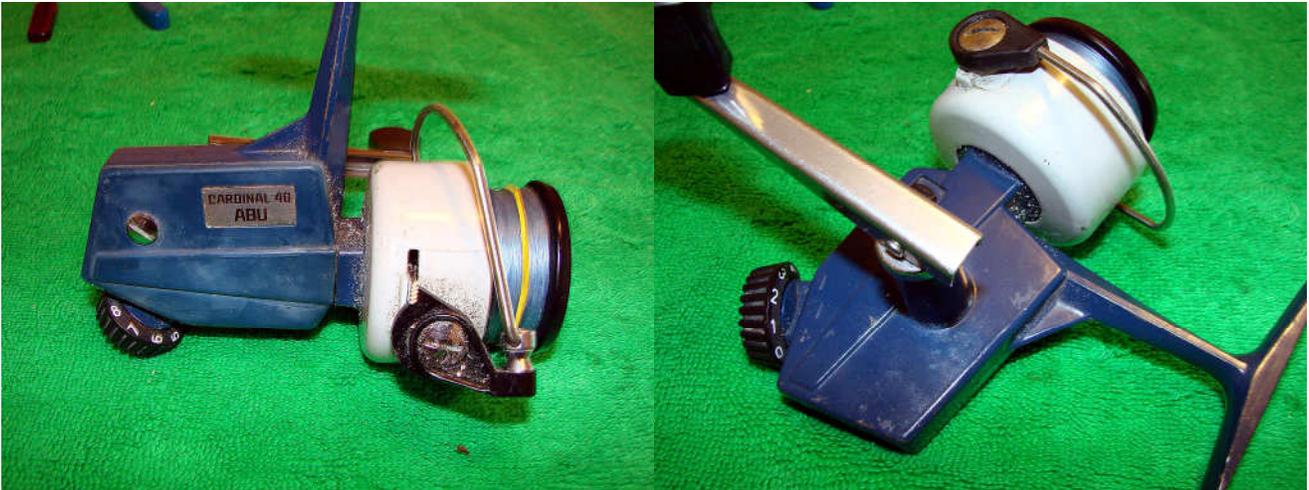


Cardinal 40 service



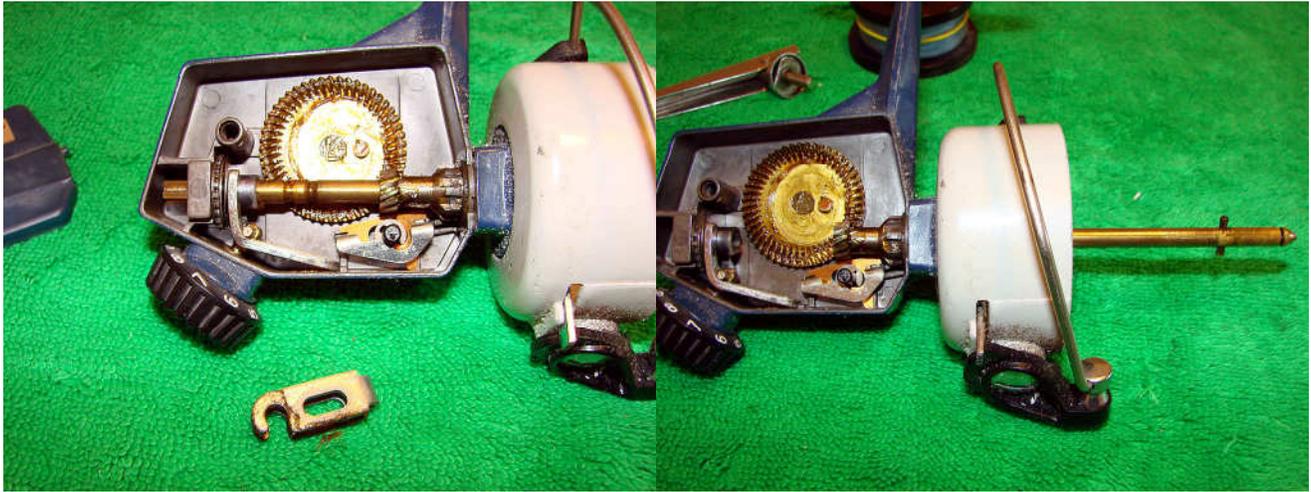
This Cardinal 40 felt very stiff when cranking the handle-I thought that the main shaft may be slightly bent. In addition the bail arm did not return crisply-possibly due to weak or broken bail springs.



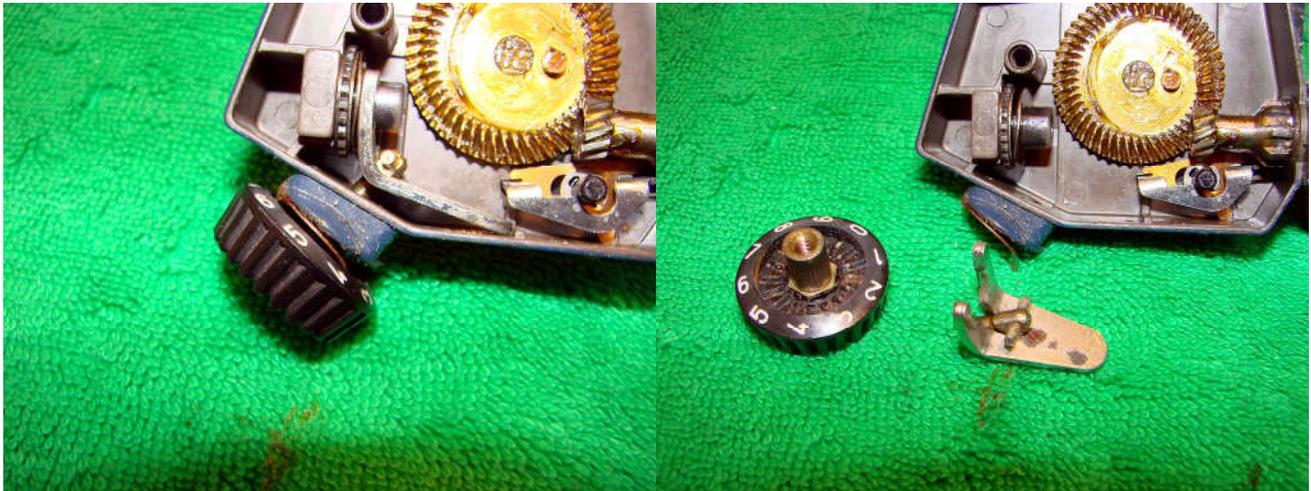
When the spool was removed it looked like it had been rubbing on the inside of the rotor housing-this would suggest that the main shaft may be off true. A service will reveal any problems.



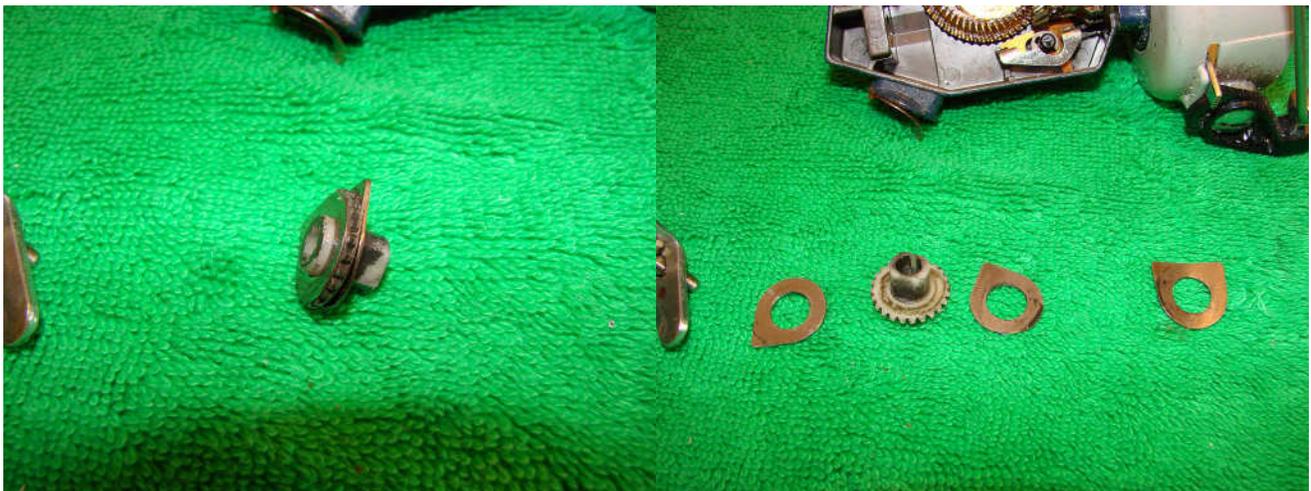
Firstly remove the handle by winding backwards, and then remove the side plate-just one screw.



Remove the connecting link-if you squeeze the two sides together it will lift off. The main shaft can be pulled out from the rotor.



Unscrew the drag knob and remove the drag tension arm.



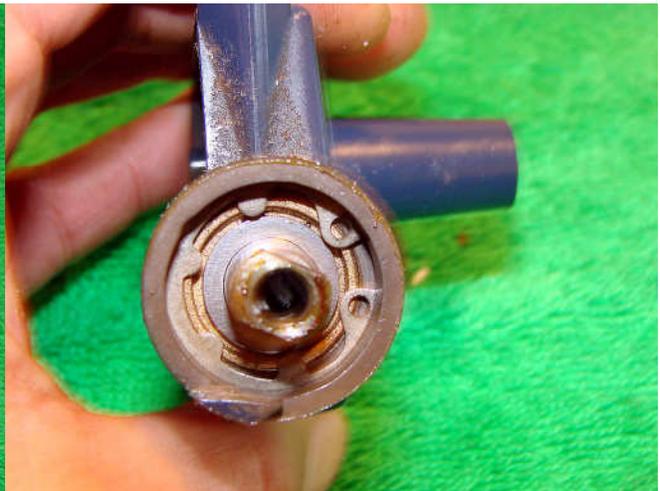
The drag washer/click wheel and the metal friction washers can then be removed. Note the correct orientation; in this case they are in the correct order relative to the reel body in the background.



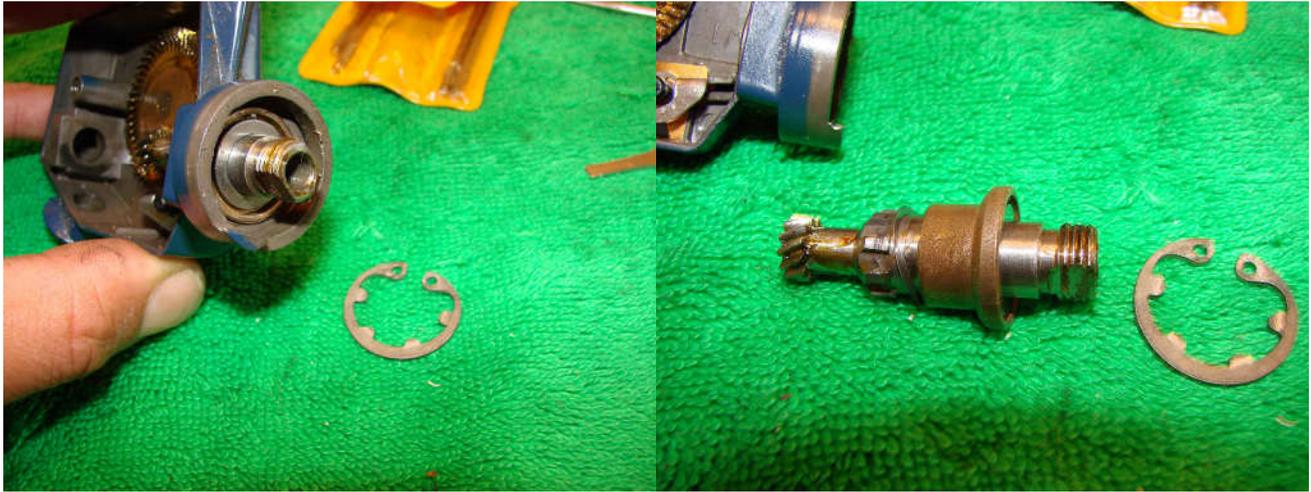
The drag knob spring is showing some corrosion so it will be removed and cleaned up-just the one screw to undo. Note the copper washer that sits between the reel body and the drag knob.



To remove the rotor unscrew the rotor nut and remove this along with the locking washer.



The rotor will then lift off the reel body. Note the circlip holding in the pinion gear.



Remove the circlip using circlip pliers. The pinion gear assembly can be removed from the reel body.



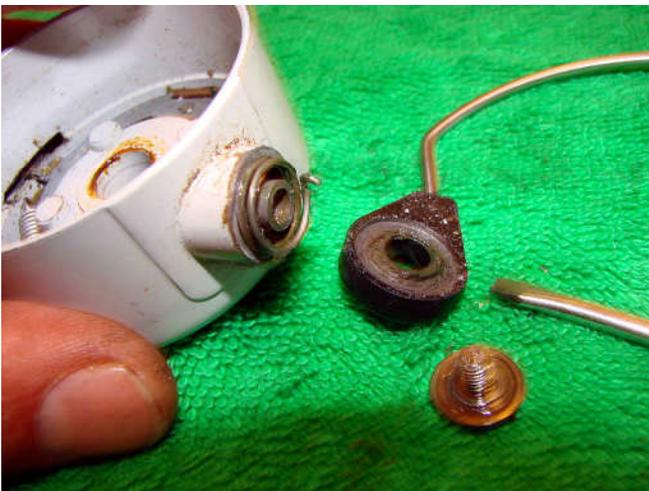
Everything is laid out in order here from left to right; pinion gear, small washer, bushing, large washer, circlip. The main gear simply pulls out of the reel body.



It shouldn't be necessary to disassemble the AR assembly though it only involves removing the circlip on the AR knob; the AR knob can then be removed from the other side of the body. Note how the parts fit together. Remove the bail wire by unscrewing the bail nut.



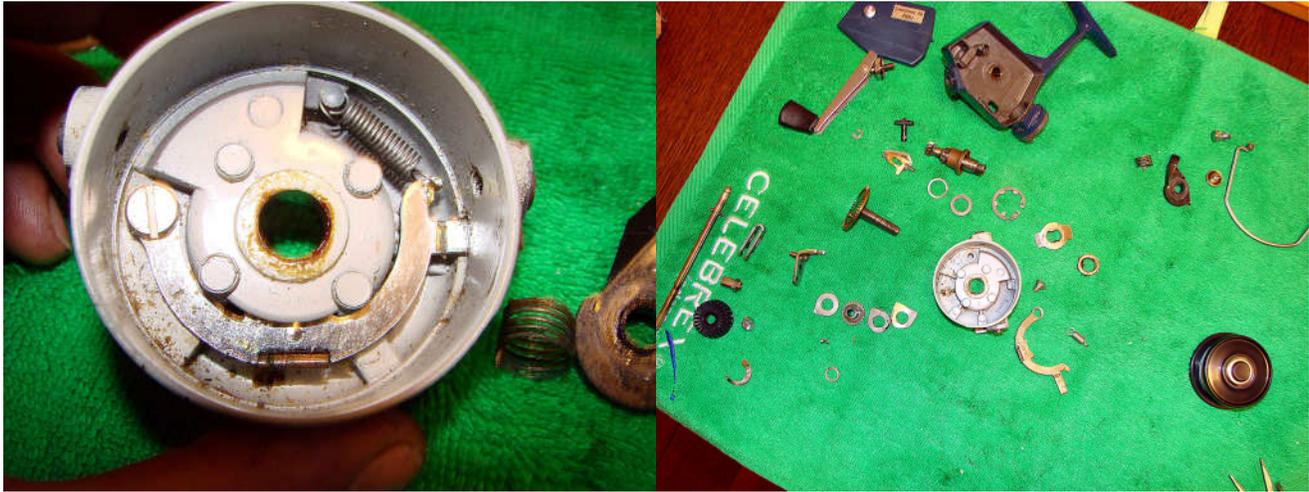
Bail wire, 'roller' (on this reel is does not roll), and bail nut. Unscrew the bail screw.



Remove the bail screw, bail attachment and the bail spring. Note that the two bail springs are different-do not mix them up.



Unscrew the bail screw and remove the bail arm and bail spring. Both bail springs seem to be ok-just very gummed up with old dried on grease.



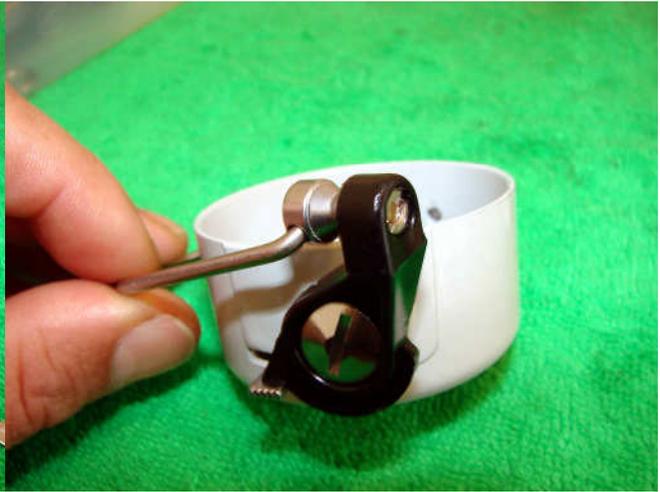
Undo the screw holding on the trip lever and remove it along with the spring. Everything is now ready for a thorough clean. An old toothbrush, washing up liquid and warm water should be sufficient. Thoroughly rinse and dry all parts before reassembly.



Add grease to the threads and replace the line roller. Replace the trip lever and spring adding a light coat of grease to the friction surfaces.



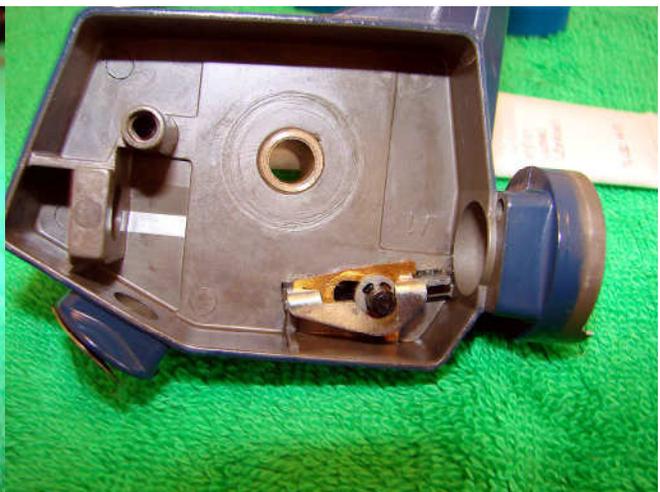
Replace the bail spring and bail arm adding a light coat of grease to the spring and all friction surfaces.



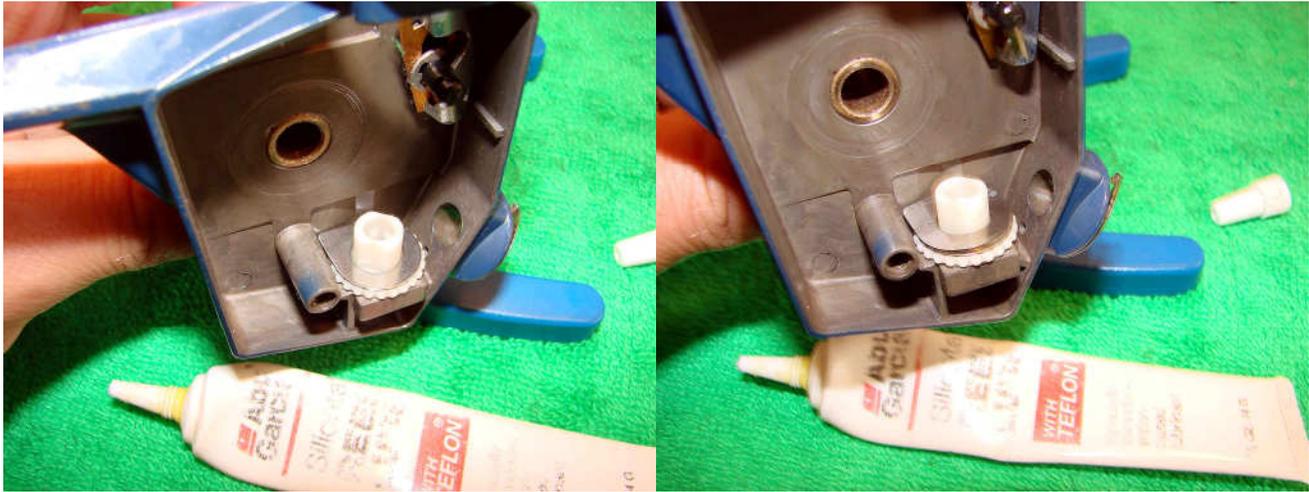
Don't forget the friction surfaces on the other side-grease the threads on the bail screw and replace. Replace the bail wire into the bail arm and fix with the bail nut.



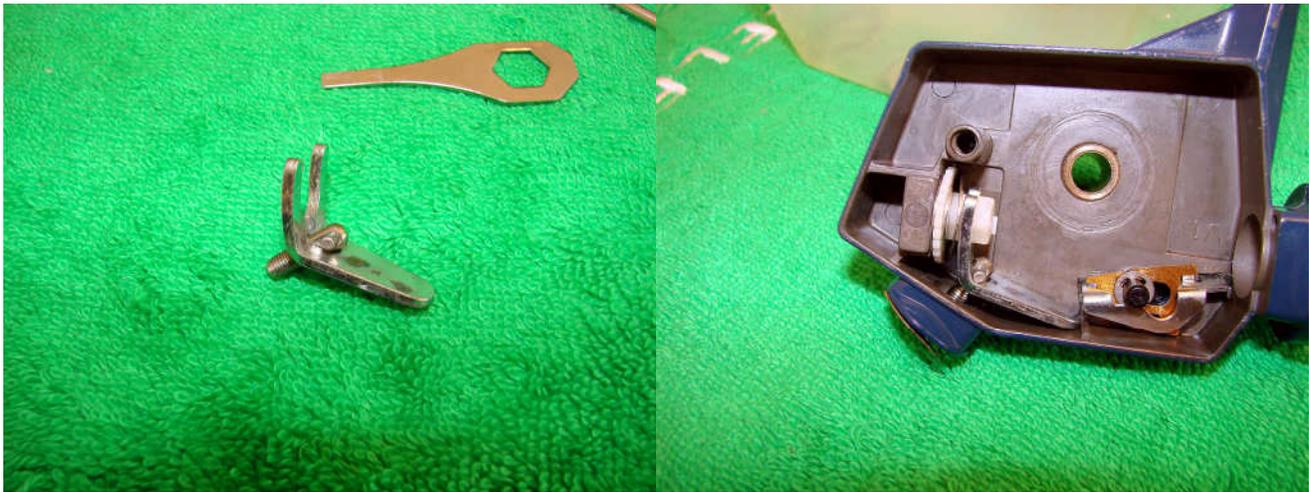
Replace the other bail spring (add a light coat of grease). Add a light coat of grease to the friction surfaces and fix in place with the remaining bail screw.



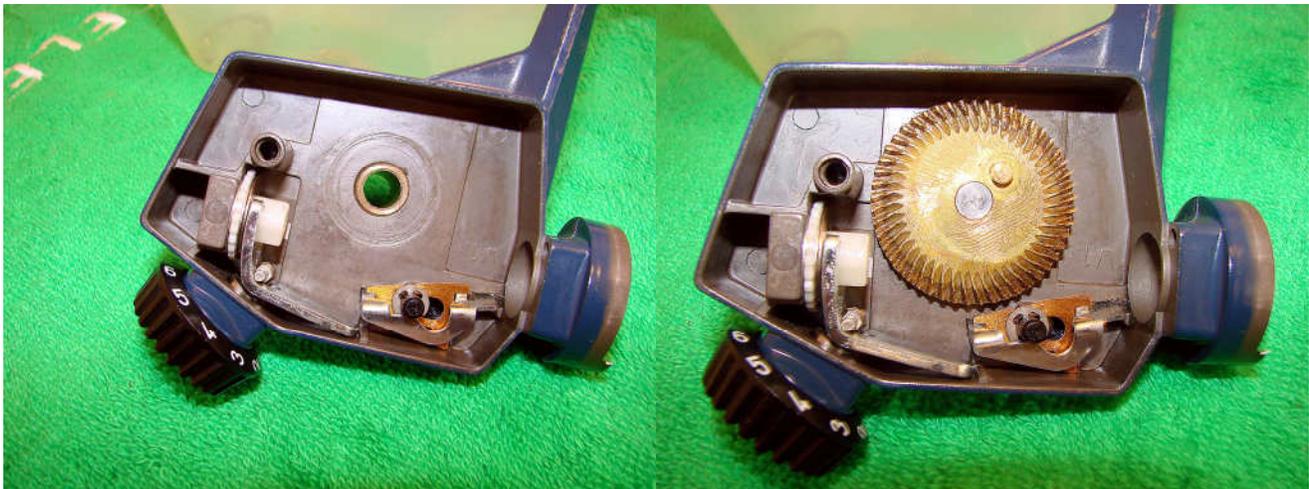
Replace the drag spring. A light coat of grease will help prevent any further corrosion. Replace the AR assembly and fix in place with the circlip. Note that excess grease here can actually stop the AR working.



Replace the drag assembly; the correct sequence is metal friction washer-plastic drag washer/click wheel-metal friction washer. The final metal washer (odd one out) goes on top; note the correct orientation. These parts go on dry.



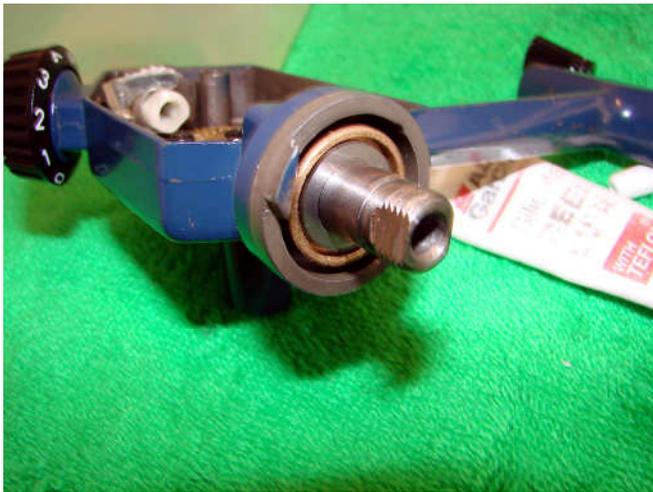
Add a light coat of grease to the threads on the drag tension arm and replace in the body. Note how it sits up against the ridge in the reel body.



Replace the copper washer and then screw in the drag knob. Flood the main gear bushing with oil, remove the excess and then replace the main gear. Add grease to the gear teeth and the surface where the connecting link contacts.



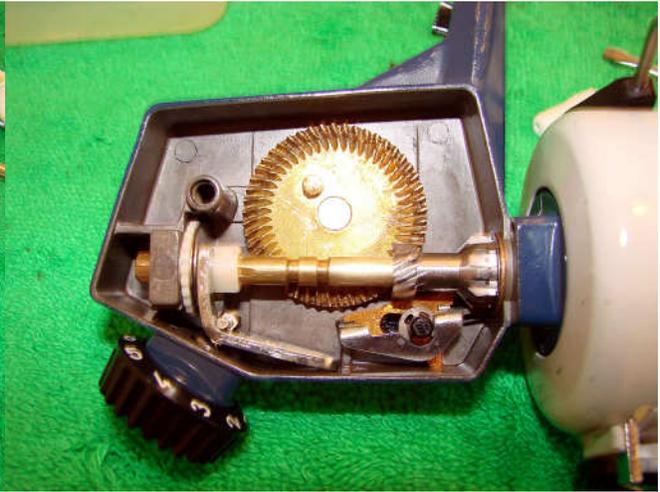
Flood the bushing for the pinion gear with oil then remove the excess. Replace the small washer, the bushing and then the large washer. You can add a light coating of grease to the outside of the bushing.



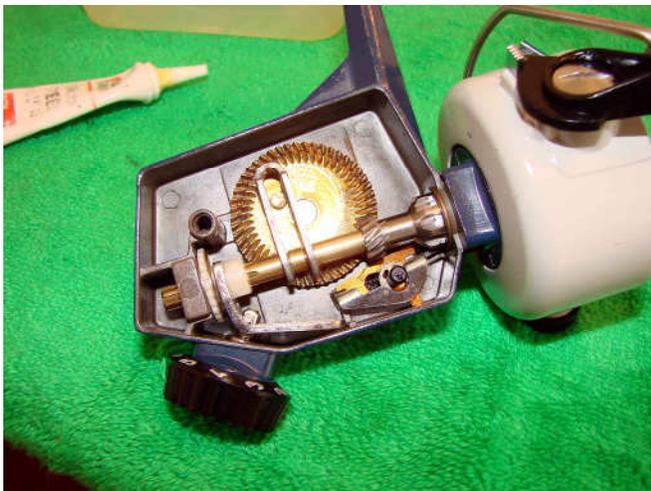
Replace in the reel body and fix in place with the circlip.



Add a dab of grease where the trip lever will contact and then replace the entire rotor assembly and fix in place with the locking washer and nut.



Add some oil/liquid grease to the main shaft and make sure it is smeared in properly. Replace the main shaft.



Replace the link arm making sure that there is grease where it contacts the main gear. Replace the side plate.



All finished.

For a reel with no bearings this feels nice and smooth-the stiff cranking and the weak bail return were due to excess old grease and oil that had dried up and solidified-in effect sticking the parts together. When servicing it is a good idea to apply oil and grease sparingly-excess just attracts dirt and can 'gum up' your reel.