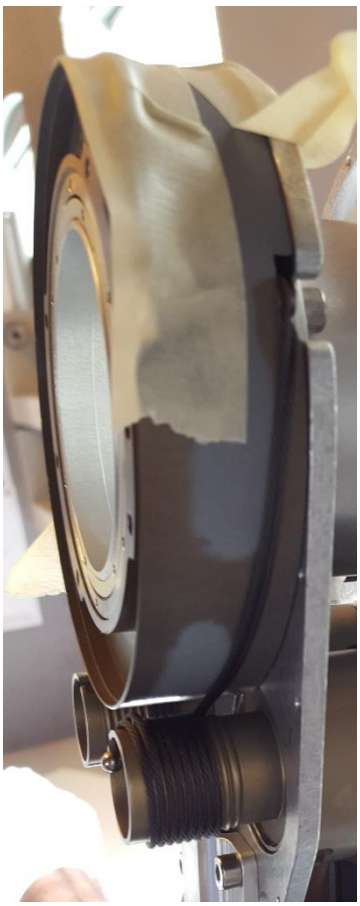
9. On Pulley A you should see Cable B6253 wrapped 3 ½ times. The weight should now show past One-Way Tensioning Clutch.

10. Take Cable B4504 and match the two termination ends together. Attach the middle portion of Cable B4504 to the bottom anchor on stage 2 Pulley C.



11. Anchor termination ends to the top anchor slot on Pinion B and tighten until there is no slack.

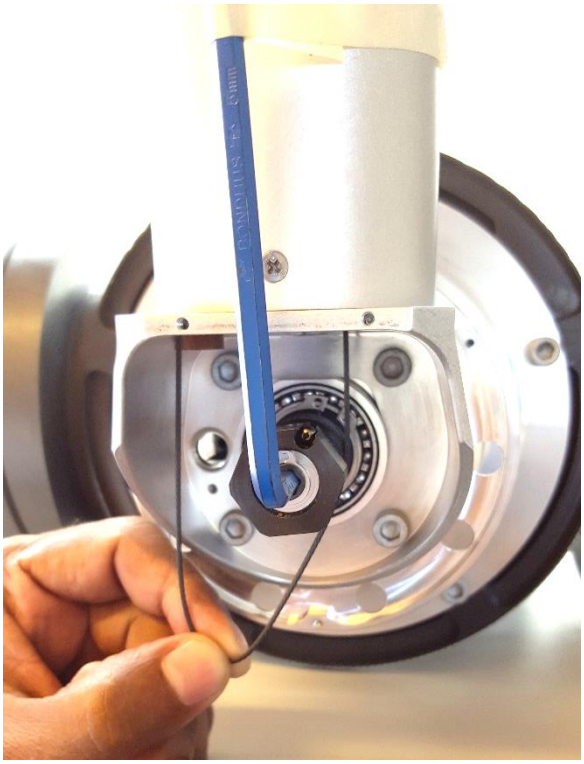




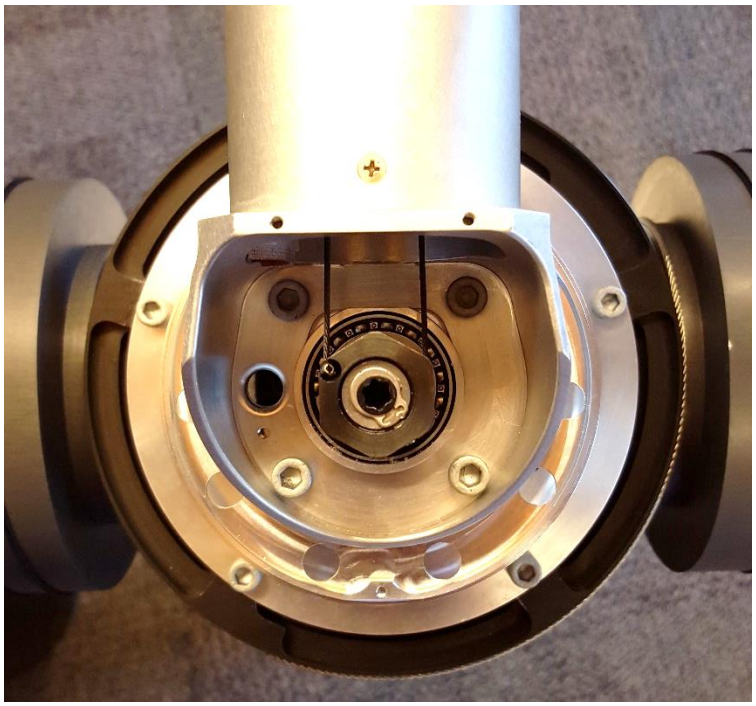
12. Take Cable B6235 and secure to bottom anchor slot of Pulley B with tape and wrap around 1 ½ times.

13. Put the remaining Cable B4504 down the shaft of the Inner Link. The remainder of the cable should show by the one-way tensioning clutch (Both Cables B6235 should be seen).

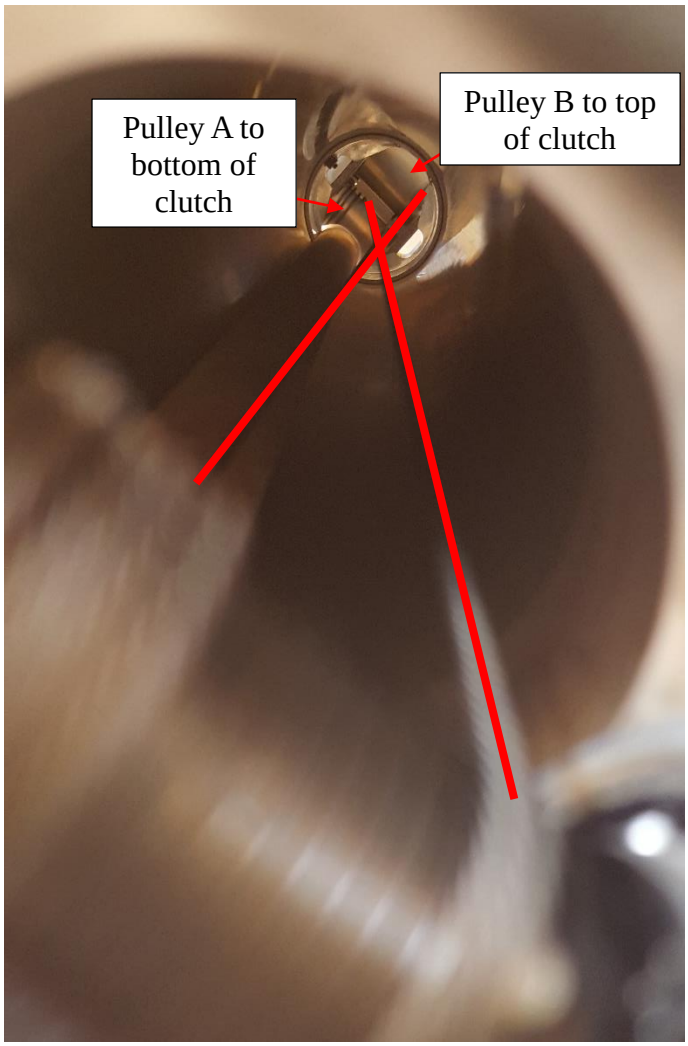
14. Tape the hex key as shown. Connect Pulley B cable to the top one-way tensioning clutch anchor slot. Turn motor pinion end until there is no slack.



15. Connect Pulley A cable to the bottom one-way tensioning clutch anchor slot. Remove the slack by turning the hex head of the tensioning clutch.



16. The cables should now be crossed inside the Inner Link.



17. Use the 23mm open ended wrench and torque wrench to tighten and torque assembly to 22.5 in-lb or 26 kg-cm.

18. Remove all tape

19. Use the hex key to rotate the cable assembly from end to end or until you notice slack develop in the cable.

20. Re-tighten the cable of assembly to 22.5 in-lb or 26 kg-cm with the 23mm Wrench and Tensioner.