# Blue Heaven L 120 R

« **on:** January 26, 2009, 11:36:45 AM »

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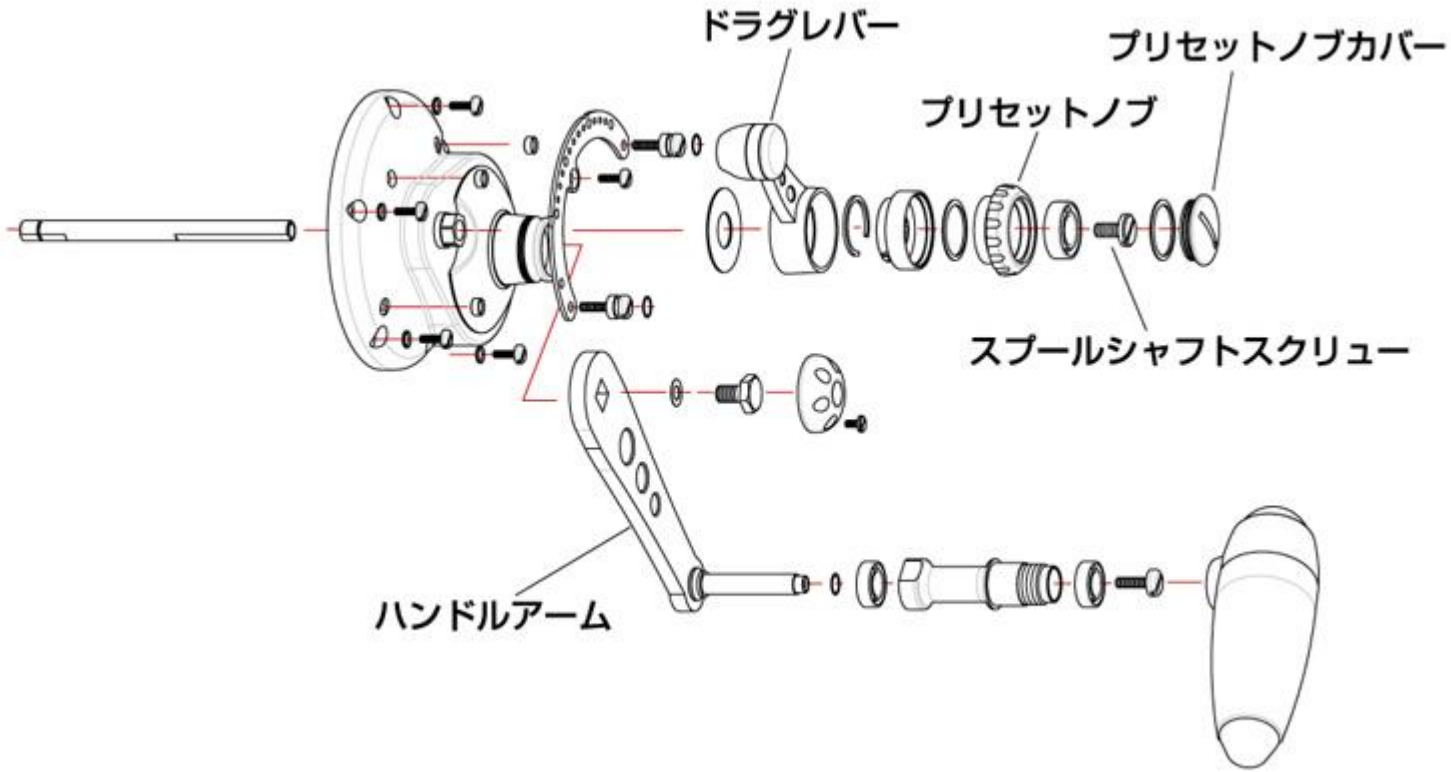
this was shipped from texas last year.....

here's a link to the manufacturer's website.

http://www.studio-oceanmark.com/

these are the only schematics that i was able to find.




prior to cracking this reel open, the only thing i knew about this reel was that it had cork drags.

here are a couple of close ups to get you acquainted with our new friend.


"dual one way roller and high modular gear box" is translated as having a pair of anti-reverse roller bearings stacked up one on top of the other and a big main gear.

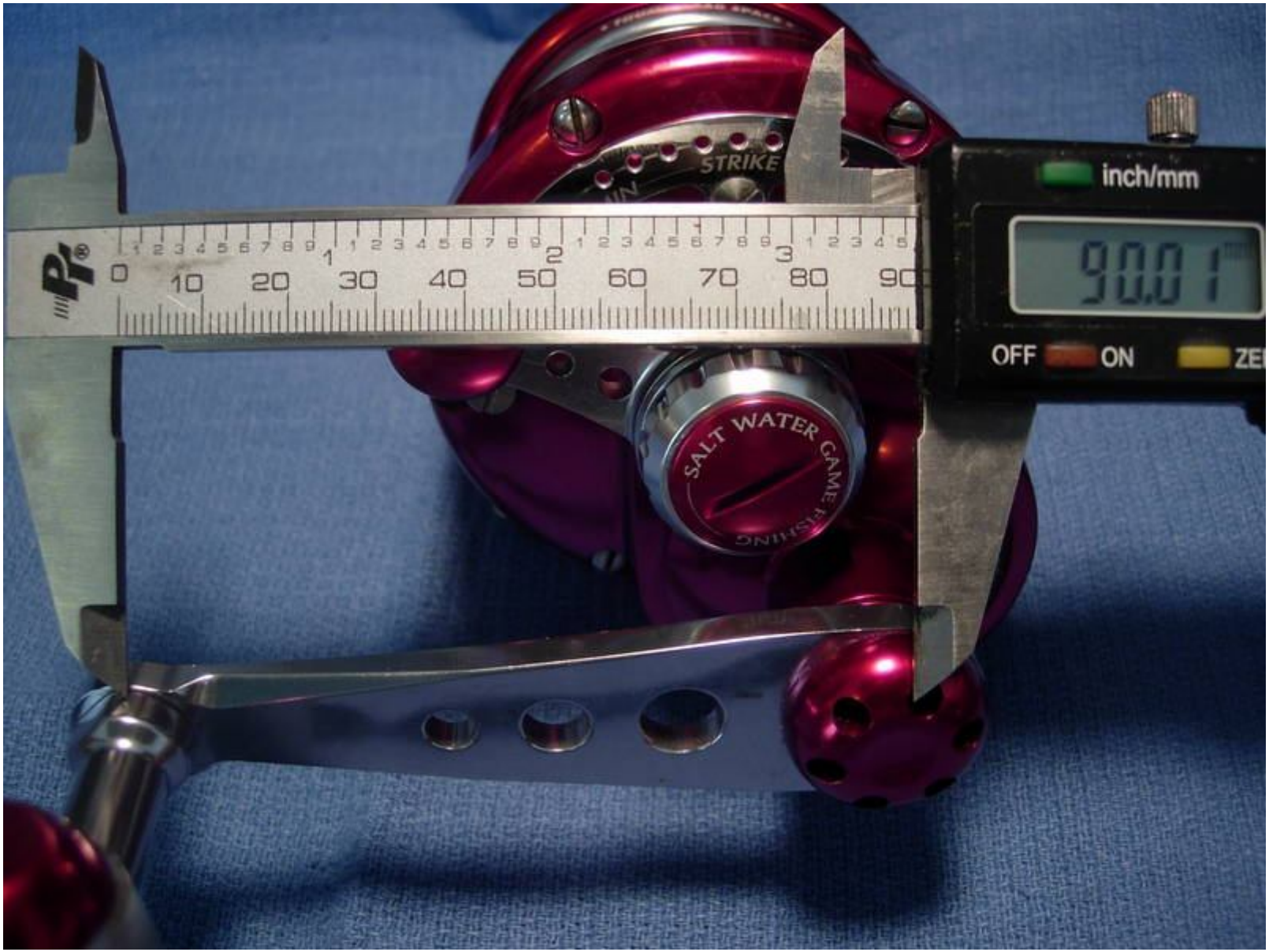

the quadrant is marked with "min, stike, fight and max" but there are no detents to stop the lever.  the holes in the quadrant are for the click mechanism only.  the notches seen on the top of the quadrant allow removal of the side plate screws without removal of the quadrant first.


i got a good chuckle with this.  i'm not sure that thumbing the spool will add much to a 20, 25 or 30# drag setting.


the spool is about 34mm wide.

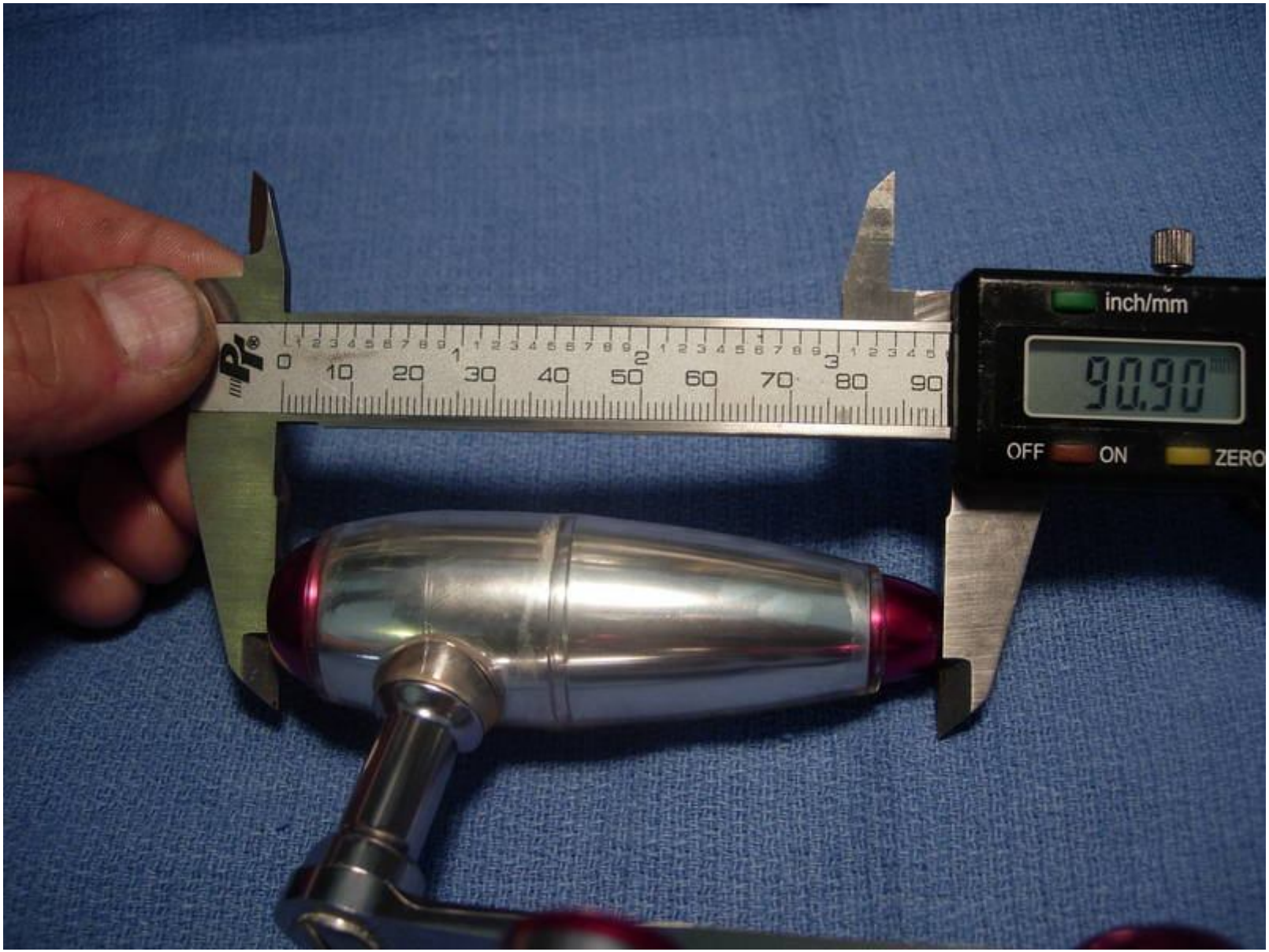

the height of the spool is about 67mm.


the handle arm is 90mm from axis to axis.



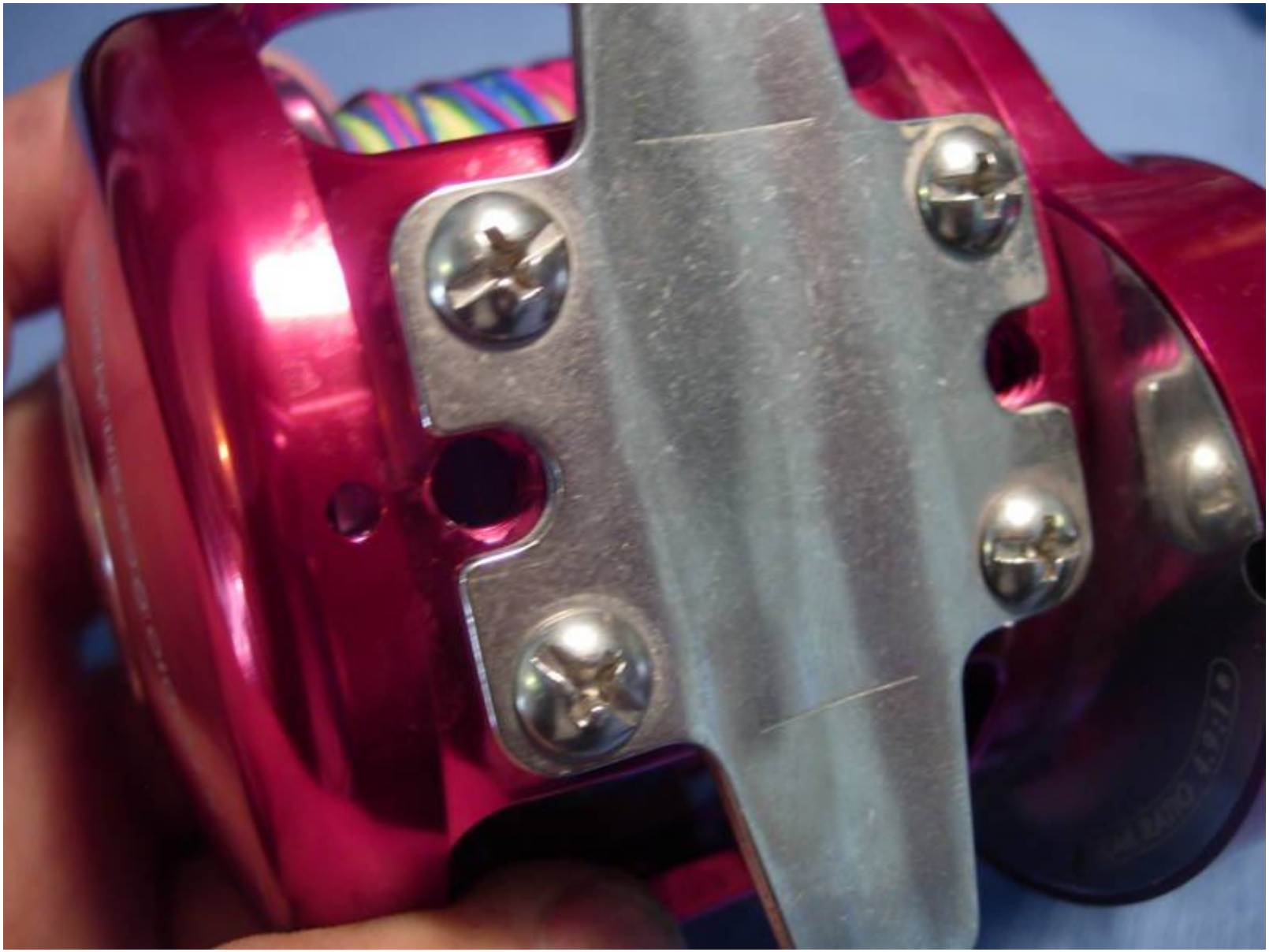

the handle grip is tapered and 30mm at it's widest point.


the overall length is about 91mm.




to avoid infringing on tiburon's t-bar patent, this handle needs to have a 9 degree offset or less.  tiburon's patent goes from 10 to 25 degrees.  i will let someone else measure this one.

the reel seat is stamped stainless steel and it's held with four stainless steel machine screws.



what do you think?  maybe a 135 degree throw on the lever?


the gear case cover tells us we have a 4.9 to 1 gear ratio.

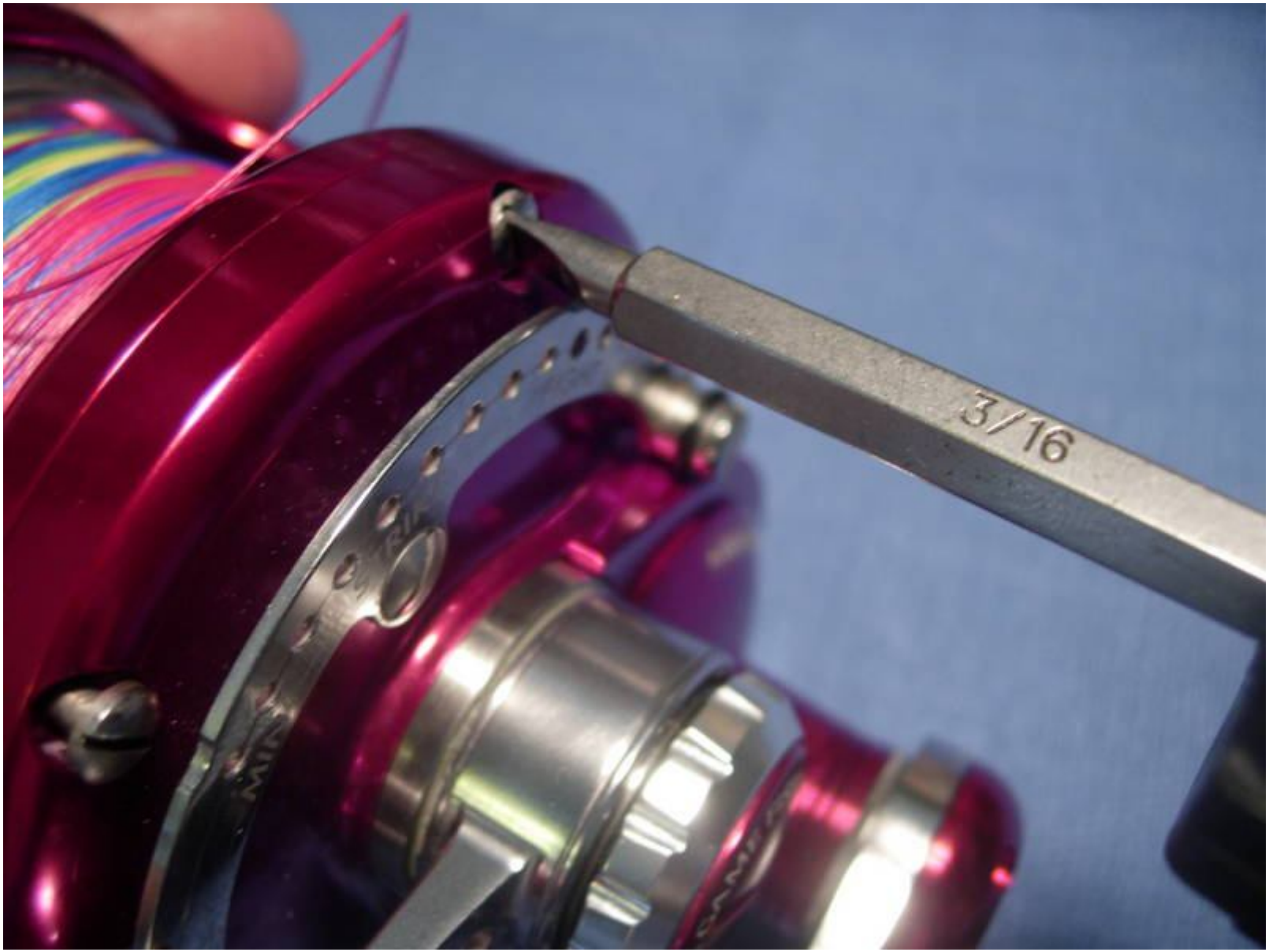

individually numbered reels.  nice touch.


let's run the reel through it's paces. judging by the water spots and a little salt accumulation, it is fair to say that this reel has been fished already. keep that in mind. first, the preset knob was backed off all the way. spinning the spool several times, i got a consistent 12 seconds of freespool. um, not very impressive, but not necessarily deal killer either. second, i turned the preset knob down until the drag pressure plates inside came in contact with the drag washer. then i backed off the preset knob until the the pressure plates lost contact. this will give me the maximum drag at strike before losing freespool. at this setting, the freespool remained at 12 seconds.

the corresponding drags pressures measured at each setting are 1 pound at min, 6 pounds at strike, 18 pounds at fight and over 30 pounds at max. basically at max, the drag locked down. i am logging this down as greater than 30 pounds because i did not want to pull any further. of concern is the fact that the handle became increasingly difficult to turn at higher drag settings. this points to an issue with the right main side plate bearing.

remember those notches in the quadrant?  they'll come in handy when we pull the side plate.


let's back out each screw.



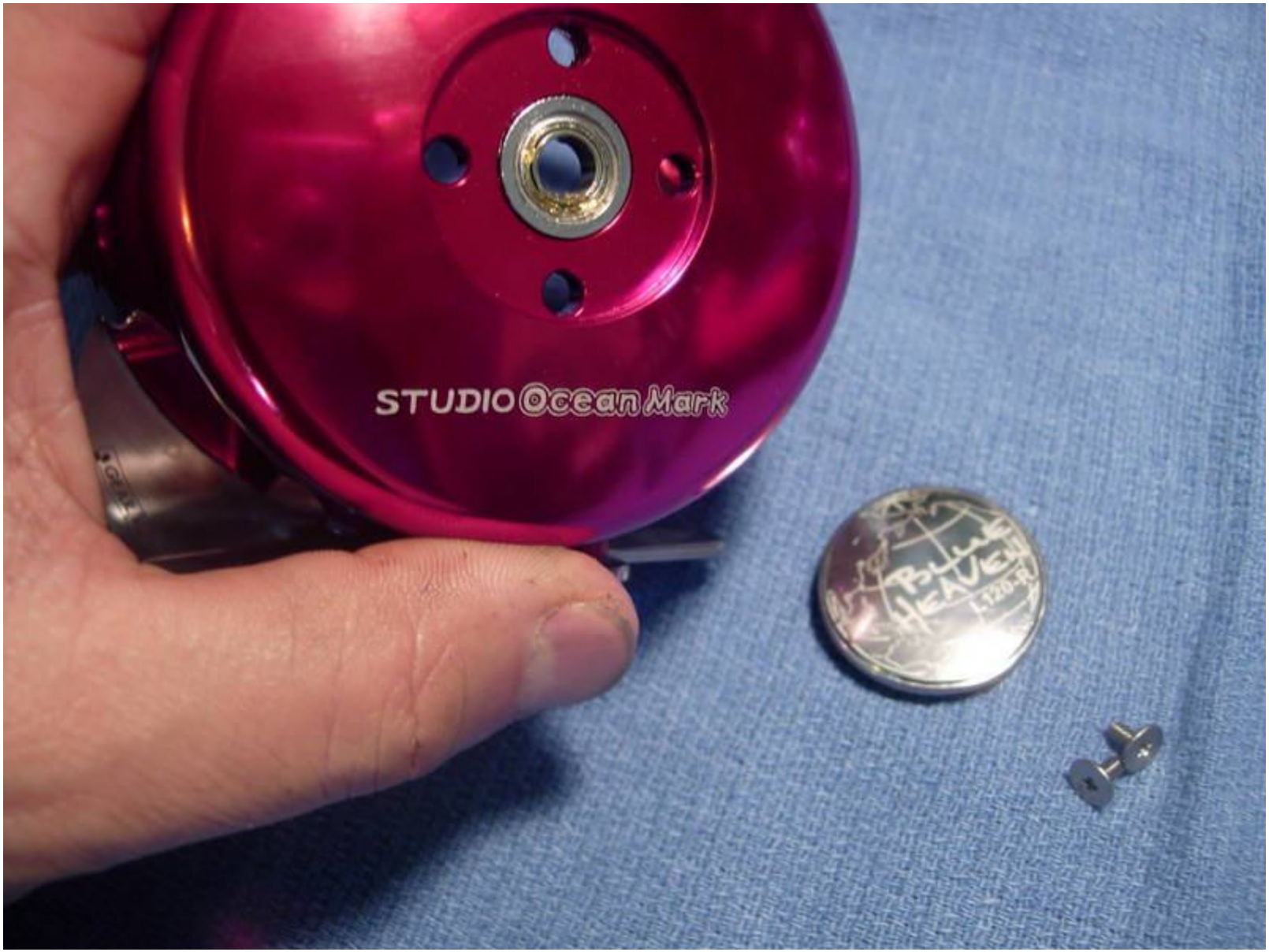

the reel breaks down easily into two pieces.

the side plate screws appear dry but they have a rubber o-ring.  i would prefer grease.

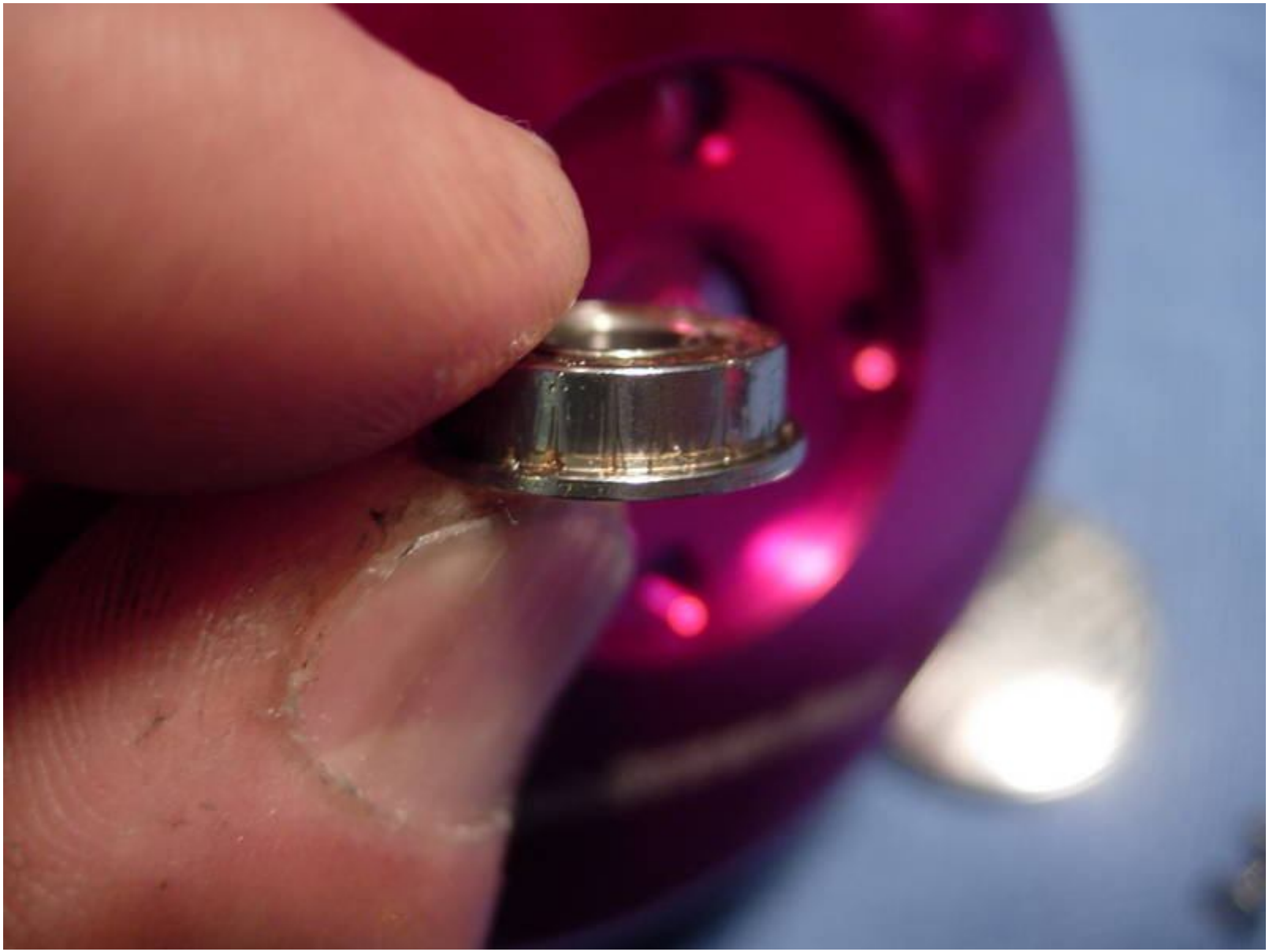
here's a look down the throat of the frame assembly.  the left side plate bearing will need to be checked for grease, but don't pull on it just yet.

back out both screws and remove the name plate.

a small suprise awaits.




the bearing is flanged.  you could have pulled from the inside all day and it never would have budged.



it measures 6x12x4.


this bearing was well greased on both sides.  we will grease it again, anyway.

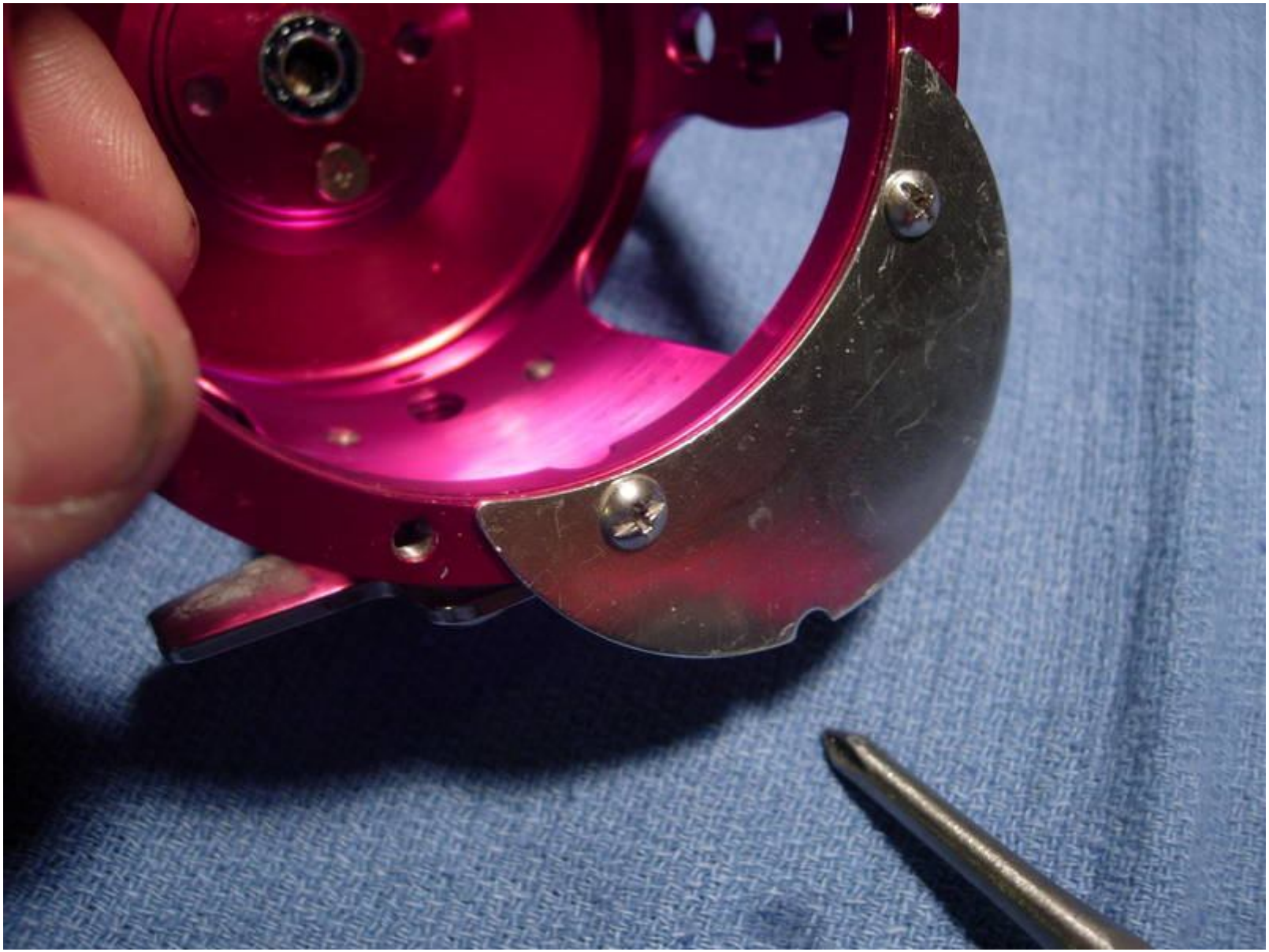
back into the side plate it goes, followed by the name plate.

let's check the gear case cover.

hmmmm, the screws are dry as a bone.

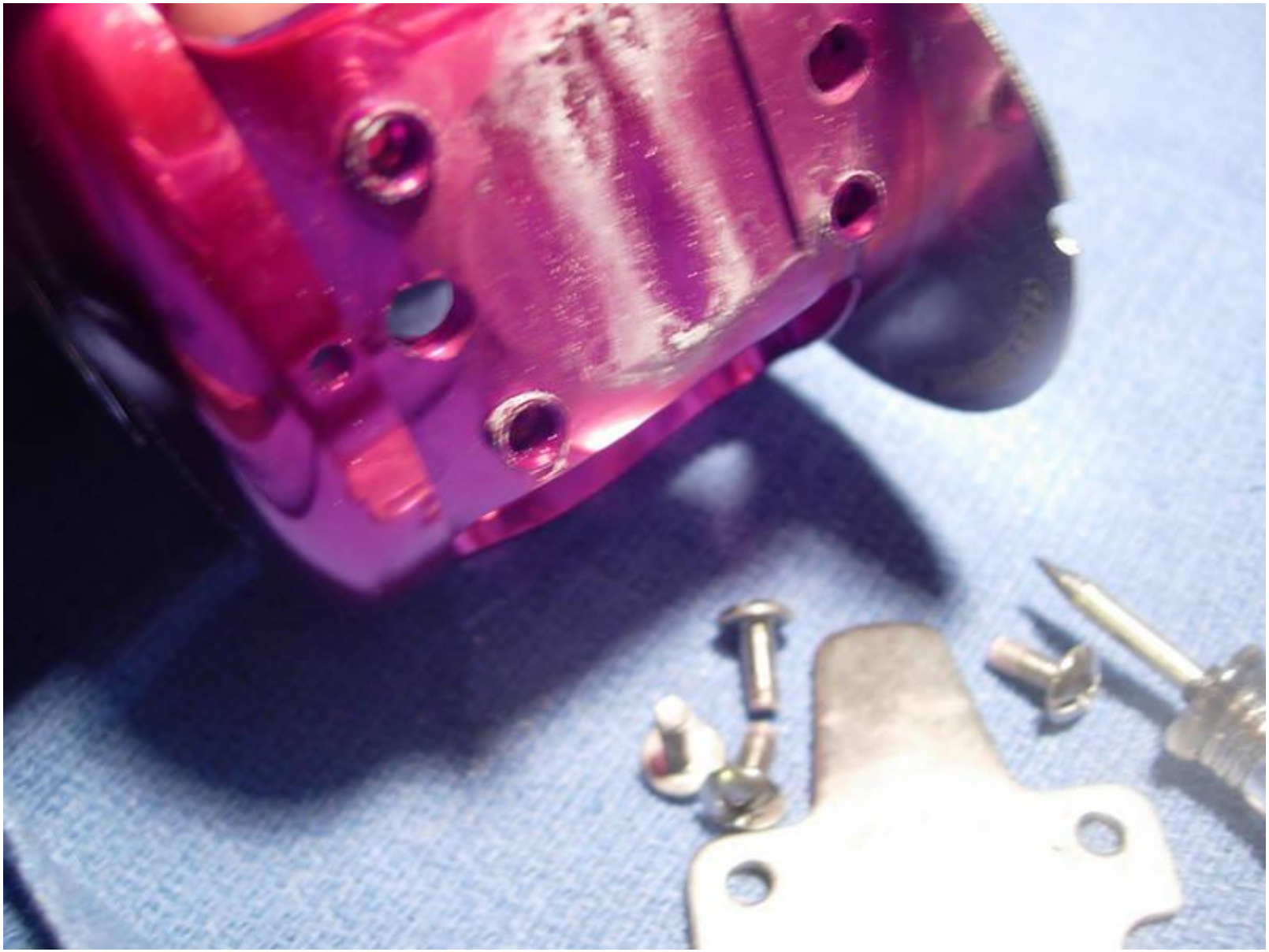
remember the the daiwa saltiga frame that i cracked?  let's not go for a repeat performance of that stunt.  we'll oil the screws instead.

back in it goes.



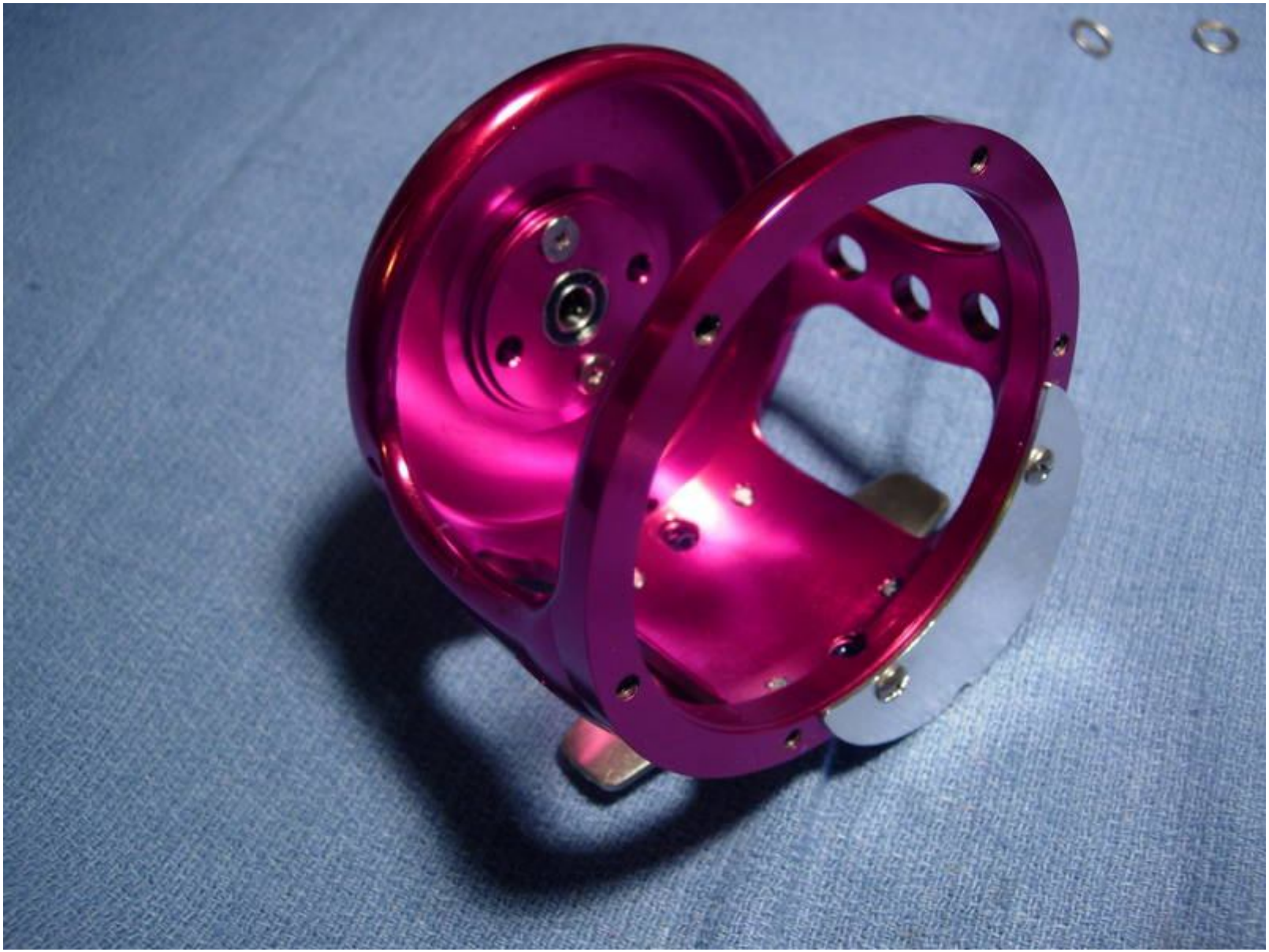
check the reel seat screws.

dry as a bone and loose!  just a little red loctite and a little salt.  glad we caught this one when we did.



what to do about the reel seat? if you just use loctite, corrosion will lock up the screws and/or eat away at the aluminum to make the threads loose. if you grease the screw holes, you avoid corrosion but the screws might back out on you. you must pay your money and take your choice. i will grease the screws and screw holes, then torque down the screws nice and tight. if you do this, you will have to make it a point to wiggle the reel while it's on the rod and make sure it's not loose. i'm greasing these.....


ok, the frame assembly is done.  let's set it aside.



use a wide, well fitting blade to remove the preset knob cap.  let's not leave any tool marks on the soft aluminum.

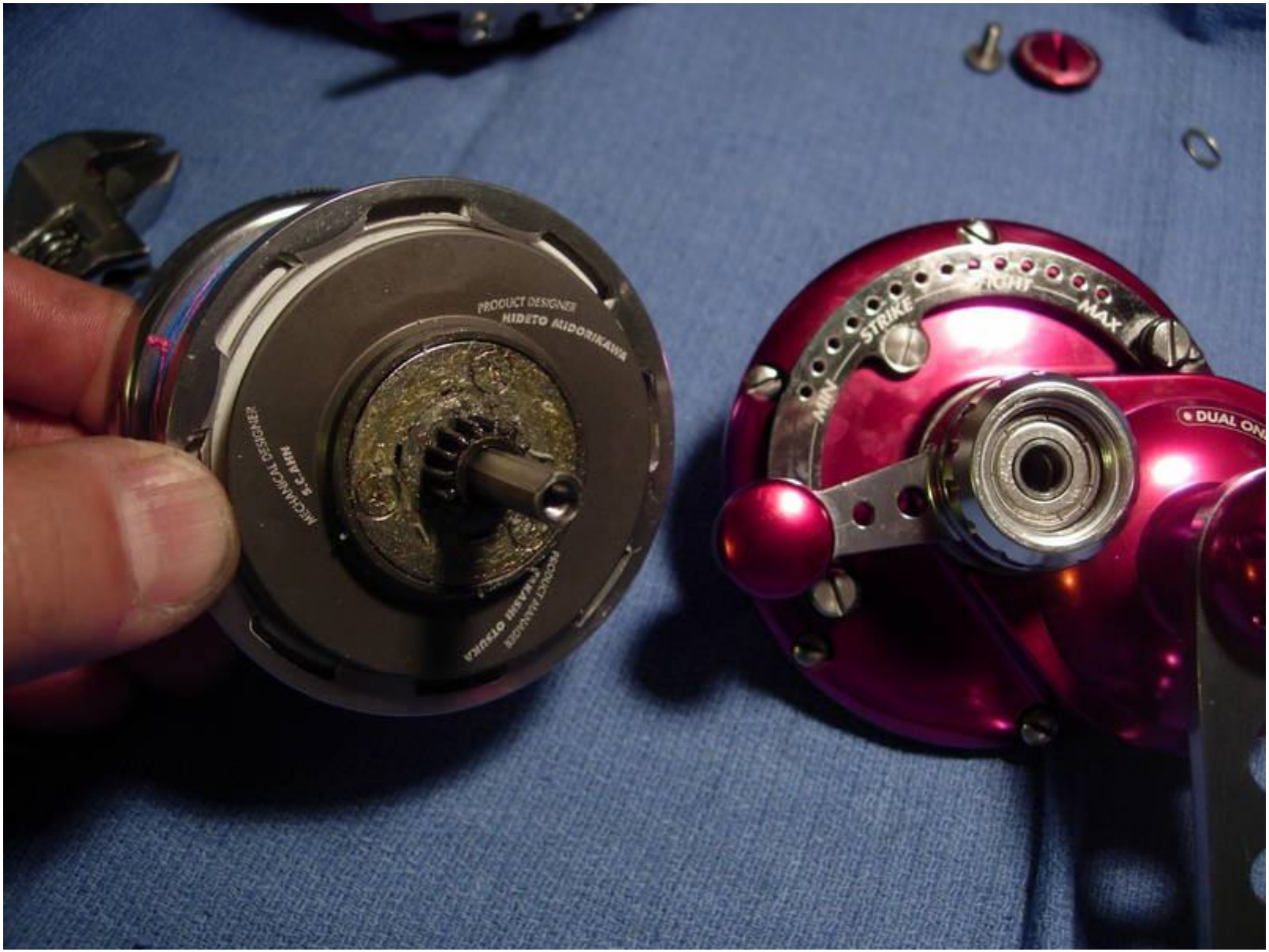

now we need to remove the spool shaft screw.


use a crescent wrench to hold the left side of the spool shaft.

hold the spool shaft with the crescent wrench and remove the spool shaft screw.

out comes the spool shaft screw.

out comes the spool.

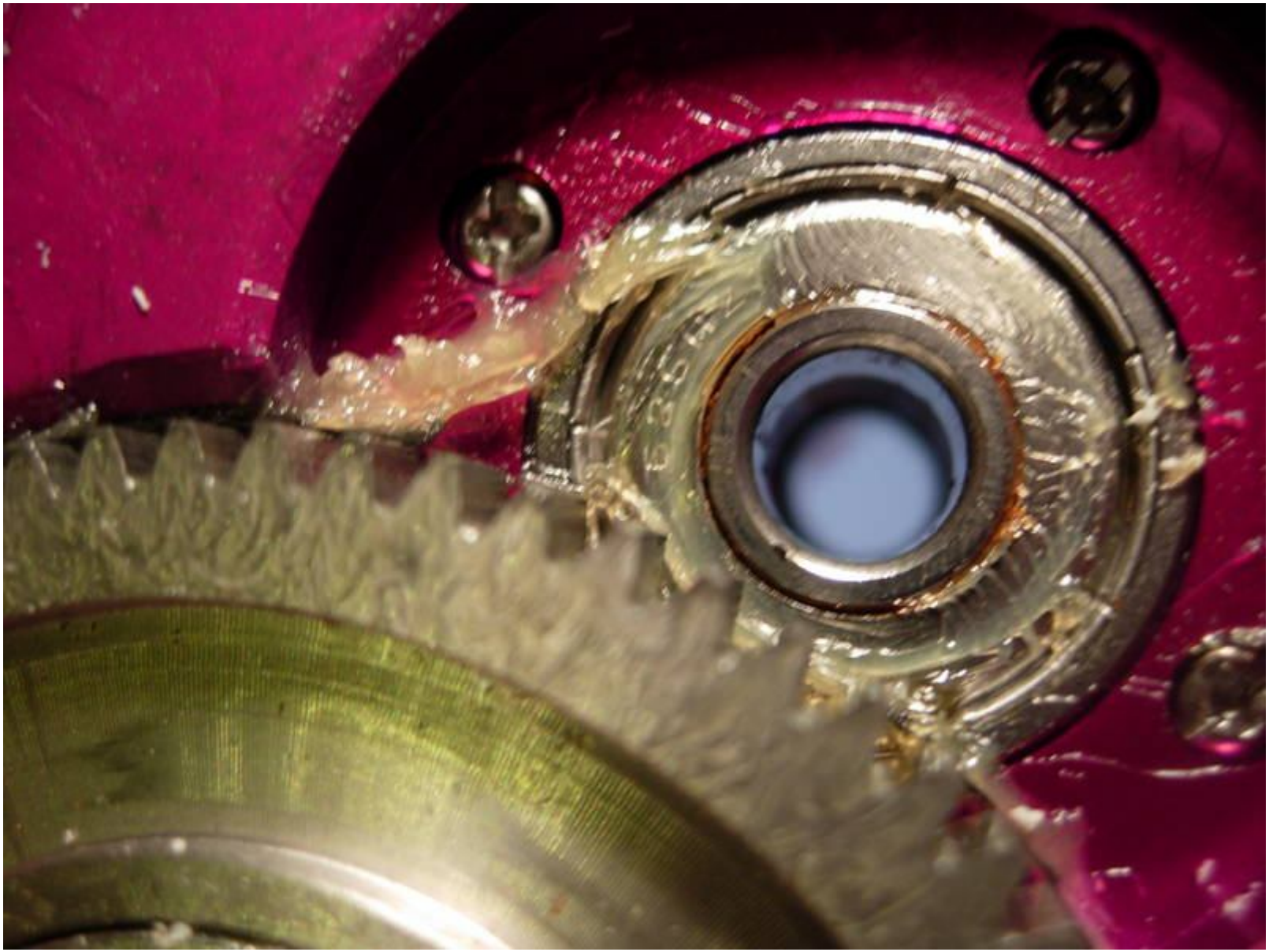



like the old swordsmiths of feudal japan, these gentlemen signed their work.

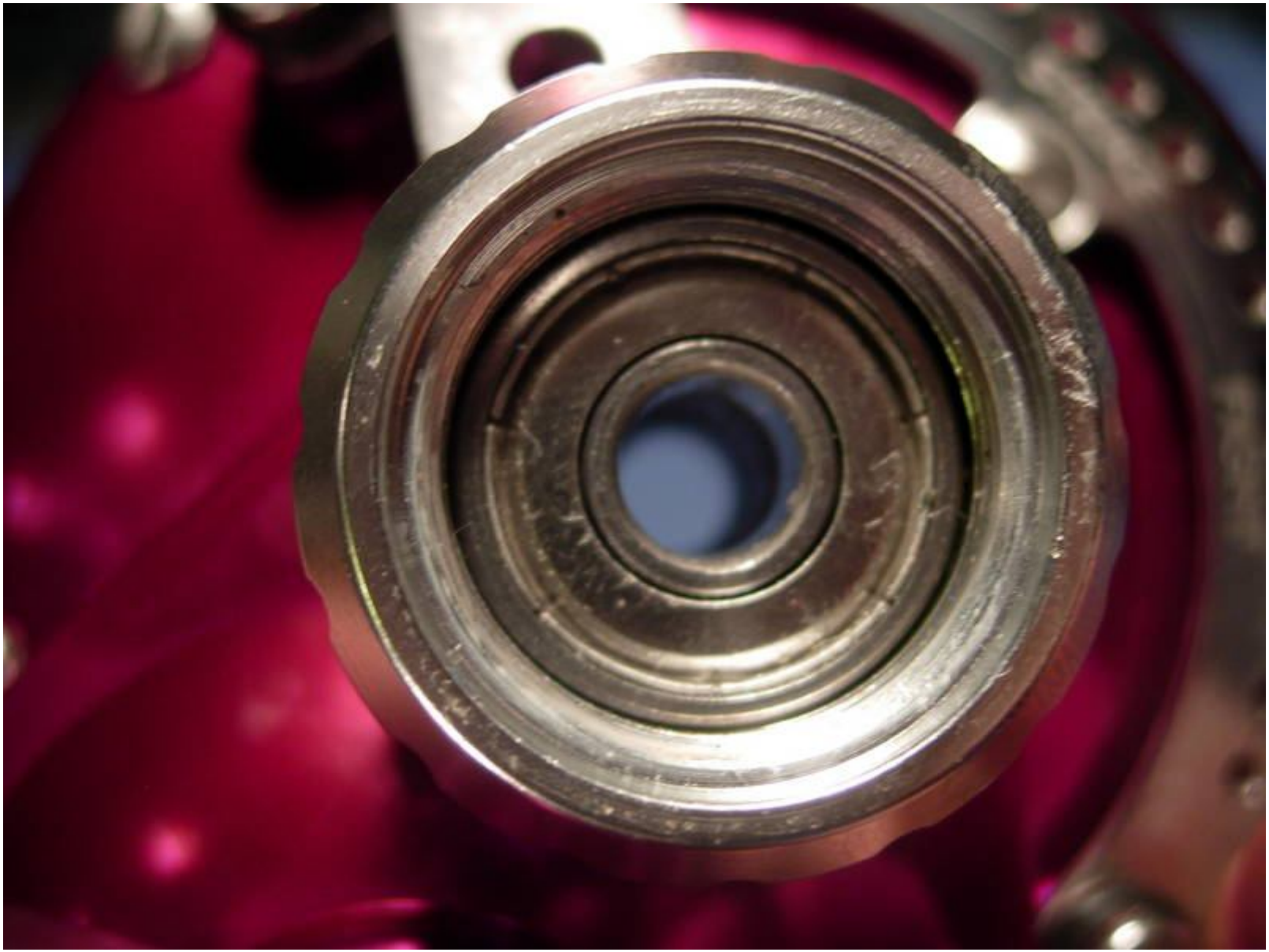

PRODUCT DESIGNER
HIDETO MIDORIKAWA


PRODUCT MANAGER
TAKASHI OTSUKA


remember the problem we had cranking the handle at higher drag settings? here's the reason. it's the right main side plate bearing and it's already rusted. it measures 6x19x6. water was likely allowed to pool with the reel on it's right side, water seeped in and the bearing rusted tight. a new bearing from bocabearings.com will fix this.

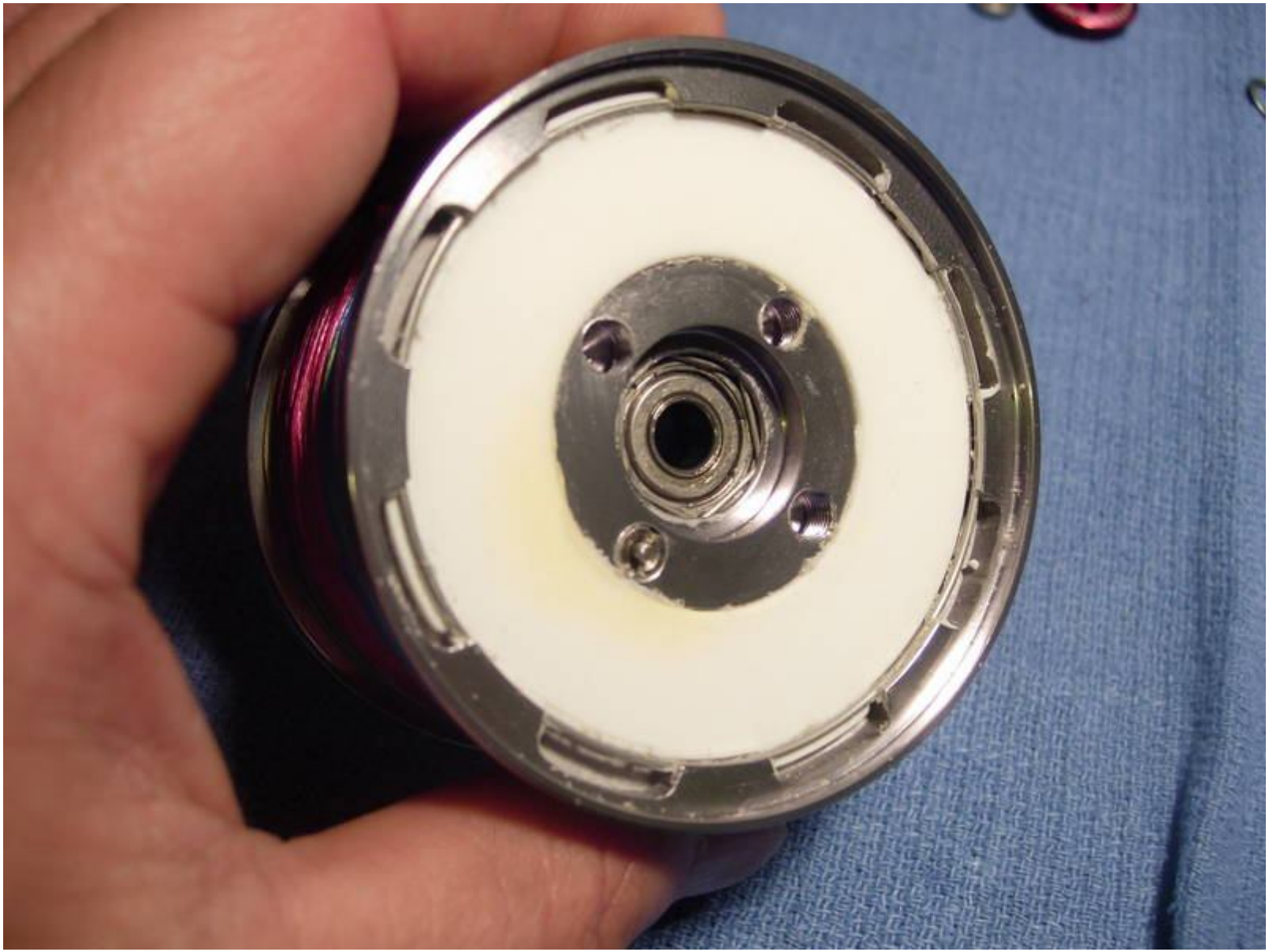


the reset knob also has a bearing.  it measures 6x17x6 and helps carry the load when the drag lever is pushed forward.  this design is similar to, actually it is exactly the same as, the design of the accurate boss series of reels.



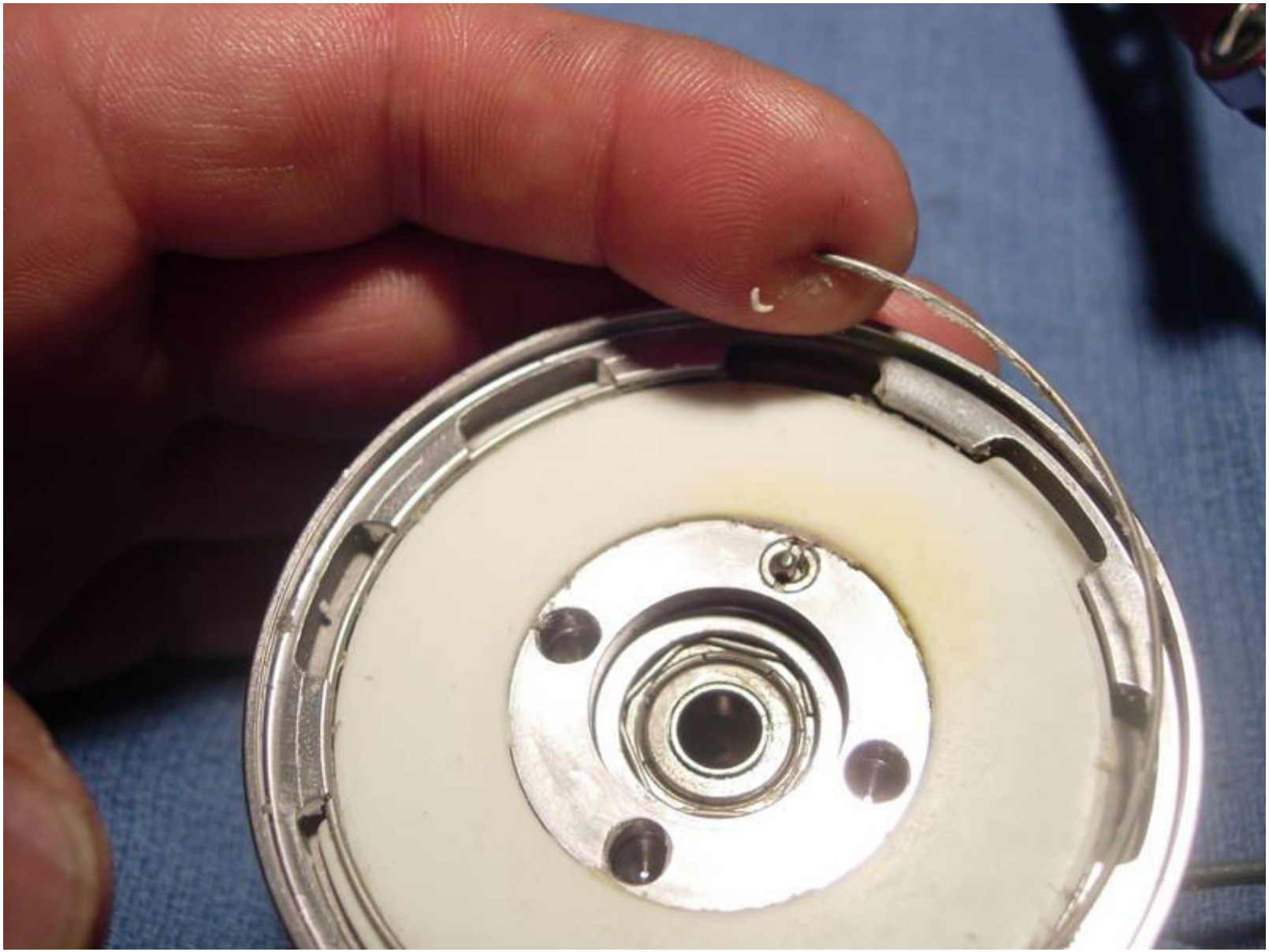
the spool shaft slides out easily.  here are the two pressure plates.  this design is also exactly the same as the accurate boss series of reels.

the drag washers in this reel appear to be teflon.  this would explain the big jump in drag pressure when pushing the lever from "fight" to "max."

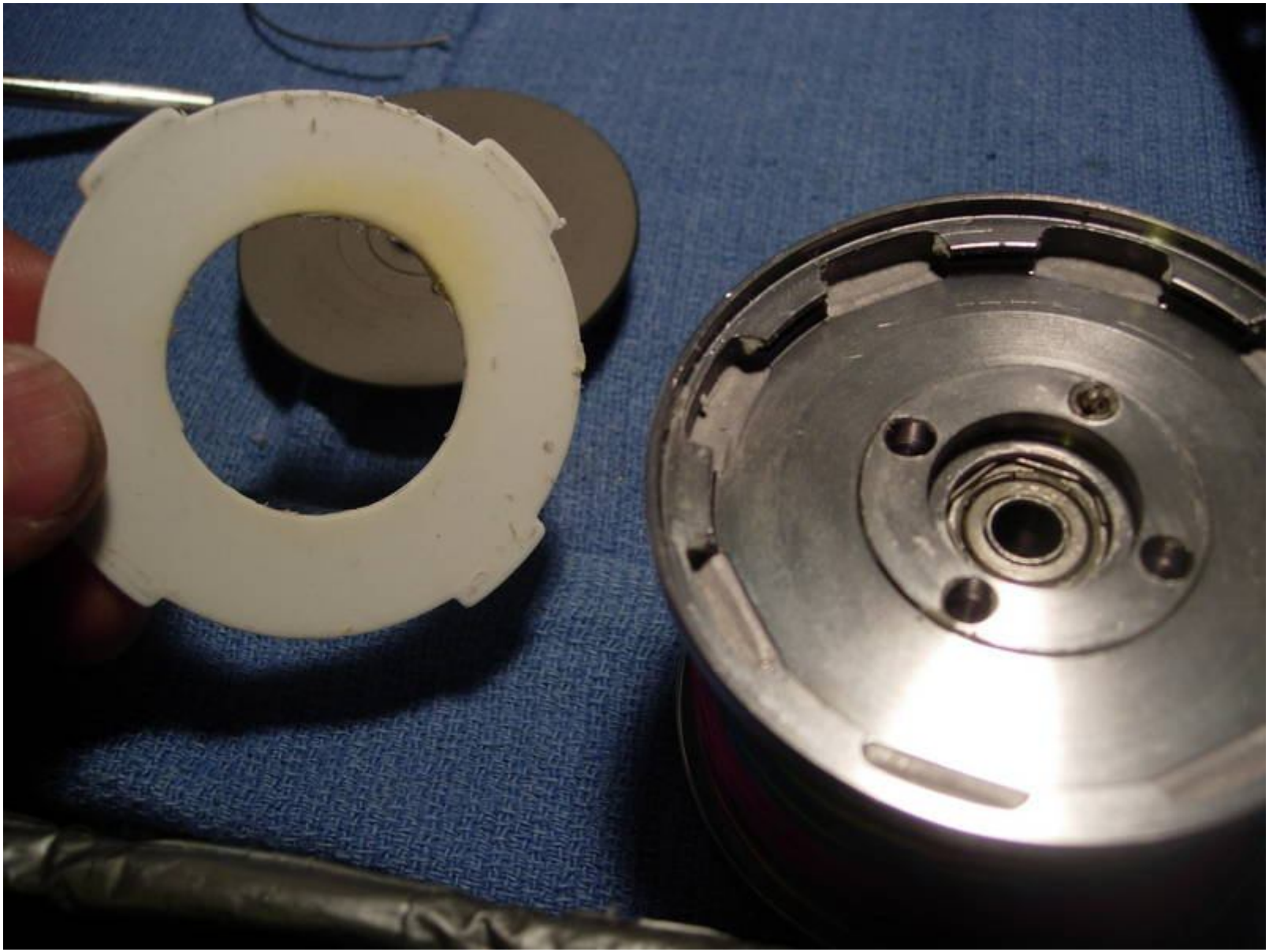


on the left side of the spool is a small click mechanism.  this will tell you when line is being pulled out against the drag.  this would be an excellent feature for the blind fisherman.

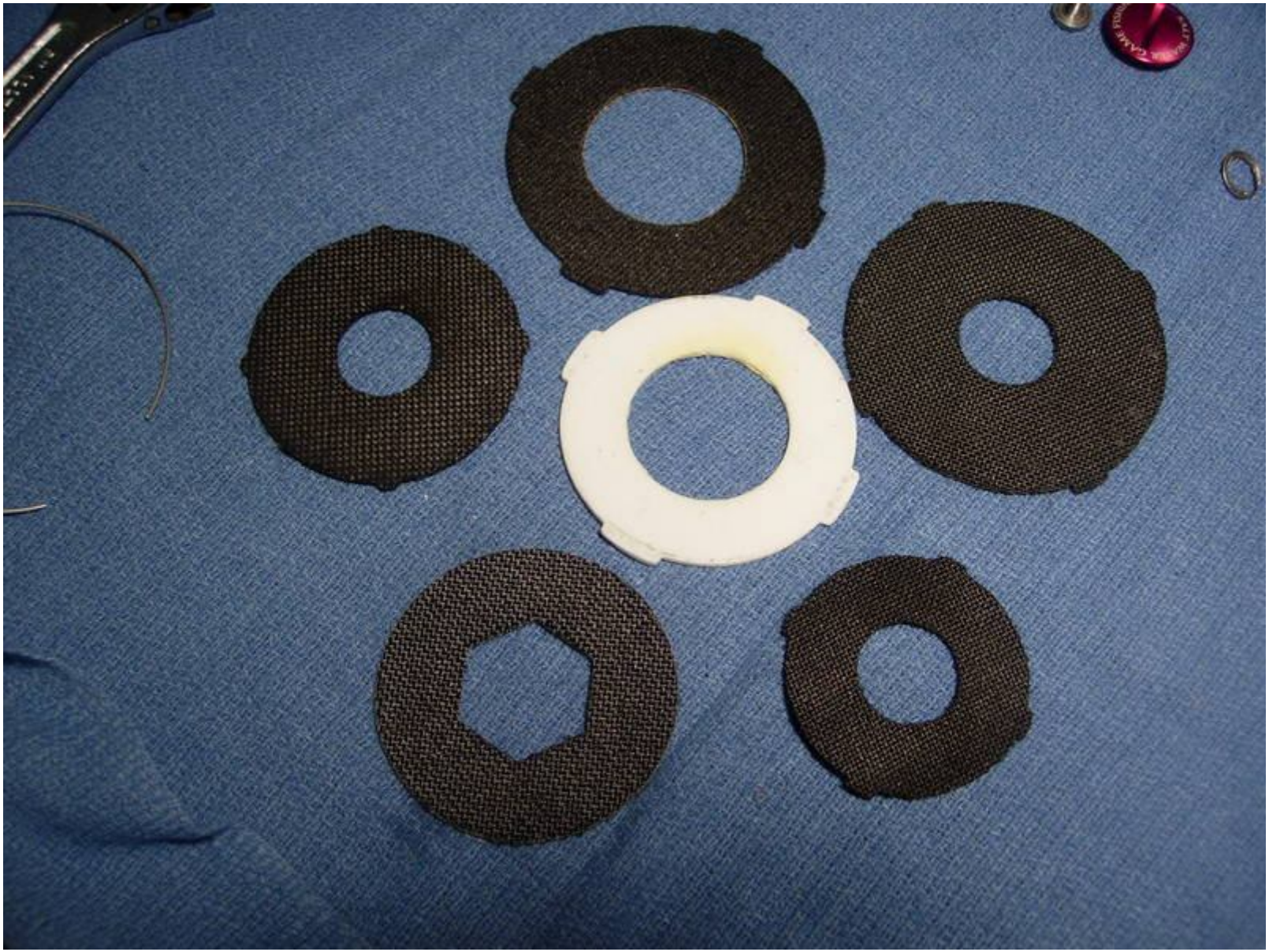
removing the stainless steel retaining ring is very simple.



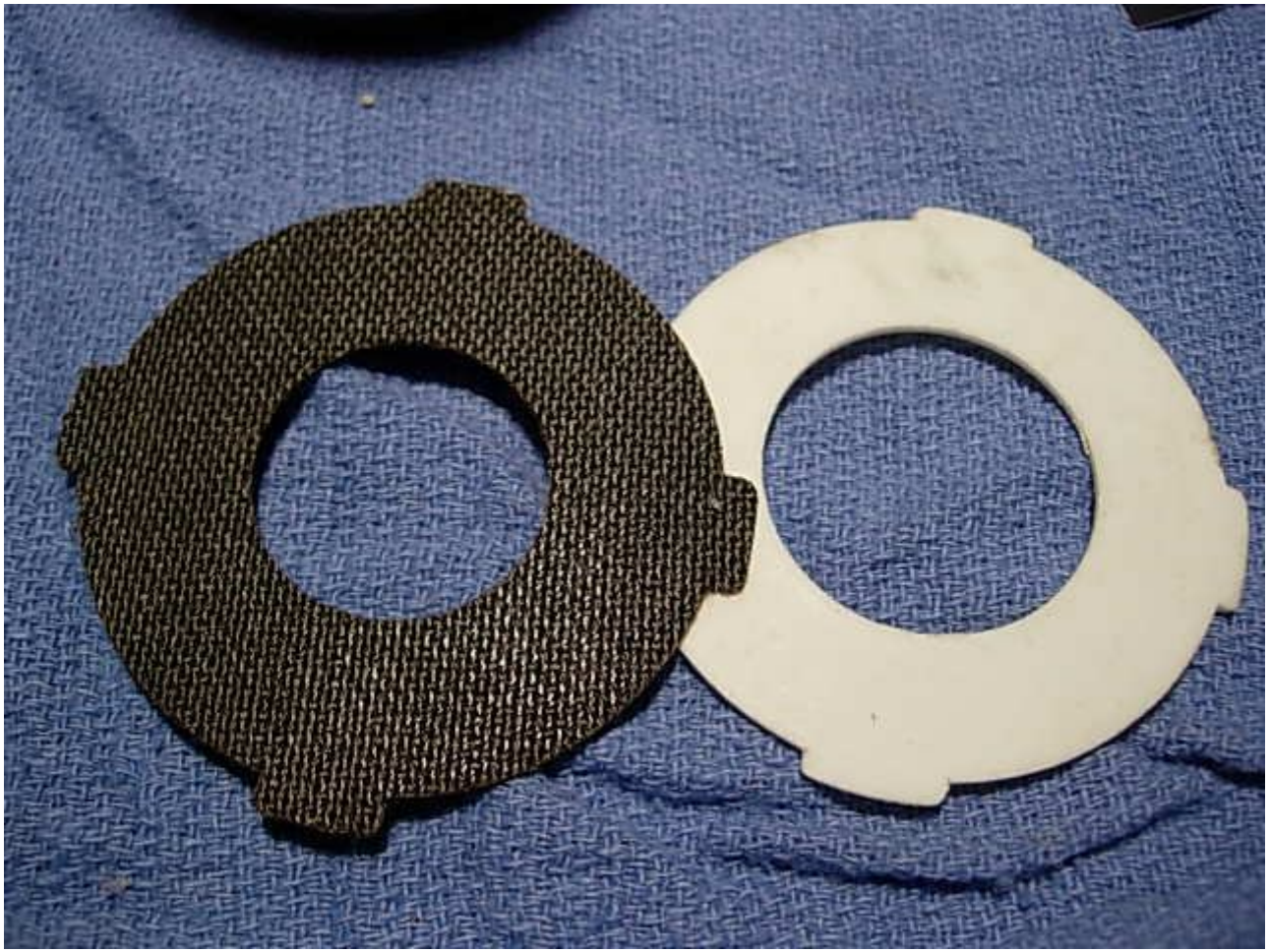
removing the teflon drag washer is equally as simple.



these are all of the stock carbon fiber drag washers that i have in stock.  i was not fortunate enough to find an exact fit, so i will have to hand cut a pair of drag washers to fit.



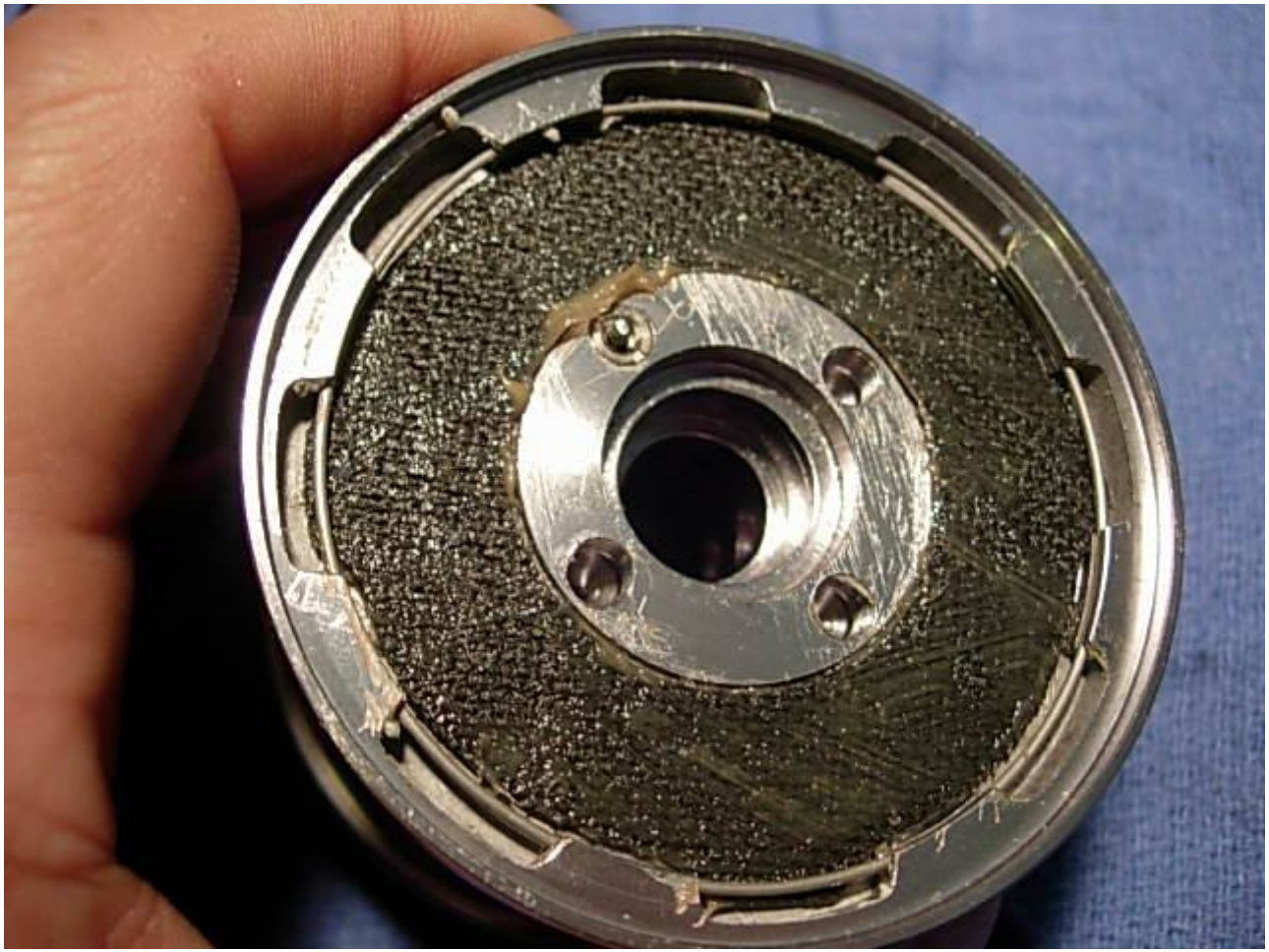
i ended up matching this to a pair of accurate 665 drag washers.



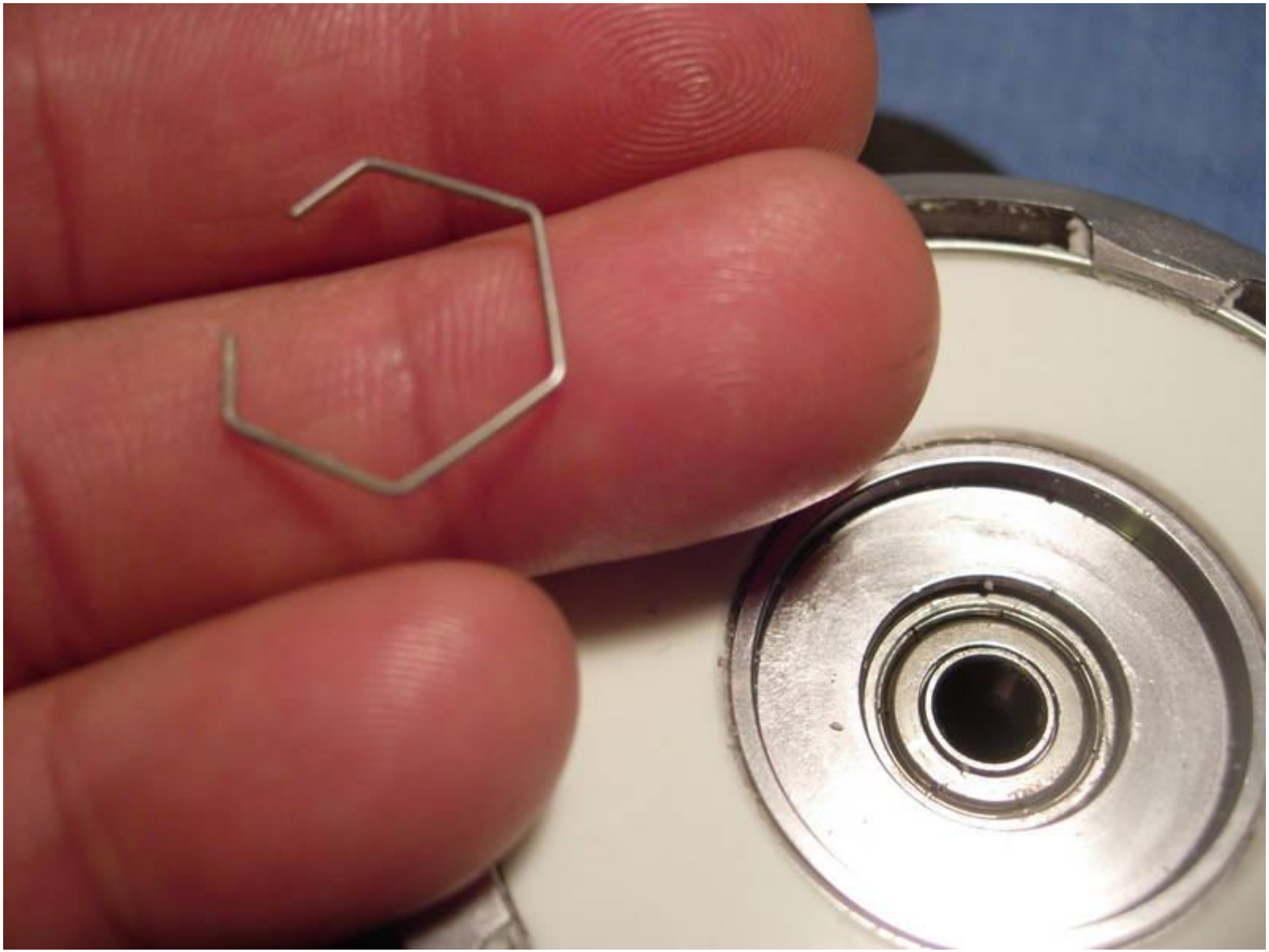
i used a dremmel to cut down the outer diameter and inner diameter to match the teflon washers.  if you do this at home, make sure you don't breathe in the dust.

apply cal's drag grease to the spool and both sides of the drag washer.

install the drag washer, the retaining ring and wipe all of the excess grease from the working surface of the drag washer.



the spool bearings are held in by a retaining ring that is easily removed.

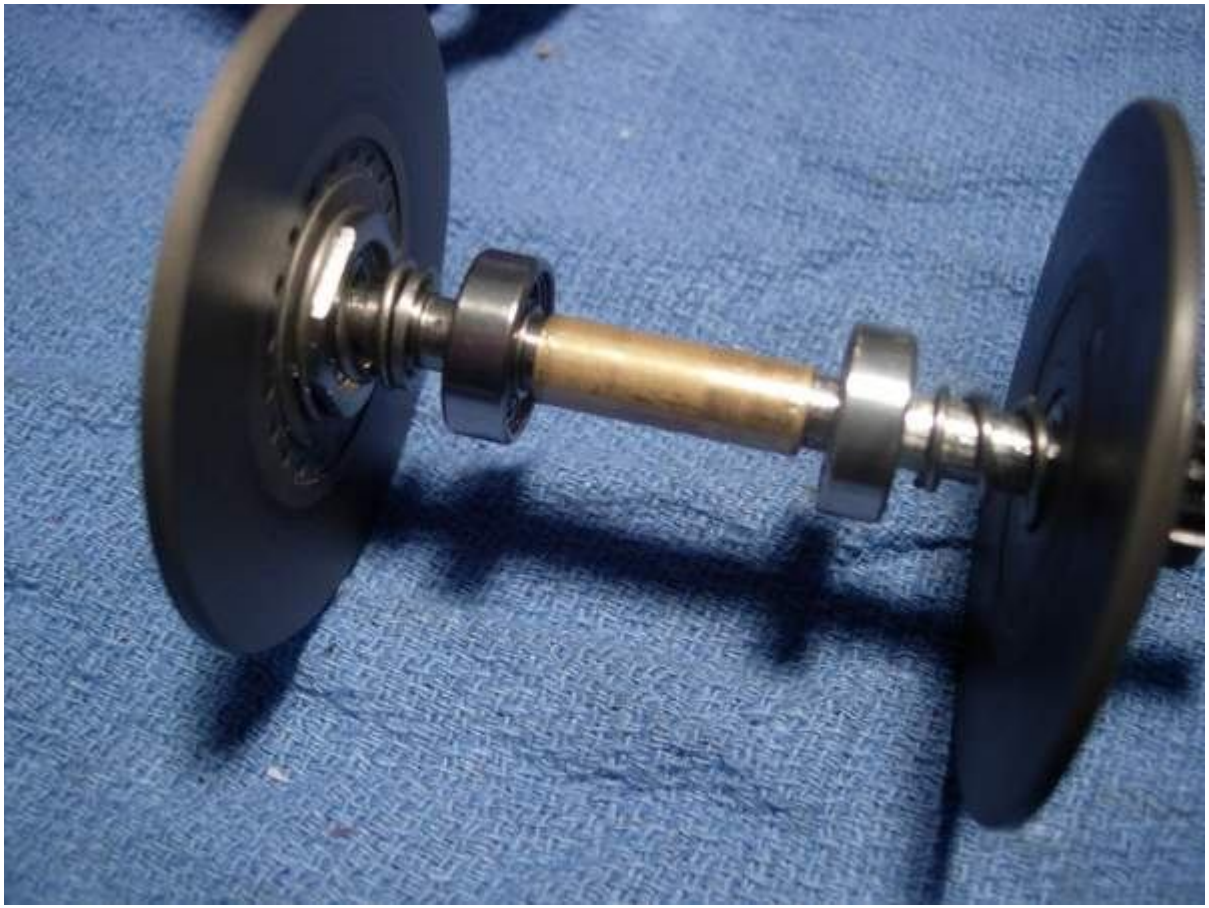


these bearings measured 6x15x5


to achieve the best possible freespool, the bearings were opened up, cleaned with carb cleaner and compressed air, lubed with corrosion x, and re-installed open.

now this was interesting.  with absolutely no axial pressure on the bearings, i got 45 seconds of freespool.  when i put even the slightest amount of axial pressure on the pressure plates and bearings, the freespool plummeted to 12 seconds.  it looks like we need a bearing sleeve to maintain freespool.

and here is our bearing sleeve.

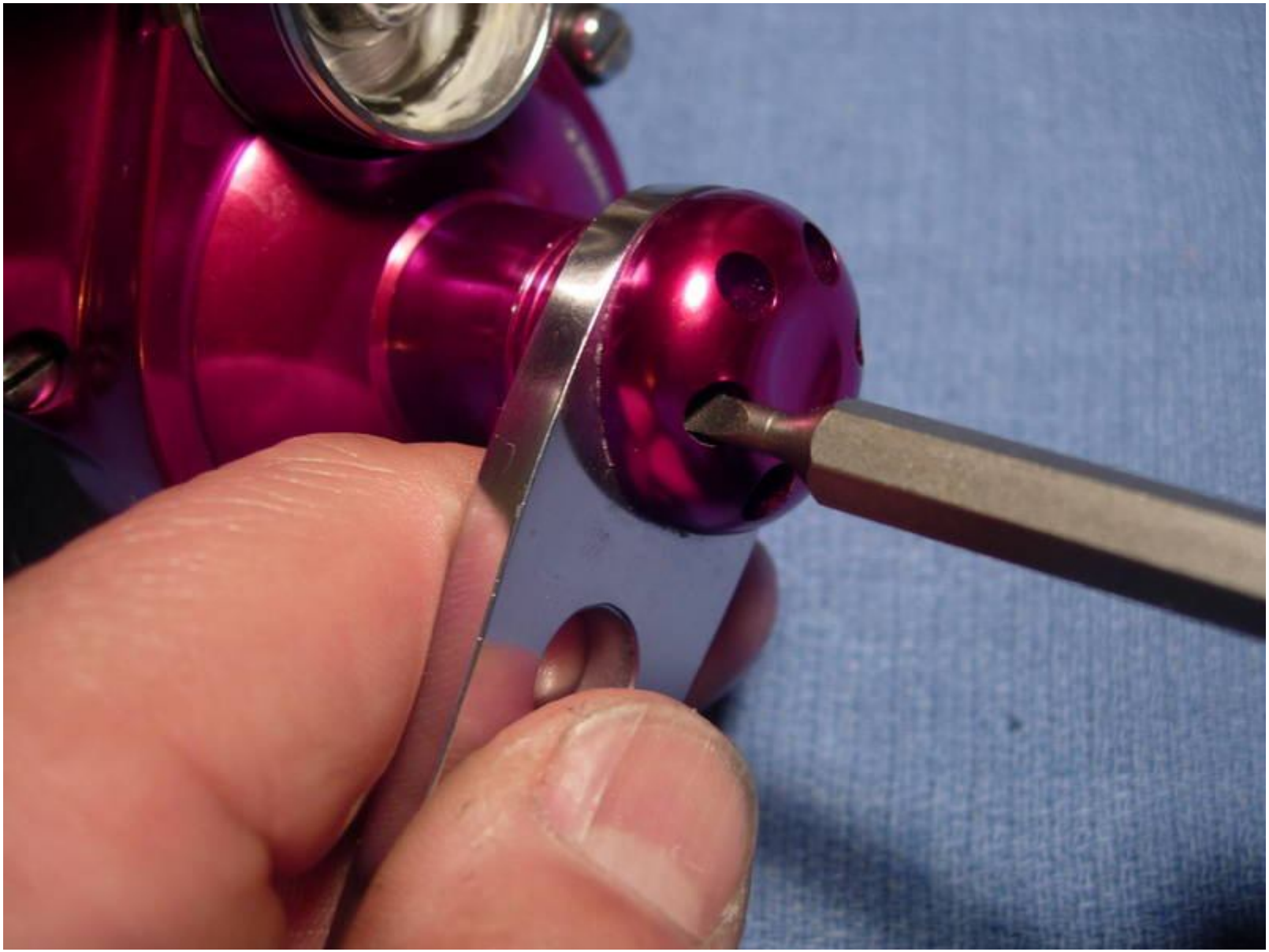


ok, now this is even more bizarre.  after reassemblying the bare spool, i'm back down to 15 seconds of freespool.  this is after cleaning and lubing the bearings with corrosion x, then letting it sit for several months before finally completing this post.

before shipping the reel out, i decided to give it one more try and lubed it up with this stuff.  i took both bearing out, stacked one on top of the other, then added some of this stuff down through the bearings.  the freespool time jumped from 15 seconds to 3 minutes.  i'm going to have to take a closer look at this stuff.

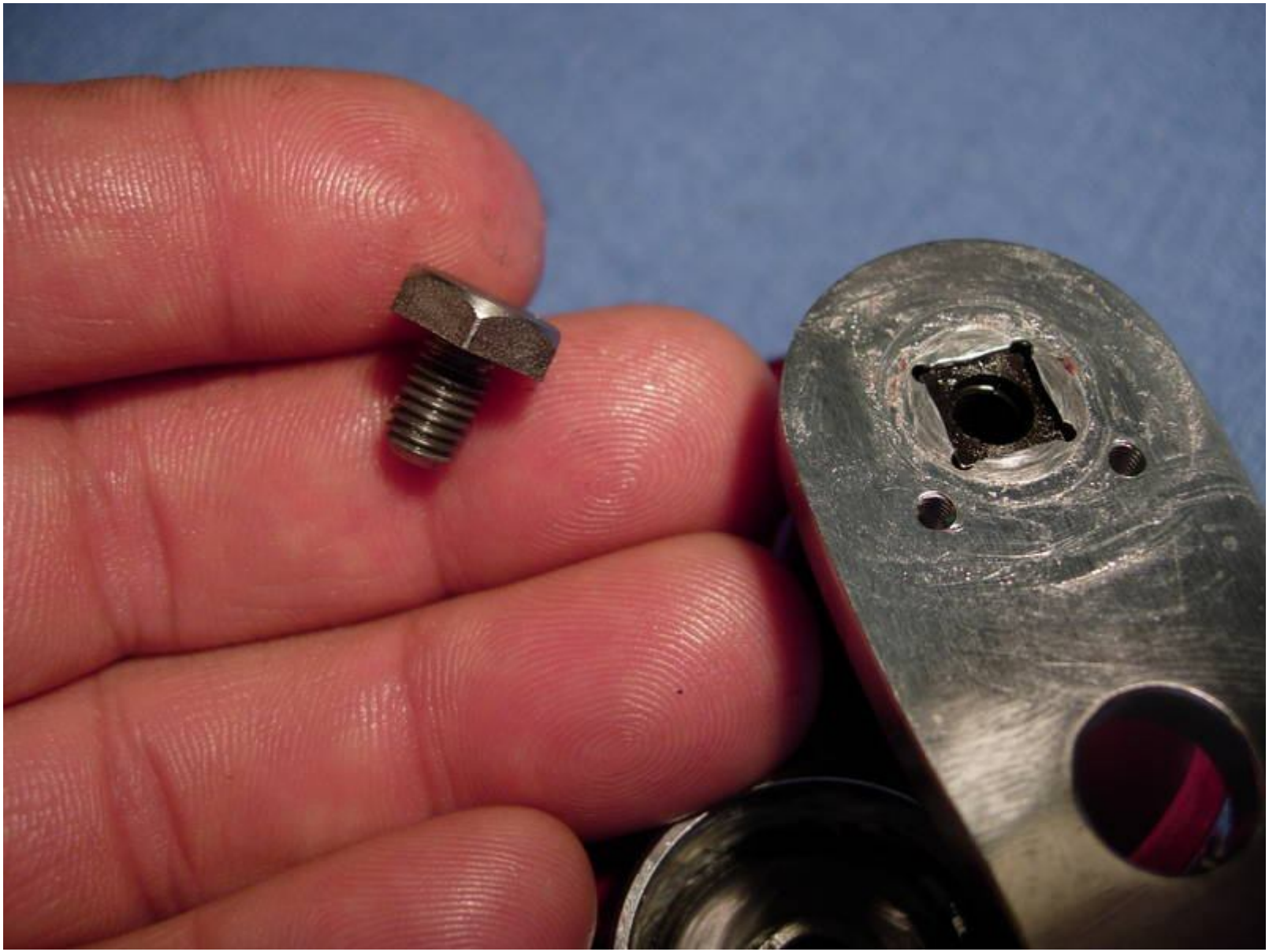

since it's going to fall out anyway, let's remove the preset knob and bearing assembly and set it aside.

we have a rusted right main side plate bearing to service that requires removal of the main gear.  that means the handle has to come off.  remove the set screw and the handle nut cap.



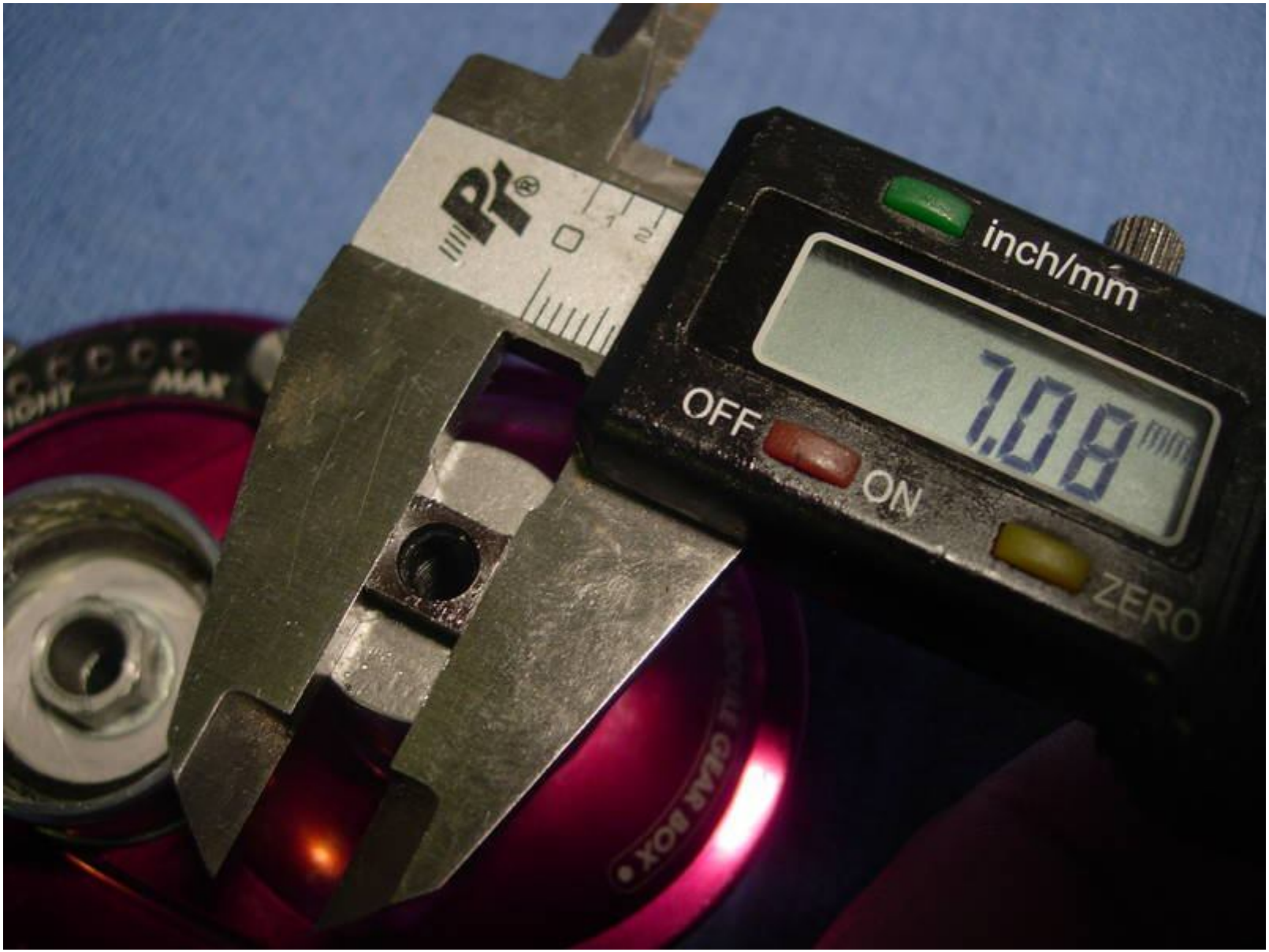
remove the handle nut.


10mm



remove the handle.

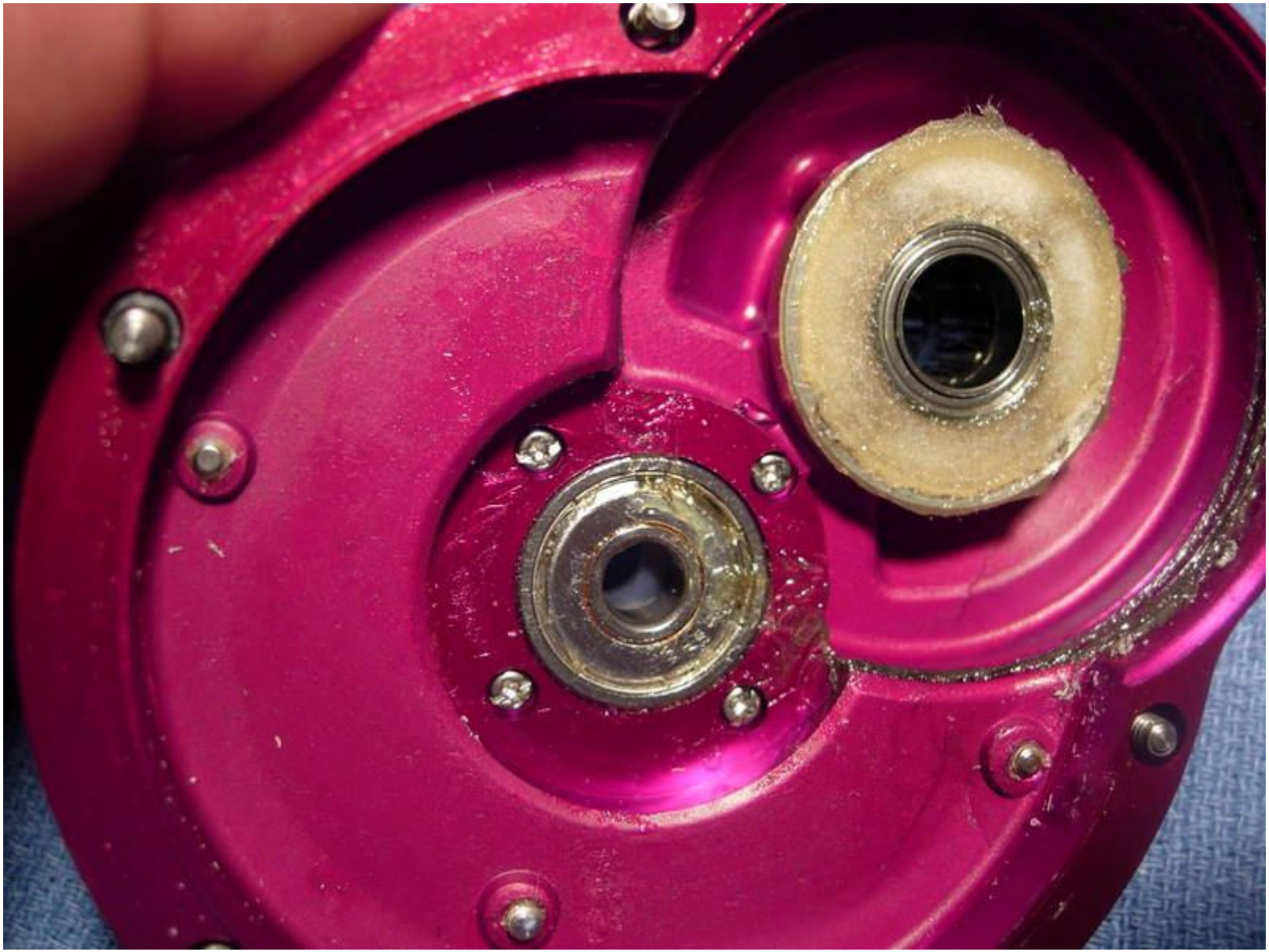

the top of the drive shaft is 7x7mm and is exactly the same size as the drive shaft for the shimano tld 20/25 single speed reel.



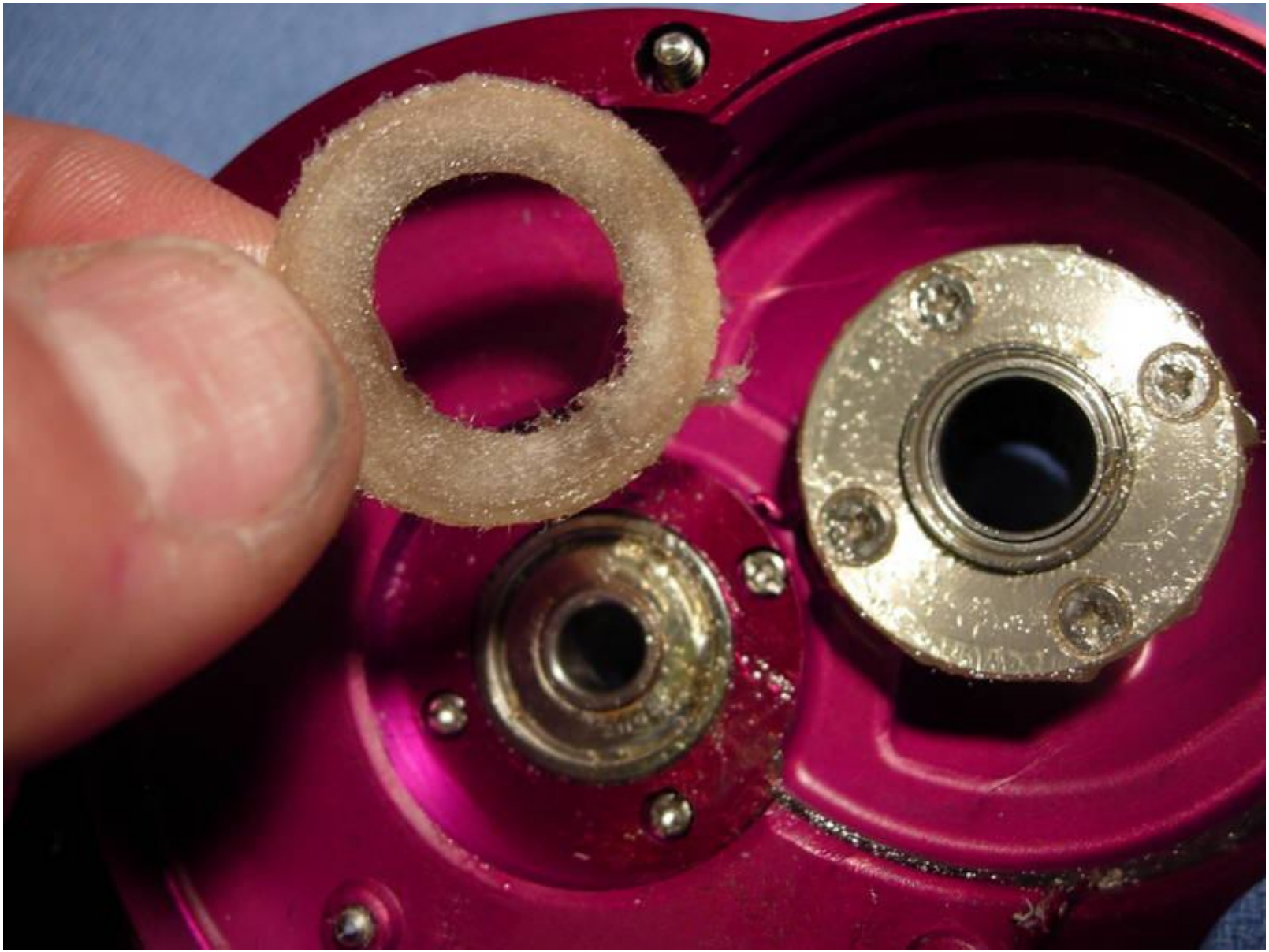

remove, in order, the metal washer, the teflon washer and the felt washer.

with a small dental tool, pry out the gasketed retaining ring.

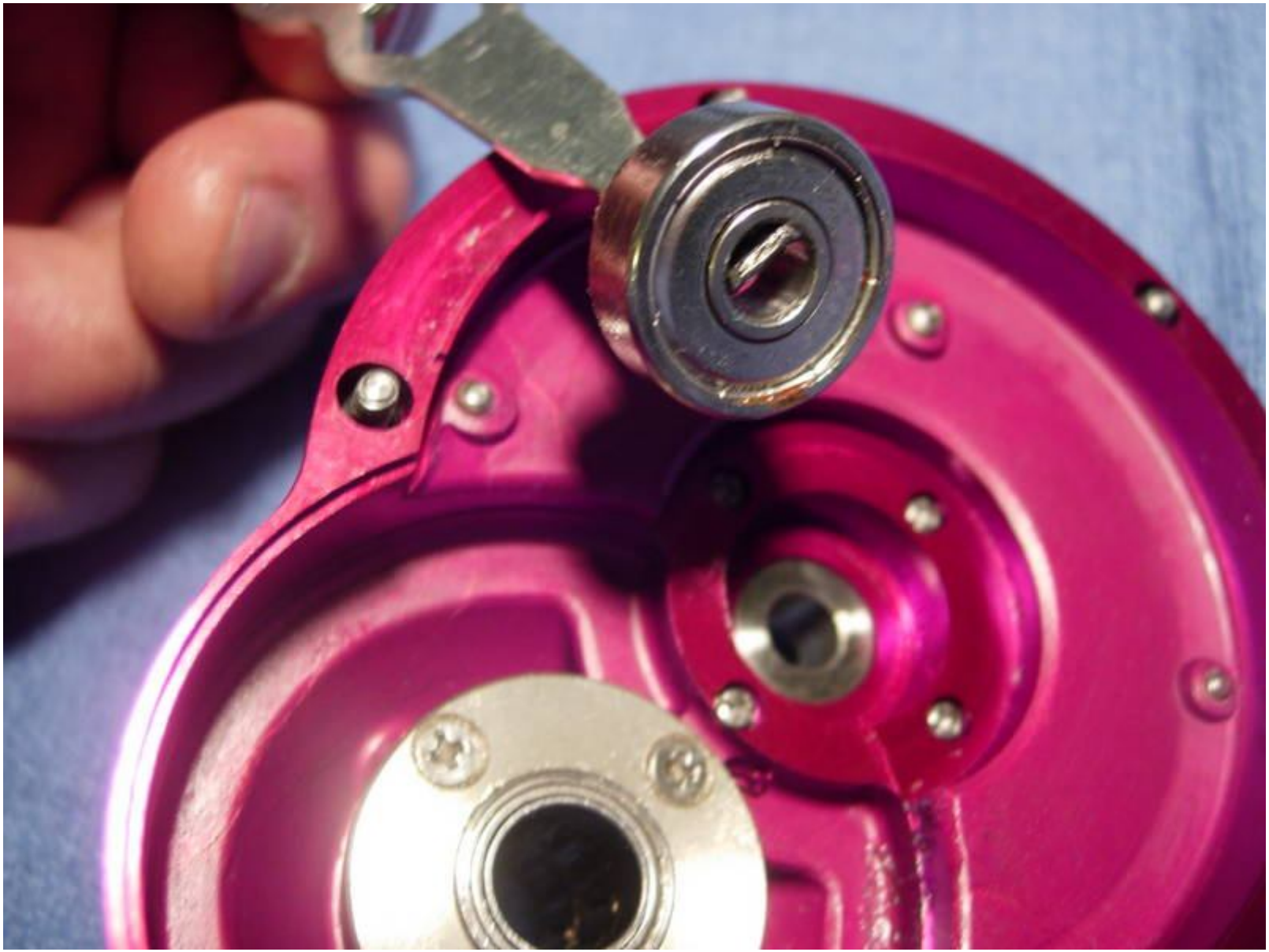
the main gear and drive shaft assembly drops right out, revealing the right main side plate bearing and drive shaft bearing.



we will set this felt washer aside.



remove the right main side plate bearing.

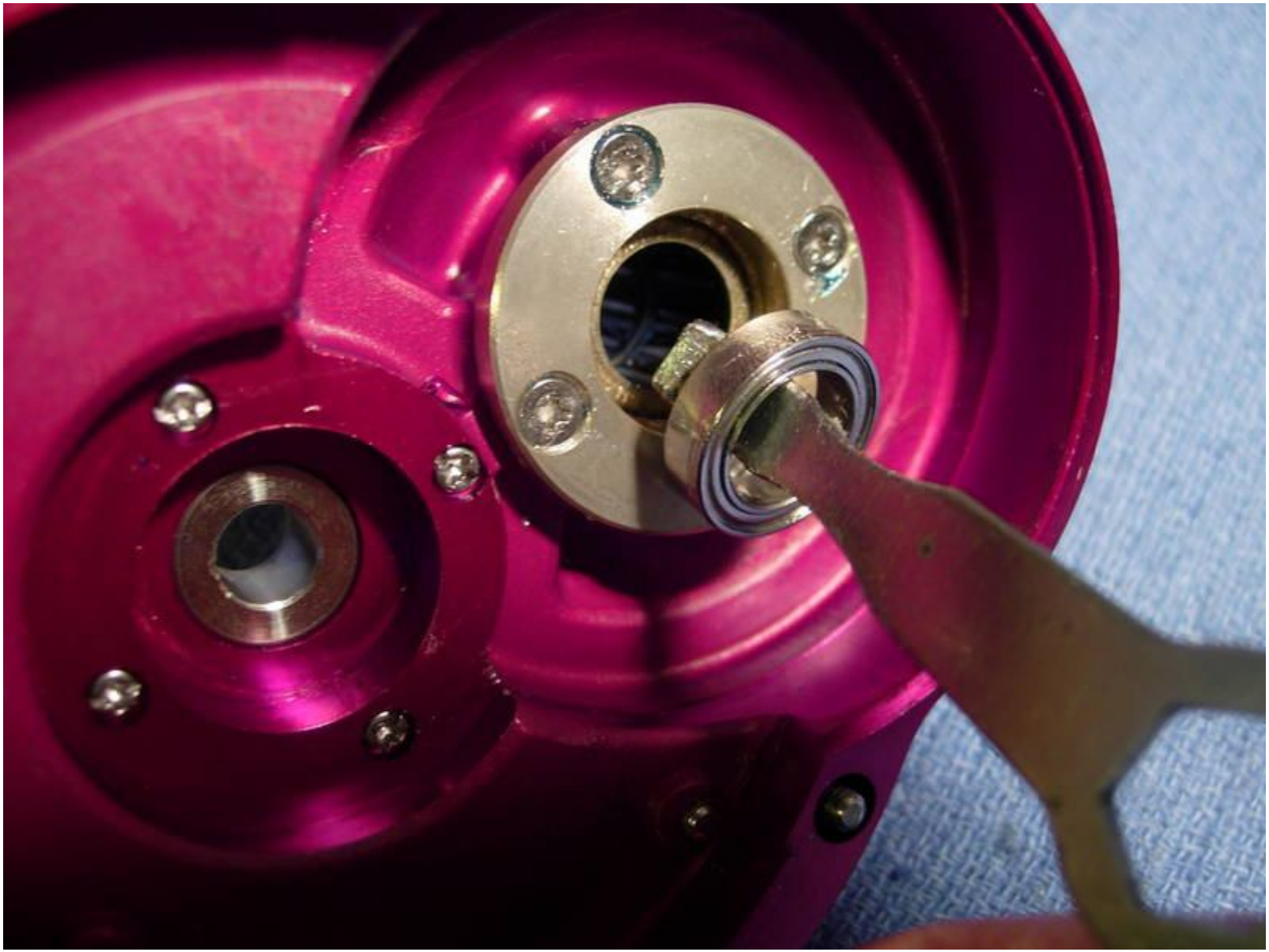


it measures 6x19x9.  a very odd size.


i would imagine that the manufacturer specified that this bearing was to be greased.  well, gentlemen, there is "greased" and there is "greased."  this bearing was poorly greased on one side.

it was not at all greased on the other side.  note well that the single most problematic bearing in a lever drag reel is the right main side plate bearing.  failing to address this issue ahead of time speaks very poorly of quality control efforts at the manufacturing level.

remove the drive shaft bearing.  note that this reel has two anti-reverse roller bearings in series.  this is exactly the same system used in the accurate boss reels.



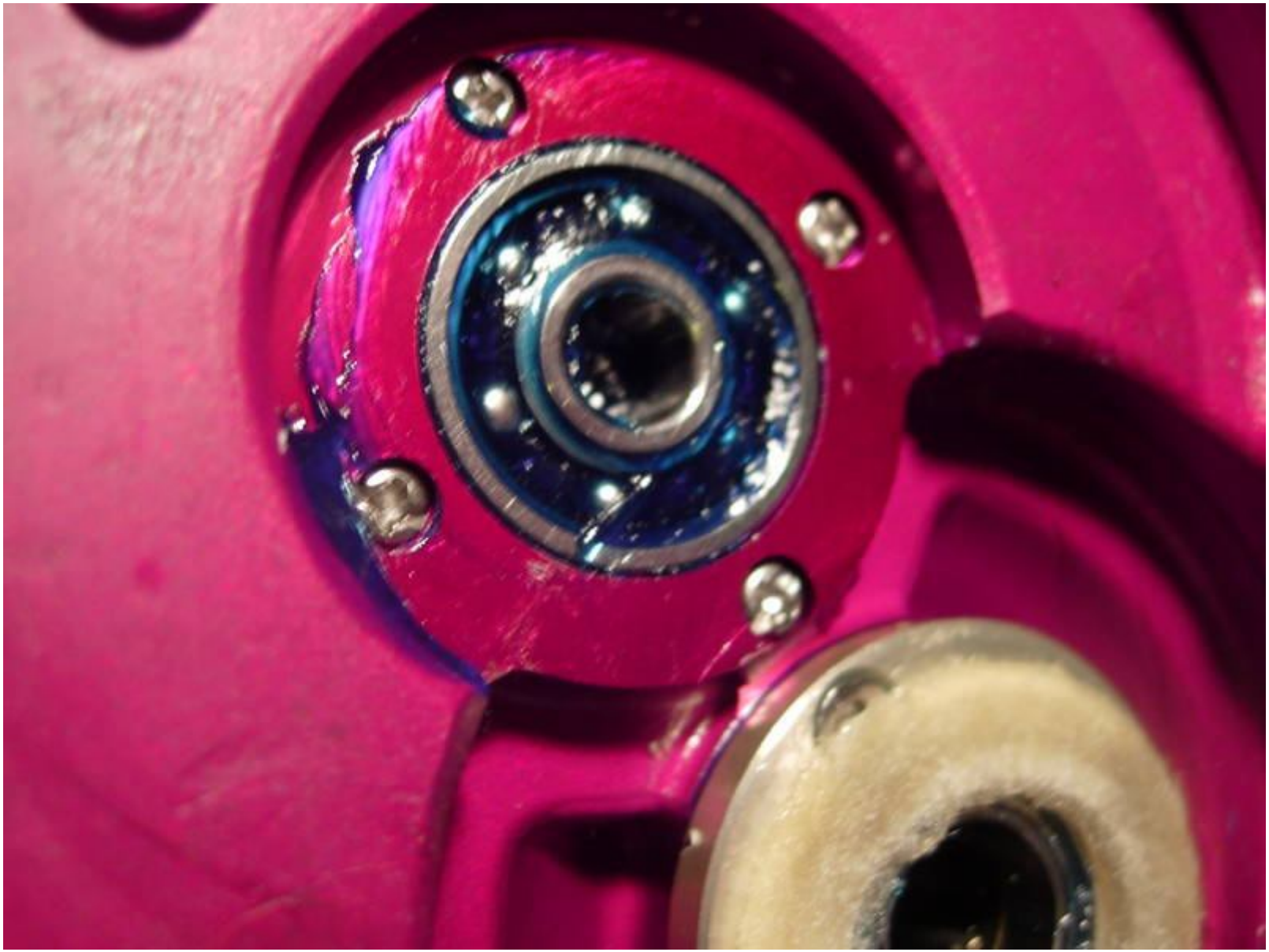
this bearing measures 10x15x4.


it was lightly grease, so it will be fully greased and the shields will be re-installed.

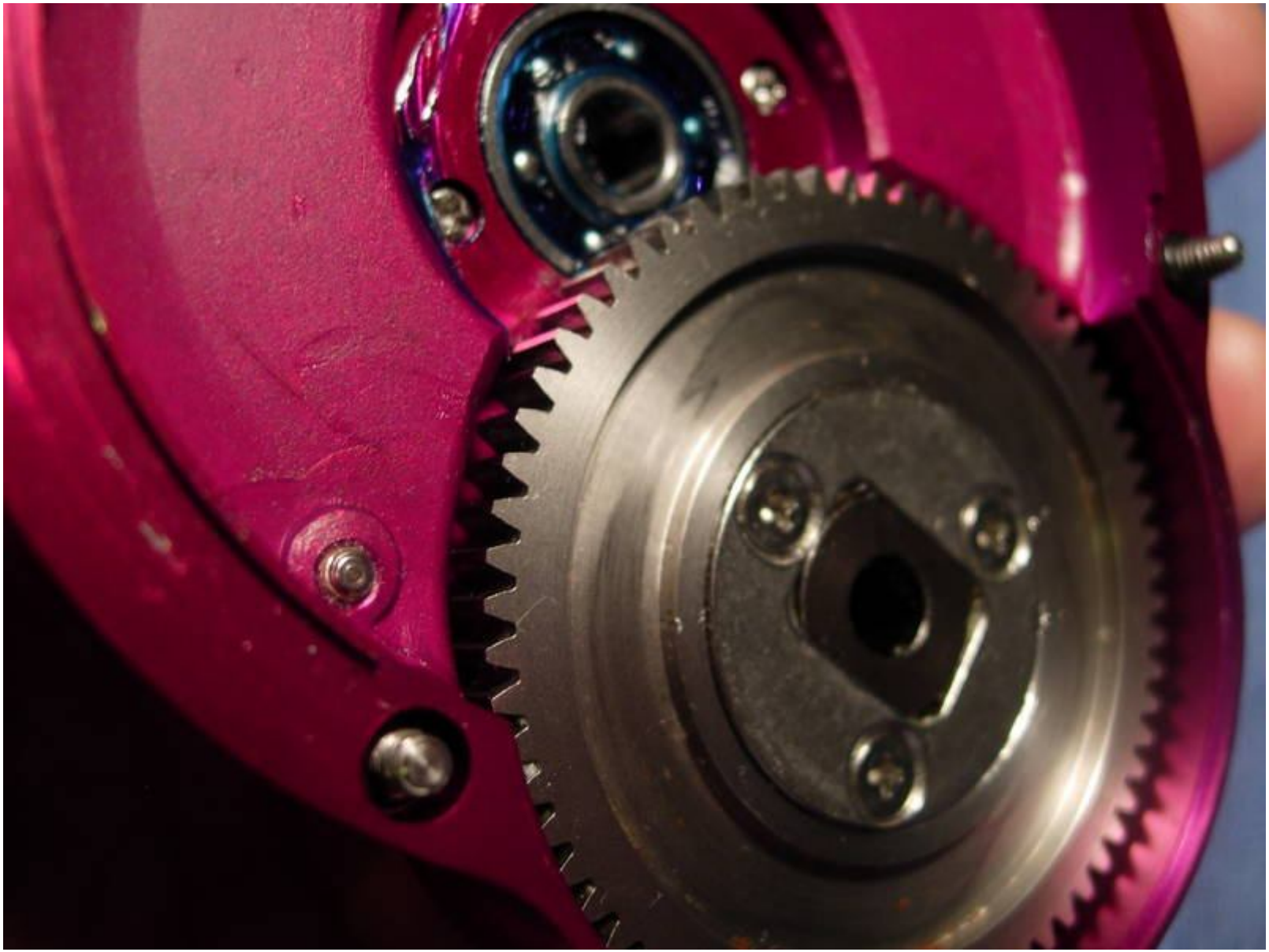
the last bearing is the one found in the preset knob and it measures 6x17x6.

greased on one side, dry on the other.  when will people learn

let's pack the bearing with grease and re-install it.  also install the felt drive shaft washer.



re-install the main gear and drive shaft assembly.



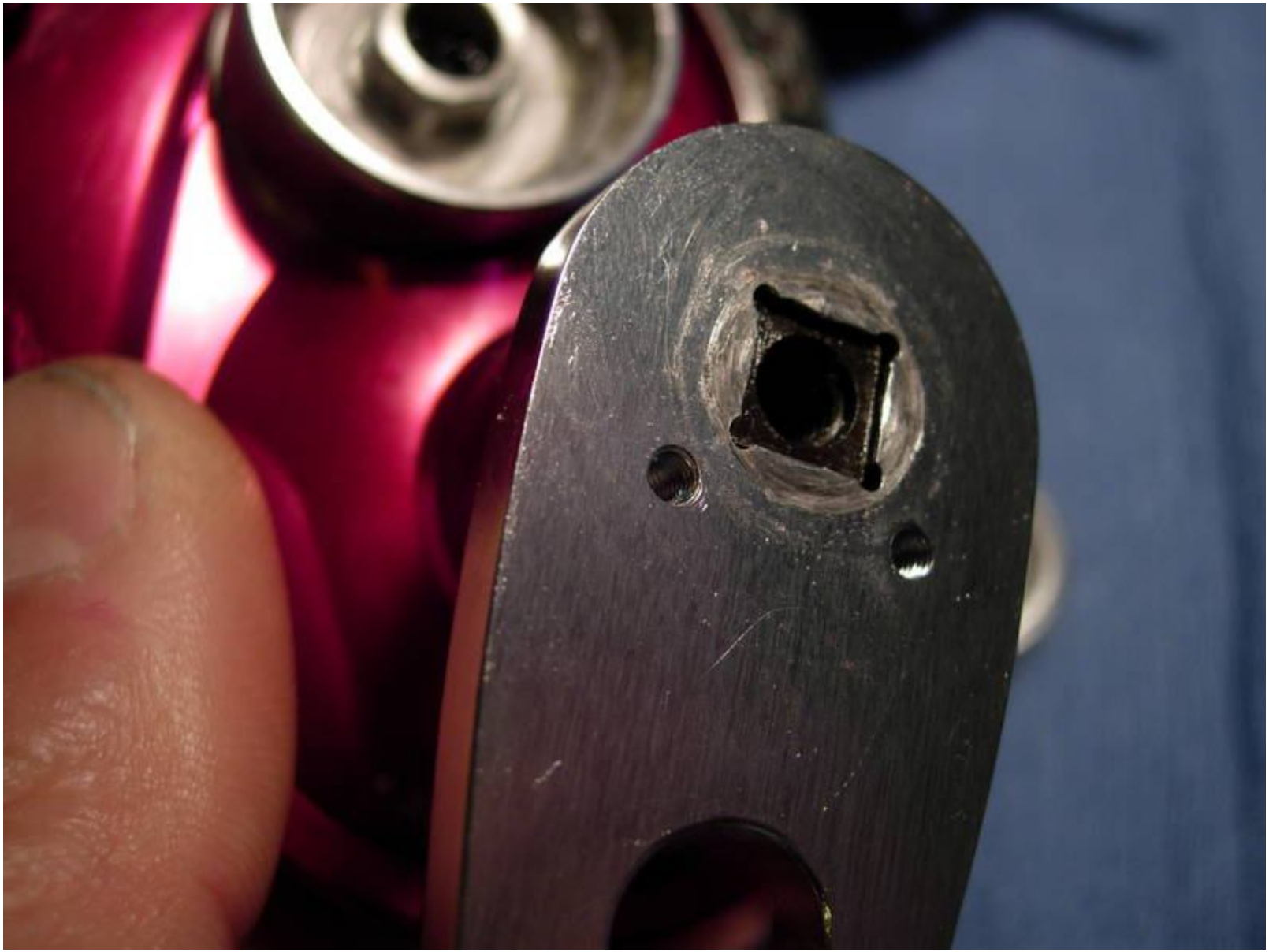
re-install the gasketed retaining ring.

re-install the felt washer.

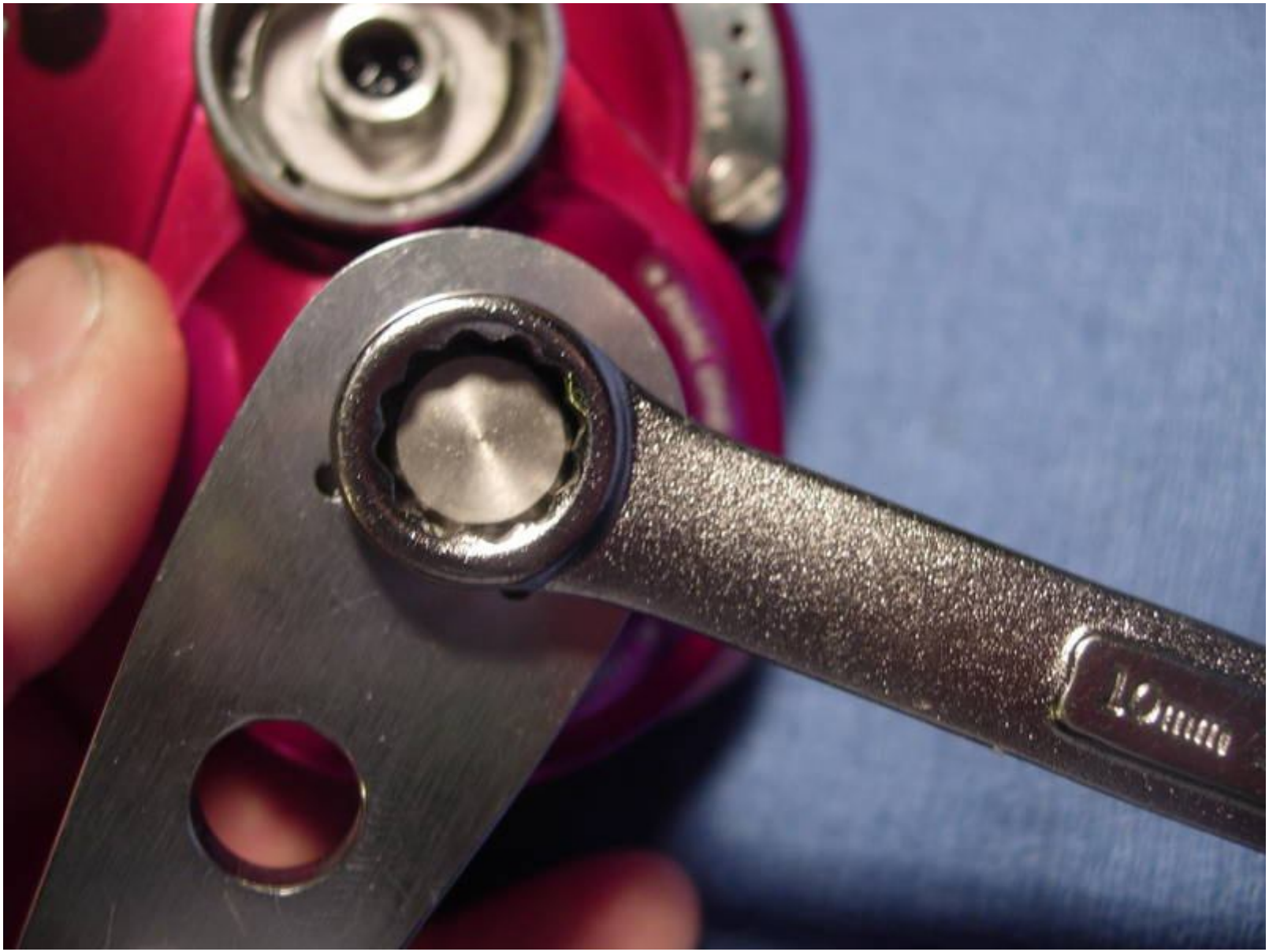
re-install the teflon washer.

re-install the metal washer.

re-install the handle.

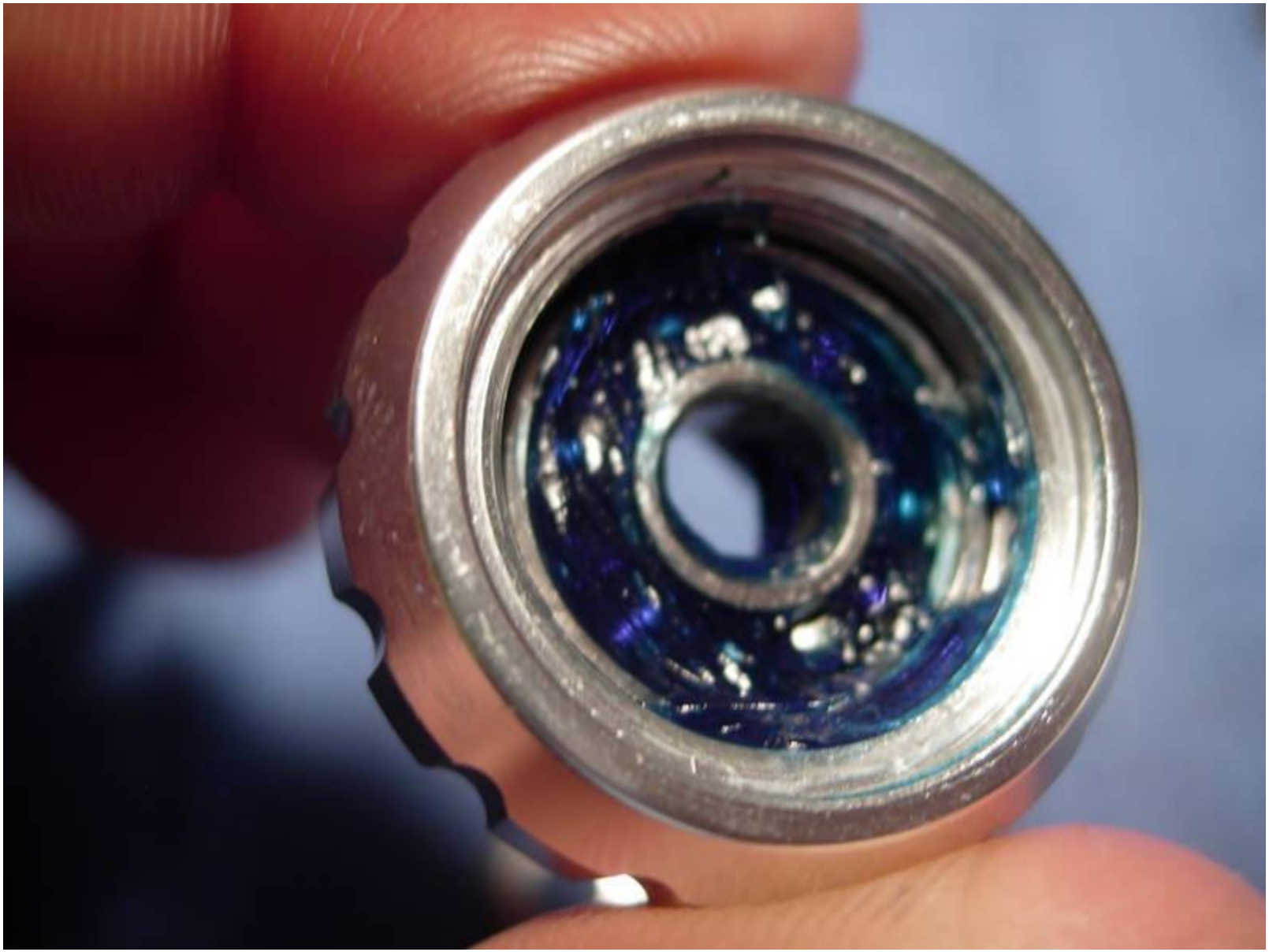


re-install the handle nut.



re-instal the handle nut cap and retaining screw.

open up the bearing in the preset knob, pack it with grease and re-install it.



we need to drop the preset knob back into the lever drag cam.  you have to line it up properly or it will not work.  see these stainless steel pins?

push the lever back to the "free" position and find the deepest groove in the cam.  it's here at the end of my ballpoint pen.

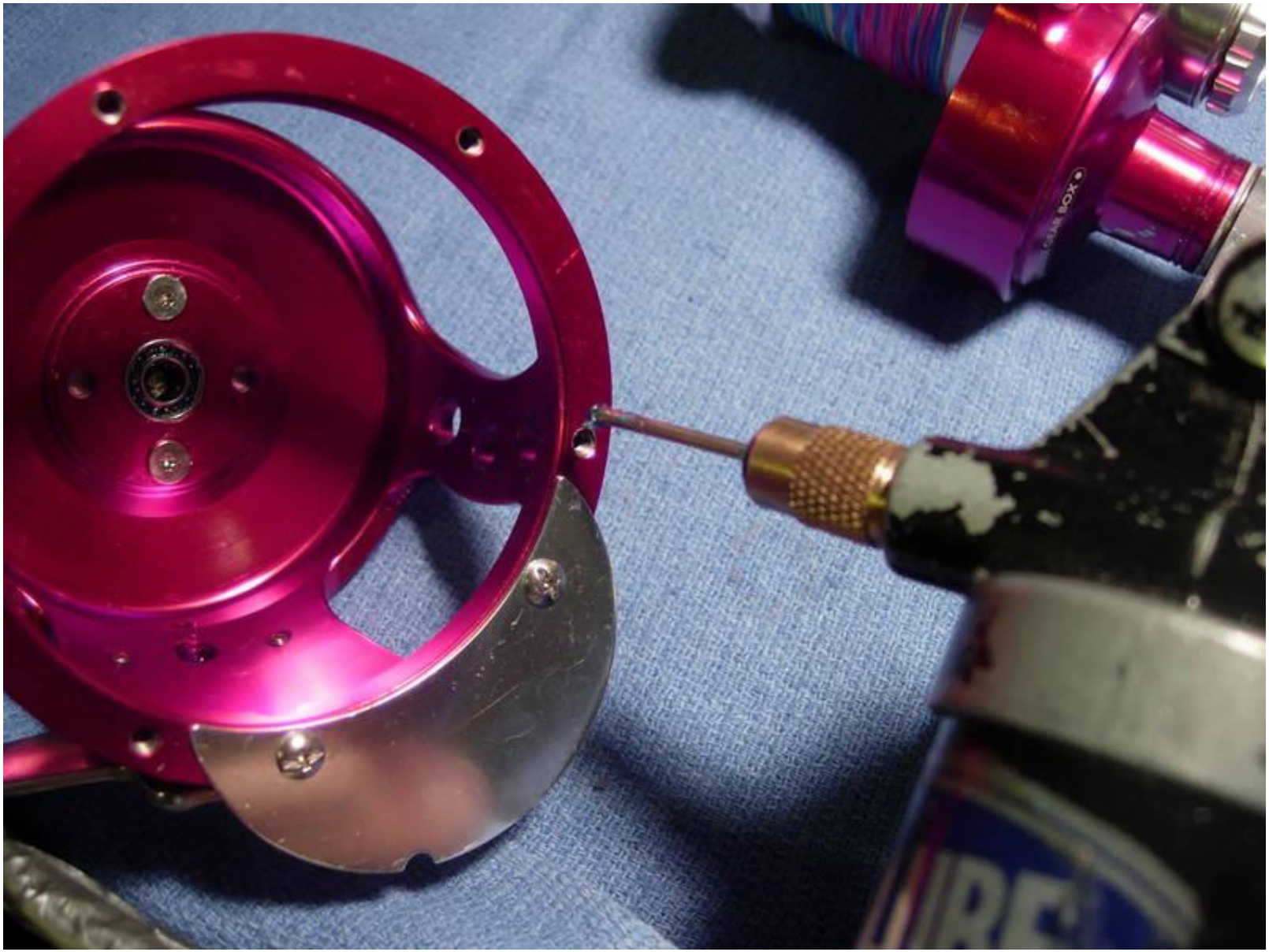

line up the pins of the preset knob with the deepest notch in the cam and drop it straight in.  you'll know if you miss.

slide the spool all the way in and wiggle it until the gear teeth mesh.

hold the left side of the spool shaft stationary with an adjustable wrench and tighten down the spool shaft screw until it is snug.


give the spool a spin just to make sure everything works up to now.

add a very small bead of grease to each screw hole.  careful, not too much!



tighten down each of the right side plate screws.

carefully tighten down the preset knob cap with an appropriately sized driver.  do not damage with soft aluminum with a screwdriver that is too small.


and we're done!

i just shipped the reel back to it's owner today, and here is where we are.  all of the screw holes are lubed, all of the non-spool bearings are packed with grease, the teflon drag washers were replaced with accurate carbon fiber and cal's grease, and the spool bearings were cleaned out, sleeved and lubed with extreme reel plus.  the reel delivers 360 seconds of freespool after i set the drags to 2 pounds at minimum, 5 pounds at strike, 15 pounds at fight and 30 pounds at max.  the pair of anti-reverse roller bearings held when i pulled once at this 30# drag setting.  let's hope this performance is consisent on the water.