

Celestron Nexstar GPS 11 Removal and Replacement of Azimuth Clutch (Slip Joint)

by Adrian C. Richards

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Part One: Removal

WARNING!
READ YOUR WARRANTY FIRST!
**IF YOUR SCOPE IS STILL UNDER WARRANTEE AND YOU DO ANY
DISASSEMBLY IT WILL VOID THE WARRANTY!**

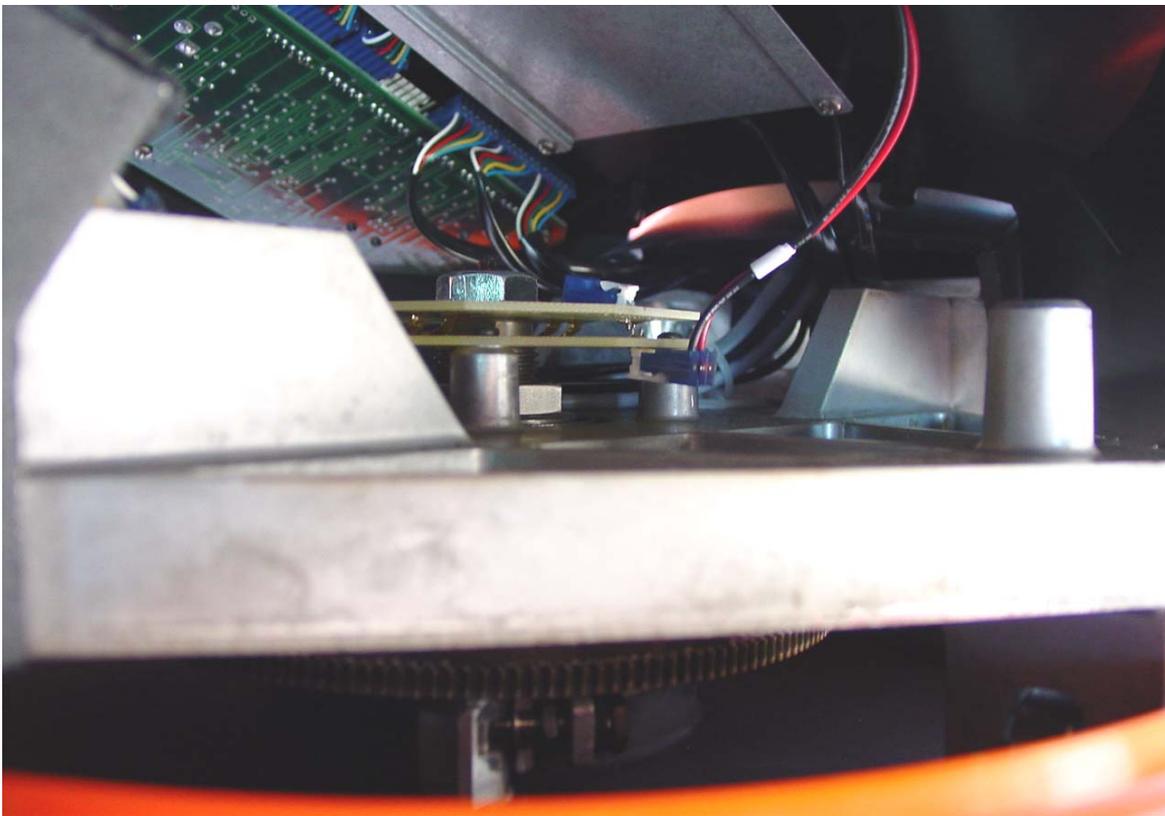
It is not necessary to touch any computer board components except for the wires indicated! The oils and acids from your skin, and static electricity can ruin sensitive components! Please read this entire document BEFORE attempting any disassembly! If you are in the least bit wary or unsure of completing the operation, it is better to send the scope to Celestron and let them fix it!

DISCLAIMER: Neither the author of this page nor Celestron are liable at any time for any damages incurred by following ANY instructions found on this page!

In case you want to repair your telescope as described below, Celestron is offering the azimuth lever as well as the spring clamp as spare parts. Please ask your dealer.



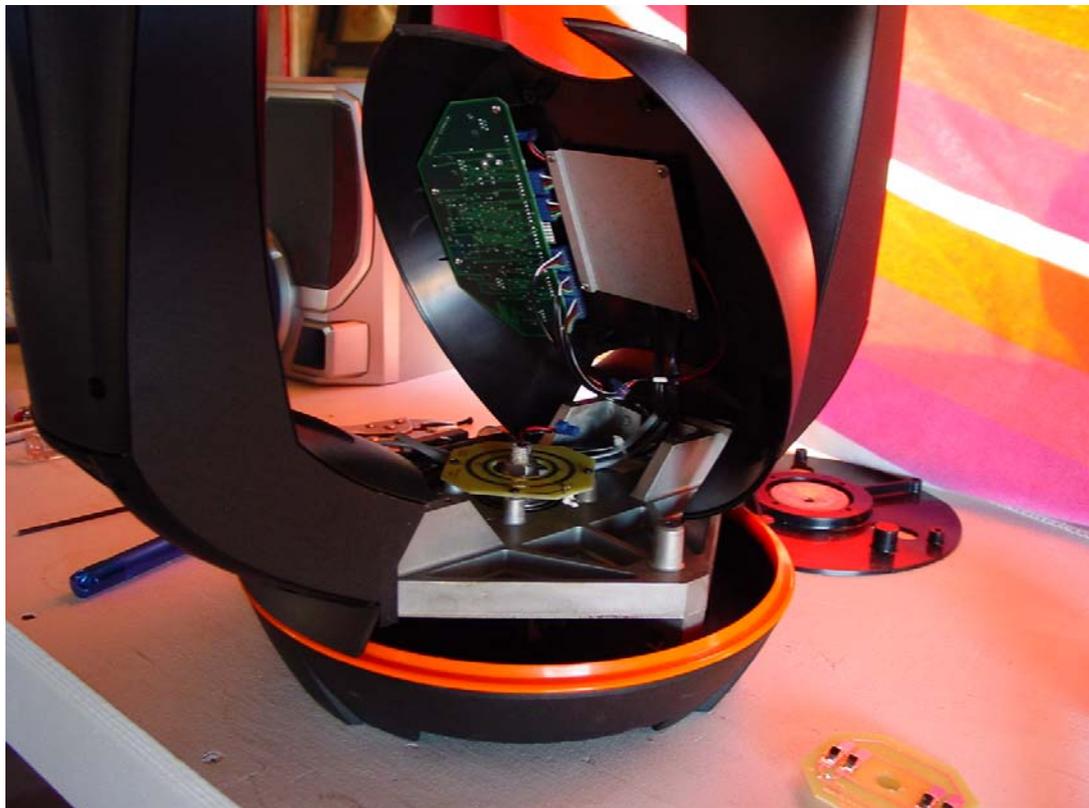
Take out the 5 allen head screws from the top base cover. Gently lift up. Position the cover as shown so you can have a look see.



Pay attention to where the wiring is and the various tensions so you don't rip anything up.



On mine I noticed that the factory assembler neglected to move the wire out of the way before securing the base top cover and pinched off a bit of the insulation from the wire going up into the fork arm! Luckily it did not pinch all the way through to the wire itself. You may want to pay special attention to this during reassembly as there are wire on both sides going up into the fork arm to move out of the way before securing the base top cover!



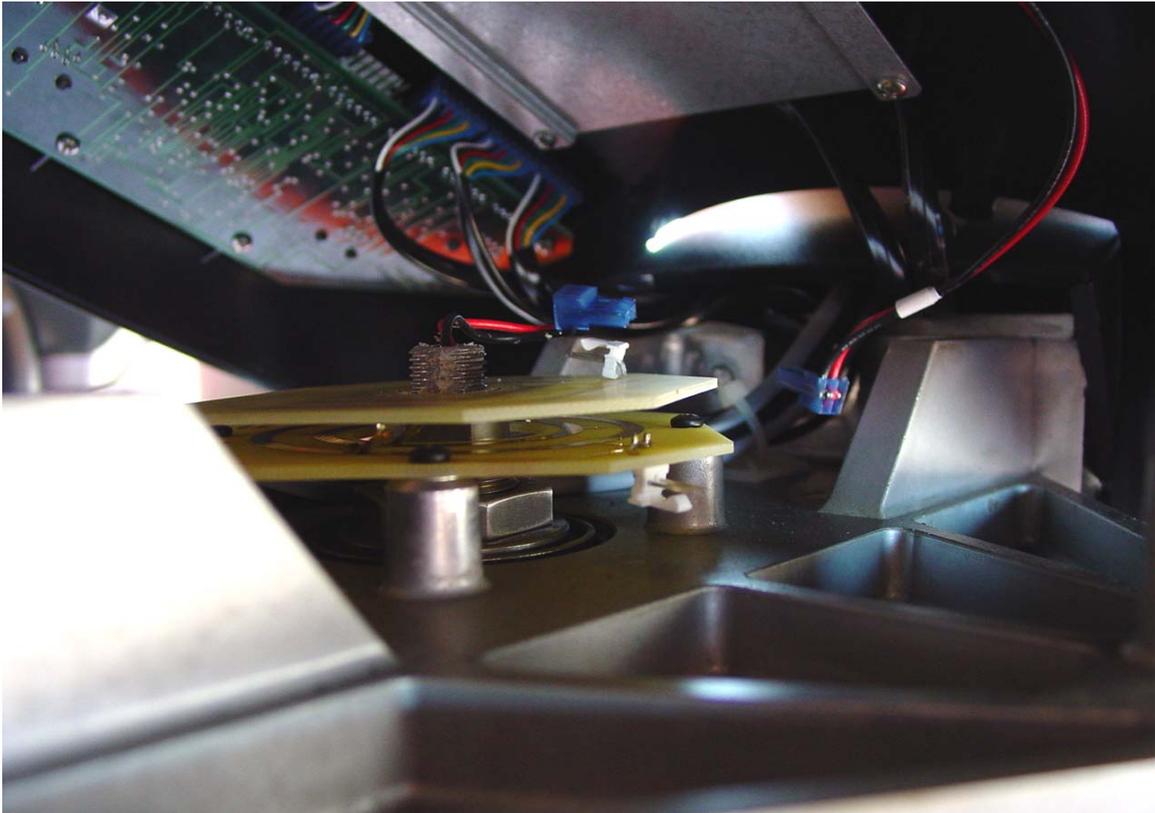
Once you have had a look. Disconnect the two wire connector from the position plates. Then gently pull on the wires going into the fork arm to take up the slack and give you a little room to set the BTC into a better position as shown.



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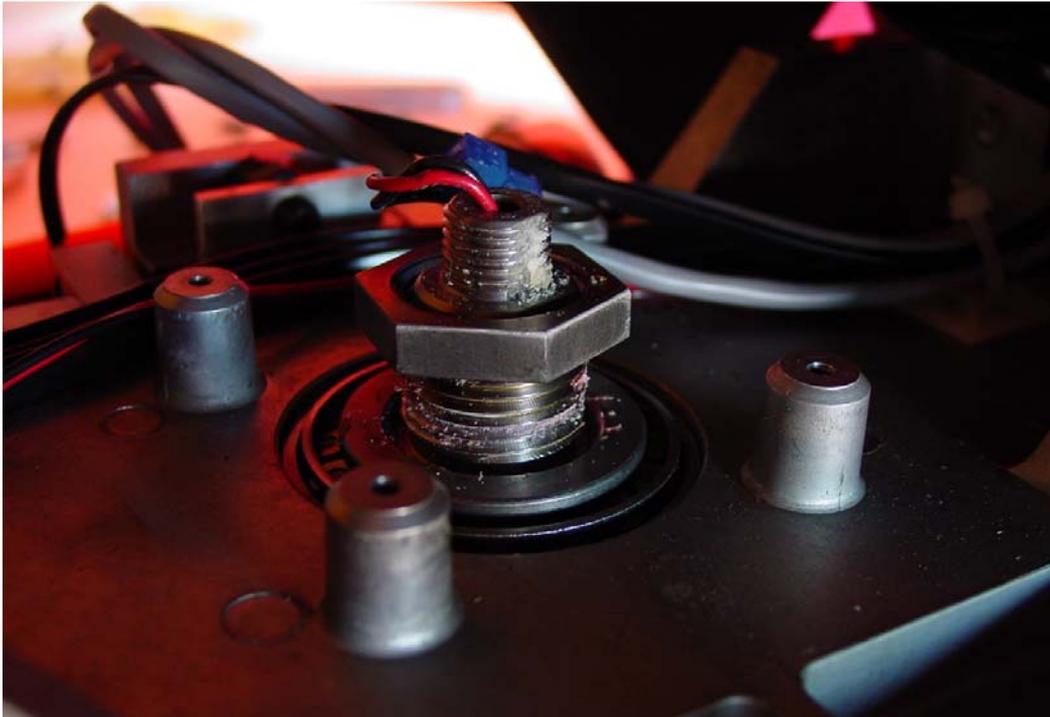
View from right with HC in back.



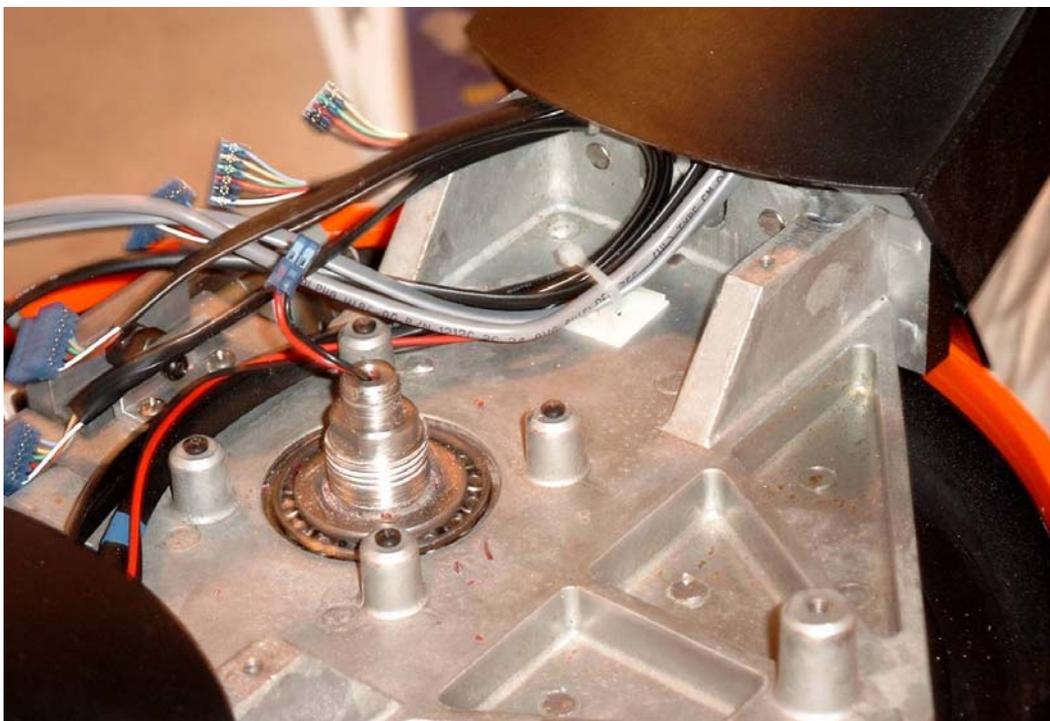
Take the 4, #1 phillips head screws out of the position plates and remove the plates



Remove the nut from the shaft. You will have to hold the bottom of the base as you turn the nut.



Now remove the large nut holding the upper assembly to the base. I used a 1 1/8", 12 point socket to achieve this. Pay attention to the wire in the center of the shaft so as not to twist it off. I lifted off the socket and straightened out the wire at every turn! The crud you are seeing is due to the "loctite" (locking laquer). You might as well go get a bottle for reassembly as soon as you order your parts (s).



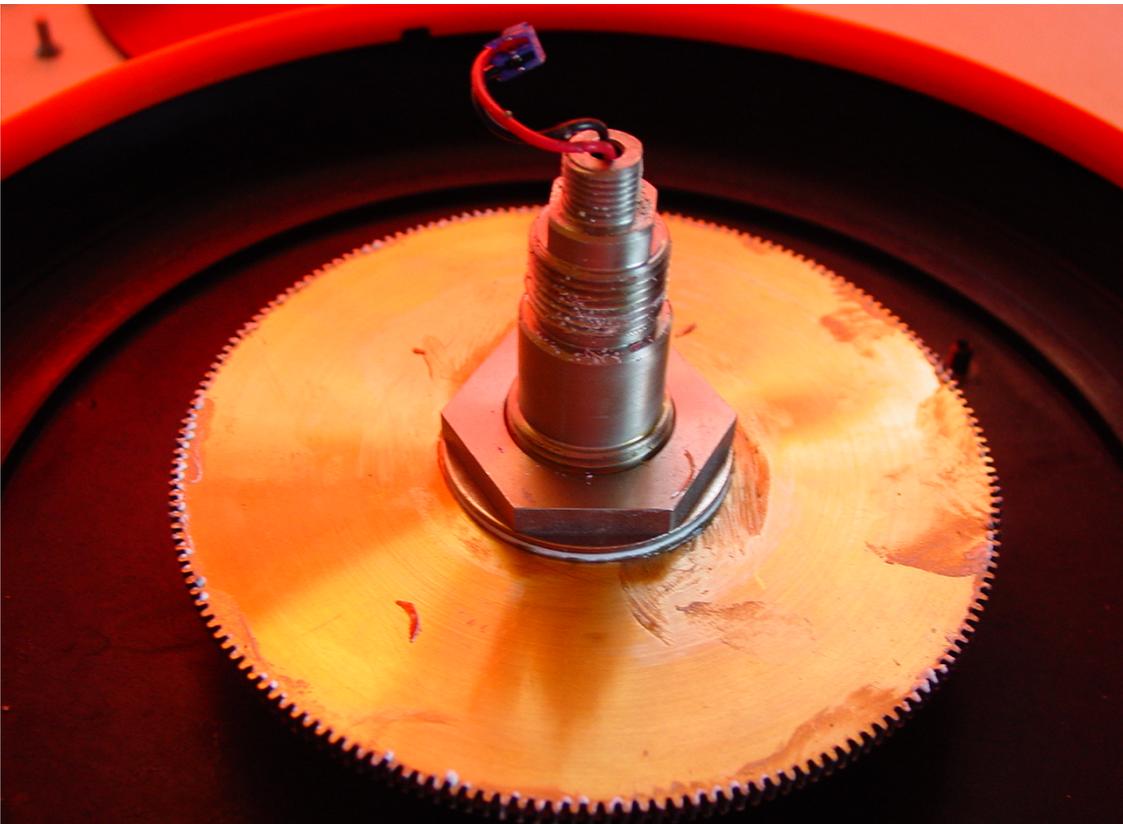
Above photo thanks to Kevin Yahoo Nexstar GPS Group

NOTE: Some have reported that too much loctite has been to the threads of some scopes as shown in the above photo. In such a case, the nut is not easily removed and the upper assembly does not just lift off and alternate methods must be used.

I recommend extreme caution and an extra set of hands. Extra force may be required!



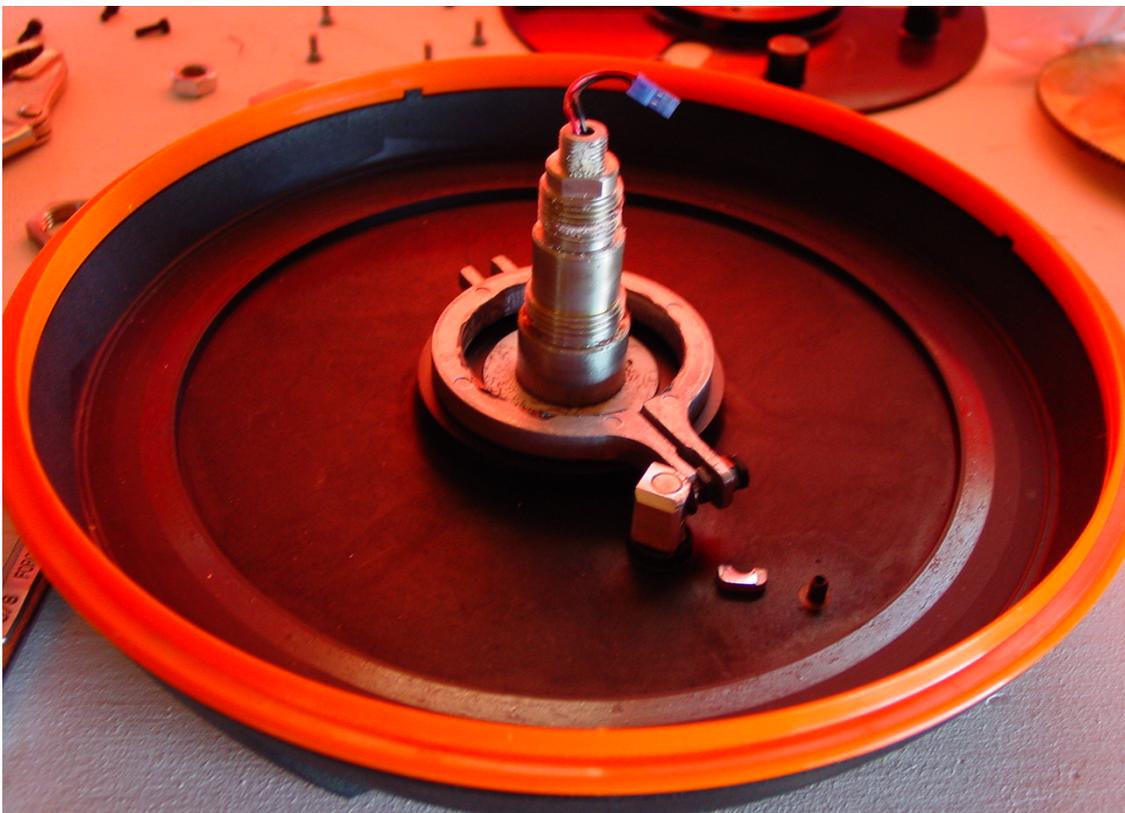
Once you have removed the nut the upper assembly should come right off. Take care in placement so as not to damage the roller bearings it rides on!



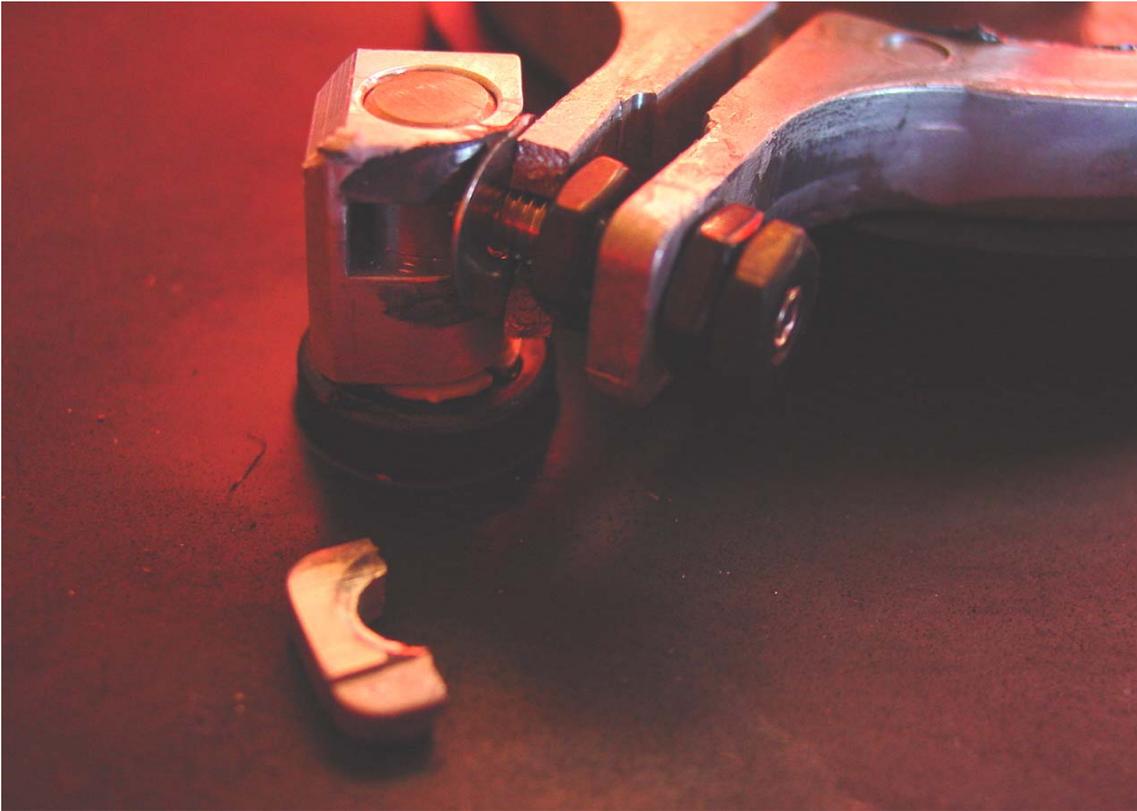
You should now be looking at the azimuth drive gear. Remove the large nut and remove the gear assembly. This is a rather large nut and some of us may not have a tool large enough to remove it...BUT...



If you have even a small vise, position as such and turn the base. Notice the weight of the base rides on the flat washer so that the vise will never touch the drive gear! Once the nut is free, take the base out of the vise and remove the nut with your fingers. Then the gear assembly will come right off the shaft. This is a 1 3/4" nut and here also there is a possibility of too much loctite being used here. The nut and the subsequent bearing may be stuck! I recommend extreme caution and an extra set of hands. Extra force may be required!



Most likely you will now see what the problem is!



Remove the 3 nuts from the tension adjuster.



Remove the Clutch and go order the part!



As for my feelings, it was an easy disassembly, but I don't feel this kind of damage should have occurred from normal use, especially when the tension has never been adjusted! Place all of the parts in a clean environment until you get your new parts. I used the giant 80 gallon trash bags and place a beach towel under the bag to keep out the light.

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That being said, the non-warranty price quoted by Celestron Inc. USA for the parts are as follows: Azimuth Lever \$21.00, Ring Clamp \$11.00, S & H \$5.00

End of part one.

Many thanks to Adrian for allowing me to post this excellent article on my Homepage.

Best regards

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