



TIAGRA

SHIMANO

INSTRUCTION GUIDE

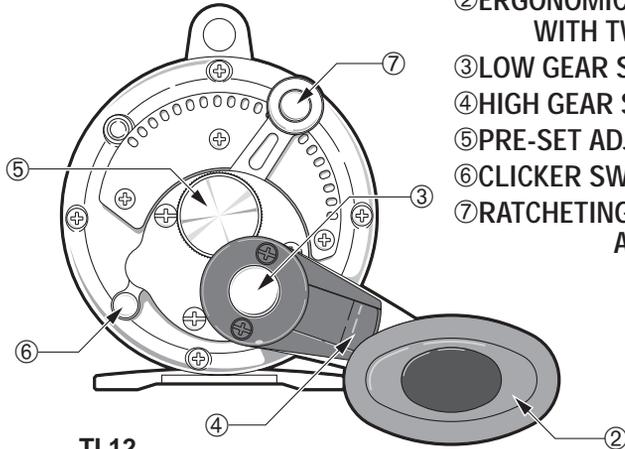


Thank you for choosing Shimano!

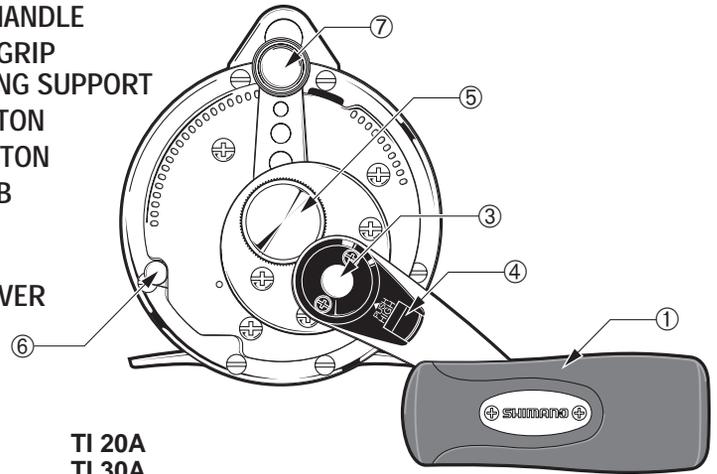
We believe we have created the finest big game trolling reels in the world in our Shimano Tiagra series. They are the result of years of engineering development time and thousands of hours of lab and field testing. We have pursued these reels' design and manufacture with the goal of embracing the romance and excitement of big game fishing and combining it with the advancements of technology. We hope you will enjoy the Tiagra reels that you have purchased for many years to come. Once again, thanks.

Serial Number

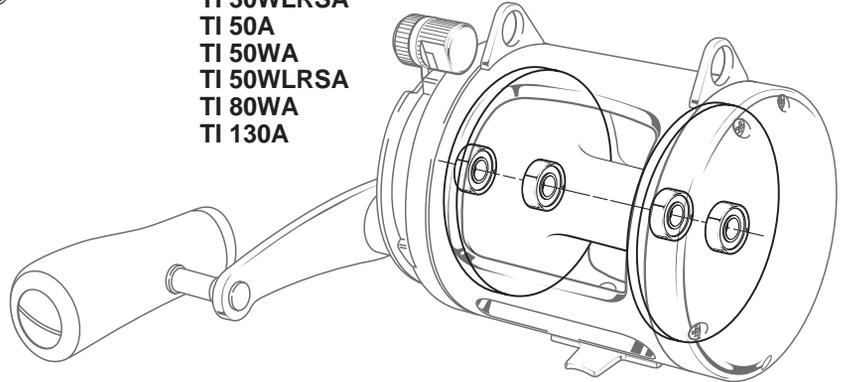
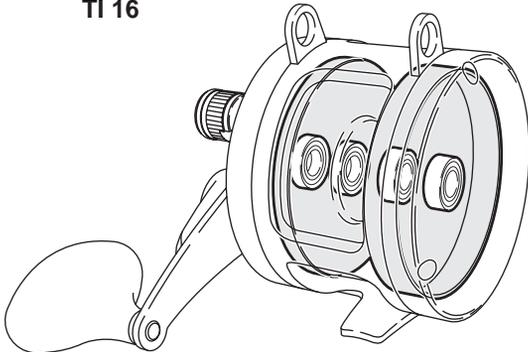
- ① ERGONOMIC POWER HANDLE
- ② ERGONOMIC RUBBER GRIP WITH TWO BEARING SUPPORT
- ③ LOW GEAR SHIFT BUTTON
- ④ HIGH GEAR SHIFT BUTTON
- ⑤ PRE-SET ADJUST KNOB
- ⑥ CLICKER SWITCH
- ⑦ RATCHETING DRAG ADJUST LEVER



TI 12
TI 16



TI 20A
TI 30A
TI 30WLRSA
TI 50A
TI 50WA
TI 50WLRSA
TI 80WA
TI 130A



Model No.	Weight (OZ)	Two Speed Gear Ratio	Ball Bearing (A-RB)	Mono Line Capacity							Braided Line Capacity	
				#12Lb. (Yds)	#16Lb. (Yds)	#20Lb. (Yds)	#30Lb. (Yds)	#50Lb. (Yds)	#80Lb. (Yds)	#130Lb. (Yds)	Braided Line Yds (Lb.)	
											Mono Line	Yds (Lb.)
TIAGRA 12	35	3.9/1.7	6	880	650	460	–	–	–	–	360 (50) 120 (30)	540 (50) 60 (30)
TIAGRA 16	38	3.9/1.7	6	–	980	670	430	–	–	–	400 (65) 120 (40)	540 (65) 60 (40)
TIAGRA 20A	49.7	3.9/1.7	4	–	–	690	470	–	–	–	570 (65) 120 (40)	720 (65) 60 (40)
TIAGRA 30A	52.4	3.9/1.7	4	–	–	–	700	420	–	–	590 (80) 120 (50)	710 (80) 60 (50)
TIAGRA 30WLRSA	55.6	3.9/1.7	4	–	–	–	935	570	–	–	800 (80) 120 (60)	970 (80) 60 (60)
TIAGRA 50A	83.4	3.1/1.3	4	–	–	–	–	600	–	–	810 (80) 120 (80)	1020 (80) 60 (80)
TIAGRA 50WA	86.3	3.1/1.3	4	–	–	–	–	850	–	–	1150 (80) 120 (80)	1490 (80) 60 (80)
TIAGRA 50WLRSA	86.3	3.1/1.3	4	–	–	–	–	–	550	–	730 (130) 120 (100)	920 (130) 60 (100)
TIAGRA 80WA	115.2	2.5/1.3	4	–	–	–	–	–	950	–	1820 (130) 120 (100)	2010 (130) 60 (100)
TIAGRA 130A	174.1	2.1/1.15	6	–	–	–	–	–	–	1000	1900 (200) 120 (130)	1980 (200) 60 (300)

TIAGRA REELS ARE PROTECTED BY THE FOLLOWING PATENTS

U.S.A. PAT. No.

4867392, 5318246

D. PAT.

PENDING

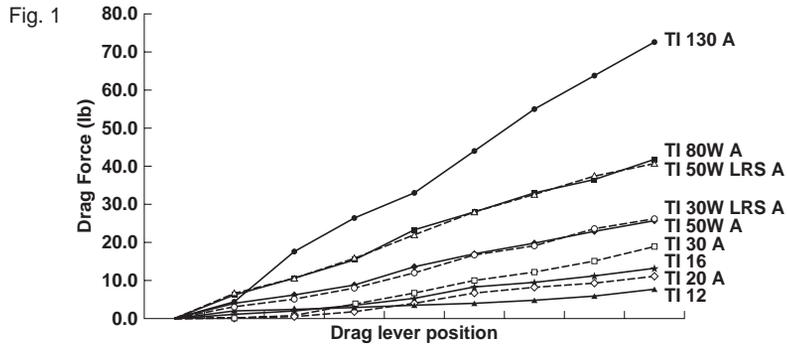
Pre-set & drag curve relationship . . .

Undoubtedly, the main reason for using a lever drag reel is superior drag performance. Lever drag reels, by the nature of the design, have greater drag surface area than star drag reels. This allows them to run cooler, last longer, and perform better.

Tiagra reels have been optimized for big game lines. We recommend that the strike position be 25% to 33% of the line's rated breaking strength. As an example, for 50 lb. test, the drag should be between 12.5 lbs. and 17lbs. On 130 lb. test, the drag should be between 33 and 44 lbs. Once the reel has been set up properly each reel will have an absolute difference between the strike and full position.

	Reel Optimized for (#test in mono)	Strike @ 33% of Line Break Strength	Full @ 50~60% of Line Break Strength	Absolute Difference
TI12	12	4	8	4
TI16	25	8	16	8
TI20A	20	7	11	4
TI30A	30	10	18	8
TI30WLRSA	50	17	26	9
TI50A & TI50WA	50	17	26	9
TI50WLRSA	80	27	40	13
TI80WA	80	27	40	13
TI130A	130	44	70	26

(The difference between strike and full can vary slightly from reel to reel.
Please check you reel with a scale to be certain.)



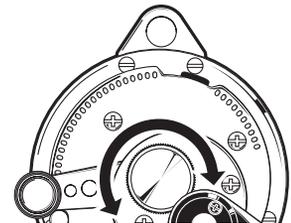
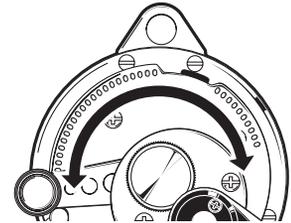
Always make pre-set adjustments with the lever in the freespool position. This is primarily because the pre-set will be extremely difficult to turn when the drag lever is engaged in the strike position.

The Tiagra's preset knob has a built in click mechanism. The drag should increase approximately 1.4 pounds at strike on the TI130 and approximately 1/2 pound at strike on the TI50 and TI80 sizes for every click. However, this is only an approximate guideline. Every reel is slightly different and will yield a slightly different increment.

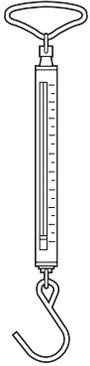
Our research has shown that all drags are sensitive to changes in speed (acceleration). Once the speed remains somewhat constant, the drag will return to pre-set levels. We recommend that you pull line off the reel at a speed approximating the target species' speed when setting your drag. We have clocked a Blue Marlin at a top speed of 34 km/hr (21 mph) from a boat at 6-7 knots (though it was for less than a full second).

To give you an idea of how fast that is, a fish running at 21 mph would spool an 80W in approximately 90 seconds.

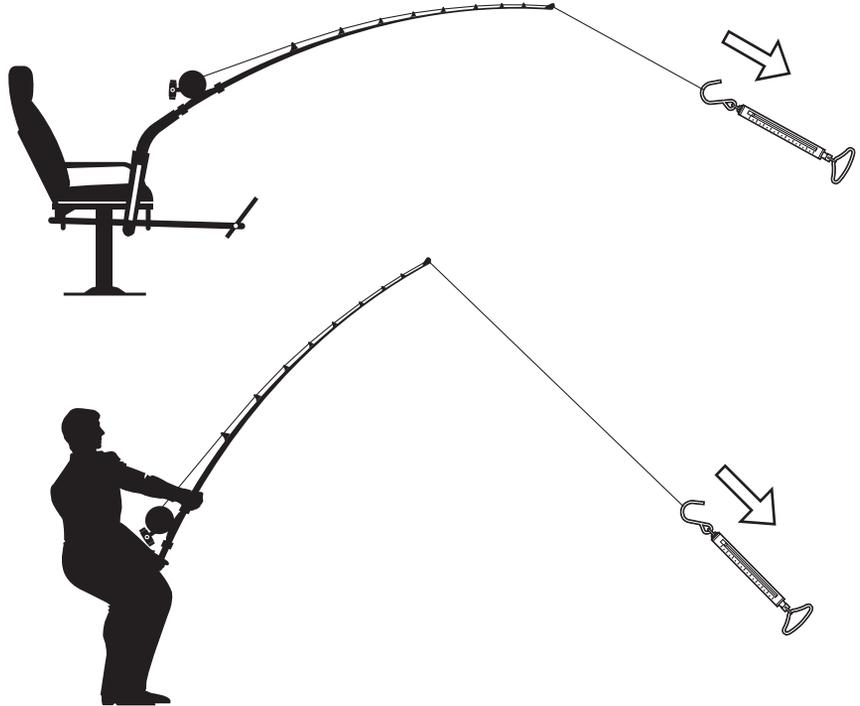
Setting the drag . . .



Scaling the drag . . .



All big game fishing reels should have the drag set using a drag scale for maximum accuracy. When setting the drag, the line should be set up on the rod through the guides, and the line should be pulled off so the blank of the rod is loaded, as when fighting a fish. Pull the line off at a speed approximating the target species' speed.



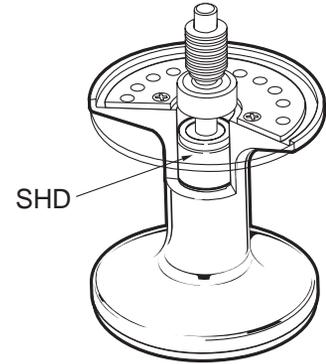
The lore of big game fishing is replete with stories of smoking reels dripping oil and grease. Occasionally it still happens today. And, traditionally, it has been known that drag force tends to increase with the increased reel heat. Heat can cause the drag to increase by the simple expansion of the related parts. The expanding parts have nowhere to go, and therefore exert greater forces on each other.

While this is true in many cases, some newer reels have drags that do exactly the opposite. Some graphite (or carbon fiber) drag washers have a physical quirk that causes the drag force to decrease with heat. The nature of the surface friction changes when the drag surfaces get hot; and the drag gets slicker. In reels where the friction change (decreasing drag) happens faster than the parts' expansion (increasing drag), the net drag force will decline.

The Shimano Hydrothermal Drag (SHD) system has a special oil-filled piston that is an integral part of the drag system. The hydrothermal piston expands with the heat at a rate that compensates for the heat induced-drag washer friction change (drag decrease). The piston's size has been carefully designed to keep the net drag change (due to heat) to a minimum.

This lever has dentents along the lever quadrant that not only provide an audible click to let you know how far you have moved the lever, but also keeps the lever from moving due to boat vibration when at lighter drag settings.

Effects of heat . . .



Shimano Hydrothermal Drag system (for 50 and 80 sizes only)

Ratcheting Drag Lever . . .

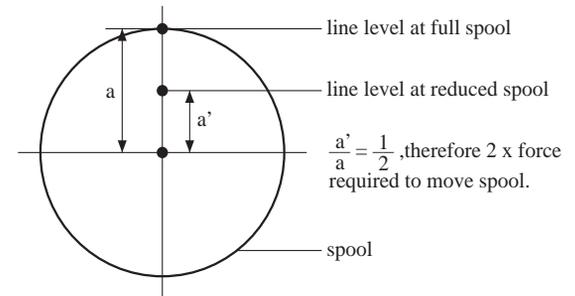
Drag to line level relationship . . .

Another cause of drag variance is the line level on the spool. Drags are generally set when the spool is filled. When the spool is filled, the line will pull off the edge of the spool. When the line level is reduced, the “leverage” that the line has on the spool is reduced. Therefore, a greater force must be applied to the line in order to move the spool against the drag.

The Tiagra 50 and 50W have a 48 mm (top of) spool radius and a 17 mm arbor radius. The line level drag difference when virtually all the line is gone will be 2.8 times the original setting. If your original (top of spool) strike drag was 12.5 lbs., then the bottom of spool strike drag will be 37 lbs.

The Tiagra 80W has a 60.5 mm (top of) spool radius and a 20 mm arbor radius. The maximum line level drag difference will be 3 times the original drag setting. If the original (top of spool) strike drag was 20 lbs., the bottom of spool strike drag will be 60 lbs.

For all Tiagra reels, the drag force will be doubled when approximately 75% of the full spool is off the reel.



Drag testing . . .

We have subjected Tiagra reels to a variety of lab tests, to gather data on drag performance, drag durability, mechanical performance and mechanical durability. With this data we have learned a great many things about the nature of drags.

While our main drag durability test gives us a good indication of the drag wear and durability, we've found that there are many external factors that can affect drag performance. The ambient temperature of the room, speed of the wind, presence of water on the line, length of fish runs, and quantity of fish runs can all affect the drag performance. It is, literally, enough to drive you crazy.

Even though we attempt to create tests that duplicate actual fishing conditions, there is no substitute for "the real thing." However, we also need to gather data through actual fishing and angling performance. So we created a device that can measure drag force, line speed, and dispensed line quantity while a reel is hooked up to a live hard fighting fish. Then we put some thermal tape on the spools to measure the heat build up and sent the reels fishing.

Over time, we have managed to gather data on fish ranging from Striped Marlin to (est.) 600 lb. Blues. We are not aware of any previous tests that obtained the real-time, actual fish data like this. And it has helped us fine tune the performance of our reels to actual fishing conditions.

Experienced game fishermen know that big fish are definitely more punishing than medium or small fish. The quantity and length of runs do more to heat up the reel than the amount of time hooked up. And, big fish run longer and more often.

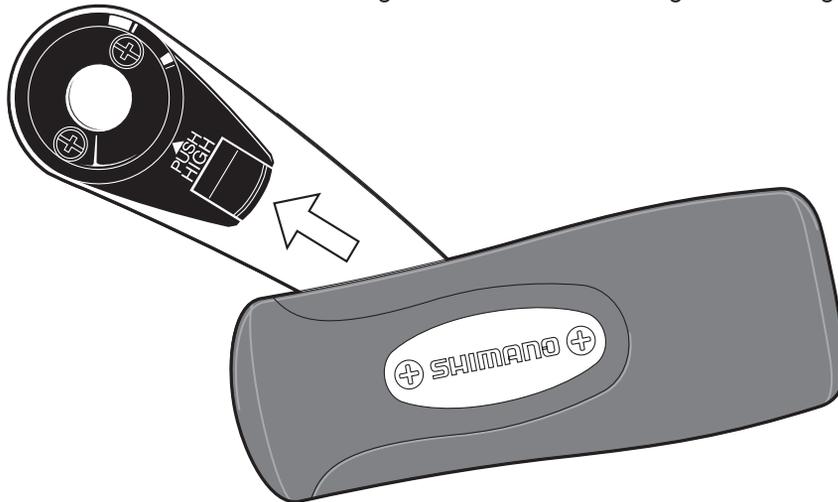
Two Speed Shifting Mechanism . . .

The Tiagra series trolling reels have been equipped with Shimano's exclusive push button two speed shifting mechanism. We designed this mechanism so that gearing changes can be quickly and easily accomplished while fighting fish. The pinion and drive gears in Tiagra reels are always engaged. They require no gear meshing maneuvers while shifting.

Select the low gear ratio (for high power retrieves) by pushing the silver button at the base of the handle. Return to high speed gear ratio by sliding the gray release button along the handle. See page 3 for the gear ratios of each size.

Ergonomic Power Handle . . .

This handle is designed to provide a massive amount of torque and power while remaining comfortable even during extended fights with powerful gamefish.



When filling the spool, be sure to tie the line onto the arbor pin. Forgetting to do so may allow the line to slip around the spool under pressure.

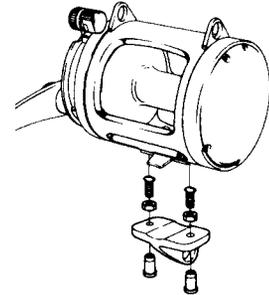
We recommend you fill the spool to one quarter to one half inch from the spool edge. Filling the spool beyond that may cause you to experience difficulty levelwinding while fighting a fish.

One of the most convenient Tiagra features is the rod clamp screws. They can be installed from the reel foot side after the spool has been filled with line. You'll see that the sides of the screw heads have been trimmed. This enables you to put the screw in the reel foot opening, turn it 90 degrees and your ready install the lock nuts. Then mount the reel on the rod with the clamp and screws. For the T112, T116, and T120 this feature is not available due to the narrower frame. The screws thread directly into the frame.

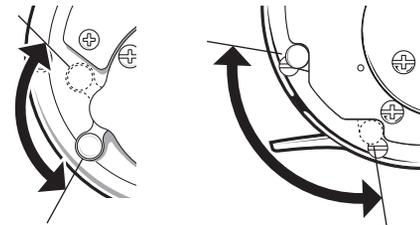
The Tiagra's clicker has been designed to be as loud as possible without impeding the reel's performance. The clicker is on when the switch is "up."

Filling the spool . . .

Mounting on rods . . .



Clicker operation . . .



Tiagra Maintenance . . .

The Tiagra reel series has been designed to be as maintenance free as possible. A light spraying with water is all that is necessary to clean the reels after each fishing trip. Dunking the reels in water will only drive salt into the reel and break up the internal grease. **Do not rinse reel while lever is in free position.**

It is always a good idea to do some simple preventative maintenance by lubricating certain parts of the reel. Recommended lubrication points are the:

- 1) Sideplate screw heads,
- 2) Handle knob oil port,
- 3) Drag lever buttons,
- 4) Two speed shifting mechanism.

Should you wish to grease the internal workings of the reel, you will need either size T-15 Torx® driver (supplied with T112, T116, T120, T130, T130WLRs, and T1130 reels) or a slot screwdriver (supplied with the T1130). We recommend that you use a Torx® driver. It will hold the screw head better and reduce the possibility of scratching the external surface of the reel. That's why we put them there. (Torx is a registered trademark of TEXTRON INC.)

Before you start, get a resealable plastic bag to hold all the screws and other small parts. It will keep you from having to hunt around for them later. And, it will make them easier to lubricate. Really. (A small box will do in a pinch).

If you plan on greasing the drag, make sure you have the right grease. We have developed a special greases for this drag system, and the use of a substitute grease may severely reduce the drag performance and durability. To get the right grease, call the nearest Shimano office listed on the back of this manual, and ask for Tiagra Drag Grease (TBM Grease). You're always better off using exactly the right lubricant for the job.

OK. First, put a towel (cloth or paper) on the working surface. This is to keep the sideplate from getting scratched. Then get the reel, and place it (on the towel) so the handle is on top. Put the lever in the “FREE” position. Piece of cake.

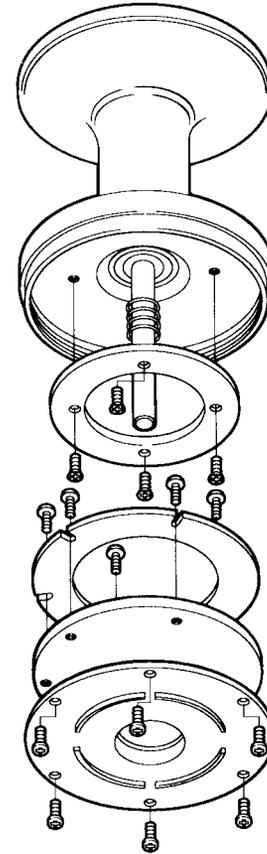
With Torx® driver in hand, unscrew the screws around the edge of the side plate. The 12/16 sizes have four screws, the 20/30 have five screws, the 50/80 have six screws, and the 130 has nine screws. The Tiagra 50 and 80 reels have a rubber washer on one of the two harness lug screws on the inside of the side plate. Leave the one washer on that particular screw on the side plate. Each screw has a (metal) lock washer that mayor may not come out with the screw. Make sure you take them out now.

Put the screws (with washers) and the harness lug in the resealable bag. While you're at it, spray some kind of similar lubricant in the bag.

On the larger reels take the pinion gears off the main shaft, and put them in the bag as well. (We really meant it about the bag!) The pinion gears can not be removed on the T112, T116, T120, T130, and T130WLRS. Place your hand on top of the spool shaft, turn the reel over, and (with the other hand) lift the frame off the spool. Place them both on the towel.

Slide the anti-reverse ratchet off the end of the spool. Put this in the bag as well. Use a Phillips screw driver to remove the plate.

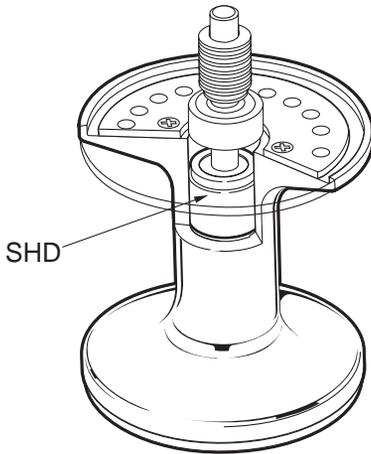
If you're changing the drag washer(s), you should change the drag plate as well. Both can be easily unscrewed and replaced. Either way, put a light coat of Tiagra Drag Grease (TBM Grease) on the drag plate and washer.



Now you're ready to slide the drag pre-load springs off the main shaft. They are arranged in a particular order, and it will save you some minor grief later if you manage to keep them in the same order. In case you don't, we'll tell you how to arrange them later.

Push the shaft lightly on the side with the drag plate. Then (on the other end) slide out the small stainless steel cross pin. You can now remove the pre-load springs. Put the cross pin in the bag, put the pre-load springs (in order) on a screwdriver shaft.

(found only on the Tiagra 50 and 80 sizes)



Before you remove the main shaft, you'll want to tap out the pinion side bearing. Hold the spool by the drag side with the shaft on your palm. Tap the other end of the shaft on the table until the bearing and the silver cylinder fall out. On the Tiagra 50 and 80 sizes, the silver cylinder is the Shimano Hydrothermal Drag mechanism and **must not be disassembled**. Once the bearing and SHD cylinder have slid out, remove the main shaft (to the drag side). Then you can knock out the last bearing from the pinion side with your Torx® driver.

Coat the bearings and SHD cylinder with grease. Carefully put the drag side bearing back in the spool. Slide the main shaft through the bearing. Put the SHD cylinder (the side with the exposed screw goes on the inside) and the other bearing on the shaft and push them into the spool.

Put the pre-load washers on the main shaft. (If you forgot the order, see the chart.) Then slide the stainless cross pin through the main shaft. Place the drag plate assembly on the main shaft. Grease the threads on the black drag cover plate and install it. Use the drag cover spanner to tighten. Once the cover plate is fully hand tightened, knock the wrench with a hammer to seat the cover plate firmly in the spool.

Take the anti-reverse ratchet out of the bag, grease it, and put it on the main shaft. The ribbed side of the ratchet meshes with black thing on end of main shaft.

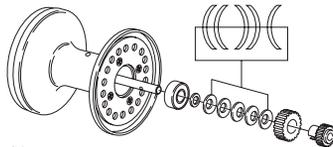
Grease the bearing inside the frame, please. Hold the spool with the drag assembly on top. Slide the frame over the spool. If the spool doesn't seat just right, don't panic. Turn the whole mess over so the click plate's on top. Turn main shaft counter-clockwise until the spool seats itself in the frame.

Grease the click plate (if it has a very deep groove in it, you might want to replace it). Put the pinion gears on the main shaft. Grease the teeth of the pinion gears and the main gears. Grease the bearing in the gear sideplate.

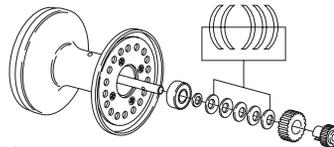
Get the harness lug from the bag. Hold the harness lug in place while putting the sideplate on the frame. Once seated, lightly tighten the one harness lug screw. Take the five screws and the washers out of the bag. Put a washer on each screw, grease the threads, and install.

Wipe off the reel, clean your hands and you're done!

Note : The two speed shifting mechanism inside the main (drive) gear shaft should only be removed, cleaned and regreased by an authorized repair shop. The shifting mechanism is fairly complex and may be difficult to re-assemble.

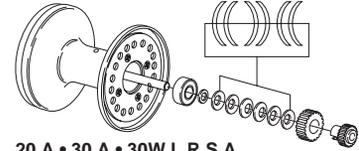


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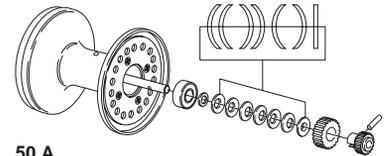


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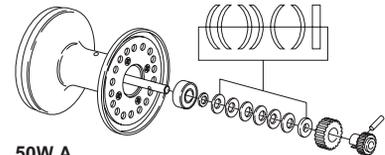
Pre-load spring order



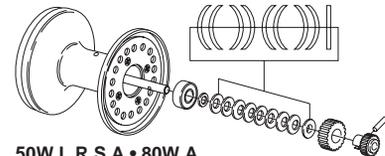
20 A • 30 A • 30W L.R.S A



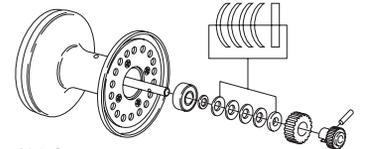
50 A



50W A



50W L.R.S A • 80W A



130 A

Repairs, parts and other special service . . .

The Shimano Customer Service team prides itself on customer satisfaction after the sale. Should you experience any difficulties with your Tiagra reels, feel free to call your nearest warranty center or contact us directly at the Shimano American Corporation address on the back of this manual. (For other countries, please call the nearest Shimano office in your country.)

You may find it useful to have the exploded view schematic on hand to order parts. We will try to ship your order as quickly as possible. We have made a great effort to insure the availability of Tiagra parts nationwide. If you have any difficulty locating parts, please let us know.

If you need (or want) to send us your reel, please make sure of the following:

- 1) Pack the reel securely. If you have some parts in a bag, send them along too. (Note : the original box is not recommended for shipping.)
- 2) Make sure you include a note that indicates the nature of service your reel need. If you have already talked to some people about your reel, include their names in the note. Also, be sure to include your name, address and phone number so we can contact you if necessary.
- 3) Send the package postage paid and insured (please make sure the shipper that you use has package tracking capabilities.) To receive the location of the nearest authorized warranty center to you, please visit us on the internet at <http://www.shimano.com>, call us toll free at (800)833-5540 for an automated touch tone listing, or call toll free (877)577-0600 Monday through Friday from 8:00 am to 5:00 pm Pacific Time to speak directly to a service representative.
- 4) If requested, an repair cost estimate can be done prior to any work being done. If you would like an estimate, please include a stamped, self-addressed envelope.

SHIMANO SATELLITE SERVICE CENTERS

(U.S.A)

To receive the location of the nearest authorized warranty center to you please visit us on the internet at <http://www.shimano.com>, call us toll free at **(800) 833-5540** for an automated touch tone listing, or call **(877) 577-0600** 8-5 PST to speak directly to a service representative.

(Canada)

Québec, Maritimes

- Service Shiman-Au-Peche Inc.
9490 Transcanadienne
St.Laurent, Quebec H4S 1R7
Tel:(514) 956-9695
Fax:(514) 956-0181

- Eric's Reel Shop (reels only)
16 Osborne Avenue
Dartmouth, Nova Scotia B2W 1H8
Tel:(902) 463-8758

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- Classic Sports of Canada Ltd.
655 The Queensway; Unit #9
Peterborough, Ontario K9J 7M1
Tel:(705) 741-0636
Fax:(705) 741-2718
- A. Aikman Sporting Goods & Repair
3010 Novar Road
Mississauga, Ontario L5B 1S4
Tel:(905) 277-3595
Fax:(905) 277-0088

Manitoba, Saskatchewan

- Jaycee's Rod & Reel Repair
547 Vaughan Avenue
Selkirk, Manitoba R1A 0T2
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Fax:(204) 785-8255

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