

# LIDO 14 TUNING GUIDE

A stylized, calligraphic logo consisting of a large, bold letter 'L' with a loop at the top, followed by the number '14' in a smaller, sans-serif font.



Quantum San Diego

## QUANTUM LIDO 14 TUNING GUIDE

The key to successful Lido 14 racing is not the memorization of information, but the understanding of it. Why must my shrouds be so loose? How come the centerboard placement is so critical? Why must my jib leads be all the way forward? You can only go so far by copying others without understanding why the technique is fast.

The days of just hopping into your boat and competing at the top level of the class are gone. These boats are continuously optimized to a high level, and a by-product of this enhanced performance is a boat that is far more pleasurable and worthwhile.

At Quantum Sails we test and tinker on a year-round basis in an attempt to improve the speed, durability and ease of use of our sails. And we do our best to share anything we learn with other members of the Lido 14 class. Our goal is to give you the best combination of performance sails and information possible so you can most enjoy the sport of Lido 14 sailing.

George Szabo

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## **I. BOAT PREPARATION**

Boat preparation is critical for success in the Lido 14 class. Sails, rigging, centerboard and rudder positioning, hull fairness and mast tuning all share equal importance. Too often these elements are put off until next year, but the reality is that you will not reach your competitive goals until you tackle all these important factors.

Within the class rules there are some measurement tolerances that have proven to increase boat performance when they are exploited. Look to page 40 and 48-49 of your class handbook for the rules as they pertain to following items. Please call us if you have any questions regarding this section.

### **A. CENTERBOARD TRUNK**

Make sure that the centerboard trunk is on centerline with the boat and that the centerboard will gibe the maximum allowable amount. Proper alignment will assure optimum pointing on both tacks. This is an area of the boat that tends to vary from boat to boat, so you need to get under the boat and check your centerboard and centerboard trunk with the rule book.

### **B. CENTERBOARD POSITION**

Correctly aligning the centerboard will be the most important area you can improve on your boat. There is a high level of weather helm that develops as the wind increases, and by properly positioning your board you will minimize this problem. The board must be maximum depth (50.25"), maximum aft at the board/hull point (95") with the bottom of the board maximum forward (52"). Check the rule book for further information.

### **C. RUDDER POSITION**

The bottom of the rudder must be at the maximum forward point allowed. This adjustment will also minimize weather helm.

### **D. MAST STEP**

By placing the mast step at the furthest point forward allowed you will again help minimize your weather helm.

## E. WHISKER POLE

The whisker pole must be at the maximum length allowed (72" from mast to end of pole when attached) to assure the best jib sail projection possible when broad reaching and running.

## F. JIB LEADS

These must be positioned at the farthest forward point allowed to assure the best possible jib lead placement. If you have a new Lido you will want to stop the lead from swiveling & you will also want to shim the cleat so that you can cleat the jibsheet while hiking out.

## G. MAINSHEET RATCHET BLOCK

A new class rule now allows the use of a ratchet block in your mainsheet system. We encourage you to add this to your boat as it will greatly aid your ability to adjust and uncleat your mainsheet in medium and heavy winds.

## H. TILLER EXTENSION

In 1993 the class lifted a rule which limited the tiller extension length to 30". This length was always too short for hiking, so extending it upwards to 36" (dependent on your height and/or arm length) will make the boat easier to sail

## I. HULL FAIRNESS

The Lido hull is soft and often deforms around the trailer bunks. Identify any problem areas of your trailer and reform the bunks so the hull load is better distributed. Turn your boat over and fill any hull deformation from the trailer and other whoopy-de-doo's that might be there. Follow the filling with a full hull sanding starting at 320 and take to at least 600 grit sandpaper. Using a Teflon-based wax afterwards will seal the fiberglass pores and return the hull's shiny appearance. Occasionally resanding with 600 or 1000 grit and rewaxing may be necessary.

## J. [WWW.QUANTUMSAILS.COM/LIDO14](http://WWW.QUANTUMSAILS.COM/LIDO14)

Look here for photos and articles on the latest Lido ideas.

## II. RIG TUNE

Tuning the Lido rig is fairly simple and can be measured and adjusted quickly. The boat carries the shrouds *very loose*. We have found this to be an excellent compromise for the upwind and downwind needs. The mast has diamond shrouds which help support it sideways. The amount of diamond tension has not proven critical as long as they are equally taught. If they have gotten loose, twist the diamond adjuster at the outboard end of the bar until the wire is tight again.

After you raise the mast the next step is to check to see if the mast rake and shrouds are set correctly. The manner in which you measure this is by taking the main halyard shackle and attaching it to the end of a tape measure (at least a 25 footer). Hoist the main halyard all the way up until the shackle is up against the sheave and then cleat it.

### A. MAST RAKE

The Lido performs best when the rake is set at between 20' 3 1/2" and 20' 4 1/2"\*\*. With the mast leaning back against the forestay, take the tape measure to the aft edge of the transom and read the measurement from centerline. If your rake is not at this measurement, move the forestay in the adjuster until it is in this range.

### B. SHROUD TENSION

It is necessary for the shrouds to be set up fairly loose to allow the mast to rock forward for fast downwind speed. To measure this have someone at the bow pull on the forestay so the mast is "resting forward" against the shrouds. With the mast pulled forward, the stern measurement should be between 20' 11" and 21'\*\*.

\*\*NOTE: If you are sailing a new Lido (6000 and above) you will need to add 3" to these measurements. On the older Lido, we shackled the halyard to the tape measure. On the new boat there was no shackle so we led the halyard through the tape measure and tied a figure eight knot. If your new boat has a shackle you will need to adjust this number also.

## III. SAIL ADJUSTMENT GUIDELINE

The sail adjustments for the Lido 14 all have simple rules to set them correctly. By following these rules, you will be able to set your sails quickly and accurately for each wind condition. These rules will minimize the time spent on sail adjustment, allowing you to concentrate more on the race course and the competitors.

## A. SAIL ADJUSTMENT FOR THE JIB

### 1. Jib Halyard

Since the rig relies on the forestay to support it, the jib halyard is used to properly maintain the jib's sail shape position through the different wind strengths. The rule to follow is to tension the jib halyard so as to have *very slight* "crows-feet"(max 2" long) emitting from the bottom jib luff snaps (the snaps in the upper half will be almost smooth). The stronger the wind, the tighter the halyard will need to be to maintain this trim.

### 2. Jib Leads

Due to sail size and class rules, your jib leads must be in the maximum forward position all the time. This should not produce any problems as the sail is designed for this consideration.

### 3. Jib Trim

- a. Upwind- The jib is designed to be sheeted quite tight. Since the leads are set very far outboard, it is necessary to trim tightly so the jib has a decent angle to the wind for going to windward. The rule for jib trim depends on the amount of wind, with the jibsheet getting trimmed tighter as the wind increases. Our gauge here is the amount of foot curl in the jib. For very light winds the jibsheet is eased to keep the foot full with no foot curl kicking up. In winds from five to seven knots the foot of the jib should be barely tight, causing the foot curl to *just* kick up. In medium wind the jibsheet is tight enough to get the foot curl to kick up but without any crease from clew to tack. In strong wind the sail should be sheeted in tight enough to get a slight crease. Too tight would cause the foot to kick up and then reverse, with the foot probably flapping. Older sails will have stretched out along the foot which will allow them to reverse earlier. For older sails, correct trim in heavy wind may have the foot reverse. Regardless of wind strength, the jib should be constantly adjusted to keep pace with the changing wind conditions and boat needs. Ease the jibsheet an inch anytime the boat feels like it needs a power boost. If at top speed, sheeting in 4

tight will give optimum pointing ability. Successfully combining the two is the secret.

- b. Reaching- If the wind is light enough to have the crew's weight to the leeward side, have them hand trim the sail. With the apparent wind back, the lead needs to be both farther forward and outboard than the fixed lead allows. By hand trimming the crew can pull down on the sheet to keep both the upper set and the lower set of telltales flowing. The rules for how far outboard the sail should be held are less clear. If it is held too far outboard the foot will get too flat and when trimmed from the rail the foot is too full. Your goal is to find an area in between these two extremes which will give the sail moderate foot fullness. If your mast begins to bounce around as you start broad reaching you should try putting up the whisker pole early to stop the mast from bouncing.
- c. Running- As the apparent wind swings aft of the beam the whisker pole must be used to better project the sail. When broad reaching pull the pole back as far as you can without the leech (which now acts much like the lull) collapsing. When running be aware that you can pull the pole back too far. The pole should be pulled back only so far as to place the clew of the jib just behind the bow of the boat. When sailing by the lee pull the pole back a bit farther than this. The goal is to attain maximum projection of the sail.

## B. SAIL ADJUSTMENT FOR THE MAIN

### 1. Main Cunningham

The main cunningham is adjusted much like the jib halyard. The guide to follow is to tension it just enough so your main has "speed" wrinkles coming out from only the bottom half of the luff (the sail should be fairly smooth above this). The only exception is in winds under five knots where these wrinkles should extend up for most of the luff. These wrinkles come out horizontally from the luff and their size increases at higher wind speeds. As the wind increases, you will need to gradually tighten this adjustment to maintain our guide. The important point is to not have it set too tight, which is much worse than having it set too loose. The cunningham should be completely eased when you are reaching or running.



## 2. Main Outhaul

This adjustment offers you the ability to change the fullness in the bottom half of the sail. When the outhaul is eased the sail becomes fuller and when tightened it becomes flatter. Since this is not an easily changed adjustment, it is important to set it correctly at the beginning of the windward leg. The best way to consistently set this adjustment for each wind condition is to gauge the distance the middle of the main foot is from the boom. For light air the distance should be about seven inches, closing to about six inches in a decent breeze. Like most adjustments, this one also needs to be tightened as the wind builds. Once you round the weather mark and ease the mainsail out, the main will naturally get fuller. This will keep you from having to change the outhaul for the offwind legs.

## 3. Boomvang

The boomvang is used both upwind and downwind. The vang is used upwind to maintain leech tension when you have to ease the mainsheet in overpowering puffs. Preset the vang for these conditions by sheeting the main in correctly and then taking all the slack out of the boomvang. This way when you dump the main the vang will help keep the boom down and thus prevent the leech from spilling way off. In big breeze you will need to apply more tension, but be careful not to bend the boom too much. It can break. When the vang is on hard you must ease it off some before rounding the windward mark or the boom **will** break.

When reaching enough vang tension should be applied to keep the top batten parallel with the boom. If your mast is bouncing excessively you should try over tightening the vang to prevent this. For running the top batten should be trimmed in the same manner or twisted off a touch. When sailing by the lee adjust the vang so the top batten twists off a few degrees. The boomvang is an important adjustment which should be adjusted constantly, both upwind and downwind, as the wind fluctuates in velocity and direction.

#### 4. Mainsail Trim

- a. Upwind- The mainsheet is the most important adjustment on the Lido and should be constantly adjusted on all points of sail to keep pace with the changing conditions. A general setting for upwind sailing is to maintain a top batten position that is either parallel or just hooking to weather of the boom. Be aware that in light air the weight of the boom will prevent the top batten from opening. When this occurs you should ease the main out to get the top batten parallel to the centerline of the boat. As the wind builds you will gradually increase mainsheet tension to maintain proper top batten alignment. Many people find that a telltale placed on the top batten is helpful for trimming the main. Though this does not provide a consistent guide, the main does seem to set well with this telltale on the verge of stalling. In a lull or when you need to increase speed you should ease the sheet and in heavy air or when going fast you should tighten the sheet. Like the jib, the secret to proper mainsail trim is the correct combination of both power and pointing.
- b. Offwind- When reaching ease the main out as far as it can go without luffing. When sailing downwind, the main must go out until the boom just touches the leeward shroud. The vang is then used for proper leech trim when reaching and running.

#### 5. Traveler

In winds under six knots the traveler should be pinned in the center. Above that and until you are badly overpowered, the traveler should be set so it slides around 1 1/2" to each side of center. Once badly overpowered, move the traveler off further until you are able to balance the boat. The danger in setting the traveler off to leeward is if the wind lightens it is difficult to center it without slowing the boat down. Let the traveler off center only as far as you absolutely must.

## IV. BOAT HANDLING

This section is designed to offer some tips which should help improve your sailing. If you have any ideas to add to this section, please let us know.

### A7. ROUNDING MARKS

## 1. Weather Mark

Listed is the order in how you must approach the sail trim adjustments when rounding the weather mark to go offwind:

- a. Ease boomvang before mark if tensioned hard
- b. Ease mainsheet and jibsheet at mark
- c. Put pole up (if appropriate)
- d. Centerboard up
- e. Check boomvang tension
- f. Main cunningham off

## 2. Leeward Mark

The order in which you approach the sail trim adjustments when rounding the leeward mark to go upwind is the exact reverse of the weather mark section. One trick is to have the skipper hold the jibsheet wing on wing, after the pole comes down, while going into a leeward mark. This will give your crew some more time to put the pole away with out your having to give up any boatspeed.

## B. CENTERBOARD TRIM

Once on a tight reach, the centerboard is needed less as a preventative to slide-slipping and can be raised to eliminate drag. The farther the wind is behind the boat, the higher the board can go. On a beam reach the end of the centerboard handle should be just past the front of the trunk opening. The board should rise gradually as the wind moves further aft until it is all the way up when sailing downwind. Lower slightly only if you need to turn hard to avoid other boats.

## C. REFERENCE MARKS

To support the guidelines for sail trim, all the adjustment lines should have reference marks and number scales to allow you to set the adjustments consistently. When you find that you are going fast with the outhaul on #3 in 8 knots of wind you must put it on #3 every time you have the same wind and sea conditions. This system should be used for the halyard on the jib, the downhaul and the outhaul on the main, and the centerboard. Reference marks can also be used on the jibsheet and the mainsheet.

## D. COMPASS

A compass is a helpful aid in determining the favored end of the starting line or for tracking windshifts on the upwind or downwind legs. It should be attached to the aft edge of the deck or shelf for easy viewing.

## E. ROLL TACKING

With the round hull shape and the deep centerboard, the Lido 14 can be very effectively roll tacked. This should be done aggressively, with the crew starting later and rolling longer than the skipper to help kick the bow around to the new tack. The jib is backed just long enough to help the bow through to the new tack. The mainsheet is tightened three inches just before the tack to help the boat round up. During the tack the mainsheet is eased around six inches and then brought back in once up to speed on the new tack. To correctly steer through the tack, it is important that the tiller is held on to throughout the maneuver.

## F. CREW WEIGHT PLACEMENT

In light air beating the skipper is sitting on the seat with the jib leads at his back. The crew should be all the way forward on the leeward seat. It is recommended to keep the crew off the leeward deck if possible as this will move their weight too far aft and offer up too much windage. As the wind builds, the skipper will move to the rail and just behind the jib lead. At the same time, the crew will be moving to windward, ultimately sitting just in front of the skipper. Skipper placement for light air reaching is the same as light air beating, with the crew forward on the leeward seat. As the wind builds both will slide to weather and back, ultimately getting aft to the mainsheet barney post in strong wind. With the pole up, the skipper sits over or just behind the jib lead with the crew forward on the side deck.

## G. HEEL ANGLE

Upwind the boat is almost always sailed with a slight heel. This makes the boat easier to steer and more forgiving in big shifts. In light air the heel assists in keeping the sails full. Leeward heel also helps the hull get through chop or sloppy seas. Only when there is a very steady breeze and smooth water can the boat be flat. You should sail with a slight heel for light air reaching, but the boat

must be flattened quickly in the puffs and then sailed flat once the wind is at seven knots or more. For downwind sailing in very light air, you will want to sail with leeward heel. As the wind builds the boat should be flattened out and then heeled to windward at around seven knots and more.

## H. STEERING

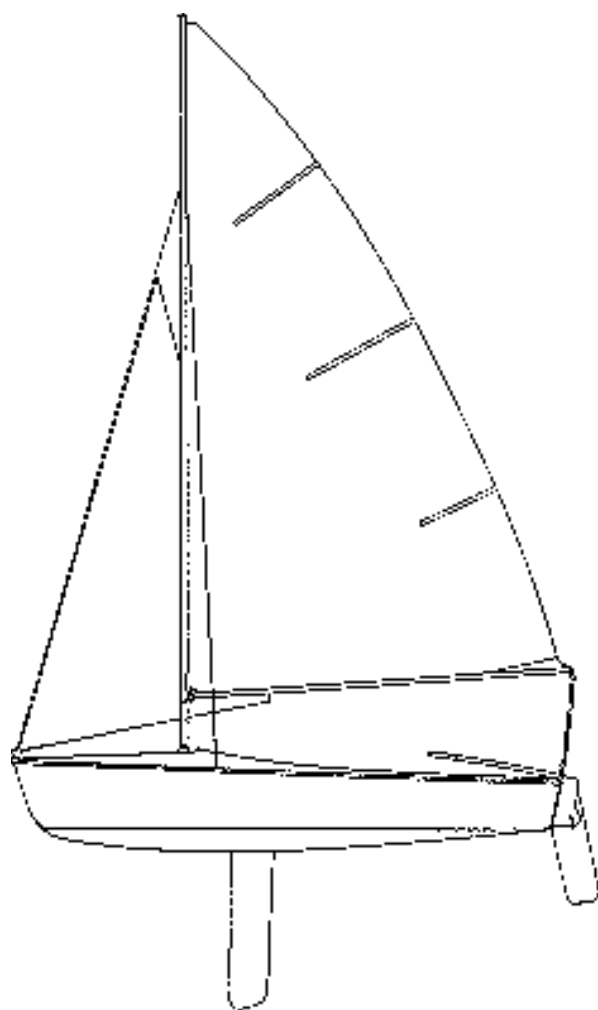
Regardless of what point of sail you are on, you always want to steer smoothly. Upwind you want to steer so the windward jib tell-tale is just kicking up but not so the sail is luffing (unless you want to squeeze it up for a quick moment). Upwind and offwind steering must be done in conjunction with boat heel. If you need to head up, heel the boat to leeward. If you need to bear away, flatten or heel the boat to windward. This will limit the amount you will have to turn the tiller, minimizing rudder drag and thus any speed lost by turning.

## I. SMOOTH TEAMWORK

A factor which contributes to good boat speed is smooth teamwork. Because there are many areas on the Lido 14 which are sloppy (rig, centerboard, rudder, etc.), the less the team does to disturb them the less the boat will slow down. If both skipper and crew move smoothly in the boat, it will keep these areas working for you instead of letting them rob the boat of speed.

We look forward to hearing any input or questions that you may have. Please feel free to contact us anytime. Good luck and good sailing!

## **NOTES**



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