MAINFURL MLS

OWNER'S HANDBOOK

- MLS VERSION -

This manual describes normal use and handling of the Mainfurl furling boom equipped with the Mainfurl Main Lock System, under various conditions.

Read the handbook carefully in its entirety, and you will have the optimal basis for getting the most enjoyment from this high-end equipment.

DISCLAIMER

This manual:
The manual contains information about the normal use and handling of the Mainfurl furling boom equipped with the Mainfurl Main Lock System (MLS) under various conditions.

It is important that the boat is prepared correctly for our furling boom and that the selection of solutions is thoroughly considered. It must be ensured that the mainsheet can run freely and that the sail fits the size of the boom, and it is crucial that we receive the necessary measurements completely accurate.

Mainfurl is not responsible for the selection of poor solutions nor for any errors and deficiencies resulting from inaccuracies in the received measurements.

Installation:
Installation of the mast track and boom should only be carried out by a person with experience, such as an experienced rigger. An experienced rigger should have knowledge and understanding of rigging in general.

Mainfurl is not responsible for personal injury or damage to property resulting from incorrect installation. Mainfurl also does not accept claims arising from improper installation, and these are not covered by the warranty.

Use and handeling:
Read this manual carefully before you start using the furling boom. The manual contains important operating instructions, and it is crucial that you learn how to use the Mainfurl furling boom before taking your boat to opens waters.

The operator is expected to have sailing experience and knowledge of common procedures for safe sailing. The operator is also expected to have an understanding of handling a sailing boat, including hoisting and reefing a sail.

All information and guidance in this manual are based on the use of the boom under normal conditions. It is solely the owner's and operator's responsibility to assess the conditions in which they are sailing and to take the necessary precautions. The owner and operator always have full responsibility for safety on board. Mainfurl is not responsible for damages resulting from incorrect operation caused by the owner or user, including sailing without taking the necessary precautions to avoid damage.

The purpose of this manual is to provide the owner and the user with appropriate instructions and information before using the boom.

We strongly advise that all information in this manual is read and fully understood before using the boom.

Mainfurl has no control of the use of the boom and it is therefore the owner's and user's responsibility to become comfortable with handling the boom under various conditions.

STARTING POINTS

MLS installation and use "Quick guide" - page 4 & 5:
All you need to know about the MLS

HOISTING THE MAIN SAIL - page 6 & 7:
When you are ready to hoist the mainsail, follow these steps;
1. Ease the main halyard
   (open the jammer so the is not load on the halyard)
2. Pull the MLS line to the mark you made at the installation.
3. Now the break is unlocked, and you can pull the halyard and hoist the mainsail
   (The furling line stands still by hoisting).

When the sail is hoist, you open the jammer for the MLS and the red ball jumps to the jammer, and the break is locked, and ready for furling in, or reefing the sail.
(You can also wait to do this until you want to furl the sail, but you should get a routine, so you do not forget it).

FURLING THE MAIN SAIL - page 8 & 9:
1. Ease off the main sheet so there is no pressure in the main.
2. Adjust the vang so the boom is in the correct angle for furling

   - First make sure the MLS line is eased off (The red ball is at the jammer)
   - Then put the furling line on the electric winch, and the main halyard on a second winch with 1 turn,
   - Then hold the main halyard by hand, open the jammer for the halyard and start to furl the sail.

REEFING THE MAIN SAIL - page 10 & 11:
1. You always reef to a sailbatten. so, the batten is below the mandrel.
   Do as described when you are furling in the sail.

2. When you are at the right batten and the batten is in correct position,
   you stop furling and put tension on the halyard.

Our flexible mast track system makes it possible to continue sailing (upwind) by the headsail, when reefing.

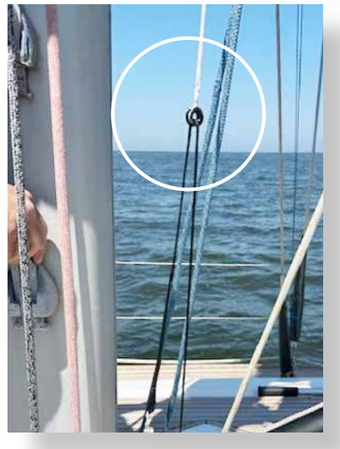
TIPS & TRICKS - page 12, 13 & 14:
Removing the boom, boom angle etc

TROUBLESHOOTING - page 15:
How to solve comkmon challenges

MLS INSTALLATION

Installation
At the inboard end of the boom, there is a 4 mm spectra line coming out, with a low-friction ring attached. This line is the "MLS line", which unlock by pulling and lock by slagging.

The supplied line should be attached to the low-friction ring, so you do a 2:1 purchase.



The MLS line should be led back to the cockpit.

You should lead the line from the cockpit and forward, so you can shorten the line at the mast.

Pull the line so the red ball is touching the jammer, and fasten the line.

You should have enough tension on the line so the slack is out but it should not pull the MLS line. (As on the photo).

If you now pull the red ball in the cockpit you should be able to pull it about 200 mm, and you can hear a small "click" at the inboard end of the boom which tells you the break is unlocked.

We suggest you make a tape mark where the red ball is, so you always know that the line is pulled to max. – see photo

ADVICE!
Stick on the label, we delivered with the boom to remind you of the function.

MLS USER GUIDE

User Guide
When you are ready to hoist the mainsail, you should take the load of the main halyard (2-3 centimeters - i.e. open the jammer so the is no load on the halyard) and now pull the MLS line to the mark.

Now the break is unlocked, and you can pull the halyard and hoist the mainsail
(The furling line stands still by hoisting).

Hoisting:
When the sail is hoist, you open the jammer for the MLS and the red ball jumps to the jammer, and the break is locked, and ready for furling in, or reefing the sail.
(You can also wait to do this until you want to furl the sail, but you should get a routine, so you do not forget it).

Furling the mainsail:
Ease off the main sheet so there is no pressure in the main.
Release the vang so the boom is in the correct angle for furling

- First make sure the MLS line is unlocked (The red ball is at the jammer)
- Then put the furling line on the electric winch, and the main halyard on a second winch with 1 turn,
- Then hold the main halyard by hand, open the jammer for the halyard and start to furl the sail.

Reefing:
You always reef to a sailbatten. so, the batten is below the mandrel.
Do as described when you are furling in the sail.

When you are at the right batten and the batten is in correct position, you stop furling and put tension on the halyard.

Our flexible mast track system makes it possible to continue sailing (upwind) by the headsail, when reefing.

Very easy!

HOISTING THE MAIN SAIL

1 Main halyard
Ease the main halyard 2-3 cm.
(Only to secure that there is no load on the halyard)

2 MLS Release line
Pull the line and lock it before hoisting, allowing the mandrel to spin free.

After hoisting, open the lock to engage the lock.
For installation and use - see page 4 and 5.

3 Main Sheet
Ease off the main sheet so there is no pressure on the main.

BE AWARE! With use of a electric- and hydraulic winch
- Look up and pay attention!

4 Position of the vang
Position the boom in the right angle for furling and hoisting.
- we recommend a mark on the vang line or a red sphere against a mark on the mast

FURLING THE MAIN SAIL

1 Main Sheet
Ease off the main sheet so there is no pressure in the main.

2 Position of the vang
Release the vang so the boom is in the correct angle for furling

3 Main halyard
- First make sure the MLS line is eased off (The red ball is at the jammer)

- Then put the furling line on the electric winch, and the main halyard on a second winch with 1 turn,

- Then hold the main halyard by hand, open the jammer for the halyard and

!! Boom
As the sail furls clock wise it is recommended to serve the winch on port side of the sail, which gives you a good overview and the ability to observe how the sail rolls in.

! Furling direction is <u>always</u> clockwise
Ease the halyard with a restance to ensure the luff is tight at all times when furling.

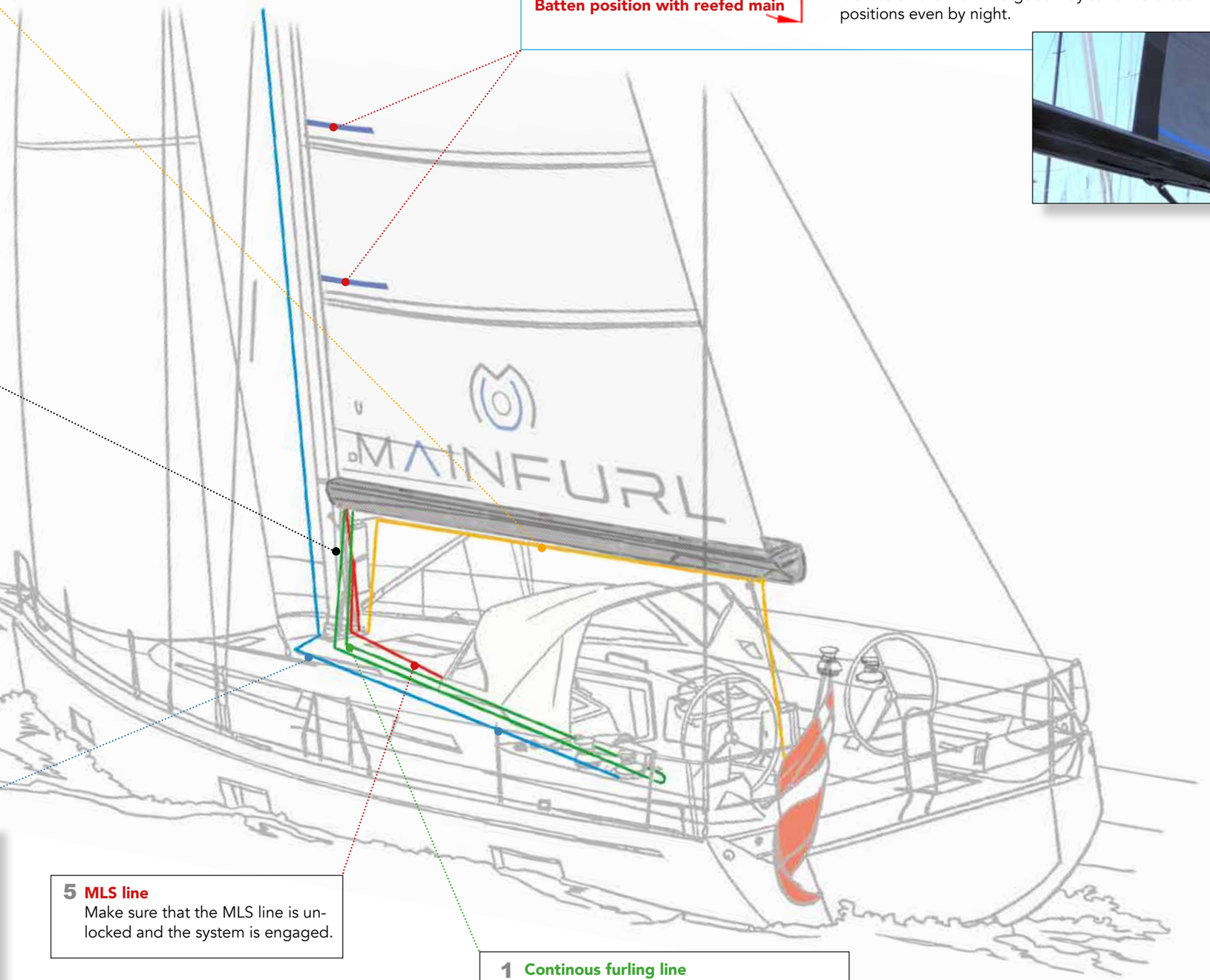
REEFING THE MAIN SAIL

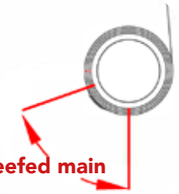
3 Main Sheet
Ease off the main sheet so there is no pressure in the main.

4 Position of the vang
To have the correct angle of the boom we recommend a mark on the vang line or a red sphere against a mark on the mast

2 Main halyard
Be advised; Turn the main halyard one turn around a winch, to brake/ hold back, when you are furling the main sail - let the halyard run easily through your hand

NOTE! Always reef to a batten i.e the batten lies under the mandrel to secure that the foot of the mainsail remains tight.





Reefing points:
To ensure a tight foot when sailing in reefed conditions reefing points are with a batten between 6 and 8 o´clock on the mandrel.

Markes on the main is a good way to refind these positions even by night.

5 MLS line
Make sure that the MLS line is un-locked and the system is engaged.

1 Continous furling line
Attatch to winch. Use starboard side of the furling line, to secure the furling direction is correct i.e. clockwise

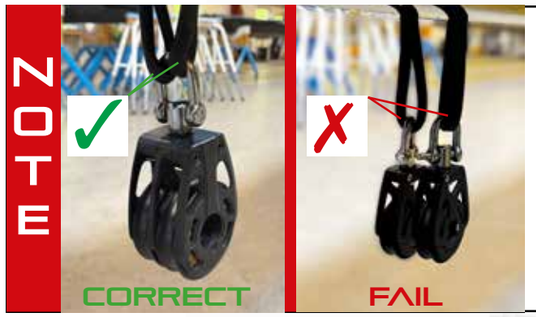
TIPS AND TRICKS

ID-no.;
In the unlikely event, of failure of your boom, and you need to contact Mainfurl; Please have the boom ID-no. ready. The number is located on the bearing at the outboard end.

Cleaning;
Please note; Never use organic solvents on the boom, as the paint/clear coat will be destroyed.

The boom should be washed with mild soap/boat shampoo and warm water.

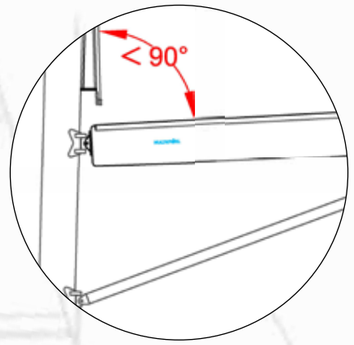
Removal of the boom
Remember to always remove the vertical pin on mast bracket - NOT the horizontal pin. I.e. it is the joint inside the mast bracket that must be released, let the toggle stay attatched to the boom.



It is important to check loops for wear regularly, as loops are a wearing part and should be replaced as soon as there are signs of tearing.

It is also extremely important to mount the block correctly in the loop.
- see picture.

The angle between track and boom must be 88-89 degrees.



If the boom is too high (<89 degrees), the mainsail will furl too far aft.

If the boom is too low (>89 degrees), the mainsail will furl too far forward.

If the sail show stretch wringles at the ffeder, reduce the resistance on the halyard. The amount of resistance on the halyard is key word for efficient furling.

When the boom is in the correct furling angle, you can control the movement forward and aft; If you hold too tight, the sail will furl aft, and too loose, the sail will furl forward.

In general; when the sail is fully hoist, you hold more tight and then gradually ease your tension on the halyard. The reason is the sail's weight fully hoist is the highest, and gradually it becomes lighter.

When the furling angle is correct you should mark your vang.

Manual vangs are operated with a line and can be released to a mark on the inner tube of the vang. And as an extra check, put a mark on the line.

Hydraulic vangs without furl finding device can be fitted with a sphere which alleign with af mark on the mast.

If no vang is fitted, the boom can be held in position by a marked Dyneema topping lift.

TIPS AND TRICKS

A furling boom is heavier than a regular boom
The heavier boom means that extra caution is required, especially when gybing or sailing under engine, i.e. when the sail is completely furled, the additional weight of the boom will add load to the vang, mast, and boom.

Gybing should be done under full control, ensuring that the boom is first pulled in toward the center of the cockpit and then, once on the new course, eased out.

In the event of an uncontrolled gybing - the forces are significant and can lead to an unintended torsion of the boom resulting in damage. Similarly, the boom can hit the shrouds, which, in addition to causing direct damage to the boom, can again lead to damage on other mast- and deck gear.

It is the full responsibility of the owner and user to ensure that gybing occurs under full control and with consideration of the current conditions.

When sailing by engine and the mainsail furled in, it is important that the boom is not allowed to swing from side to side. Fix the boom with a topping lift in combination with the main sheet and attach preventers from the boom to each side of the boat, so that the boom cannot swing.

Allowing the boom to swing from side to side can cause the same damages as with uncontrolled gybing. Similarly, when the boat is at anchor or in port, secure the boom so that it cannot swing, for instance, in strong winds.

It is the full responsibility of the owner and user to ensure that the boom does not have the opportunity to swing freely from side to side in these situations.

Mainfurl is not responsible for any damages that may occur due to uncontrolled gybing, sailing with the boom swinging from side to side or similar situations.

Furling in rough seas
- Start the engine
- Use the same procedure as reefing (page 8-9);
    - Keep sailing upwind under head sail.
    - Ease the main to leeward so no load, and do the furling.
    - Keep furling untill the main is down.

Note! With numerous uncontrolled "gybes" will there be the possibility of damaging the boom- and toggles. It's therefore always the user's responsibility to be aware of his s urroundings and to secure the boom correct, so that the boom can't sway uncontrollable.

TROUBLESHOOTING

Sail cannot hoist
- Sail has not been fed into the feeder correctly
- The MLS release line is not pulled, i.e. the mandrel is locked.

Sail is hard to hoist
- Sail is partially loaded, and mainsheet is not toatlly eased
- Main halyard is catching somewhere
- You forgot to ease the MLS line

Sail cannot furl
- Main halyard cleat is not open
- The MLS line is not released
- Main halyard is jammed somewhere
- Sail is caught somewhere
  (At any stage the sail can be lowered to deck, by simply releasing the halyard)

Sail pushes forward when furling
- Mainsheet is not eased
- Boom height is set to low
- Halyard resistance is too loose

Sail pulls back excessively when furling
- Boom height is set too high
- Halyard resistance is too tight

Broken or damaged furling line, deck gear
- Lower the sail by hand to deck

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