

TLD Star 15/30 and 20/40

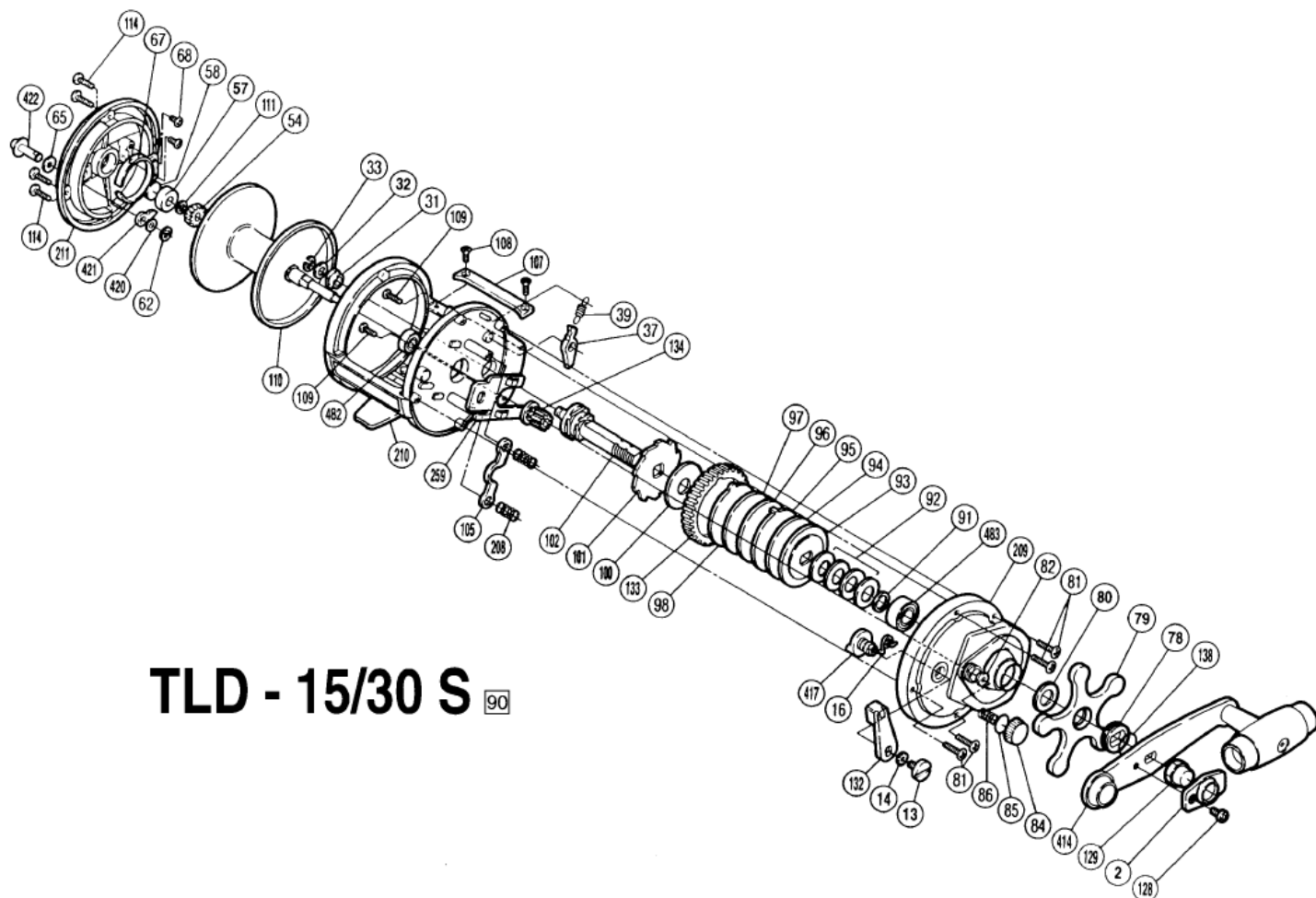
By Alan Tani

SOURCE : <https://alantani.com/index.php/topic,17.msg17.html#msg17>

Go to the Shimano website and pull up the schematics.

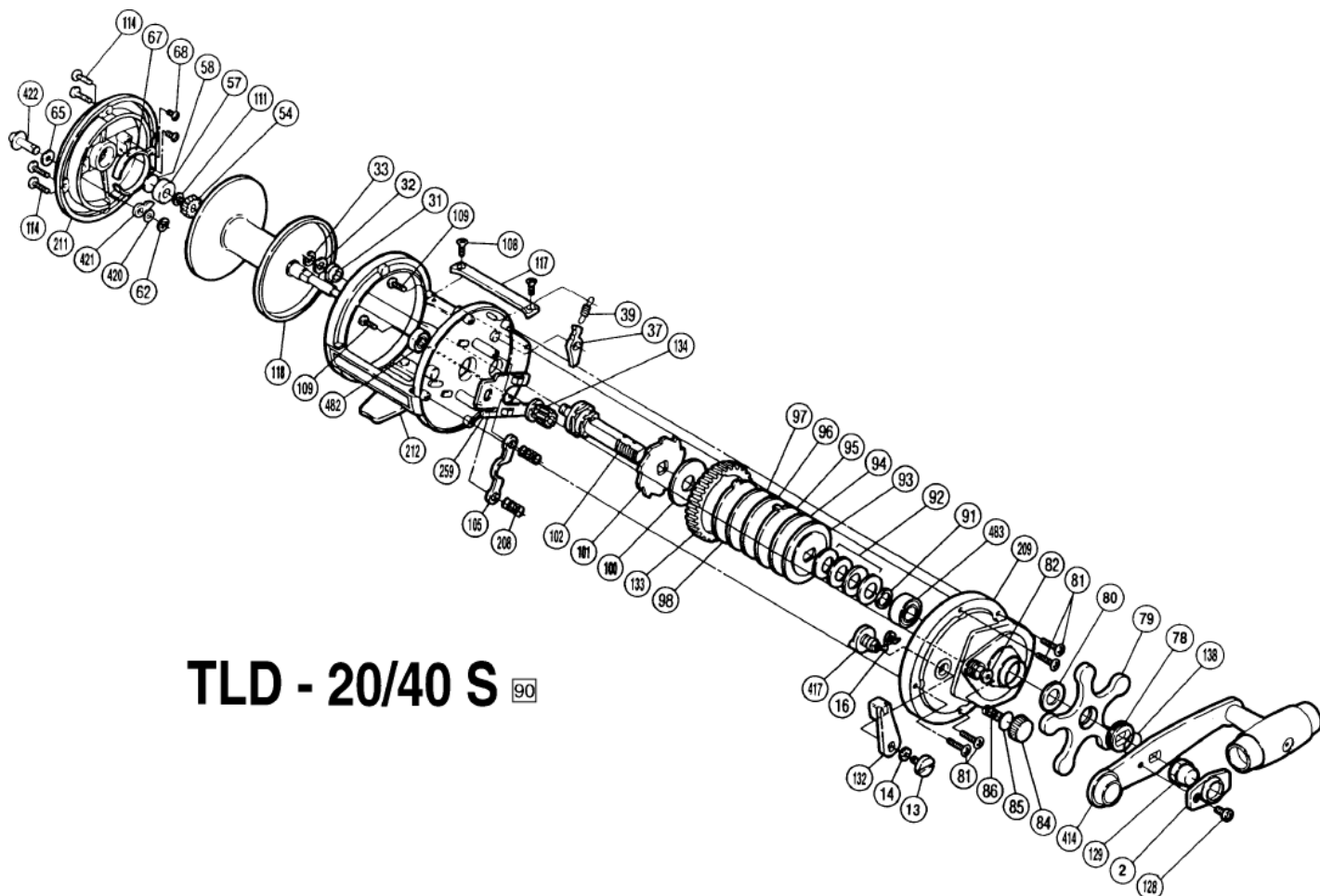
http://fish.shimano.com/media/fishing/SAC/techdocs/en/Conventional/90TLD15_30S-ARB_v1_m56577569830570229.pdf

http://fish.shimano.com/media/fishing/SAC/techdocs/en/Conventional/90TLD20_40S-ARB_v1_m56577569830570230.pdf



TLD - 15/30 S 90

TGT No.	PARTS NAMES	TGT No.	PARTS NAMES	TGT No.	PARTS NAMES
0002	Handle Nut Plate	0082	Spool Shaft Bushing	0111	Click Gear Retainer
0013	Clutch Lever Screw	0084	Cast Control Cap	0114	Left Side Plate Screw
0014	Lock Washer	0085	Spacer	0128	Handle Nut Plate Screw
0016	Clutch Spring	0086	Spool Tension Spring	0129	Handle Nut
0031	Drive Shaft Bushing	0091	Bearing Thrust Washer	0132	Clutch Lever
0032	Spacer	0092	Drag Spring Washer	0133	Drive Gear
0033	Drive Shaft Retainer	0093	Key Washer "F"	0134	Pinion Gear
0037	Anti-Reverse Pawl	0094	Drag Washer "D"	0138	"O" Ring
0039	Anti-Reverse Pawl Spring	0095	Eared Washer "E"	0208	Yoke Spring
0054	Click Gear	0096	Drag Washer "I"	0209	Right Side Plate
0057	Spool Shaft Bushing "B"	0097	Key Washer "C"	0210	Frame
0058	Spacer "B"	0098	Eared Washer "B"	0211	Left Side Plate
0062	Click Pawl Retainer	0100	Drive Shaft Washer	0259	Yoke Plate
0065	Spacer A	0101	Anti-Reverse Ratchet	0414	Handle Assembly
0067	Click Spring	0102	Drive Shaft	0417	Clutch Cam
0068	Click Spring Screw	0105	Yoke	0420	Spacer B
0078	Handle Washer	0107	Line Guard	0421	Click Pawl
0079	Star Drag	0108	Line Guard Screw	0422	Click Button
0080	Star Drag Washer	0109	Right Side Plate Screw (B)	0482	Ball Bearing
0081	Right Side Plate Screw (A)	0110	Spool	0483	Ball Bearing



TLD - 20/40 S 90

TGT No.	PARTS NAMES	TGT No.	PARTS NAMES	TGT No.	PARTS NAMES
0002	Handle Nut Plate	0082	Spool Shaft Bushing	0117	Line Guard
0013	Clutch Lever Screw	0084	Cast Control Cap	0118	Spool
0014	Lock Washer	0085	Spacer	0128	Handle Nut Plate Screw
0016	Clutch Spring	0086	Spool Tension Spring	0129	Handle Nut
0031	Drive Shaft Bushing	0091	Bearing Thrust Washer	0132	Clutch Lever
0032	Spacer	0092	Drag Spring Washer	0133	Drive Gear
0033	Drive Shaft Retainer	0093	Key Washer "F"	0134	Pinion Gear
0037	Anti-Reverse Pawl	0094	Drag Washer "D"	0138	"O" Ring
0039	Anti-Reverse Pawl Spring	0095	Eared Washer "E"	0208	Yoke Spring
0054	Click Gear	0096	Drag Washer "I"	0209	Right Side Plate
0057	Spool Shaft Bushing "B"	0097	Key Washer "C"	0211	Left Side Plate
0058	Spacer "B"	0098	Eared Washer "B"	0212	Frame
0062	Click Pawl Retainer	0100	Drive Shaft Washer	0259	Yoke Plate
0065	Spacer A	0101	Anti-Reverse Ratchet	0414	Handle Assembly
0067	Click Spring	0102	Drive Shaft	0417	Clutch Cam
0068	Click Spring Screw	0105	Yoke	0420	Spacer B
0078	Handle Washer	0108	Line Guard Screw	0421	Click Pawl
0079	Star Drag	0109	Right Side Plate Screw (B)	0422	Click Button
0080	Star Drag Washer	0111	Click Gear Retainer	0482	Ball Bearing
0081	Right Side Plate Screw (A)	0114	Left Side Plate Screw	0483	Ball Bearing

Here's your reel. looks vaguely familiar, doesn't it.



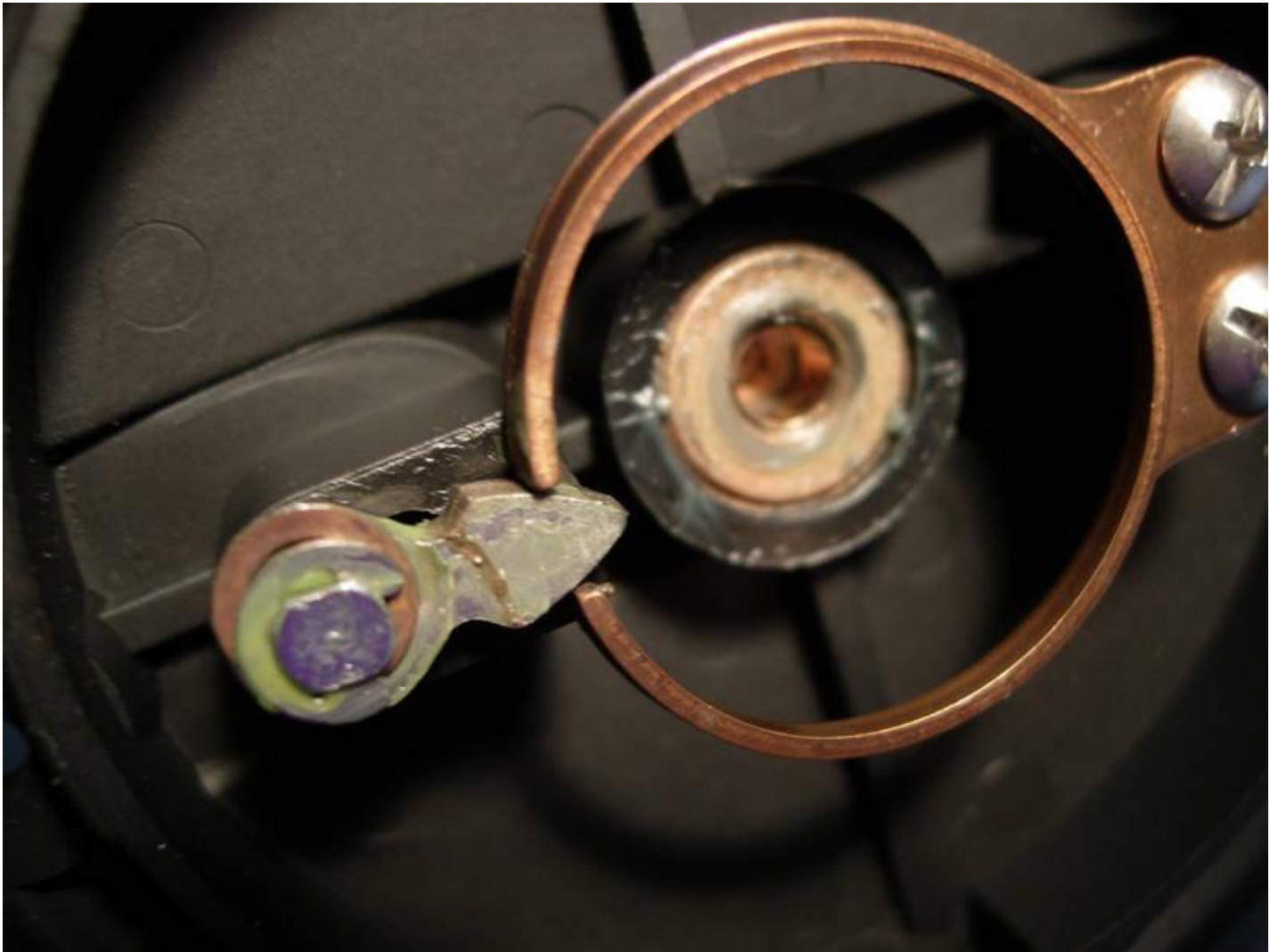
BALL BEARING TITANIUM DRAG

LINE CAPACITY (lb.-yds.) 20-360•25-290

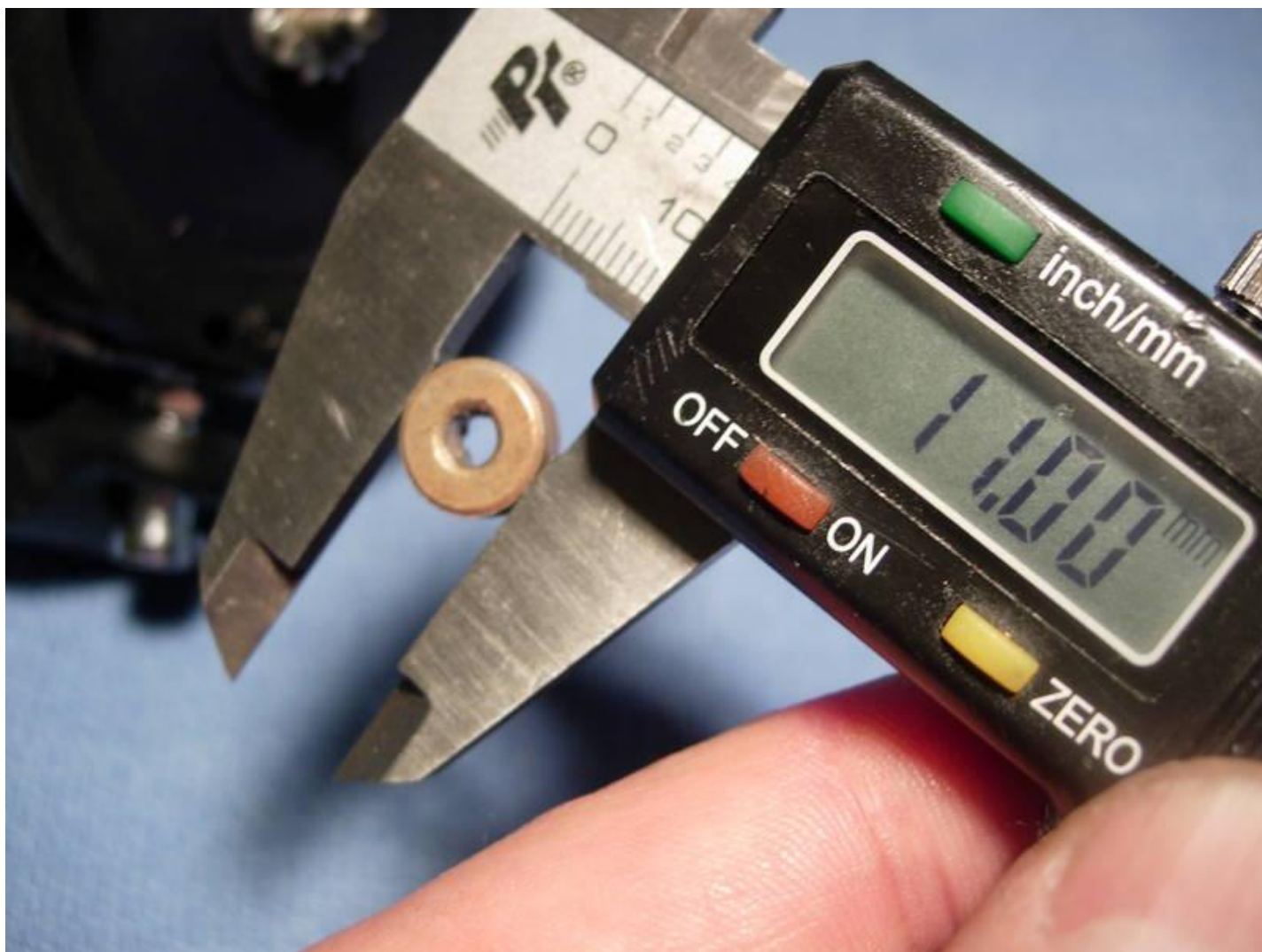
Let's start with the left side. Remove the four left side plate screws (key #114).



Inside the left side plate assembly (key #211) is a click spring (key #67) that needs a light coat of grease. You will also find a spool shaft bushing "b" (key #57).



The bushing is 4x11x4 mm.

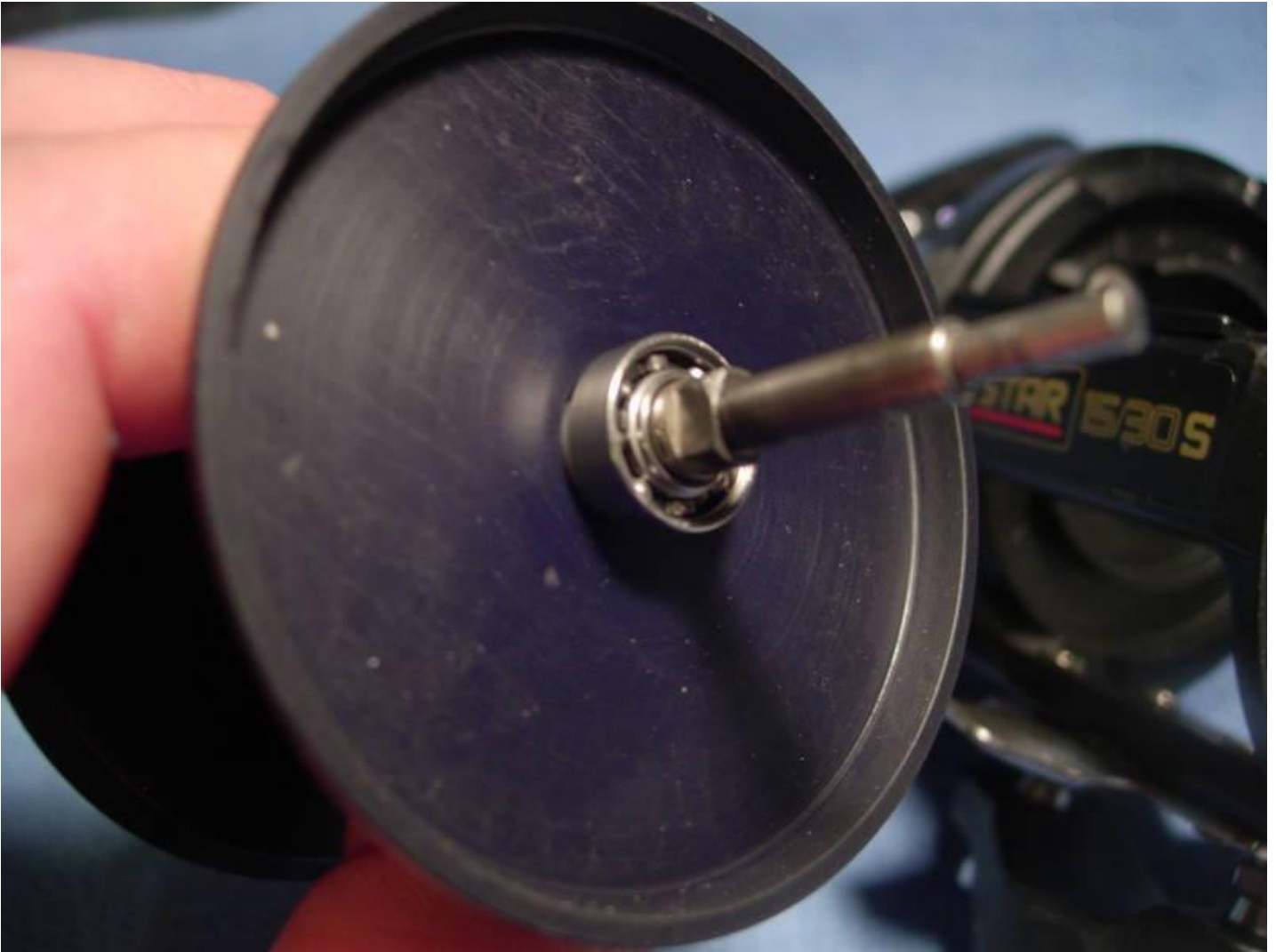


0033	Drive Shaft Retainer	0093
0037	Anti-Reverse Pawl	0099
0039	Anti-Reverse Pawl Spring	01
0054	Click Gear	
0057	Spool Shaft Bushing "B"	
0058	Spacer "B"	4x11x4
0062	Click Pawl Retainer	
0065	Spacer A	
0068	Click Spring Screw	

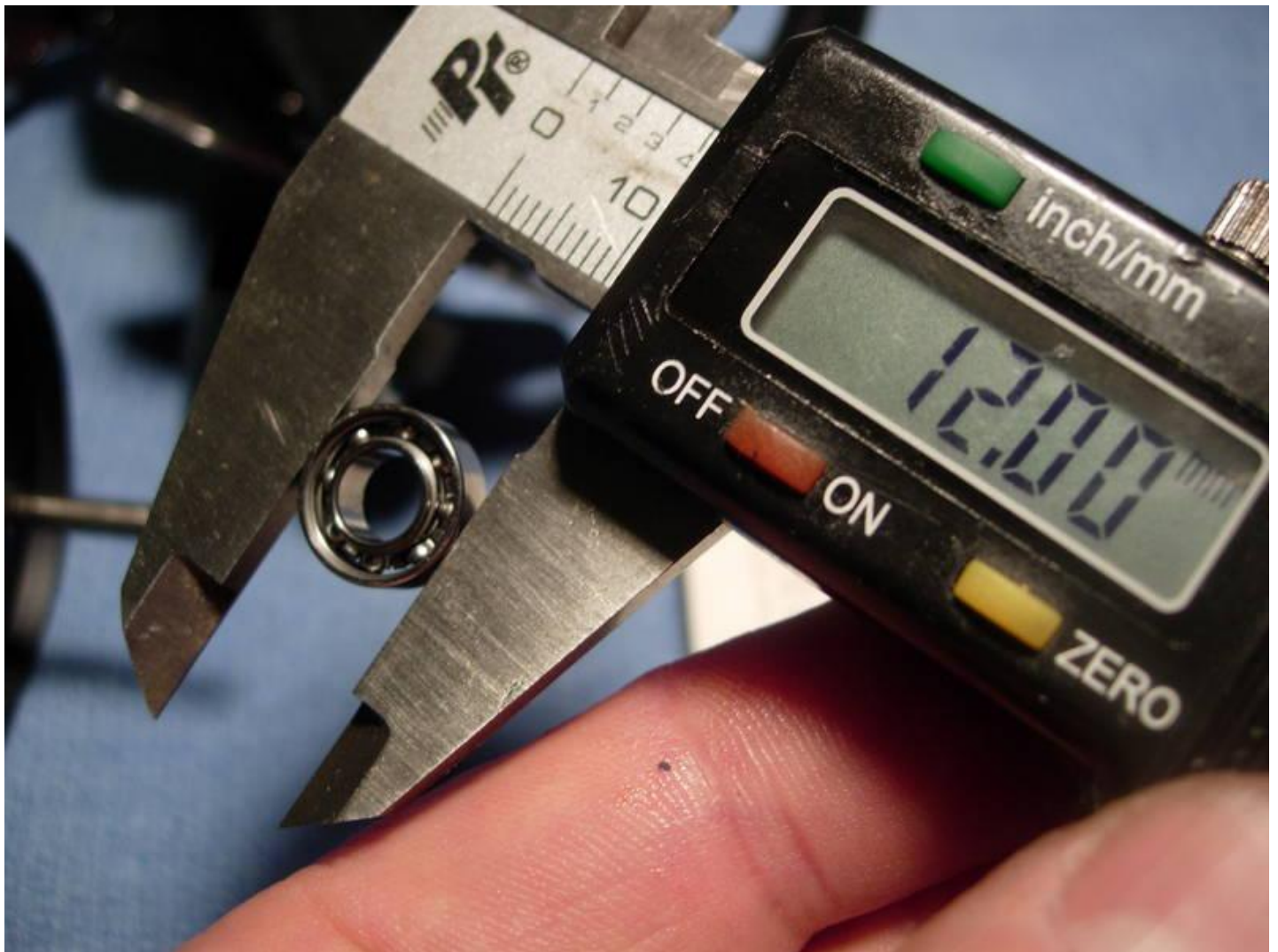
We're going to upgrade this to a bearing and lube it with Corrosion X.



Remove the spool (key #110) and find the right spool bearing (key #482).



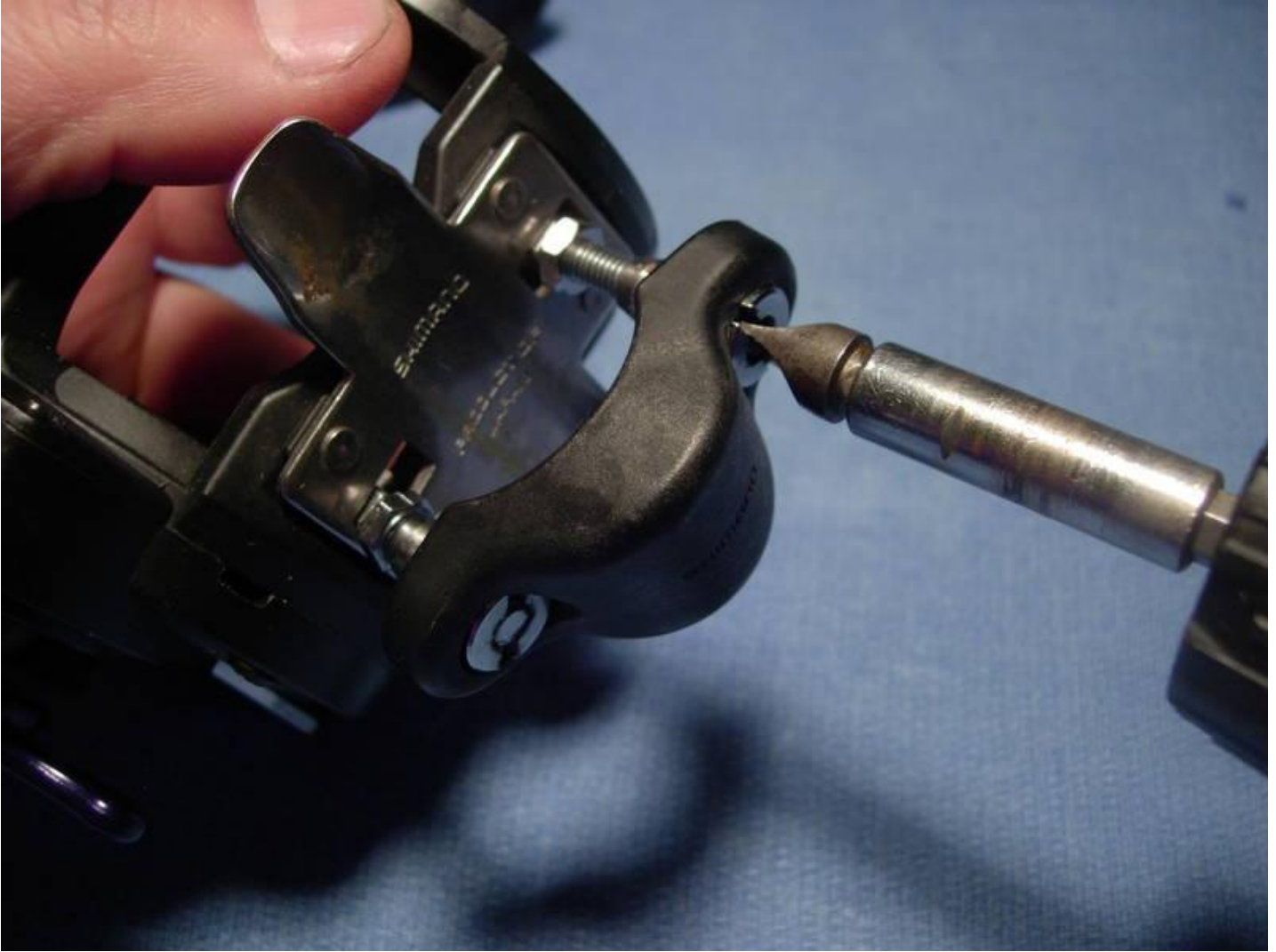
This bearing is 6x12x4 mm. W clean it with carb cleaner and compressed air, then lube it with Corrosion X.

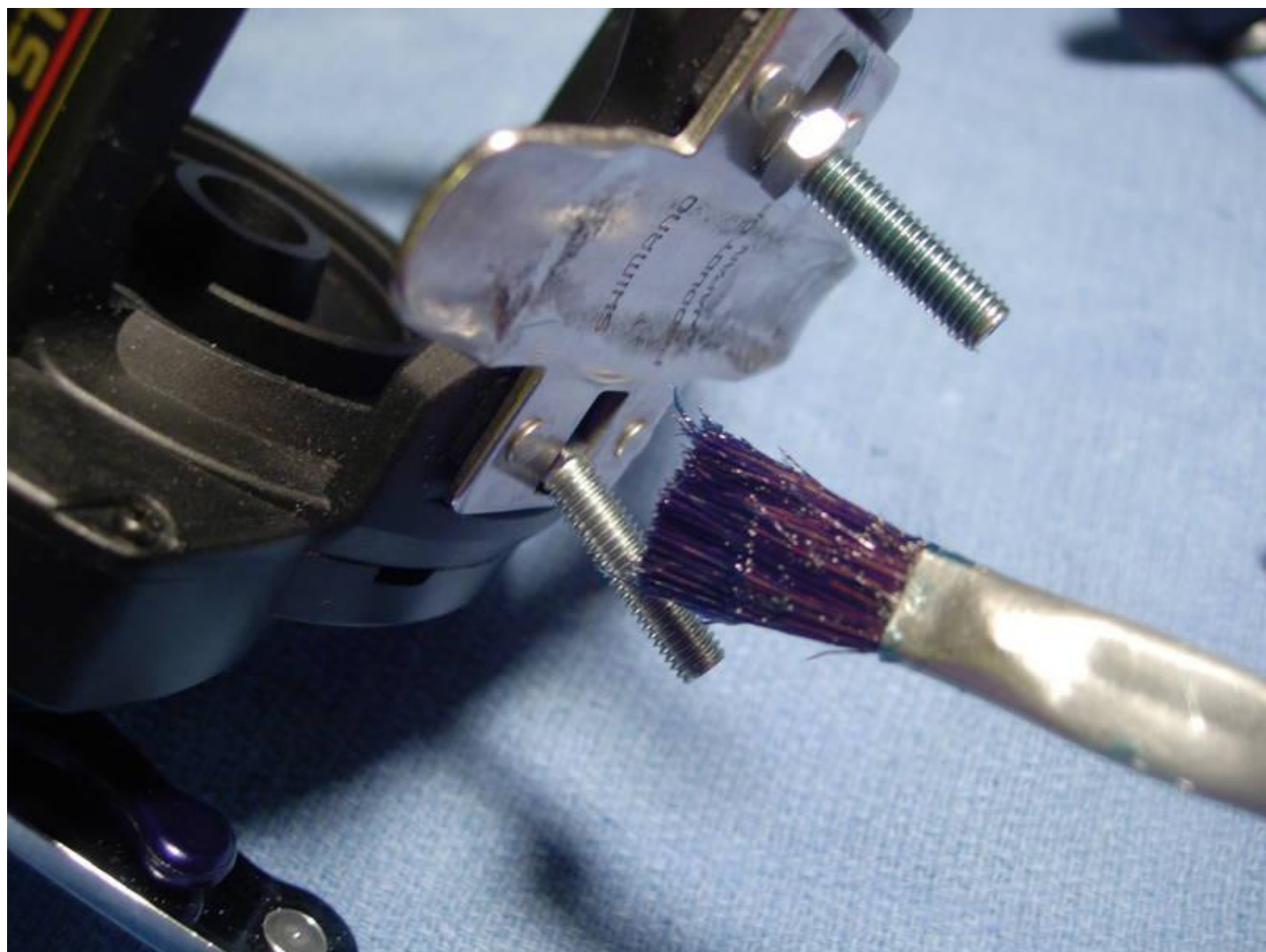


A light coat of grease goes on the ends of the spool.



Remove the rod clamp assembly and grease the bolts.





Install the spool (key #110).



Install the left side plate assembly (key #211) and left side plate screws (key #114). These few steps are all that are required for routine maintenance of this reel.



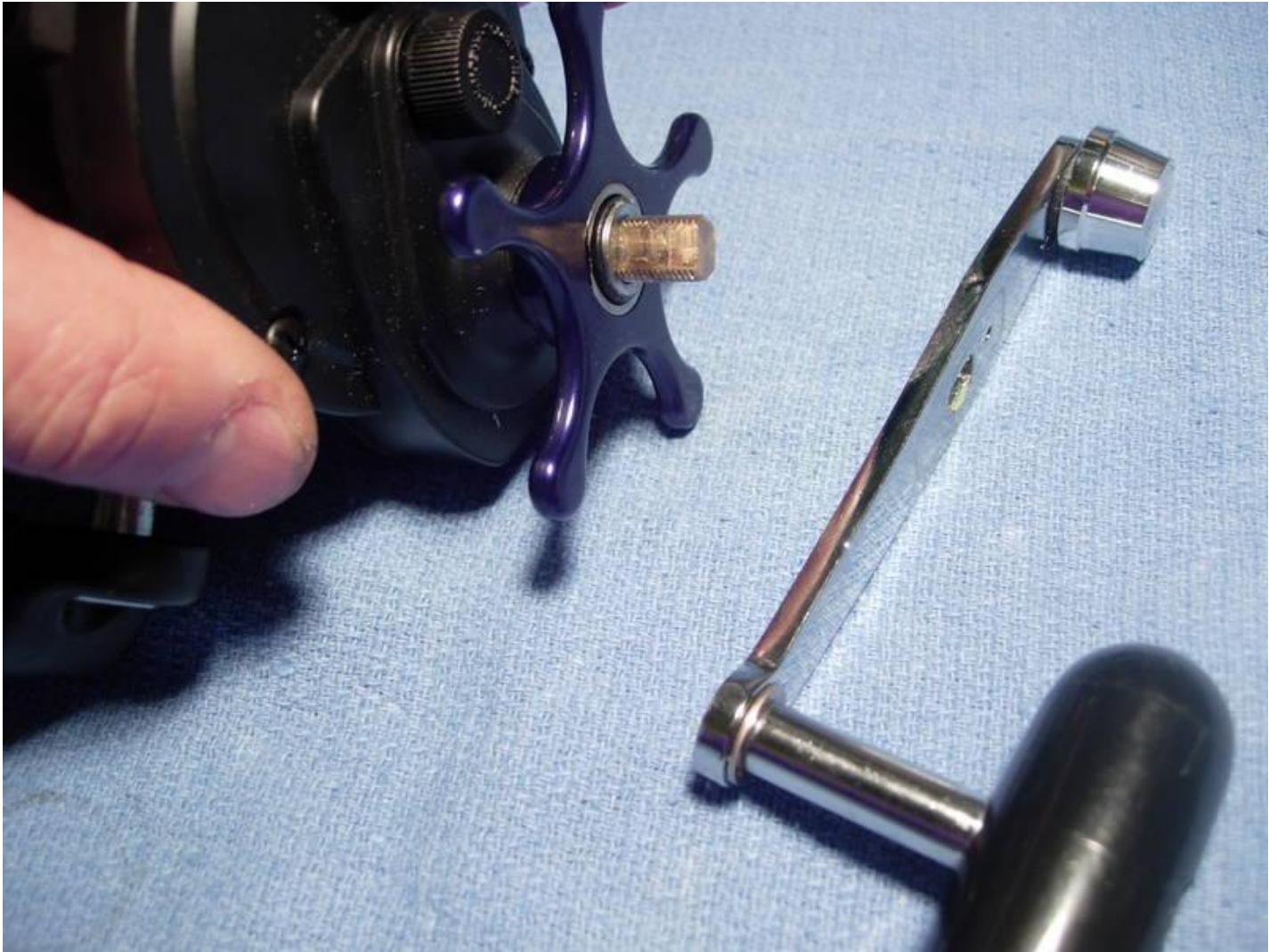
Now for the right side. Remove the handle nut plate screw (key #128) and handle nut plate (key #2).



Remove the handle nut (key #129) with a 10mm wrench.



Remove the handle (key #414).



Remove the handle washer (key #78) and star (key #79).



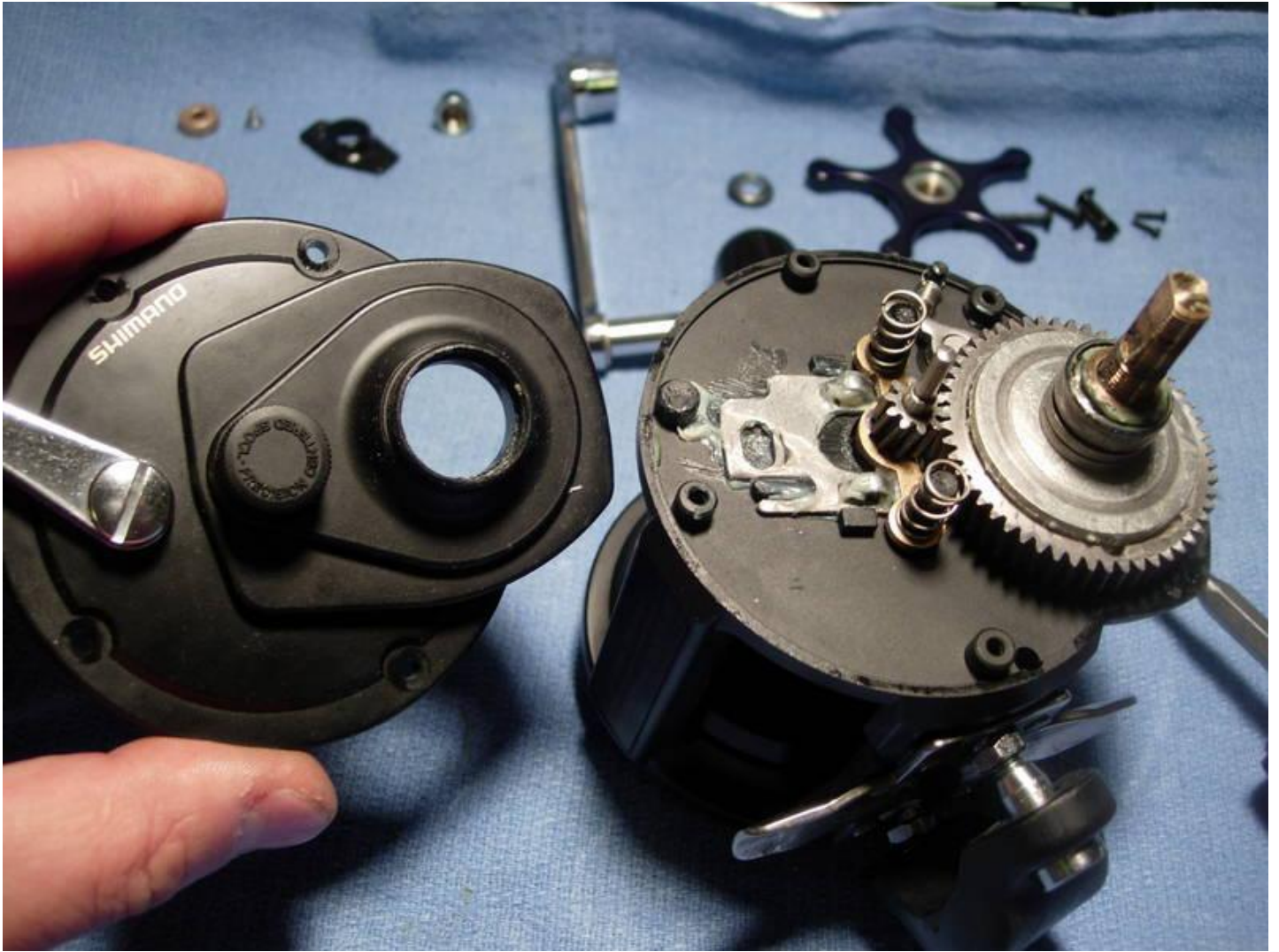
Remove the two right side plate screws "b" (key #109).



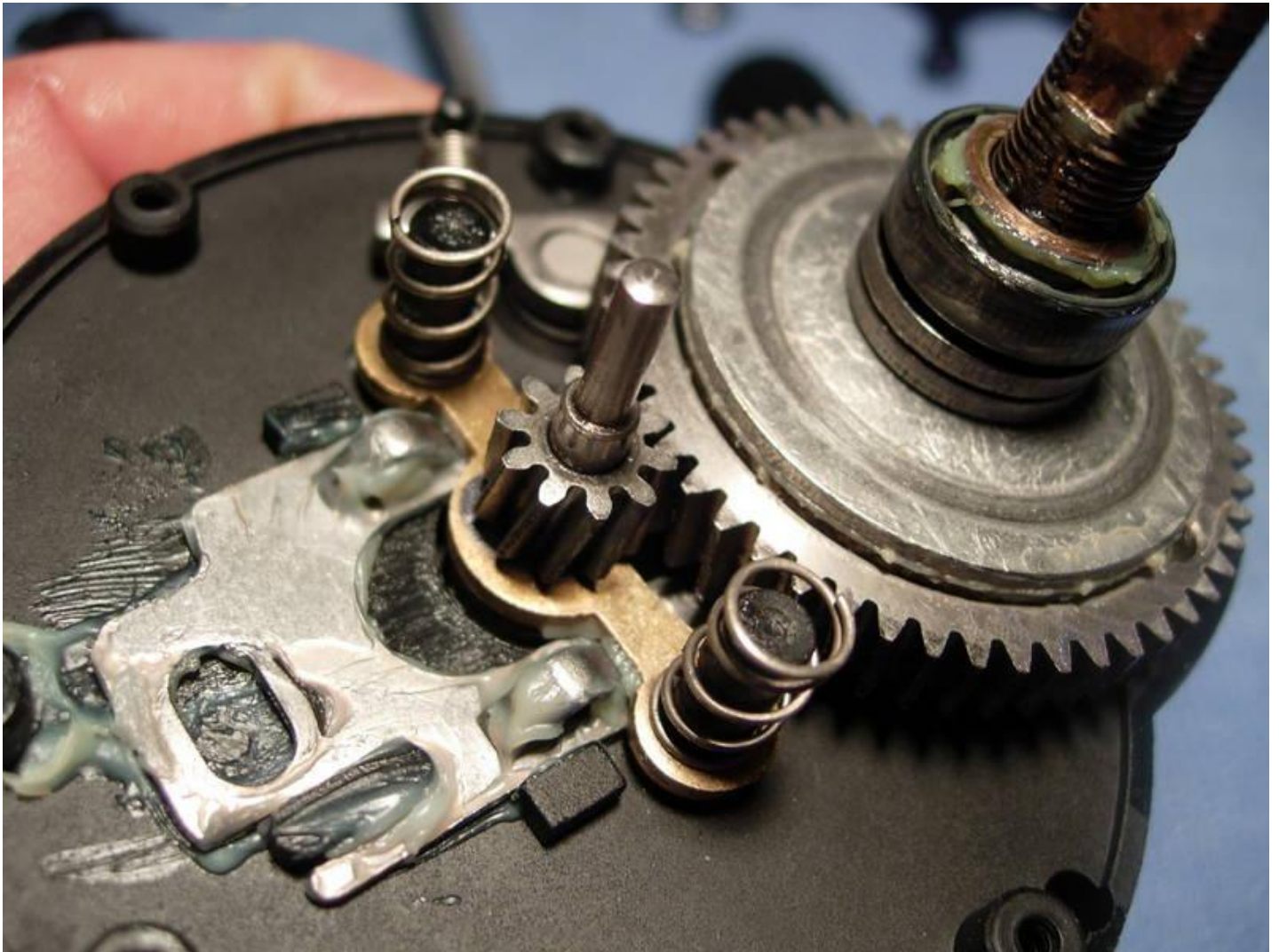
Remove the four right side plate screws "a" (key #81).



Remove the right side plate assembly (key #209).



Here's a close up of the gear assembly. Take particular note of the size and strength of this stainless steel main gear and pinion gear. These are much more heavy duty than the gear sets found in equivalent size Trinidad's and Torium's.



The washer stack is oriented "()**|B|**", with four drag spring washers (key #92), a bearing thrust washer (key #91), an 8x16x5 mm bearing (key #483) and a star drag washer (key #80). Remove and set them aside.



Now, carefully, remove the stainless steel and canvas drag washers, one at a time. I've cleaned them and lined them up for the photo. From left to right is the drive shaft washer (key #100), the drive gear (key #133), the eared washer "b" (key #98), key washer "c" (key #97), drag washer "i" (key #96), eared washer "e" (key #95), drag washer "d" (key #94), and key washer "f" (key #93).



Carbontex drag washers from smoothdrag.com are not available as of 1/2008. If there is sufficient demand, that may change. Here are the approximate dimensions of the drag washers.

0092	Drag Washer		
0093	Key Washer "F"		0134
0094	Drag Washer "D"	8.5 x 35.125	013
0095	Eared Washer "E"		020
0096	Drag Washer "I"	11 x 35.08	020
0097	Key Washer "C"		02
0098	Eared Washer "B"	15 x 35 x 1.25	02
0100	Drive Shaft Washer	11 x 25 x 1	02
0101	Anti-Reverse Ratchet		04
0102	Drive Shaft		04

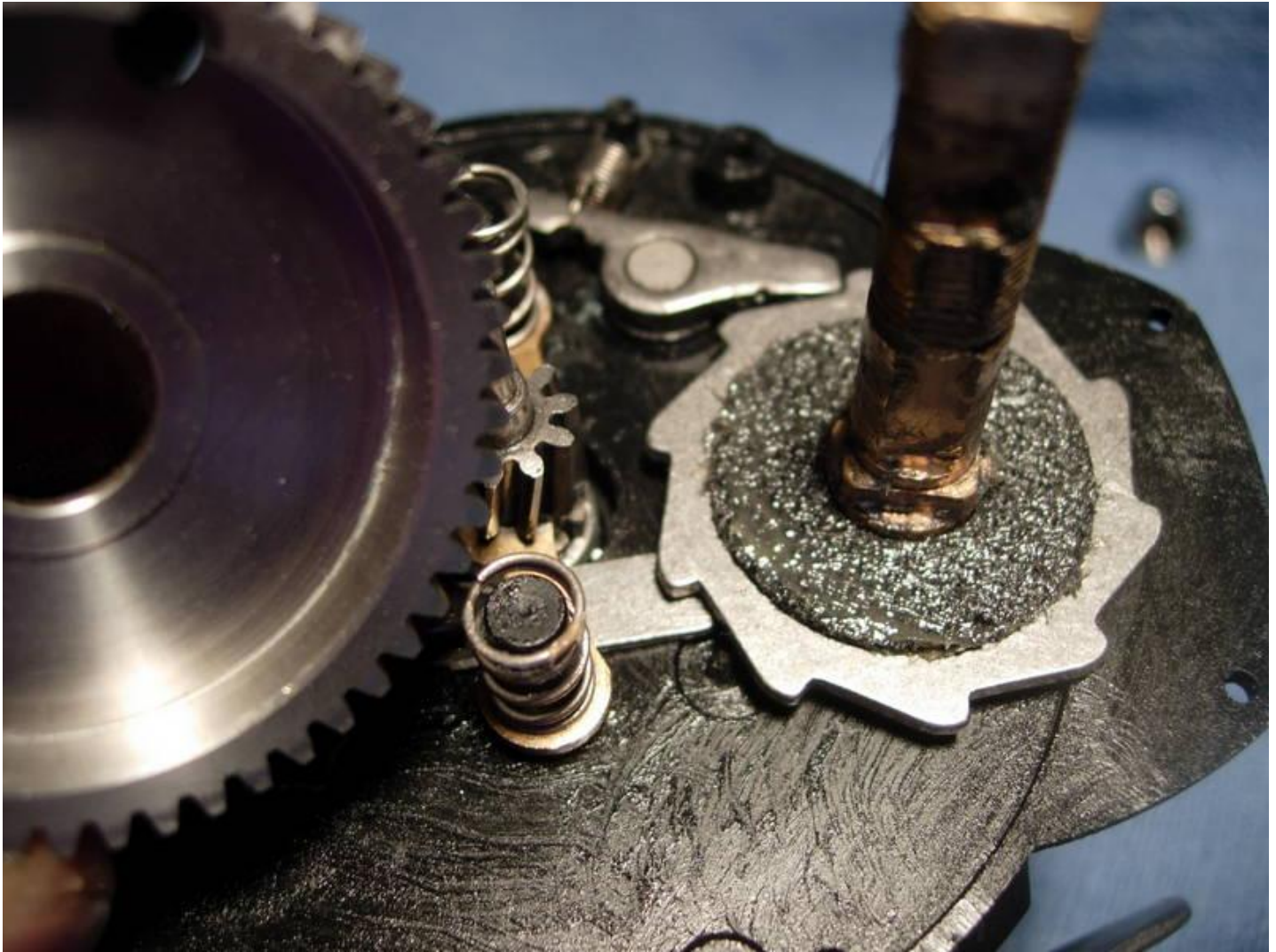
And here is a set of Penn HT-100 drag washers pulled from my inventory that offer the best fit. From left to right, they are the #6-309, #6-116, #56-440 and another #56-440.



Apply a coat of cal's drag grease to all four of the carbon fiber drag washers.



Use an old toothbrush to apply a light coat of grease to the carbon fiber base-plate. Install the #6-309 drag washer and the drive gear (key #133).



Install the remaining metal and carbon fiber drag washers.



**Install the drag spring washers (key #92) oriented "()
()**".



Install the bearing thrust washer (key #91).



Grease and install the drive shaft bearing (key #483).



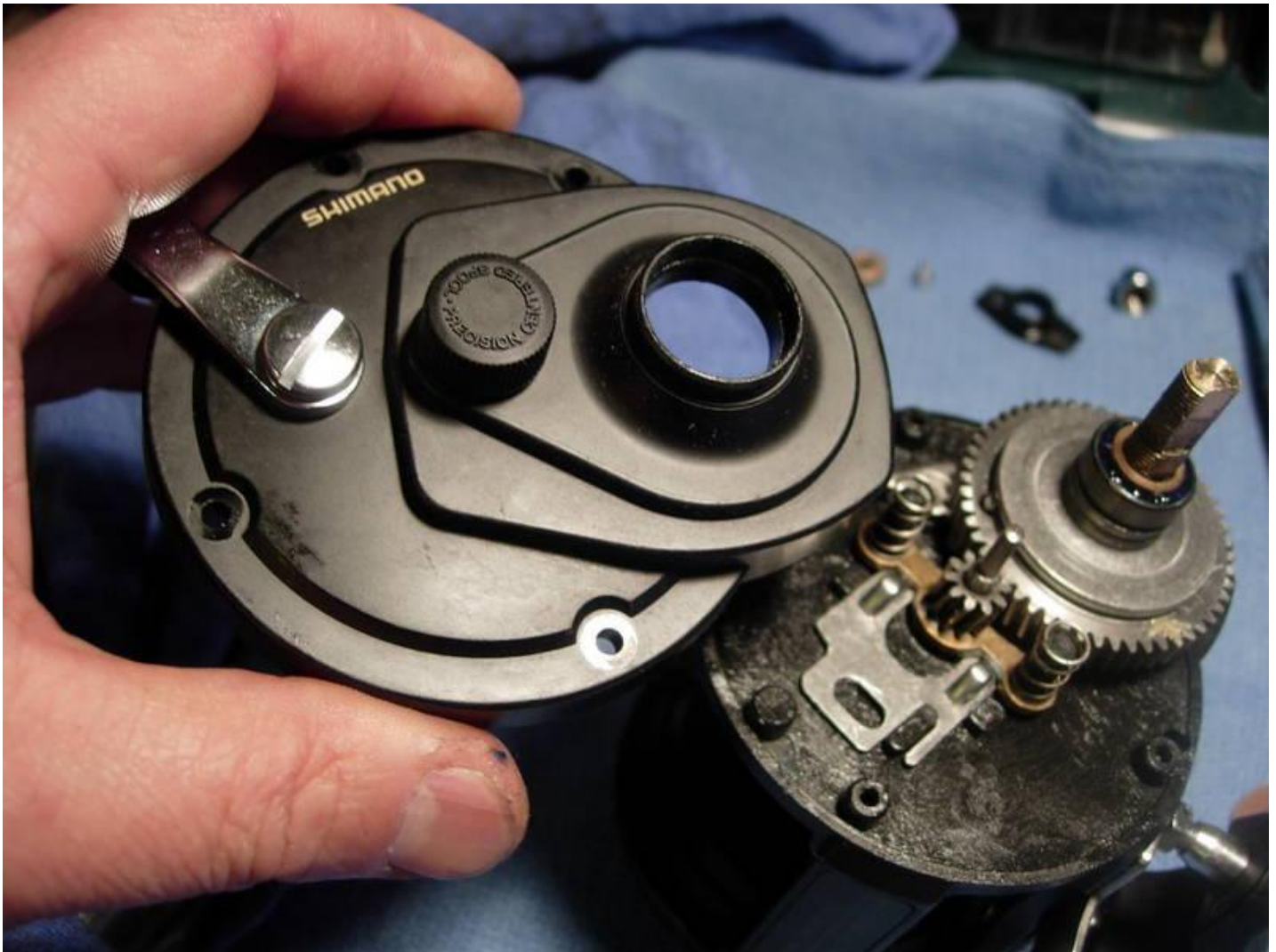
Install the star drag washer (key #80).



Apply a light coat of grease to the inside of the right side plate assembly (key #209).



Install the right side plate, noting the "up" position of the yoke plate (key #259) and "forward" position of the clutch lever (key #132).



Wiggle the clutch lever back a little and the right side plate should seat properly with a snap !



Install the four right side plate screws "a" (key #81).



Install the two right side plate screws "b" (key #109).



Paint a little grease on the drive shaft (key #102). This is a common area for corrosion.



Now, decision time. You have the stock handle (key #414) on the left and two handles that have stock arms and custom grips. These custom grips are made for me by a local machine shop. The tapered grip (key #414M) in the center is preferred by most people. The larger grip (key #414L) is my favorite. Since it's my reel, we'll go with the larger grip.



Install the star drag (key #79), the handle washer (key #78), and the new handle (key #414L). Put a little grease on the handle arm around the drive shaft.



Install and properly align the 10mm handle nut (key #129).



Install the handle nut plate (key #2) and screw (key #128).



Done!





Now, for a few comments. For purposes of checking the drag only, I loaded this reel up with straight 40# mono. I kept on cranking down on the star and got an easy 20#'s of drag. Just looking at the frame, I'm guessing that the graphite frame could handle that much pressure with no problem at all. and unlike the Shimano Trinidad and Torium, I see no anti-reverse problems with 20#'s of drag. I think this reel could easily handle 300-350 yards of 60# hollow-core spectra, a short 40-50# top-shot, and up to 20#'s of drag.

With greased carbon fiber, the drag washers should last forever. With the bearings cleaned out, it should cast just fine. The graphite frame is nice because it is non-corrosive. And this reel is going to be one of the easiest to service. Simply remove the left side plate and you have easy access to both bearings.

There you have it. High-speed, easy to upgrade, easy to maintain, Spectra worthy with 20#'s of drag, handle upgrade options, and a small well-balanced frame. For a graphite star drag, this reel gets my vote for best in its class !