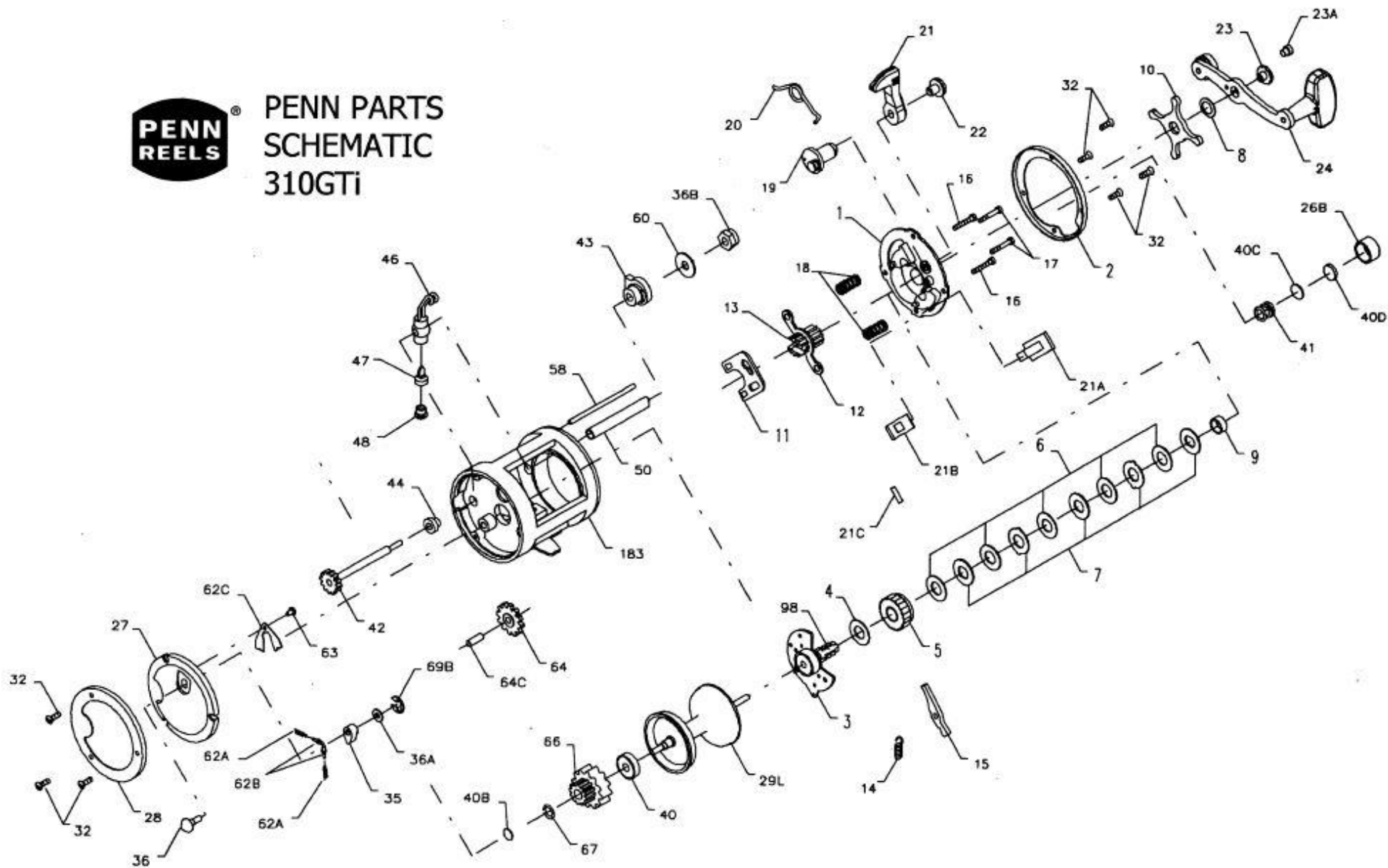


# 310 gti

By ALANTANI « on: December 07, 2008, 08:16:39 AM »



## PENN PARTS SCHEMATIC 310GTi



## Penn Reel Parts list for:

Model: 310GTi

KEY NO	PART NO.	DESCRIPTION
1	1-310	RIGHT SIDE PLATE
2	2-310	RIGHT SIDE RING
3	3B-310	BRIDGE ASSEMBLY
4	4-155	FIBER WASHER
5	5-310	MAIN GEAR
6	6-60	FRICTION DRAG WASHER (5 REQ.)
7	7c-310	METAL DRAG WASHER (SET OF 5)
8	8-60	TENSION SPRING
9	9-310	SPACING SLEEVE
10	10-310	STAR DRAG
11	11-310	ECCENTRIC JACK
12	12-9	PINION YOKE
13	13-310	PINION GEAR
14	14-10	DOG SPRING
15	15-310	DOG
16	16-310	LOWER BRIDGE SCREW (2 REQ.)
17	17-310	UPPER BRIDGE SCREW (2 REQ.)
18	18-9	CLUTCH SPRING (2 REQ.)
19	19-310	ECCENTRIC CAM
20	20-109	ECCENTRIC SPRING
21	21-310	ECCENTRIC LEVER
21A	21A-310	DIRECT DRIVE BUTTON
21B	21B-310	DIRECT DRIVE BUTTON SPRING
21C	21C-310	DIRECT DRIVE BUTTON PIN
22	22-310	ECCENTRIC SCREW
23	23-60	HANDLE ASSEMBLY SCREW
23A	110-60	HANDLE LOCK SCREW
24	24-310	HANDLE ASSEMBLY
26B	26B-310	SPOOL TENSION CONTROL CAP
27	27-310	LEFT SIDE PLATE
28	28-310	LEFT SIDE RING

KEY NO	PART NO.	DESCRIPTION
29L	29L-310	SPOOL
32	32-310	SIDE PLATE SCREW (7 REQ.)
35	35-310N	CLICK TONGUE
36	36-310	CLICK BUTTON
36A	36A-40	CLICK BUTTON WASHER
36B	36-700	WORM SHAFT NUT
40	40-310	LEFT SIDE BEARING
40B	40C-310	L.S. METAL THRUST WASHER
40C	40C-320	R.S. METAL THRUST WASHER
40D	40D-320	RUBBER THRUST WASHER
41	41-330	RIGHT SIDE THRUST SPRING
42	42-310	WORM ASSEMBLY
43	43-330	RIGHT SIDE WORM BEARING
44	44-330	LEFT SIDE WORM BUSHING
46	46-310	LINE GUIDE CARRIAGE
47	47-320	PAWL
48	48-330N	PAWL COVER SCREW
50	50N-310	WORM SHEILD
58	58-310	LINE GUIDE POST
60	60-320	IDLE GEAR WASHER
62A	62A-310	CLICK SPRING (2 REQ.)
62B	62B-310	CLICK PIN (2 REQ.)
62C	62C-310	CLICK SPRING COVER
63	63-500S	CLICK SPRING SCREW
64	64-310	IDLE GEAR
64C	64C-310	WORM GEAR IDLER SHAFT
66	66-310	SPOOL GEAR
67	67-9	LOCK SPRING
69B	69B-600	RETAINING RING
98	98-310	GEAR SLEEVE
183	183-310	FRAME ASSEMBLY



here is a link to the schematics .... <http://www.scottsbtt.com/catalog/store/images/pennparts/schematics/310gt.pdf>

and here is our reel, beaten and down, but not out by any means!



we will start by removing the four right side side plate screws (key #32).





the reel breaks down cleanly to the frame assembly (key #183), the spool assembly (key #29L), and the right side plate assembly (key #1). to service (lube) the bearings in the future, you need only go as far as this step.

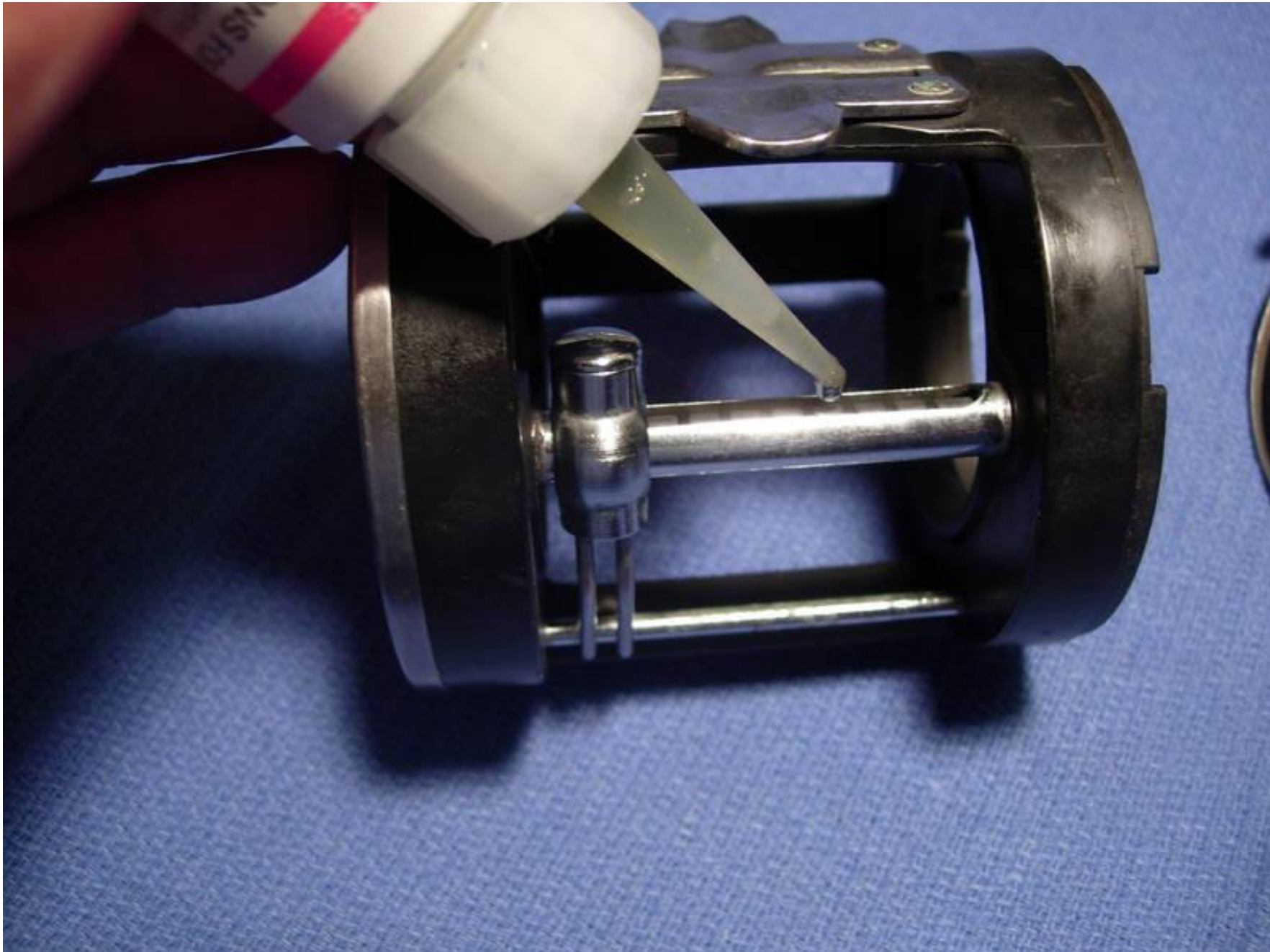


**the left spool bearing (key #40) is hidden underneath the spool gear (key #66), which is in turn held in by a lock spring (key #67). replacing the bearing requires removal of the lock spring. we'll just lube the bearing for now.**

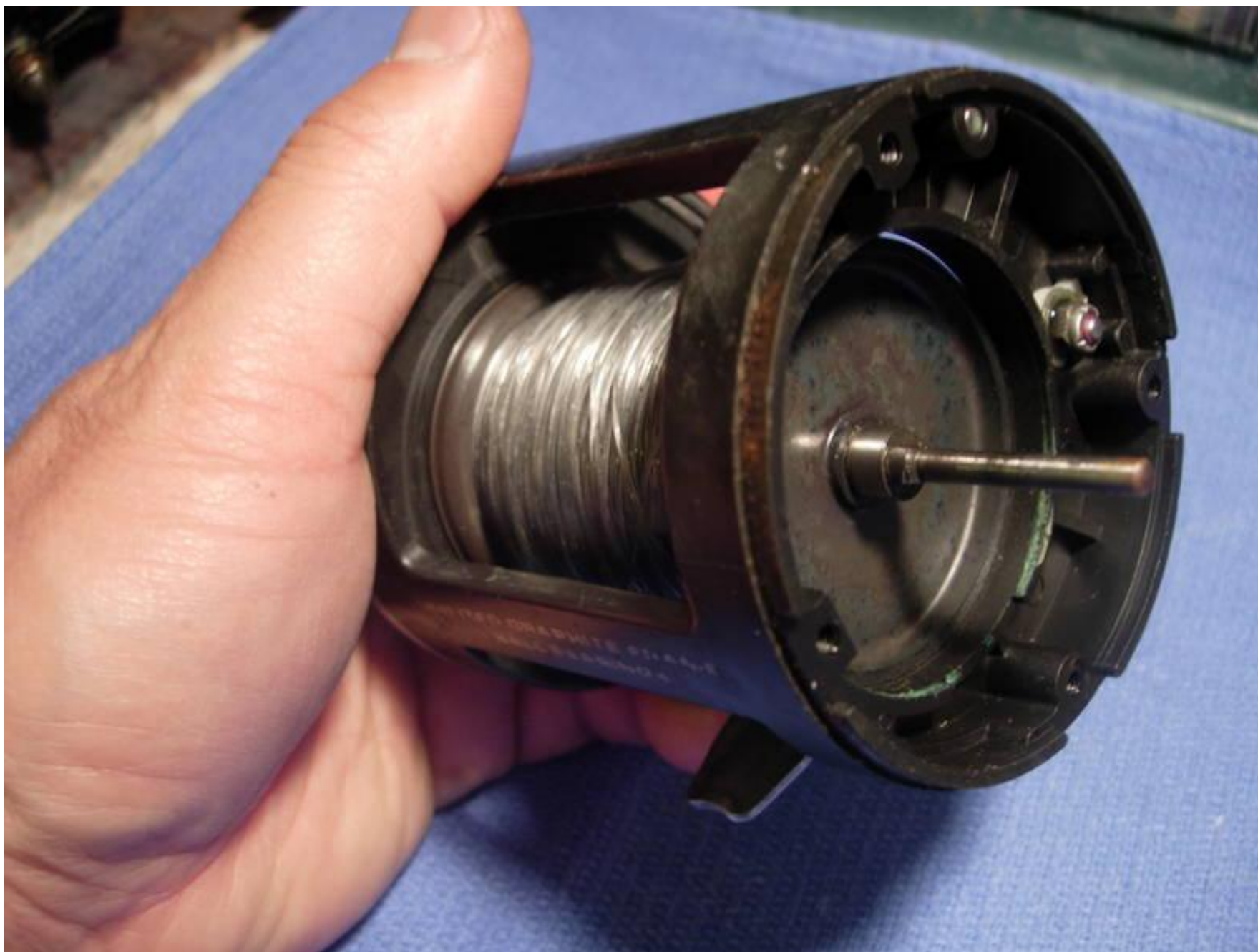




lube the worm (key #42) level wind assembly.

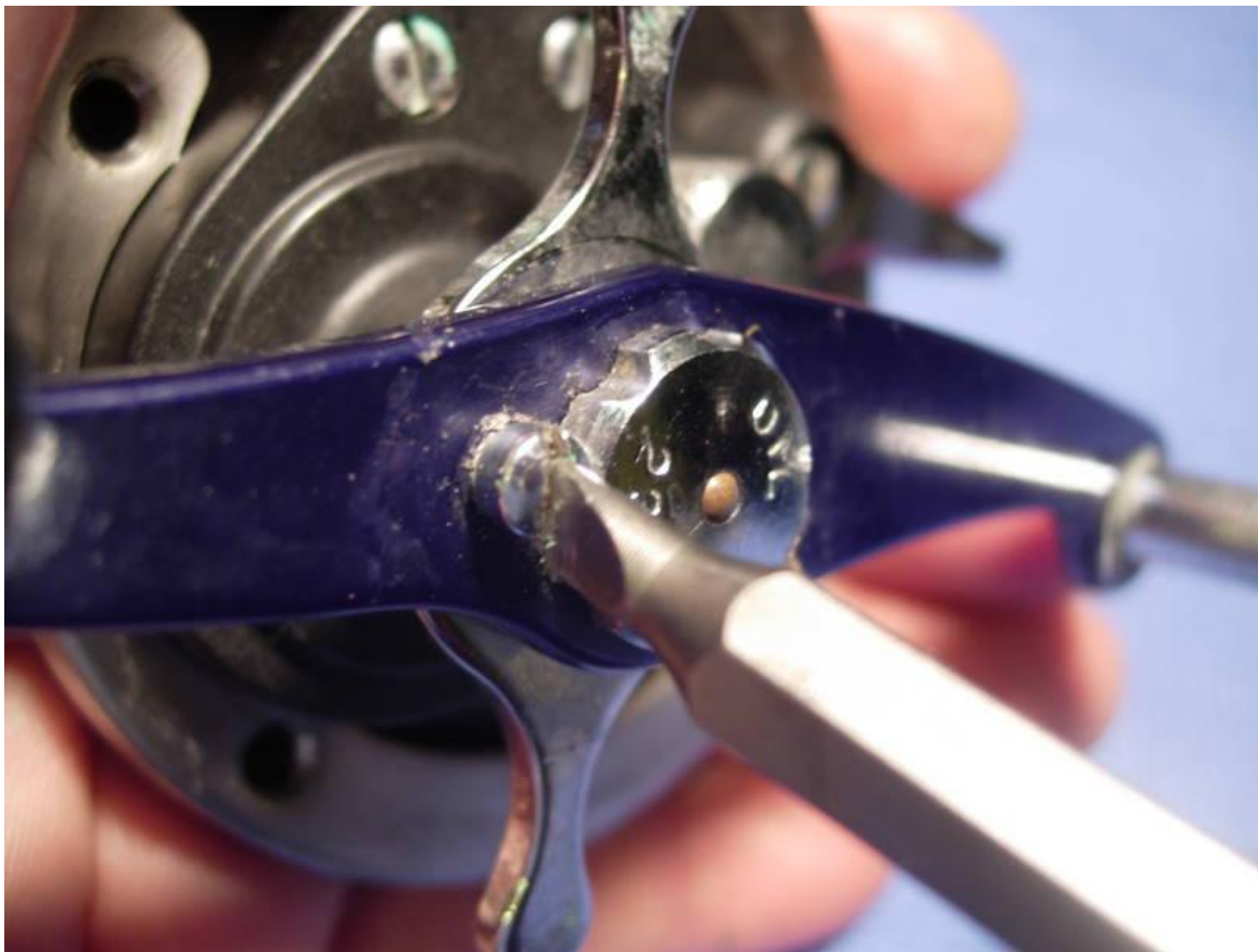


install the spool assembly (key #29L) back into the frame assembly (key #183) and set both aside.

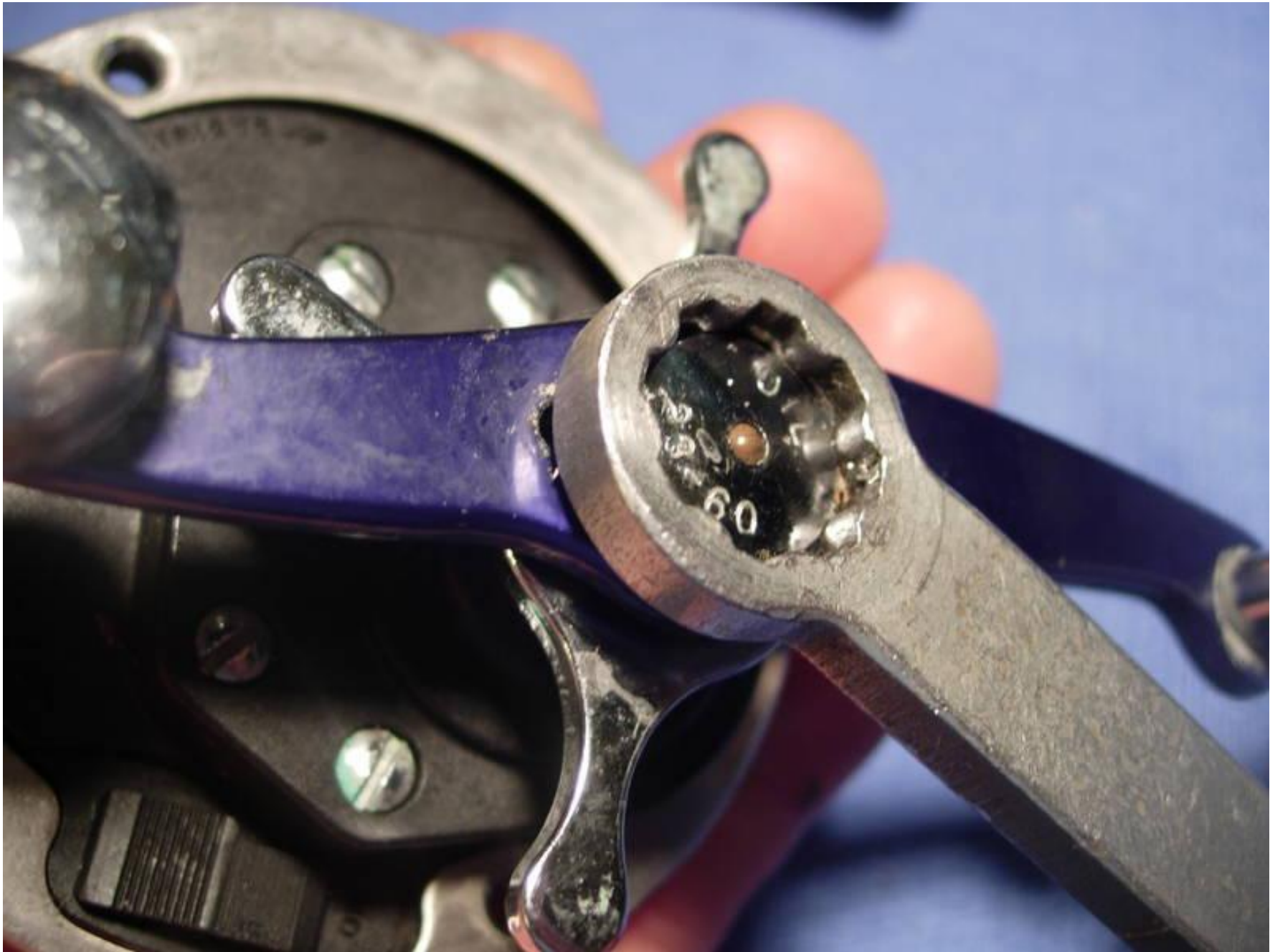




now, to service the right side plate. we will start with the handle lock screw (key #23A).

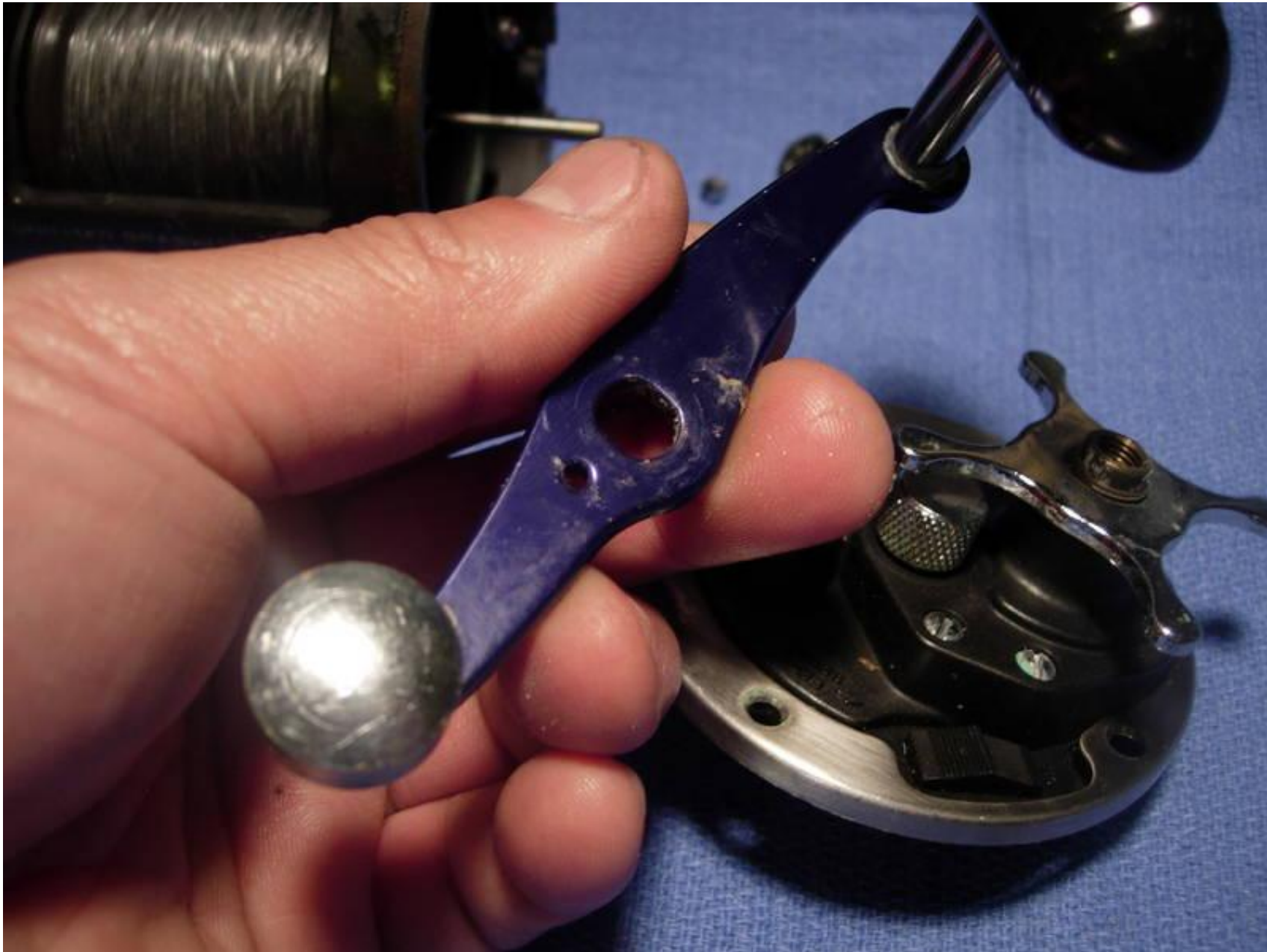


remove the handle assembly screw (key #23).

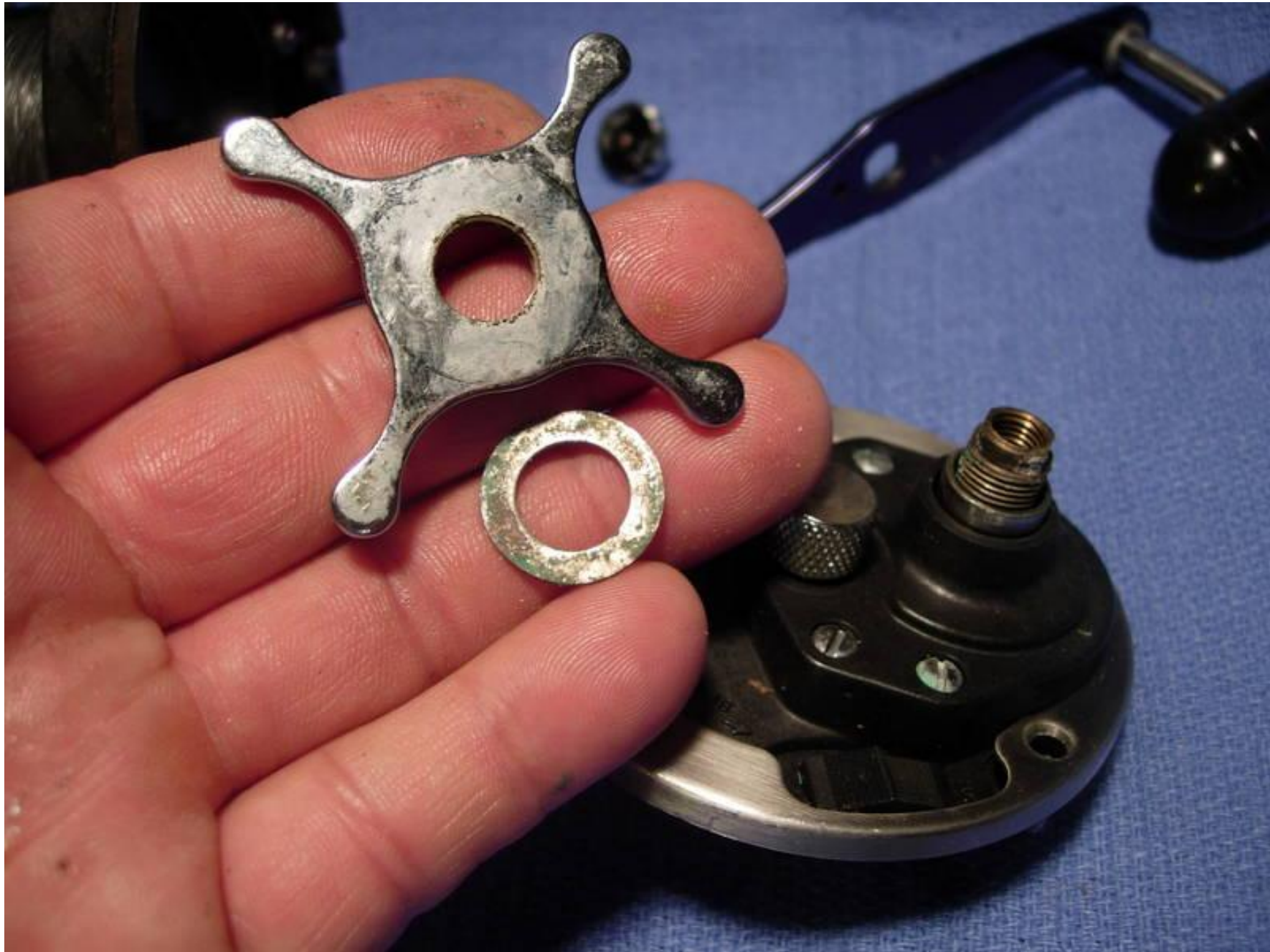




remove the handle assembly (key #24). note that an \$18 jigmaster power handle (part #24-56) would fit very nicely right here.



remove the tension spring (key #8) and star drag (key #10).





now, push the eccentric lever (key #21) to the forward position and back out but do not remove the four bridge screws (key #'s 16 and 17).



the bridge assembly (key #3) will drop out cleanly. leave the right side plate (key #1) in the "up" position so that the bridge screws (key #'s 16 and 17) do not fall out.



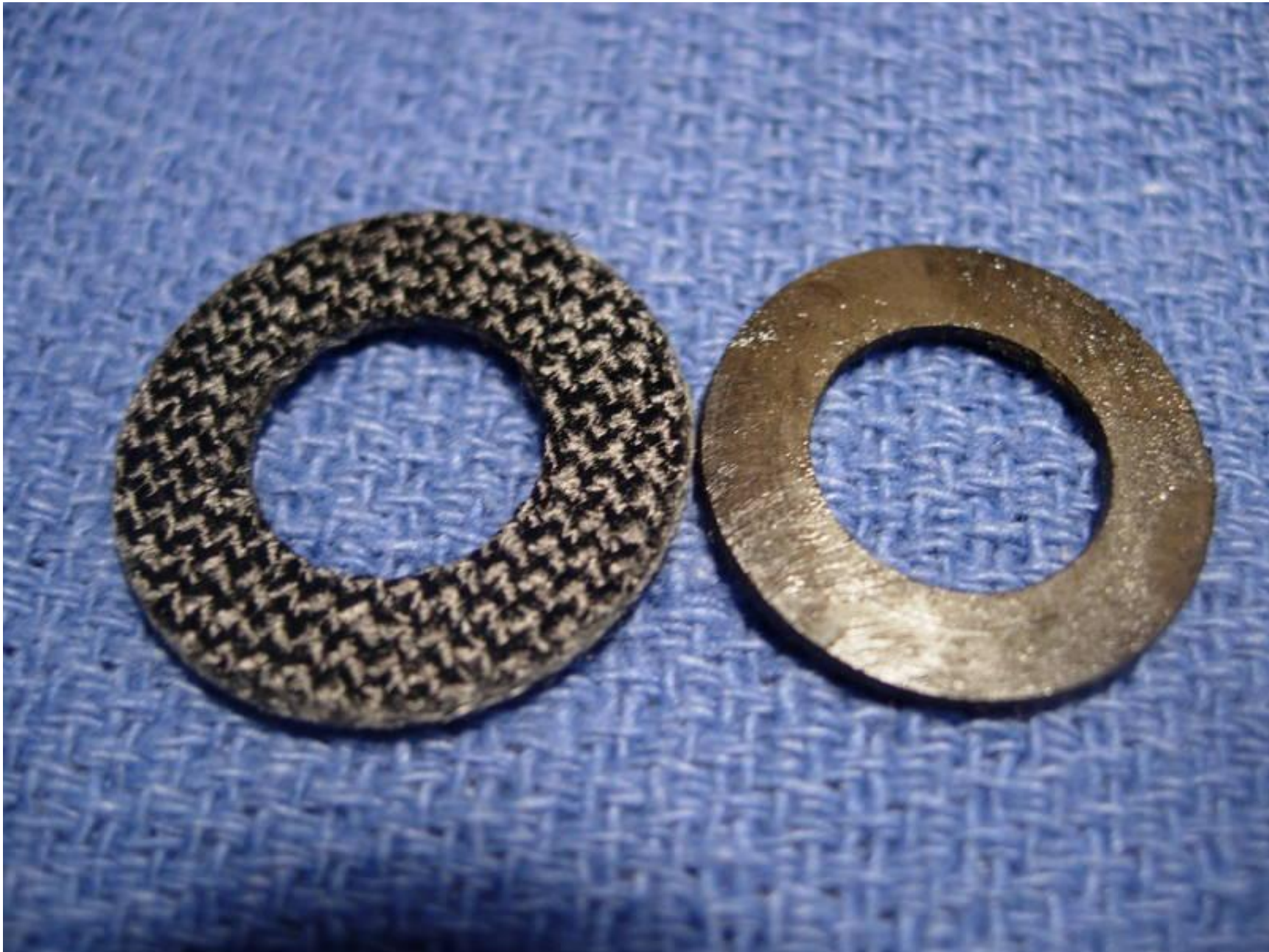


here is an exploded view of the bridge assembly. from top to bottom are the bridge (key #3), the fiber washer (key #4), the main gear (key #5), the five ht-100 drag washers (key #6), the metal drag washers (key #7) and the spacing sleeve (key #9) to the far right.



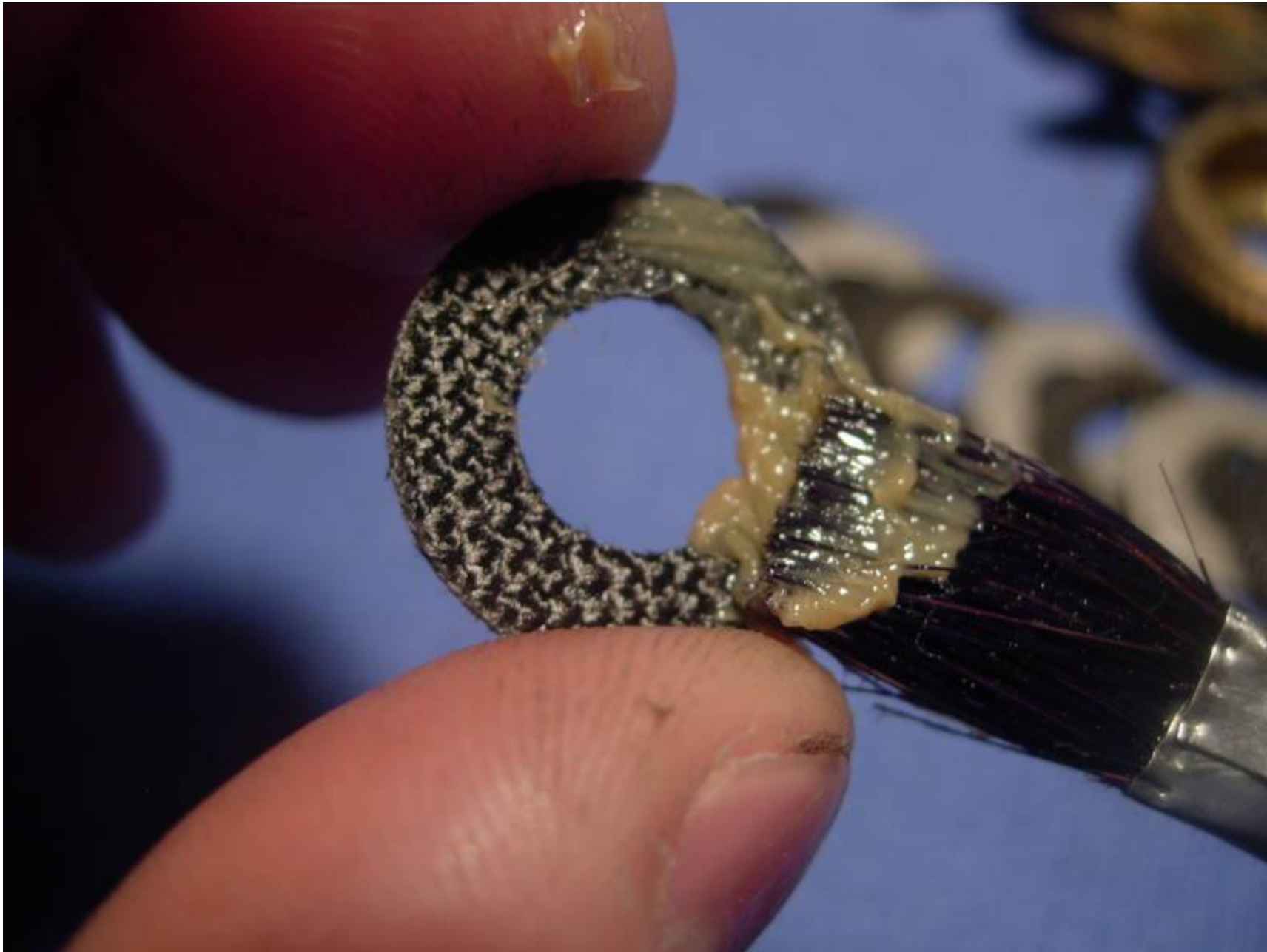


we will substitute an ht-100 #6-113 drag washer in place of the fiber washer (key #4). note that this is the smaller #6-113, not the larger #6-113h.

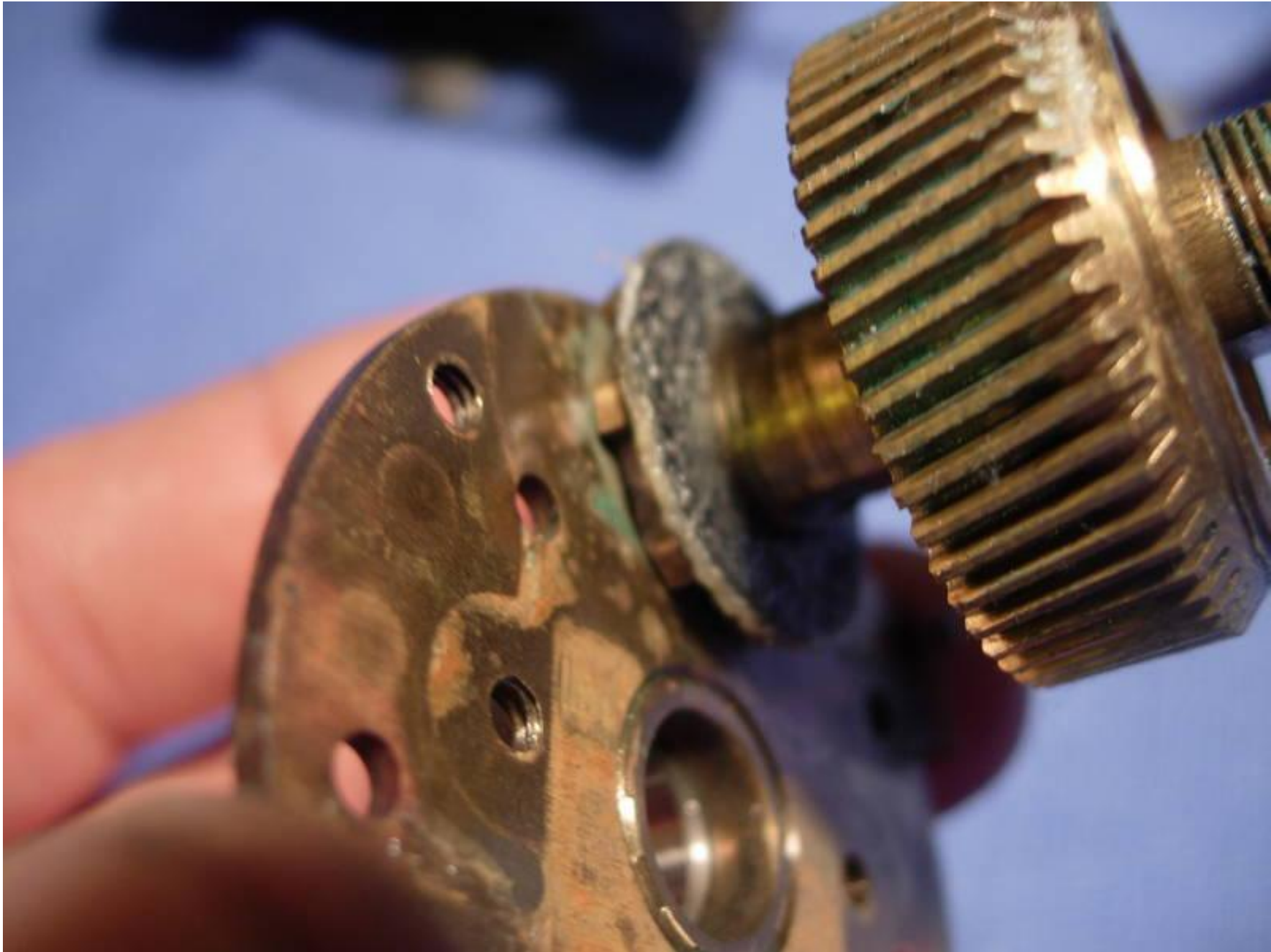




**slap a thick coat of cal's drag grease on all of the ht-100 drag washers. don't worry about the excess, it will just squeeze out the sides.**



rebuild the drag stack.





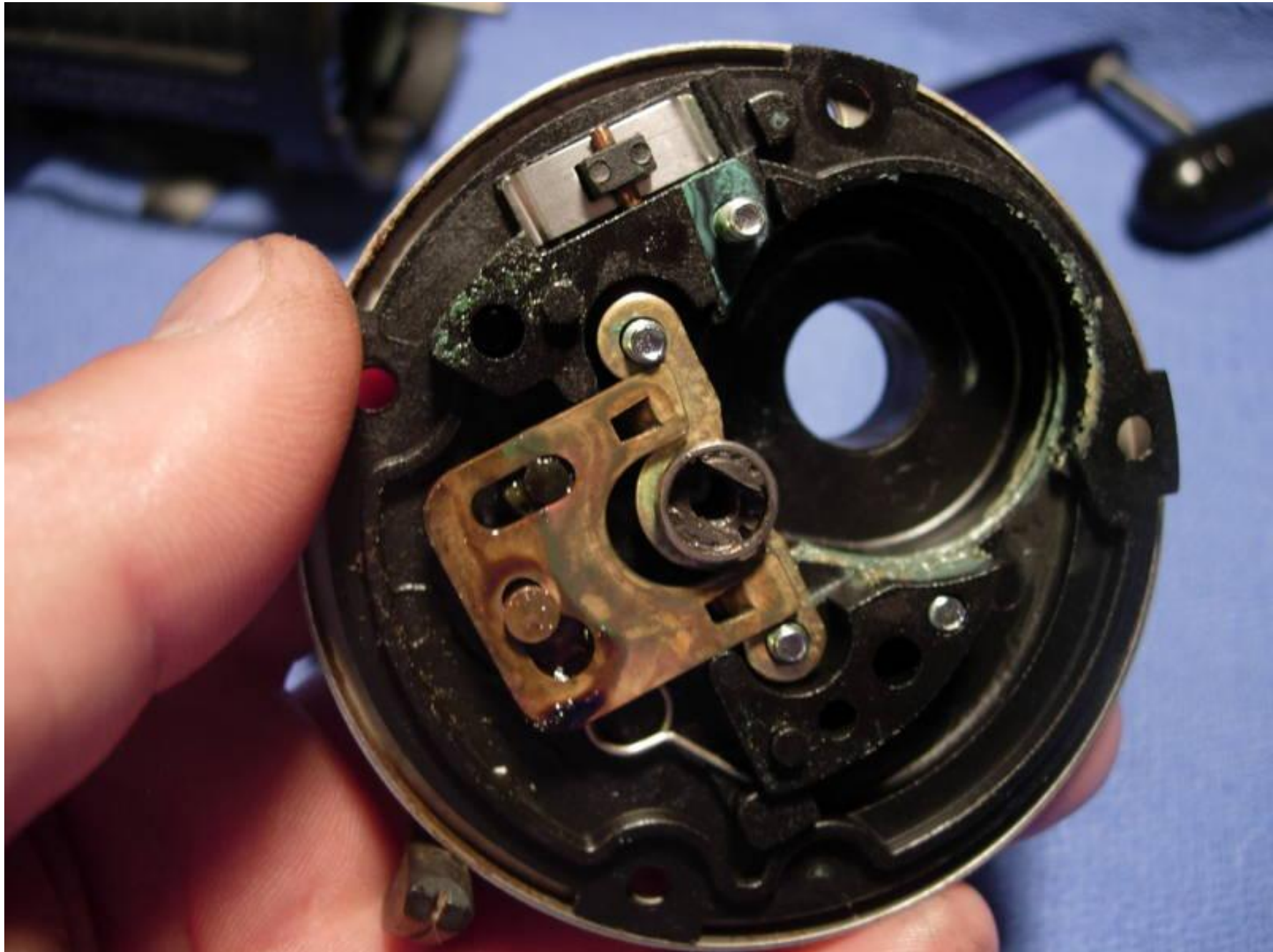


lace your left index and middle fingers over the bridge screws (key #'s 16 and 17) to hold them in place.

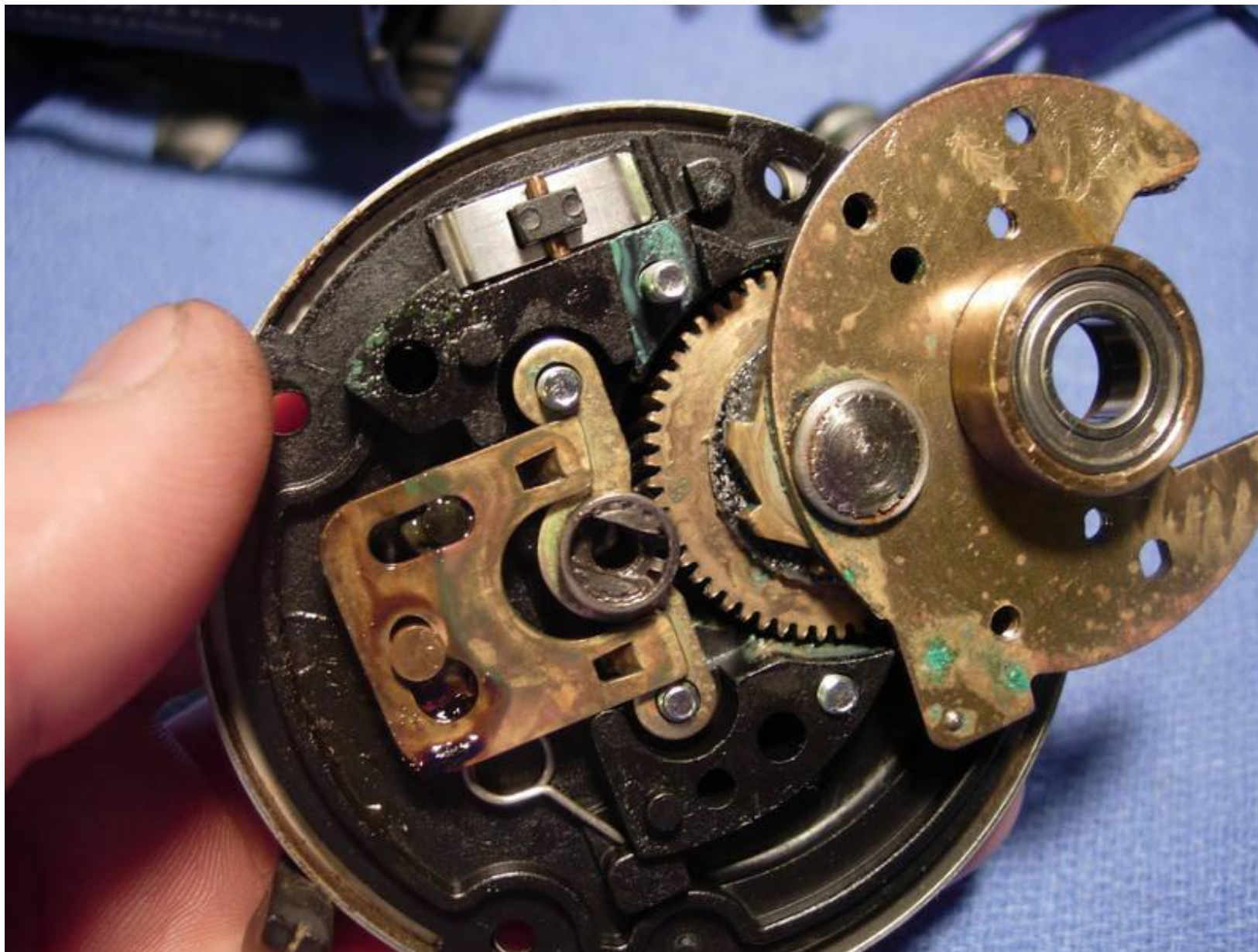




now flip over the right side plate (key #1) and install the pinion gear (key #13) if it had fallen out earlier.

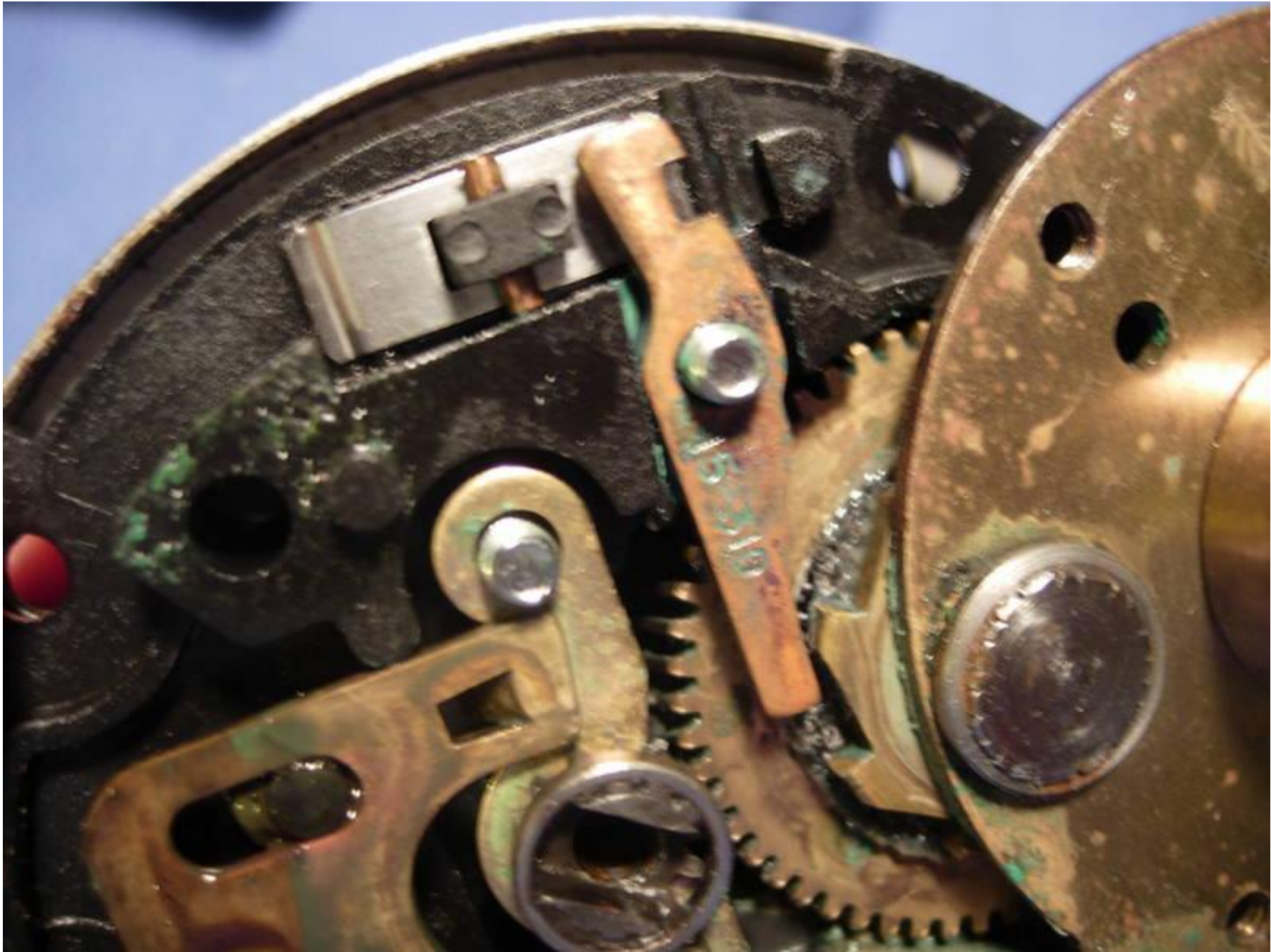


the procedure for installing the dog is a little different. install the bridge assembly (key #3) at 180 degrees to its final position. if you used a little excess drag grease on the drag washers, the stack of drags will stay in place and not fall out at this point.

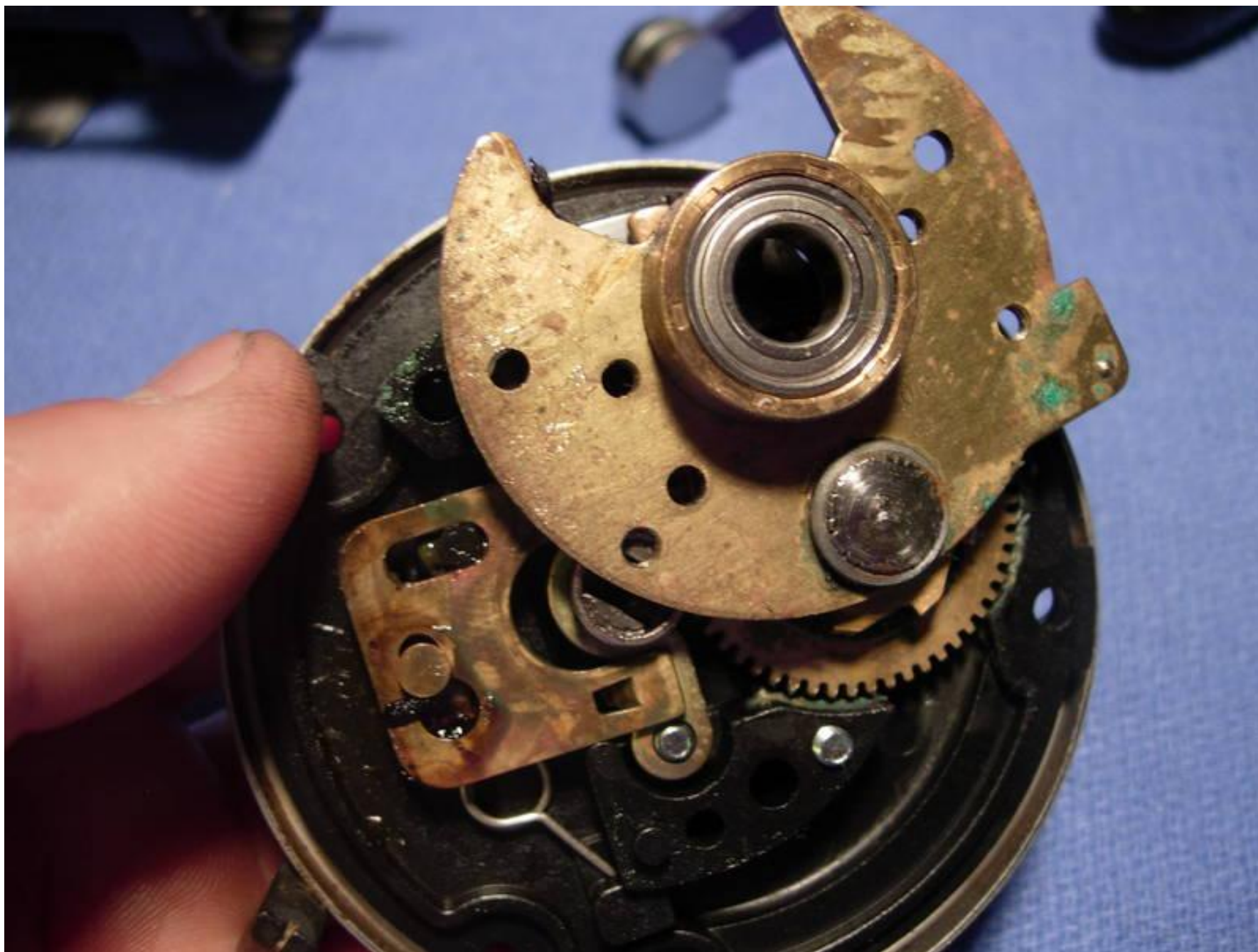




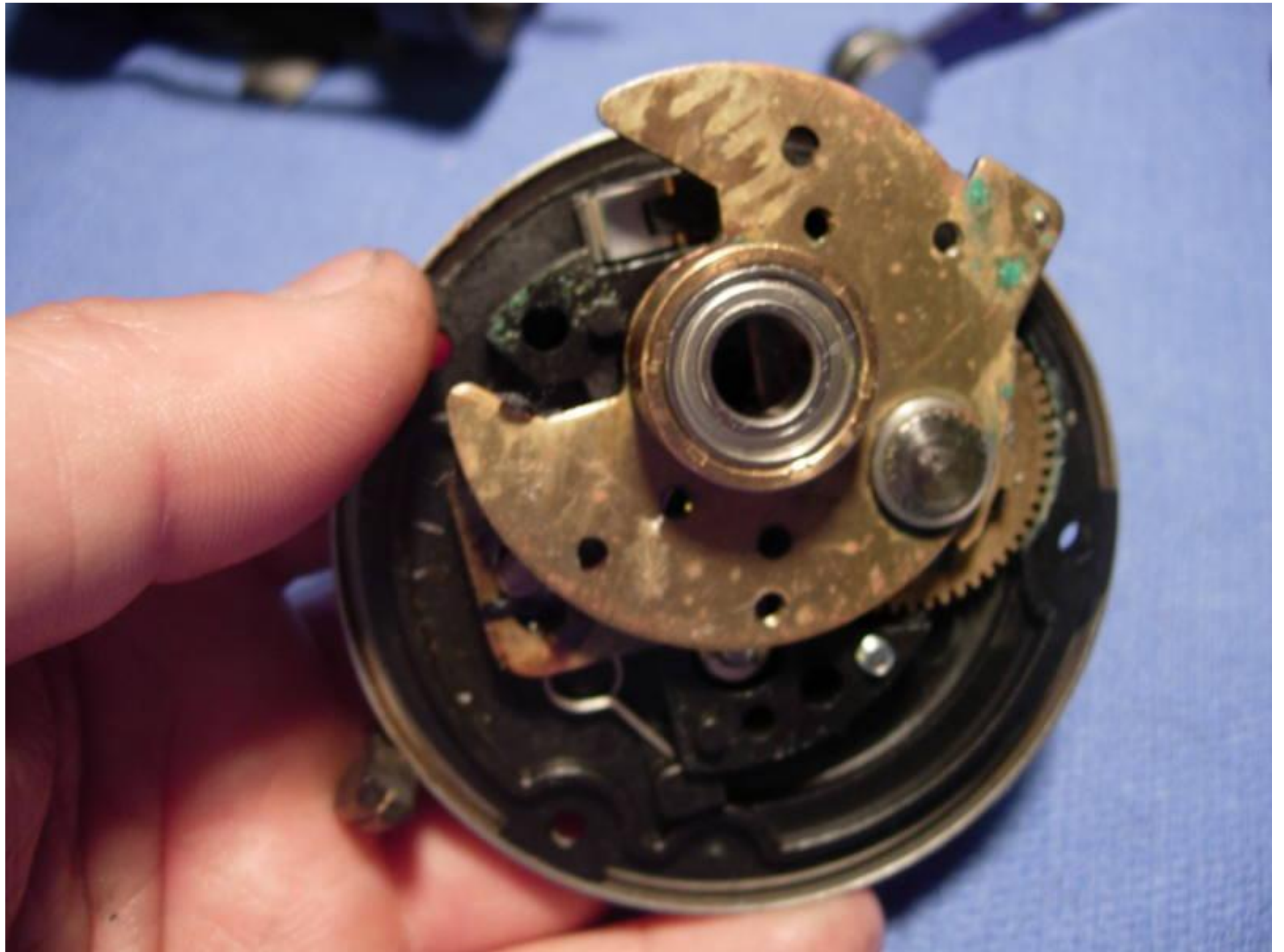
lay the dog (key #15) down over the bridge screw (key #16).



now rotate the backing plate for the bridge assembly (key #3), slowly, counterclockwise, 180 degrees.







as you get close, the dog spring (key #14) should slide in place, up against the dog (key #15).











now press down a little and the bridge assembly (key #3) should "snap" into position. with a right hand assist, flip the right side plate assembly over, holding the bridge assembly in place.



start each bridge screw (key #'s 16 and 17) half way, then cinch each one down snugly.





turn the gear sleeve (key #98) to make sure the anti-reverse dog (key #15) is functioning properly.



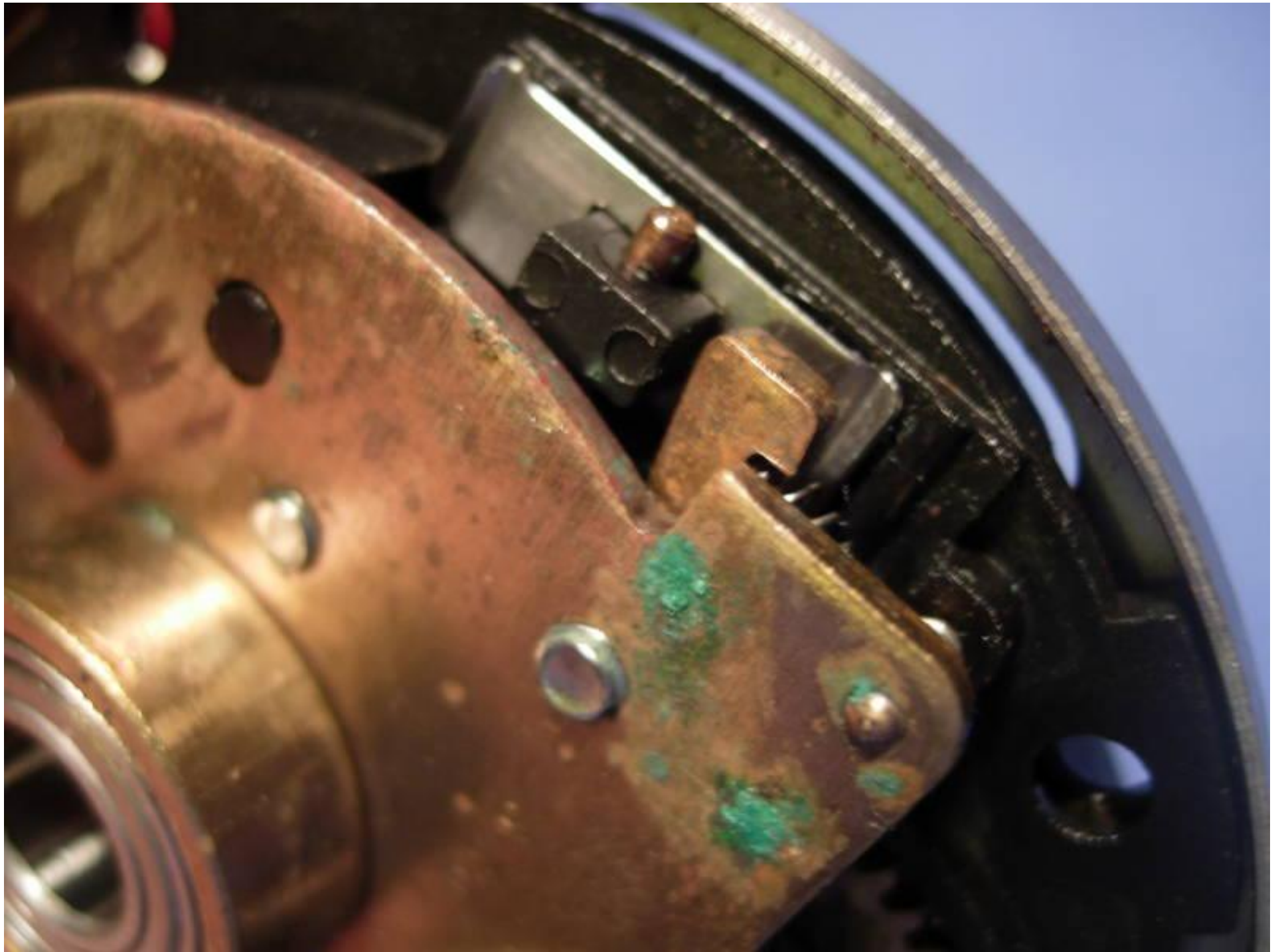
flip the eccentric lever (key #21) back and forth to make sure it is functioning properly as well.





**this reel features a direct drive button (key #21A). check to see that it is functioning properly. when "on," the anti-reverse dog (key #15) is engaged, the handle goes in only one direction and clicks when the handle is turned.**







when the direct drive button (key #21A) is "off," the dog (key #15) is disengaged and the handle will turn forward and back with no click. this feature is commonly used for "wireline" fishing, although the reel is a bit small for this purpose.



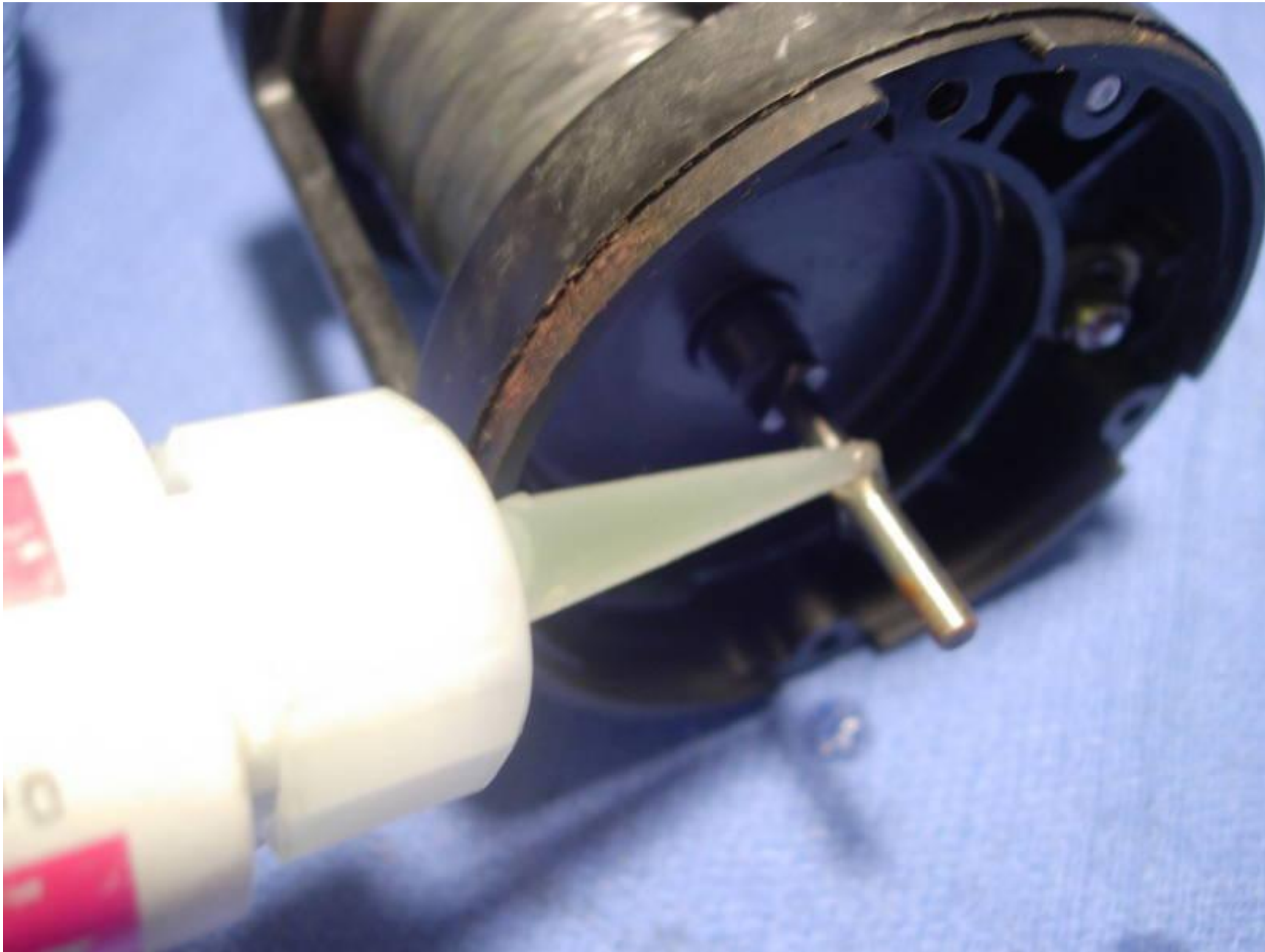




**lube the bridge assembly bearing (no key #).**



**lube the spool shaft (key #29L). it is a common problem in the 3-series graphite reels that the spool shaft and pinion gear (key #13) rust together.**

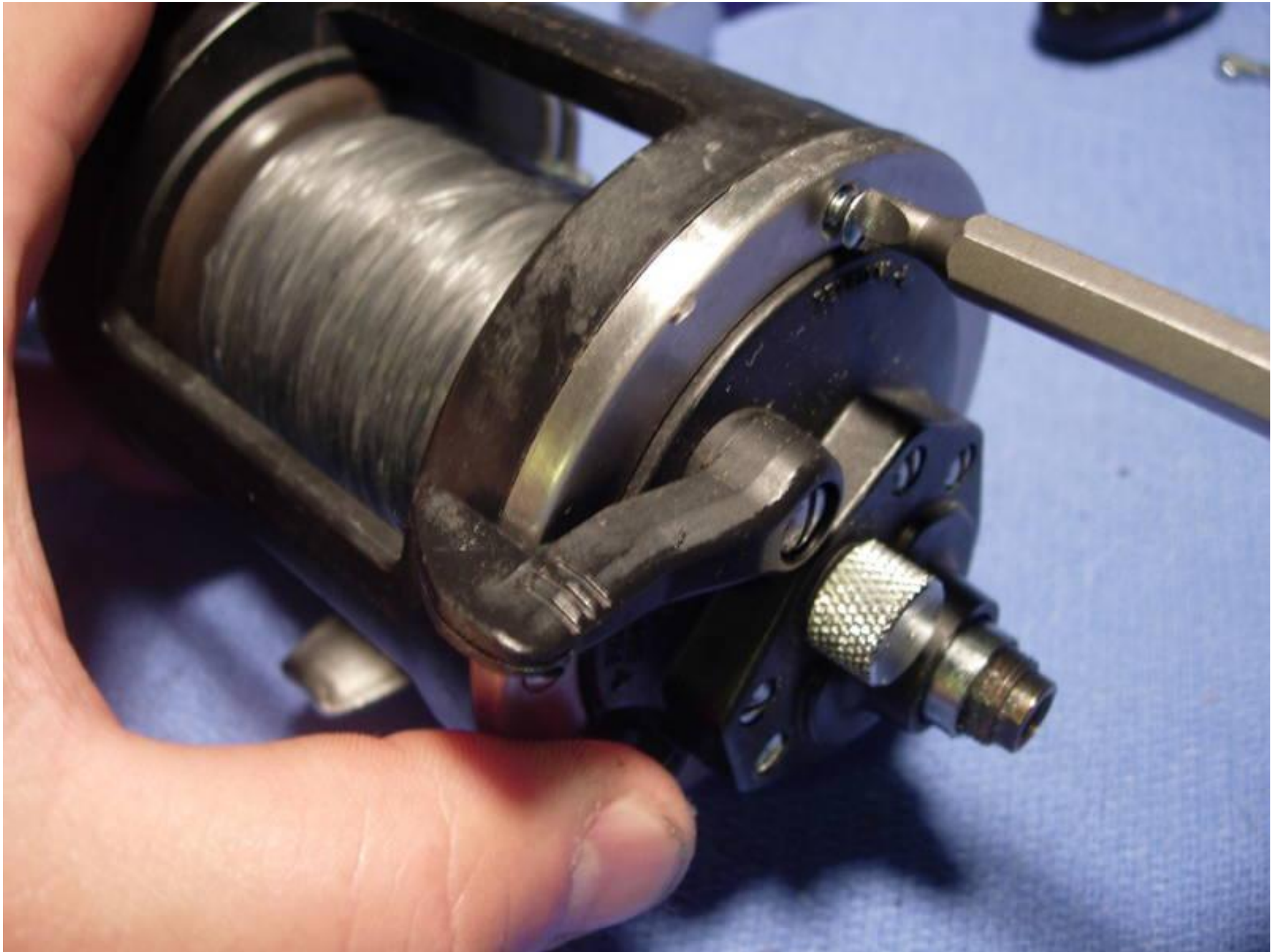




install the right side plate assembly (key #1).



install the right side plate screws (key #32).





**install the star drag (key #10) and turn it down far enough to clear the shoulder of the gear sleeve (key #98). this allows you install the handle (key #24) properly.**



install the handle assembly (key #24).

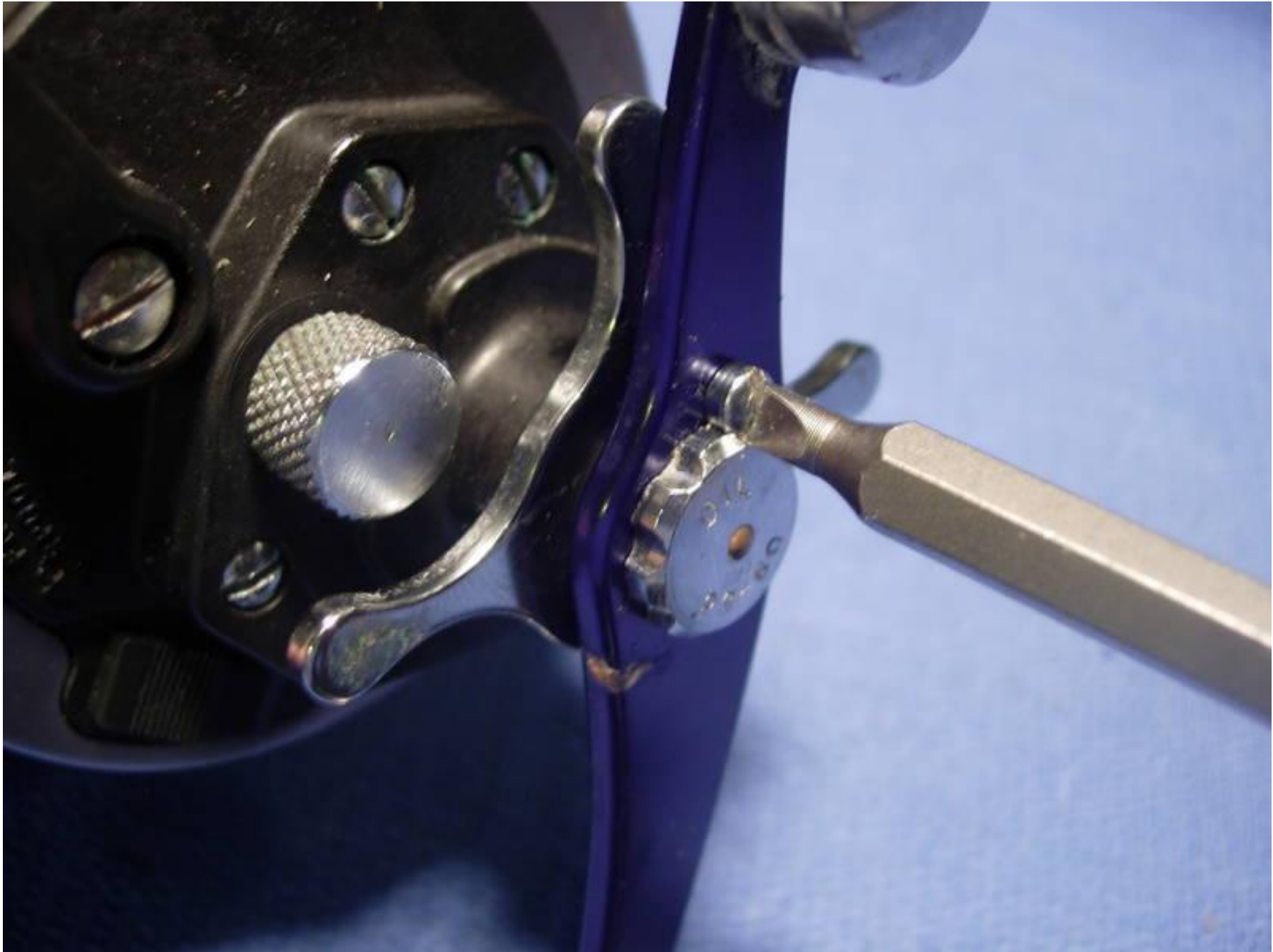




install the handle assembly screw (key #23).

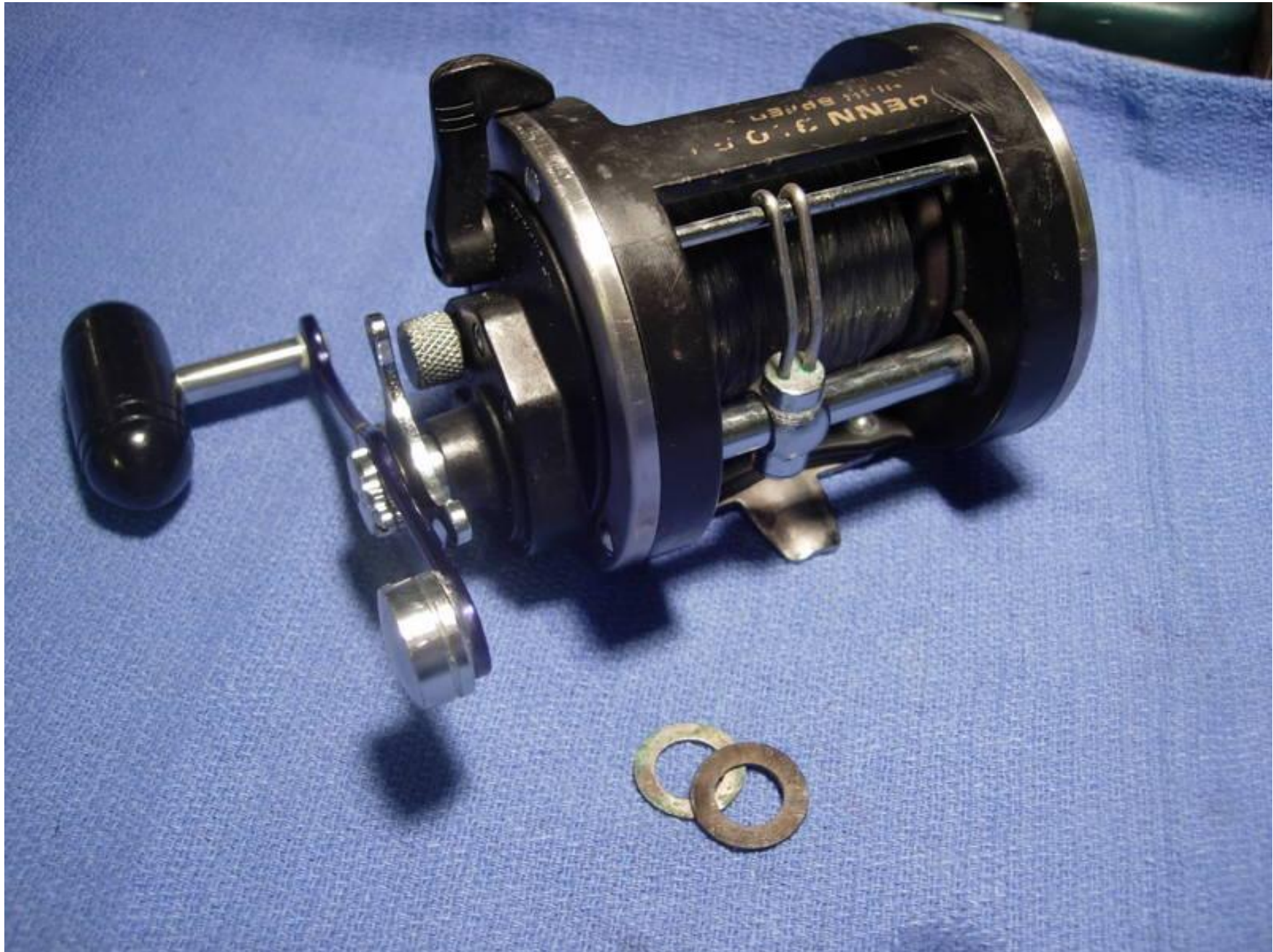


install the handle lock screw (key #23A).





and you're done!



this reel uses a stack of five penn ht-100 #6-60 drag washers inside the main gear. this drag stack will deliver plenty of drag. the problem is the gear sleeve. it's soft brass and the same size as the jigmaster gear sleeve, only taller. under more than 8-10 pounds of drag, or if the drag sticks, i am certain that the top of this gear sleeve would round off. this reel should perform well with 20# mono and 6-7#'s of drag. looking at the entire series of star drag reels (the 310gti, 320gti/gt2, 330gti, 340gti and 345gti) i believe that the 320 gti/gt2 has the most favorable power to weight ratio.