

America's No. 1 Mast Manufacturer

U.S. SPARS, INC.

Gainesville, Florida



03084105 Manual furling mast

US SPARS, INC

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CONGRATULATIONS!

YOU NOW OWN THE MOST WIDELY USED MAINSAIL FURLING SYSTEM IN THE WORLD.

THE Z SPAR MAINSAIL FURLER IS USED ON NEARLY ALL THE WORDS TOP PRODUCTION BOATS; IT HAS PROVEN ITS SELF TO BE THE SYSTEM YOU NEED WHEN QUALITY AND SERVICES ARE AN ISSUE.

ZSPAR HAVE BEEN MAKING SPARS FOR 30 YEARS, OUR PRODUCTION FACILITY AROUND THE WORLD USE THE VERY LATEST TECHNIQUES IN SPAR PRODUCTION. WHICH ALLOW US TO PRODUCE OVER 6000 MASTS A YEAR.

IF YOU HAVE ANY SET UP OR OPERATIONAL QUESTION ABOUT ANY PART OF YOUR Z SPAR RIG YOU CAN CONTACT OUR TECHNICAL DEPARTMENT WHICH WILL BE ABLE TO GUIDE YOU THROUGH ANY ASPECT OF OUR RIGS.

WE CARRY A VAST ARRAY OF SPARE PARTS FOR ALL Z SPAR PRODUCTS, SO YOU CAN COME DIRECTLY TO THE MANUFACTURER IF YOU REQUIRE ANY P ARTS. NO MIDDLE MAN TO PAY, JUST A VERY GOOD PRICE AND SERVICE. THAT'S THE US SPARS WAY.

ALL THAT'S LEFT NOW IS TO SET SAIL AND ENJOY PEACE OF MIND SAILING WITH Z SPAR ON BOARD!

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Z Spar Furling Mast

Installing The Outhaul Rope:

This rope attaches to the front of the boom traveler, it leads around the clew block in the mainsail, underneath the pulley on top of the boom traveler, around the sheave in the boom outhaul end casting, through the halyard exit under the boom (or over the sheave in the front end of the boom) through a pulley behind the kicker and forward to a swivel pulley at the base of the mast. This leads aft in the same way as the furling rope.

Installing The Furling Rope:

Inside the drum underneath the gooseneck it is possible to see the coils of rope wound on the furling drum. Make sure the rope is fully wound on the drum then unwind three turns. Lead the rope from this slot around the pulley situated under the boom just in front of the kicker/boom vang fitting, then through the swivel pulley attached to the mast base and back to a self-tailing winch on the coach roof via the halyard organizer.

Installing The Mainsail:

Open and remove all four inspection covers. At the top set of openings you will see the sail entry slot cut in the furling internal foil extrusion. Feed the head of the sail through the mast slot and into the sail entry slot in the foil. Lower the mail halyard down to allow the shackle on the halyard swivel to be attached to the strap sewn into the head of the sail using an allen key.

Continue to feed the sail into the slot whilst the main halyard is being hoisted. Do not attempt this with the wind astern. (This task is best attempted in little or no wind). Once the sail is hoisted to a point where the tack web loop is almost level with the large tack shackle stop. You now have to back the remaining luff

down the foil from the sail entry until you can connect it to the tack shackle. It is important to have the full length of the luff in the foil form shackle to shackle with no cut away below the sail entry. Connect the bottom web of the sail to the base of the furling extrusion with the shackle provided, by gaining access through the lower inspection holes. Please note that this tack shackle also connects the furling extrusion to the furling drum. Refit inspection covers. Complete the installation by applying moderate tension to the main halyard.

Furling The Sail:

Hoist the boom topping lift or ease the kicker so that the leach has little or no tension. Maintaining a slight tension on the outhaul, furl the sail with the wind ahead. (A slight pressure from the wind will prevent creases in the sail). Insure that the furling drum has two or three turns of rope left on it when the sail is fully furled. The sail will only furl as far as the reinforcement patch.

Changing The Furling Rope:

Open the lower inspection covers and remove the tack shackle. This will disconnect the furling drum from the furling foil. Remove the machine screws holding the furling mechanism to the mast. These are located two at the top of the drum and two at the bottom of the drum. On some models there will be two additional screws or rivets on the side of the mast to be removed. Using a large screwdriver lever the furling drum away from the mast at the bottom end. The furling rope is retained by a simple knot inside the furling screw push the rope towards the drum and the knot will appear at the bottom of the furling screw. Undo the knot remove rope and replace. We recommend a 10mm braid on our larger gears (Beneteau 381 to 461) and an 8mm on our smaller gears (Beneteau 331) this braid must be of a good quality that will not flatten. This operation is made easier with the sail removed.

Maintenance:

Z spar furling masts require minimum maintenance.

The boom traveler should be flushed with detergent and fresh water regularly.

The furling rope should be replaced every four years or as required. Clean and flush top and bottom of furling mechanism regularly and spray with WD 40 or Harken lube (the ball bearings in the furling mechanism and halyard swivel are all stainless steel so need minimum maintenance).

Remove mainsail every year for inspection and every 3-4 years it is recommended that you let your local sailmaker inspect and service the sail.

Trouble Shooting:

When unfurling the sail if there is resistance for the boom traveler to move, the most likely course will be excessive mainsheet or vang/kicker tension. Check also for friction with in the halyard organizers or at the mast base blocks, if these do not move freely it will cause slowing of the gear.

If the sail is not new there may be localized hardening of the head reinforcement, or fraying at the leach, which can cause friction. It is worth having the sail checked every year to avoid such problems.

When unfurling the sail if there are creases originating at the luff, and if these cannot be removed by increasing the main halyard tension, the most likely cause is that the sail maker has made the luff too long, (too much halyard tension will also cause friction at the halyard swivel).

Alternatively, the sail may have been furled with too much kicker tension.

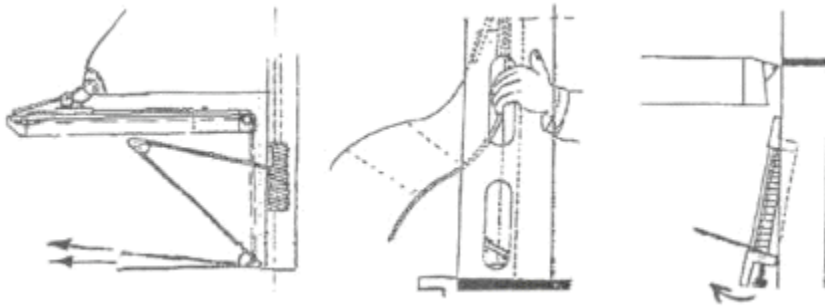
With any furling mast it is important that pre bend be kept to a minimum, although a small amount of bend can help stabilize the middle of the mast the straighter a furling mast is the better it will work, please refer to our tuning guide for help with mast set up.

If you are having ongoing problems with furling it is a good idea to remove the sail and then try turning the furling system to establish if your problem stems from the furling system or the sail. If you find the system works well without the sail it is advisable to have a sailmaker check the sail. We recommend Neil Pryde Sails Int, 203-874-6984 as a very reliable sailmaker who has a good knowledge and experience with our system.

If you find the system is not turning as free as it should then removing the drum is advisable, with the drum removed you can clean and inspect it for damage. If you have time you can send the drum to our facility in

Florida where we can service the system and replace any necessary parts. The cost for this service is approximately \$65.00 plus return shipping.

It is necessary to change to furling inhaul line regularly; this line can harden and flatten after just a season or two. If this line is not inspected and replaced when required it can jump the grooves in the drum and damage the back plate. We recommend the use of a good quality line with high abrasion resistance, your system will come fitted with metric line but if you have to use imperial line then replace 8mm with 5/16" and 10mm with 3/8".



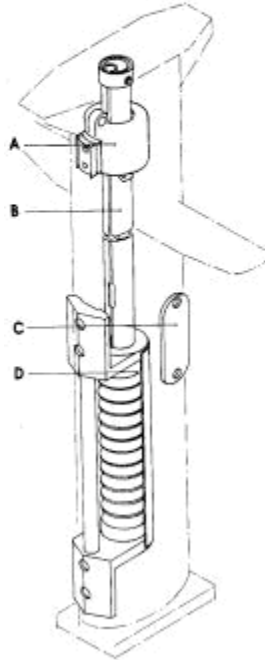
Z 1400 E	80	500	100	450	1 500	3
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RECOMMENDATIONS FOR FURLING MAST

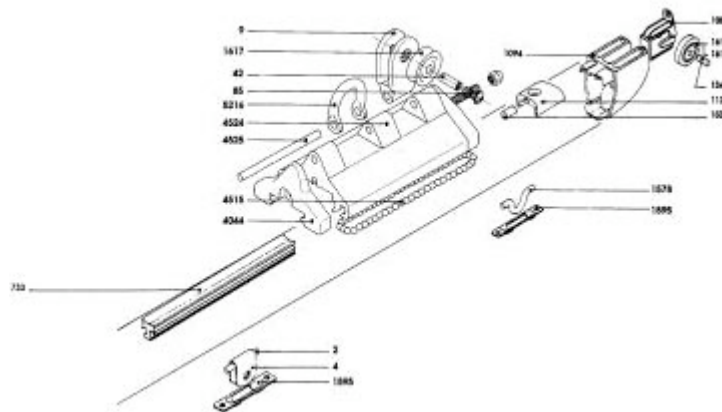
Don't use battens on main sail.

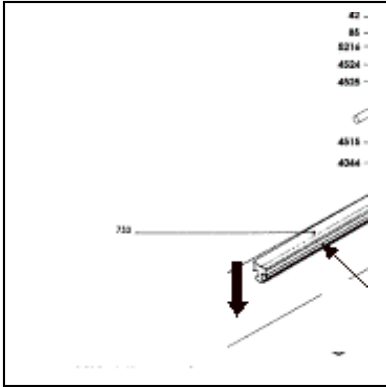
Don't forget the 6 % slope on the main sail foot.

MAST FURLING MECHANISM



Section	Z 230 E	Z 300 E	Z 400 E	Z 500 E	Z 600 E	Z 700 E	Z 800 E	Z 900 E	Z 1100 E	Z 1400 E
Furling extrusion	Z 55	Z 55	Z 55	Z 55	Z 55	Z 55	Z 55	Z 55	Z 55	Z 55
Halyard swivel	3503	3504	3164	3164	3165	3165	3165	3168	3159	3505
Furling mechanism		3623	3624							
Furling mechanism with screw		3626	3626	3626	3625	3625	3625	3627 VL 3622 VC	3627	3627
Mechanism maintenance cap	3247	3247	3247	3247	3247	3247	3247	3247	3245	3245
Clew shackle	3208	3208	3208	3208	3208	3208	3208	3208	3208	3208
Halyard swivel shackle	3168	3168	3168	3168	3168	3168	3168	3168	1562	156





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Our People Make The Difference