

Sail Flaking System Owner's Manual Type A- Halyard Style Topping Lift

DUTCHMAN[®]

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Introduction

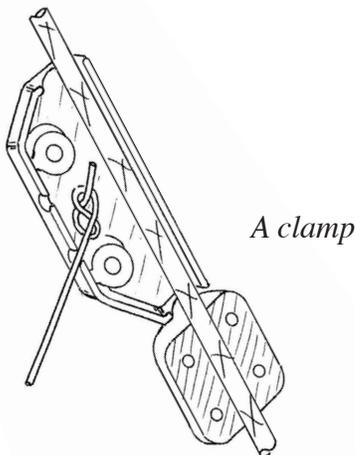
Thank you for your purchase of a Dutchman Sail Flaking System. We work hard to produce quality, effective products and provide excellent customer service. Bear in mind that we guarantee your satisfaction with our products (for 5 years to the original purchaser). See our guarantee for more details. Finally, we know many of our sales come from customer recommendations, which we appreciate very, very much.

How well the system will work is dependent on proper installation, how well it's adjusted, and how stiff the sail is. Quickly review pages 1-6, and focus on pages 7 and 8 - 'Adjust the Topping Lift Clamps', and 'Adjust the Control Line Length'. This will take about 20 minutes. The two most common mistakes we find when checking out a problem is that the control lines are too loose, or that the topping lift clamps are in the wrong position. After the system is set up, review the rest of the manual to learn how to operate the system.

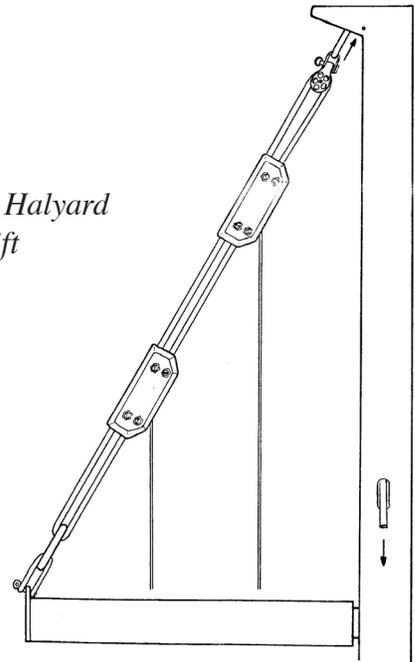
You have an **A System**. This means the control lines are fastened to a single topping lift pennant which can be removed with the sail. We recommend the A System only for boats with halyard style topping lifts, where the topping lift runs over a sheave at the top of the mast, like a second main halyard. With a halyard topping lift, you only have to connect the lower end of the topping lift pennant to the boom, hoist up the pennant, and run the lines through the sail to install the system. To remove the sail, just lower the pennant down and remove it with the sail. If you have a boom adjusted topping lift (the topping lift is fixed at the top of the mast), use the B or C System, or better yet, add a halyard topping lift. Otherwise, you will have to go aloft to set up and adjust the system, or replace the control lines.

B and C (no longer in production) Systems are for boom adjusted topping lifts (the topping lift is fixed to the top of the mast). The Continuous Topping Lift of the B and C System works like a clothes line loop. The topping lift clamps can be moved up or down from the deck by rotating the Continuous Topping Lift, to replace the control lines or adjust the clamp positions. The B System uses a simple jam cleat at the bottom of the Continuous Topping Lift and a regular block up top, fine for occasional adjustments or replacing the control line. The more expensive C system uses ball bearing blocks at the top and bottom of the Continuous Topping Lift so it can be easily rotated. This allows you to slack the control lines to put on a sailcover or awning without slits.

Again, please read this manual. After over 10,000 systems, we've learned a few things. Thank you, and we look forward to hearing from you.



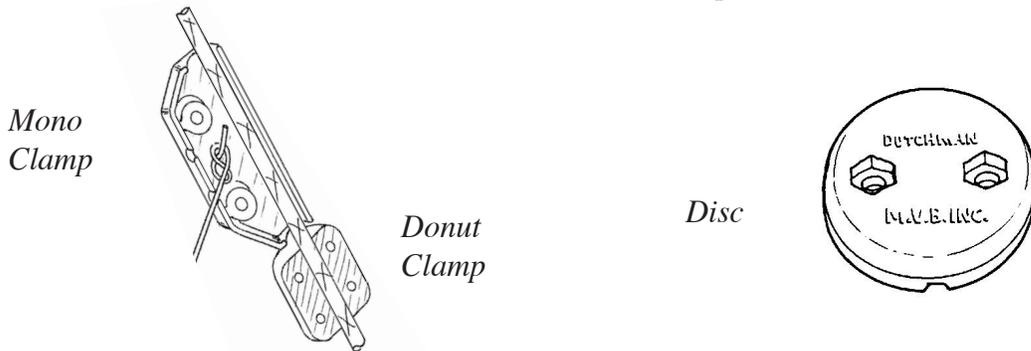
B System with a Halyard Style Topping Lift



Components

Check that you have the following parts. Discs may have already been fastened to the tabs. Normally, the sailmaker will supply a new topping lift pennant, using the mono and donut clamps and fasteners. If you will be making up the pennant, refer to the specifications for the correct size. The swiveling mono clamps can be used with up to 3/8” or 10mm vinyl coated wire or rope. The lower donut clamps need to be drilled if used with over 1/8” (3mm) wire or 3/16” (4.5mm) rope.

Item	Description	Quantity per Control Line
Discs.....	Attach the control lines to the tabs (double qty for A60+)	2 halves
Fasteners	1/2”8/32 SS machine screws with locking nuts.....	2 of each
MonoClamp	Used to attach the control lines to the topping lift pennant	2halves
Fasteners	1/2” machine screws with locking nuts for mono clamp.....	2 of each
Donut Clamp.....	Positioned under mono clamp to keep it in position.....	2 halves
Fasteners	3/4” machine screws with locking nuts for donut clamp.....	4 of each
Spacer.....	Use when drilling out Donut clamp	2 total
Shackle.....	Use to attach topping lift pennant to the end of the boom.....	1 total
Tag.....	Attached to shackle to indicate bottom of pennant.....	1 total



Control line and topping lift specs

System	30-2	40-2	40-3	50-2	50-3	60-3	60-4	
Avg boat-ft	20-30	28-38	34-40	36-48	38-50	48-60	50-62	
Avg boat-m	6-9	8.5-11.5	10.5-12	11-14.5	11.5-15	14.5-18.5	15-19	

Mono Control Line Specifications

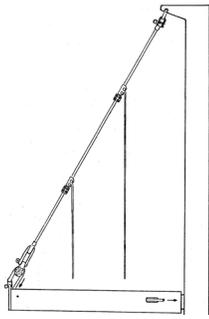
Lb test/ ft	300/50'	400/60'	400/80'	500/80'	500/110'	600/140'	600/180'	
Kgs test/ m	140/15	180/18	180/24	230/24	230/33	270/42	270/54	
Dia: mm	1.9	2.0	2.0	2.5	2.5	3.0	3.0	

Recommended SS Wire Topping Lift Diameter before vinyl coating (must be coated wire)

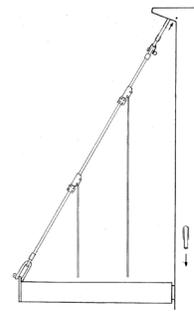
Dia: inches	1/8	5/32	5/32	5/32	3/16	3/16	1/4	
Dia: mm	3.5	4	4	4	5	5	6	

The first number of the system refers to the maximum luff length, while the second number refers to how many control lines the system has. For example, a 30-2 System is for luffs up to 30’, with 2 control lines. When ordering replacement mono, refer to your system number. We also sell mono in economical, 100 yard, (120m) lengths. The topping lift pennant must be low stretch rope or vinyl coated wire to prevent wear on the sail.

Definitions



Boom Topping Lift - A topping lift which is fixed to the top of the mast. There is usually an adjusting line attached to the boom. If this is what you have, add a halyard topping lift (see page 4) or use the B or C system.



Halyard Topping Lift - Topping lift runs over a sheave at the top of the mast. Can be a second or spare main halyard, or can be run externally. Needed for the A system.

Pennant - Usually vinyl coated wire, the topping lift pennant is what the control lines are attached to. With a halyard topping lift, one end is attached to the end of the boom, and the other end is hoisted up by the topping lift line.

Tools and Parts Required

Read through instructions before collecting tools and parts. Depending on what jobs you need to do, you may need different tools, beyond the basic list below. If you already have a halyard style topping lift, all you need is:

#2 Philip screwdriver

Pliers to cut mono, tighten shackles.

Seizing wire or silicone sealant to secure shackles.

If you have a boom topping lift & 2 halyard slots in masthead.

- Bosun's chair, vinyl (elec) tape.
- Line with eye splice, same length as main
- Halyard, same diameter or one size smaller.
- Fishing weight or bike chain.
- Messenger line (about 1/16" / 2mm dia).
- Sheave (if no sheave in extra slot).

If no spare sheave slot in masthead fitting (most Sabre or J Boats)

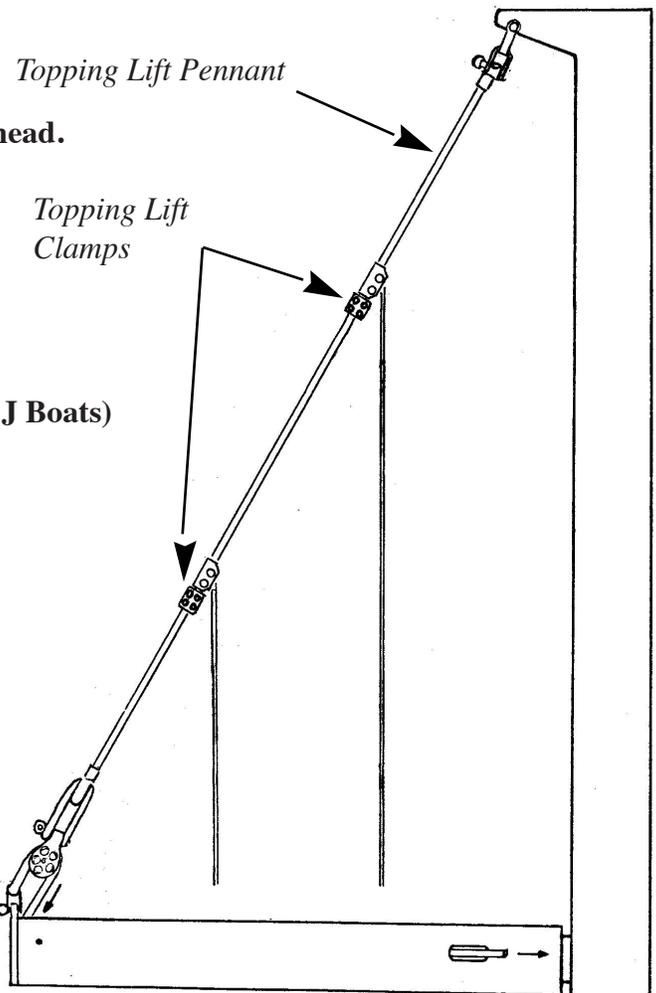
- Slotted screwdriver, spare cotter pins, awl, hammer.
- Drill and bits, 1/8" / 3mm larger than topping lift.
- Fine round file, emery cloth to clean up hole.
- Single block w/shackle to attach to masthead fitting.
- May also need a halyard exit, a cleat and fasteners.

If Pennant is not yet made up,

- Rope or coated SS wire pennant, eyes at each end.
Length - end of boom to masthead, less 3' - 1m.
Diameter - see Specifications.

- and/or topping lift clamps not attached.

Round file or drill and bit 1/16" - 2mm smaller than the pennant diameter. It helps to drill the donut clamps beforehand - assemble with the spacers in a vice and drill.



Boom adjusted topping lift

Installing your Dutchman System

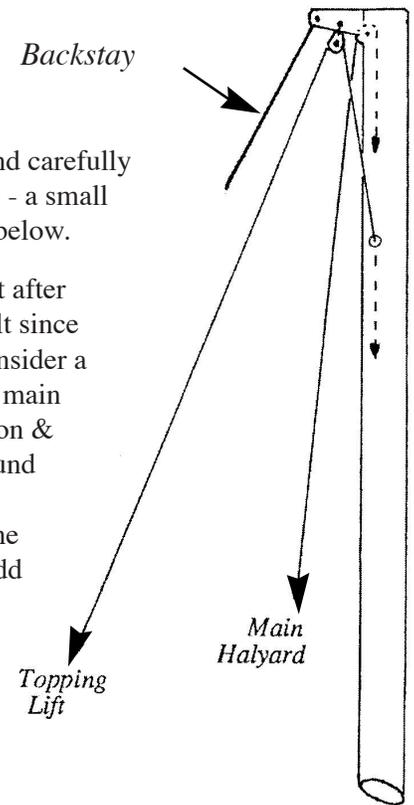
These instructions will take you through the entire process of setting up a Dutchman Sail Flaking System. The first paragraph tells you if you need to do this. The summary briefly describes the steps. The mainsail should be 'bent on' at this point. If the sailmaker has made up the topping lift pennant with the control lines attached (normally the case), and you already have a halyard style topping lift, skip to 'Adjust the Topping Lift Clamps'. If not, read on.

Running a Halyard Topping Lift

If you don't have a halyard style topping lift, add one. This makes taking the sail on and off much easier. You also get a spare main halyard, which is useful if the main halyard is lost, especially on a fractionally rigged mast with no other way to get to the top! Here are 4 ways to run a halyard topping lift.

Summary: Review the parts list on the previous page. If you have an extra sheave or space for one in the masthead fitting, use it. You can also drill a hole 1' / 30cm down and run the topping lift like a spinnaker halyard. Use a messenger to pull the line through. Otherwise, run the topping lift externally.

1. Hang a block off the masthead fitting, and run the topping lift externally. Simple and easy. Mount a cleat on the mast or shroud.
2. Run the topping lift like a spinnaker halyard. Hang a block off the masthead. Punch a set hole with an awl about 1' / 30 cm below the masthead and 1"/25mm outboard from the track, then drill a pilot hole. Make sure there are no wires chases inside before drilling. Since a trysail track is installed about 1" from the mainsail track, this is usually OK. You can get fancy and install a halyard fairlead, but we just drill the hole, then slowly swing the drill up to provide a straight run from the block, and carefully file and sand off the sharp edges. Masts are not highly loaded above the spreaders - a small hole is OK. The line is led through the block, into the mast and out an exit down below.
3. If you have 2 slots in the masthead, there may be 2 rear sheaves. Many boats built after 1980, especially with European masts, are so equipped. Most European boats built since the mid 70's have halyard topping lifts. If you have a spare slot but no sheave, consider a ball bearing main halyard sheave from Harken or Schaefer for less friction for the main halyard. Go aloft on the main halyard, tie yourself to the masthead, ease the tension & secure the main halyard. Pull the pin and carefully add the sheave. Put a line around the sheave to hold it while you guide it in. On most Selden/Kemp masts, the mast must be unstepped. On most Isomat/ Francespar masts, the sheave drop in from the top, after you remove a plate. Most US mast builders make it easy to change or add a sheave.
4. If you have a carbon mast with a single sheave, such as by Hall Spars, the best option is an over the top system. Drill 2 vertical holes, one in the masthead crane on inch aft of where the main halyard sheave and the second an inch forward of the main halyard sheave to get the line on top of the mast and forward of the main halyard sheave. Use two Harken 222's or 206's mounted on the masthead to run the line through these holes.



Topping Lift run like a spinnaker halyard

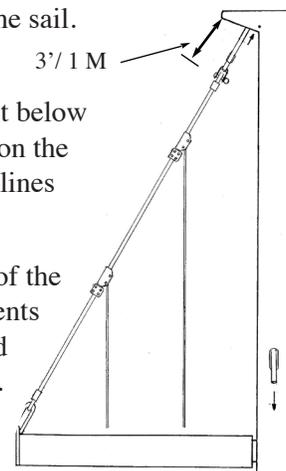
A length of bike chain, or a small fishing weight is used to drop a light messenger line through the mast, which will be used to pull through the topping lift line. Often, the topping lift is one size smaller than the main halyard to save weight.

Running the Topping Lift Pennant and Control Lines

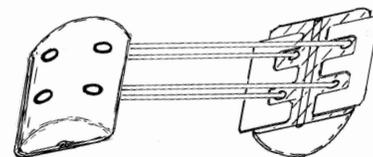
Your sailmaker may have made up a topping lift pennant and run the control lines through the sail. If so, go to the next section 'Adjust the Topping Lift Clamps'. If not, read on.

Summary: You need a vinyl coated SS wire pennant to run from the end of the boom to just below the mast top. Spectra line can be used instead to save weight aloft. Drill and roughly position the donut and mono clamps. Count the fairleads, loosely attach the discs to the tabs, thread the lines through the fairleads and secure the lines to the tabs.

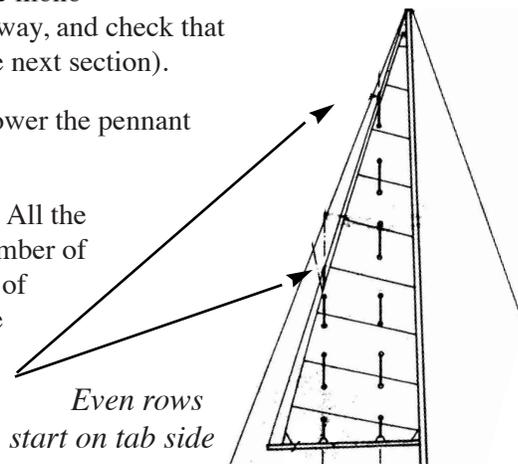
1. If not supplied, make up a topping lift pennant. Measure from the boom end to the top of the mast for the length, less about 3' - 1m so the boom can be raised. Refer to the Components section for the minimum suggested diameter. Make an eye at each end. Attach to the end of the boom and the halyard topping lift. Secure shackles with seizing wire or Loc-Tite.
2. Roughly position and attach the lower donut clamps to the topping lift, using the 3/4" - 20mm screws. The donut clamps must be drilled or filed if used with over 3/16" - 5mm rope or vinyl coated wire. File them, or assemble the clamp with the 2 spacers. Drill, then reuse the spacers for the next clamp. The drill bit should be 1/16"-2mm smaller than the vinyl coating or rope. The clamp must tightly grip the pennant - do not drill the hole too large or forget to use the spacers.
3. Tie a fig 8 in the end of the mono. Using the 1/2" (13mm) screws, fasten the mono clamp above the upper donut clamp.
4. Tie a fig 8 in the other end of the mono. Assemble the next clamp. The mono will form a loop. Hoist up the pennant, walk or row 2-3 boat lengths away, and check that the topping lifts clamps are higher than the uppermost grommet (see the next section).
5. Cut the mono so it ends 3' - 1m under the boom. For 3 or more lines, lower the pennant and repeat steps 3, 4 and 5.



Pennant on a halyard topping lift



Assemble clamp with spacers



Even rows start on tab side

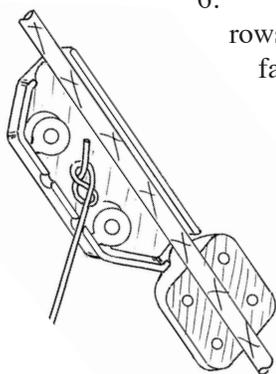


Fig 8 knot in mono

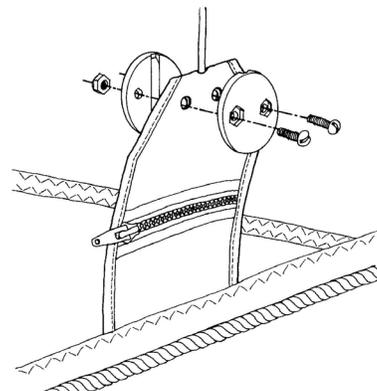
6. Count the number of fairleads in each vertical row. All the rows are normally even or odd in number. If an odd number of fairleads, start the control line from the opposite side of the sail as the tab is on. If an even number, start the control line on the same side of the sail as the tab is on.

7. Loosely attach the 2" - 5cm nylon discs to the tabs. The nuts face the sail. Drop the sail. Thread the mono through the sail using 2 people, one on either side. It's easy to miss a fairlead - be careful. In light winds, raise the sail as you thread the mono.

8. Insert the control line into the tab from the top hole.

The discs must be loose. Be sure to get the line between the inner layers of the tab. Stick the line in from the other direction to open a space between the layers of fabric. Then thread the line into the tab, pull it tight, and tighten the screws.

Attach discs, insert mono

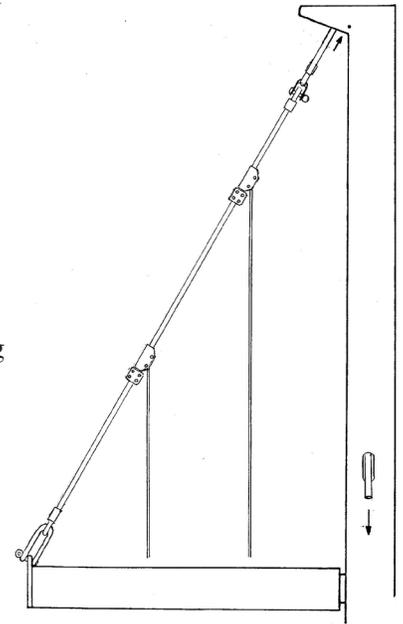


Adjust the Topping Lift Clamps

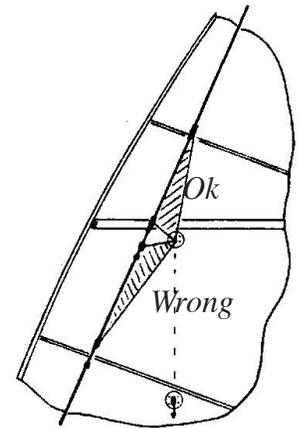
This section is **extremely important** - read and follow carefully. The new topping lift pennant must be made up with the control lines run through the sail. If not, see the previous section. If it's windy, head the boat into the wind and use lots of fenders.

Summary: Rig the new pennant. Raise the sail. Adjust the topping lift clamps so they are above the uppermost grommet when viewed from 2 boat lengths away.

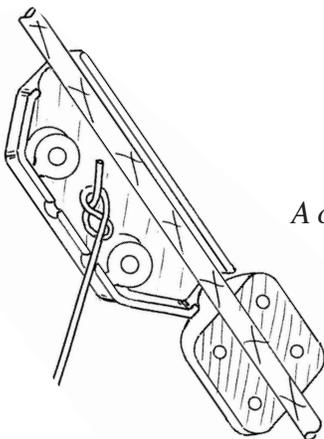
1. Attach the new pennant. The shackle is attached to the boom end. Attach the other end to the spare main halyard or halyard topping lift. Secure shackles with seizing wire or Loc-Tite. Hoist up the pennant.
2. Raise the main up tight. Slacken the topping lift, then pull the mainsheet and vang in tight, as if you're sailing upwind in 16 knots. Snug up the topping lift.
3. Walk off the boat and sight up to where the correct topping lift attachment point should be. **You must be 1-2 boat lengths away** from the boat to see if the clamp is higher than the uppermost fairlead - you can not do this while on board. Do not worry about trying to get the clamp perfectly lined up - as long as the clamp is higher or above the uppermost grommet, the system will work properly. The clamp must not be below or under the uppermost fairlead.
4. With **large roach mains**, (i.e. - the boat does not have a backstay, and the roach extends out more than 2 feet - 60 cm from the straightline from the headboard to the clew), the uppermost grommets will be outside of the straightline or topping lift. The clamp **must** still be above or higher than the uppermost grommet. Normally, the uppermost grommet is next to a batten, so the clamp should be just above the batten.
 - The topping lift must be on the correct side of the sail. With an even number of fairleads, the topping lift will lie on the same side of the sail as the tabs are on. With an odd number, the topping lift will lie on the opposite side of the sail.
5. To adjust the clamps, drop the main (the lines should be run through the sail), lower the pennant and loosen the donut clamp screws just enough to allow it to move (keep the nuts engaged). Move the clamp and re-tighten. Again, recheck the position of the clamps with the sail all the way up and the main sheet tight by sighting from 1-2 boat lengths away. Repeat as needed for all the clamps. Leave the sail raised.



Hoist the pennant

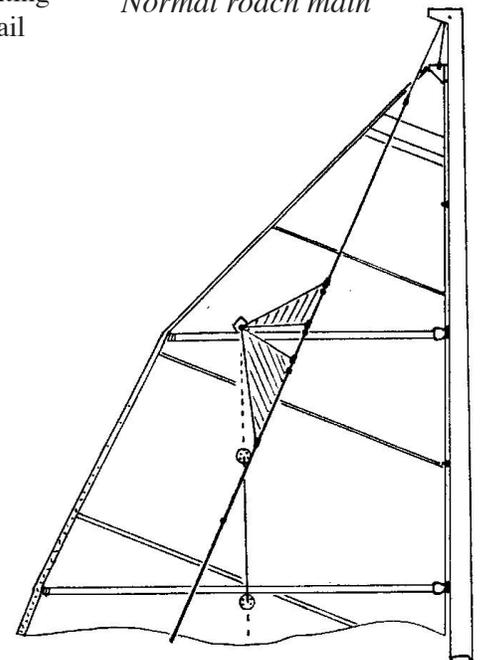


Normal roach main



A clamps

*Large roach main
- clamps above the
straight line from the
uppermost fairlead
to the mast.*



Adjust the Control Line Length

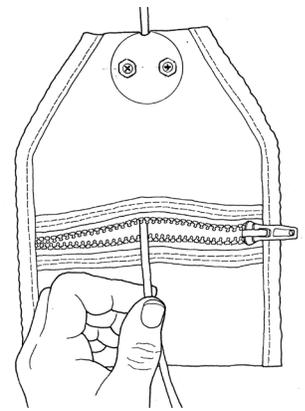
Again, read and follow this section very carefully. The control lines must be run through the sail. See page 5 if they are not. You **must** be certain that the topping lift clamps are above the uppermost grommet, by sighting the sail from 1-2 boat lengths away (the only way to check). **Read** page 6.

Summary Adjust the control lines so they are just slack. With a large roach, the control lines will be snug. The sail must be all the way up.

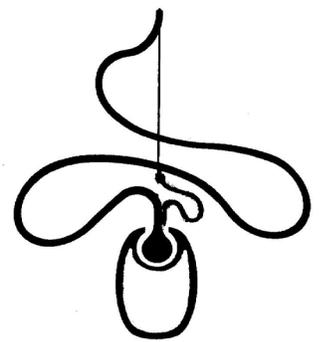
1. Raise the main up tight. Slacken the topping lift, then pull the mainsheet and vang all the way in, as if you're sailing upwind in 16 knots. Snug up the topping lift so it's just slack. The topping lift should be marked (see previous section), so it can be set to this position before or immediately after the sail is raised. A rigid vang, if fitted, must also be marked, so it does not push up the boom when the sail is dropped.
2. Loosen the tab discs. Open the zipper and adjust the control lines until there is under one inch (2.5cm) of slack in the line. Tighten down the discs. When the sail drops, it will push the tabs down, tensioning the control line. Basically, the flaked sail hangs off the control lines. If you lift up the folds where the tabs are, you should find the tab partially folded, with the top of the tab at least 2" or 5cm above the boom.
3. If a Large Roach Main, the control lines will be snug, not slack. First carefully read the Large Roach Main instructions in the section 'Adjust the Topping Lift Clamps'. The control lines must pull or bow the topping lift out to the uppermost grommets, which they can easily do if the topping lift is slack. The wind will also push the topping lift aft, and mast bend and sail shape help pull the sail forward. The uppermost grommet in large roach mains is normally a metal grommet in a patch to help take the extra load. Also, we normally locate the uppermost grommet by a batten, to prevent sail distortion.
 - Adjust the tension on the control lines so that, with the topping lift slack, the clamps are above and no more than 4" or 10cm forward of the uppermost grommet. With sail luffs over 50' or 15m, these dimensions increase to no more than 8" or 20cm.
4. Tie a knot at the end of the control line to keep it from pulling out of the tab. Coil the mono, put it into the tab, and close the zipper.
5. Once the system has been adjusted, ease off the topping lift 2-3" so it is just slack (with large roach mains the topping lift will always carry some tension. Mark the topping lift (and rigid vang line if fitted), so you can return them to this position. If a charter boat, or to keep things simple, the topping lift line should be cleated and tapped off with it just slack. This way, when the sail is raised the last few inches, the boom will be picked up and the topping lift will be slackened automatically. The system is ready to use!

Getting the correct adjustment takes a few tries. Once it's done, the system will need very little future adjustment, perhaps once a year. You must spend some time to get it correct initially. Contact us (see introduction of Owners Manual) if you need any assistance.

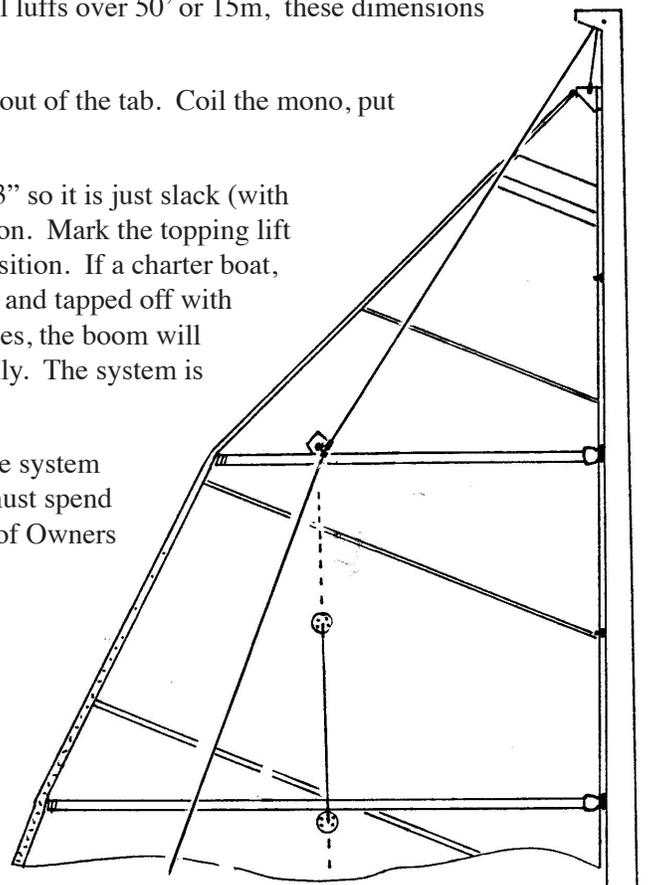
Topping lift will bend out with large roach mains



Control line just slack



Tab partly folded down



Using the Dutchman System

Using the system quickly becomes second nature, and after a while, you'll think every main should flake itself! Many customers tell us you only really appreciate the system after you sail on a boat that doesn't have it. Just raise the sail and ease the topping lift as you normally would. If the sail picks up the boom as it's raised the last few inches, you don't even have to slacken the topping lift. The tabs will stand up as the sail is raised, slackening the control lines, so there's nothing to adjust. With the control lines and topping lift slack, there is no possibility of chafe. You may want to give a tug on the control lines after you raise the sail, to free them up. You must read the previous 2 sections on adjusting the system to check the adjustment, even if someone else set up the system for you.

Lowering the Sail

It is preferable to not adjust the topping lift before lowering the sail. Ideally when the sail is raised it picks the boom up 2-3" for a typical 35-40' boat to automatically slacken the topping lift, and as the sail is lowered the boom drops 2-3" to snug up the topping lift. The tack angle of a new sail should be set to allow this to happen (see our hints and advice for new sails for more info on this). On many boats, it is possible to raise the clew somewhat (often 6-8") so the boom clears the bimini or dodger when the sail is down without adjusting the topping lift.

However, on some boats the boom needs to be raised to keep it off the dodger or bimini. With a halyard topping lift, when possible, tension the topping lift and raise the boom as needed before dropping the sail. If a boom topping lift, raise the boom after the sail is dropped. This makes the control lines tighter as the sail is dropped, and system will work better. Set the topping lift (and rigid vang if fitted) to the marks as described in the 2 previous sections on adjusting the system.

Ease the mainsheet until the sail is luffing. The system will only work if the sail is luffing. Lower the mainsail and straighten the luff (or forward edge) of the sail as it comes down if possible. Then tug aft on the leech to straighten it out and adjust the folds so they are neat.

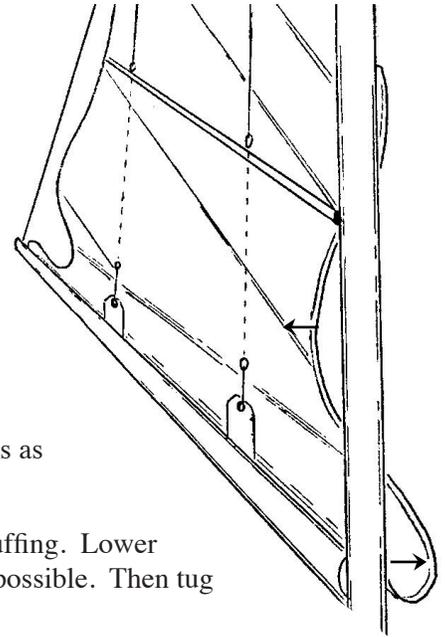
A rigid vang, if fitted, must not allow the boom to kick up when dropping the sail. Adjust the vang so the boom is pulled down, and be sure to note the correct adjustment with an indelible ink marker, so you can easily return the vang to this position before you drop the sail.

The system will work better in more wind. Keep the engine rpm's up if the wind speed is under 10 knots. If the sail falls off the boom around the control lines and/or the tab is not standing upright, the system is not adjusted properly. See the section 'Adjust the Topping Lift Clamps', and 'Adjust the Control Line Length' for more information. Especially with a stiff main, the sail will develop a memory after it's used for 1-3 months, and become more automatic. Carefully neaten out the sail the first few times, and it will 'learn' the correct way to flake.

It helps to initially have someone pull the luff down to the correct side of the boom as the sail is lowered. Look at the tab to figure out which side of the boom the first flake should fall on (sail should fall away from tab). If the tabs are on the starboard side of the sail, the first flake should fall to the port side of the boom and vice-versa. The rest of the flakes will fall to alternate sides of the boom. Straighten out the sail by tugging aft on the leech.

In winds of over 15 knots, you may want to head so the wind is 5 to 10 degrees off the bow. This will keep the boom out of the cockpit. Our Boom Brake is useful to keep the boom from whipping around. You can also tension the mainsheet, but keep the sail luffing.

Your sail will last longer if you avoid putting creases into it. The Dutchman allows the sail to flake in large, loose folds, which is why it's better for the sail than lazy jacks, which induce many small sharp creases. Sail ties (never use elastic shock cord) and the sail cover should be snug, not tight, to avoid sharp creases.



Pull the luff down to the correct side of the boom

Large Roach Mains

You need to raise a large roach main a little differently than you do a normal main. By large roach, we mean a catamaran or Freedom style rig with no backstay, and a full batten sail with a roach extending out about 2 - 4 feet or 60 -120 cm beyond the straightline from the headboard to the clew.

On a normal main, if the topping lift gets caught or snagged on the roach, it will clear itself when the topping lift becomes slack and the sails luffs. If a large roach main, this will not happen. With a Dutchman, the topping lift will always lie on one side of the sail.

You need to head off, or adjust the traveler, so the sail is blown to the correct side of the topping lift. The topping lift must lie on the side of the sail that the control lines exit the uppermost fairlead. If you have an even number of fairleads, this will be the same side of the sail as the tabs are on. If an odd number, it will be the opposite side.

Let's say you have an even number of fairleads, and the tabs are on the starboard side of the sail. You want the topping lift to also lie on the starboard side of the sail. By heading the boat a few degrees to port as the sail is raised the last few feet, the sail will end up on the starboard side of the topping lift.

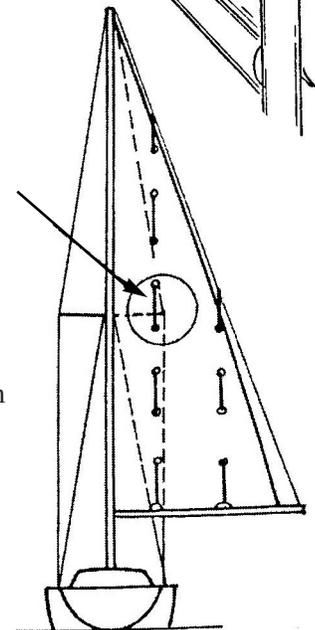
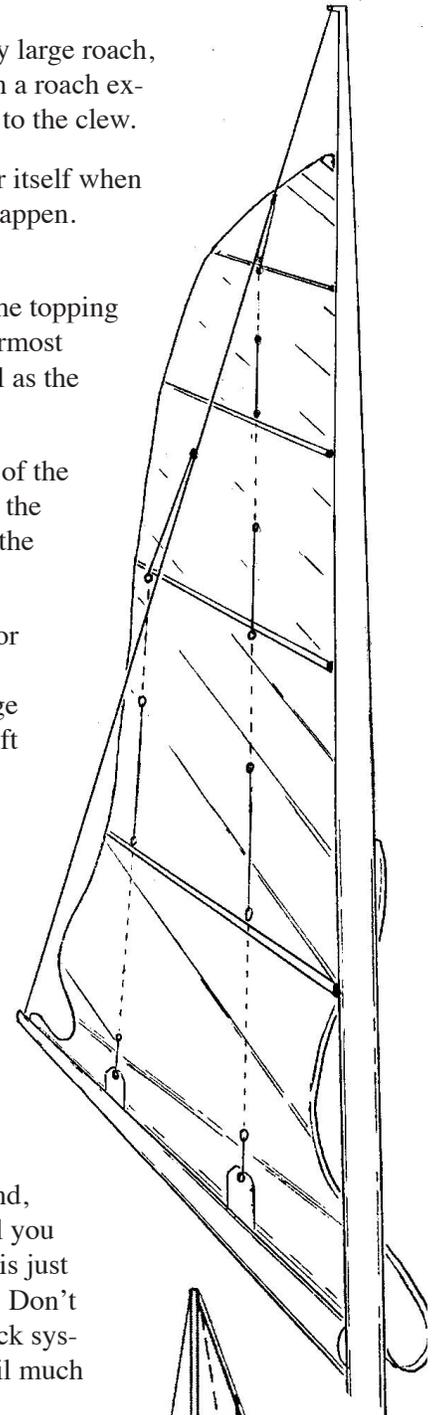
This is a lot easier than trying to raise the sail between a set of lazy jacks, with a foot or so between the lines that you have to raise the sail between. This difficulty in raising the sail with lazy jacks is why major boatbuilders are using the Dutchman now on large roach mains. You must read the large roach mains sections of 'Adjust the Topping Lift Clamps', and 'Adjust the Control Line Length' to adjust the system properly.

Even number of fairleads, tabs on the starboards side, head boat to port 5 degrees.

Downwind

Due to the design of sail slides, a sail will drop more easily if you are closer to the wind, but as long as the sail is luffing, the Dutchman System does not care what point of sail you are on. If you are below a beam reach, ease the main sheet and head up until the sail is just off the spreaders and luffing. Sheeting in the jib helps blow the sail off the spreaders. Don't sheet the main in until after the sail is secured. Our reasonably priced ball bearing track system (or any similar ball bearing track system) will allow you to raise and lower the sail much more easily on any point of sail.

There is a very remote possibility that when running downwind, a control line may become snagged on a spreader tip if the spreader tip is not well faired. If this were to happen, the sail could be damaged when it is sheeted in. Therefore, when initially running downwind, check how close the control line is to the spreader tip. We try to keep the lines away from the spreader tips when building the system into your sail to prevent this from happening. Avoid uncontrolled jibs (consider our Boom Brake, which allows you to control the speed of boom or hold the boom like a preventer from the cockpit), make sure your spreader tip has nothing that could catch a line and/or cover it and remove anything that might snag a control line.



Full Battens

If you have a full batten main, make sure that your batten pockets do not protrude beyond the leech. If they do, they will always foul or catch the topping lift and any other rigging like running backstays, with or without a Dutchman. The battens must be shortened so they do not protrude beyond the leech. The pockets should also be 'clean' with nothing to catch the topping lift. Sometimes a cover can be sewn over the end of the pocket to clean things up.

Full Battens will push against the mast, and the more roach, the greater the forward thrust. This can make it harder to raise and lower the sail. We make a very effective line of ball bearing full batten end fittings to help eliminate the friction. Also see the section on slide friction some more advice and hints.

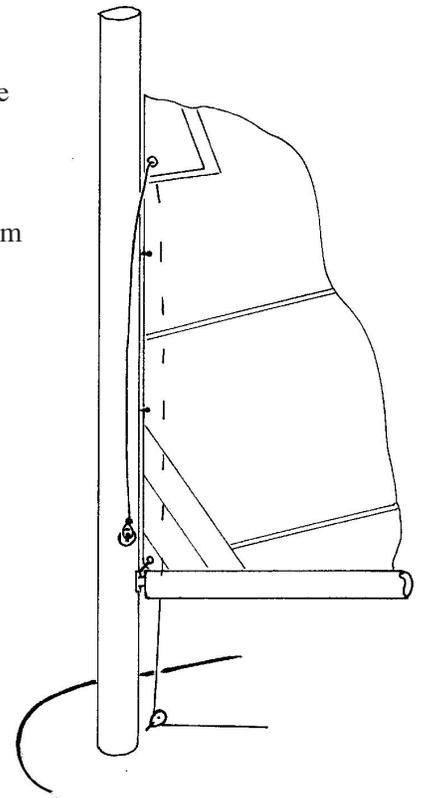
Reefing

The Dutchman system is perfect for jiffy or slab reefing. You usually do not need the intermediate reef points, as the sail can't fall off the boom. This allows you to completely reef the sail from the cockpit, a big advantage for offshore or short-handed cruisers.

We're a little wary of single line reefing, as some systems are hard to use in winds over 25 knots. A separate forward and aft line for each reef is simpler (can't tangle), easier to use (the loads are split between two lines), and usually cheaper, since single line reefing needs ball bearing blocks to work effectively. If you use reef hooks to secure the new tack of the sail, we strongly advise using separate forward reef lines instead. They are much easier to use. If you reef at the mast, you only need a pad eye, a cleat, and enough line to run from the pad eye, up to the reef, and back down to the cleat. The load from the forward reef cringle will angle down and forward at about a 45 degree angle. Figure out how high the tack reef eye should be. Higher is often better, since this will raise the boom out of the cockpit if the vang is released. The reef line must hold the sail the correct distance from the mast and above the boom. It takes a few tries to find the best spot. The pad eye normally will be on one side of the mast, 45 degrees down and forward of the reef, while the cleat will be in about the same position on the opposite side of the mast. You can move one side up and the other side down to clear other hardware. If the lines are led aft to the cockpit, the pad eye should be about level or just under the reef eye when the sail is reefed, while the line going to the cockpit will run straight down to the base of the mast.

We strongly recommend running the lines to the cockpit. Typically, we will install one line stopper on the mast just under the halyard exit, so we can raise the sail at the mast in normal conditions. We then do the final tensioning at the cockpit, and release the mast line stopper if the wind picks up so we can reef the sail from the cockpit. You will need to run the halyard, the 2 lines for each reef, and the vang if the boom is raised by the reef (it normally is). Depending on where you sail, when you do a new main, consider installing the reefs more deeply into the sail, at say, 20 and 40% of the luff length, instead of having 3 reefs. Contact us for our Hints and Advice for New Sails for more information on this and other topics, or pick up a copy at the shows. We not only make sailboat hardware, we also have a sailing school (to test all our products!). The handout has a lot of useful info on setting up a boat for short-handed sailing, based on our experience from many years of setting up boats and from our school.

Forward reef line led from a pad eye, to new tack, then down and aft to the cockpit.



Storm Trysails

If you are planning on heading offshore, consider a storm trysail, or make the main a little heavier with some extra reef and head patching, and installing a very deep reef in place of setting up a storm trysail. If you take the more conservative route and install a storm trysail with a separate track, there are two ways to go. If you sheet the trysail to the boom (an easier way to go), make sure the clew picks up the boom enough to slacken the control lines. If you sheet to the deck, you will need a halyard style topping lift. Drop the boom to the deck and secure it (which is the normal practice). Bring the topping lift and control lines forward, and tie them off close to the mast. We may offer a simple, inexpensive storm trysail and/or staysail in the future. Contact us for more info, and remember, preparation and practice are the keys!

Topping Lifts and Boom Gallows

The topping lift must be slack while sailing. With the topping lift slack, neither it nor the control lines will cause chafe or restrict the sail. With a halyard style topping lift, the topping lift should be tensioned before the sail is dropped. A boom adjusted topping lift should be tensioned after the sail is dropped. This will make the control lines tighter as the sail is dropped. It is possible to set the topping lift up so you do not have to adjust it. It must be low enough so that when the sail is raised the last 6" (15cm) or so, it picks up the boom so the topping lift becomes just slack.

If you rest the boom in a gallows, you still must lower the sail with the topping lift supporting the boom. After the sail is down, drop the boom into the gallows. If you lower the boom more than 9" (23cm) with a boom adjusted topping lift, you may need to ease the control lines slightly, especially the aft line.

We have heard of 2 cases where a topping lift got caught and wedged into an headboard shackle. Without a halyard style topping lift, which can be lowered, dropping the sail will be very difficult. Contributing factors are a topping lift which hits the headboard when the sail is raised (normally the topping lift is above the headboard), or a very slack topping lift, combined with a shackle just loose enough that the topping lift can get tightly wedged between the headboard and shackle, and (we suspect) a big, clunky aluminum headboard shackle. Try to make this happen. If needed, add a section of hose or tubing over the topping lift where it hits the headboard, or a SS headboard shackle with a snug or very loose fit.

Slide Friction

We often hear about sails that do not drop easily. There are several possible solutions. First, be certain that the main halyard is not binding on something inside of the mast, and that the masthead sheave rotates freely under load. A ball bearing masthead sheave often makes a big difference. Do not pull in the reef lines after you drop the sail - just tuck them into the folds. Make sure that the mast groove is clean. Anything like WD40 or Boeshield will gum up the track, and greatly increases the friction. If such a substance has been used, you will have to clean out the mast track with solvent and rags. If a full batten main, consider our ball bearing end batten fittings to reduce friction. Contact us for a brochure. If the lines are led aft, be certain that the halyard turning block is a ball bearing block.

There are two different lubricants that we have had success with. If you live in a fairly clean environment, and it rains at least once a month, try a dishwashing liquid like Joy. Squirt a little in before you raise the main. Hold a rag under the bottle to help force the liquid into the mast track. We have also had good success in all areas with dry Teflon/Silicone lubricants. We use Elmer's Slide All, which your local hardware store may have. Always test the lubricant to make sure it is a dry type before applying. Spray a bit onto the back of your hand. It should be totally dry within 30 seconds, leaving no visible oily trace. Spray the entire track if possible, or just as high as you can reach, then spray the slides as you raise the main. We normally go aloft in the spring, checking the mast and fittings, and at the same time, cleaning out the track with paper towel, and spraying on some Slide All. Makes a big difference.

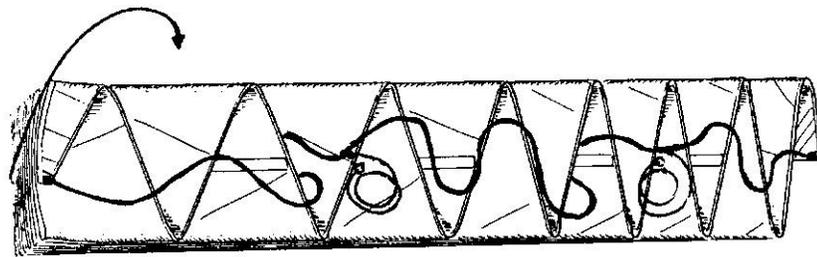
Removing the Sail

The sail should be stored flaked as it lies on the boom, with no sharp creases. This helps the sail keep its ‘memory’ when stored. With a halyard topping lift and the A system, simply remove the pennant with the sail. We first pull out the slides, then slide the foot out of the boom. The sail will now be hanging on the control lines alongside the boom. Lower the topping lift to drop the sail to the deck. The sail will stay flaked. Unshackle the pennant, tie the top end to the head, and the bottom end to the clew and lay the rest on top of the sail. Leave the sail flaked, not rolled up if possible (no creases). If it must be rolled, pull the battens and roll it up, leaving the pennant in the sail. In the spring, just reverse this procedure. This makes taking the sail on and off much easier.

Another way to remove the sail is to open the tab and measure the length of the extra control line. If you have over 3 feet (1m), tie a figure 8 knot to the end, loosen the discs, pull the line through the sail, and cut the control line 4” (10cm) above the sail. Use this 4” to tie to a nut or something similar which will prevent this end of the control line from pulling through the sail. This will keep the sail flaked when removing it from the boom.

If you do not have enough control line, tape a 3’ (1m) length of 1/8” (3mm) cord with a figure 8 knot to the end of the control line, and pull this messenger through the tab and sail. Disconnect the mono and again tie something to the end of the cord to keep it from pulling through the sail. Then drop down the clamps, coil up the mono, and bag the clamps and mono, or just tie off the control lines. In the spring, reverse this procedure to run the control line. You can also pull the control lines out of the sail and tape them to the topping lift, however, this will cause more work next spring, and make it difficult to flake the sail after you remove it from the boom.

Keep the sail neatly flaked when stored, and try to avoid sharp creases.



Maintenance

Since the **Dutchman™** has no moving parts, the only maintenance required is periodic checks of the topping lift and control wires. It’s a good practice that every time, before or as you head out, the topping lift and all running and standing rigging is inspected for chafe or deterioration, and all shackles and mechanical fasteners checked and/or tightened. Shackles, for example, can open if not locked. Secure shackles with seizing wire, use Loc-Tite or run a bead of silicone sealant around grip.

The monofilament control line should be replaced every 3-5 seasons, when it begins to show some wear. Replace the control lines as per the size and length given in the specifications section. You can purchase the mono lines from us, one of our distributors or a sailmaker. Only use mono that has UV inhibitors in it (not weedwacker line).

When you replace your sail, remember that we offer trade in discounts on new systems to existing Dutchman owners. Contact us, or your local sailmaker. In 2015, the discount was 20% off the price of a new system, if you traded in your old system. Thanks again for taking the time to read through this! We do appreciate it.

Trouble Shooting Guide

Sail falls off boom around control lines / does not flake neatly. 2 possible causes. Either the topping lift clamp is below the uppermost grommet, or the control lines are too slack. Start by lifting up the flaked sail and look at the tabs sewn to the foot of the sail when the main is down. The tabs must be pulled up by the control line, not falling off the boom. The sail actually hangs off the control lines. If not, check that the topping lift clamps are in the correct position, above the uppermost grommet. See the section 'Adjust the Topping Lift Clamps'. If the clamps are in the correct position, the control lines are too slack. See the section 'Adjust the Control Line Length'. You must read and understand both of these sections. Finally, mark the topping lift and vang lines.

Sail falls off boom between control lines. If the control lines are adjusted properly as per the above instructions (which is the problem over 95% of the time), try the following. Are you allowing the sail to luff as you drop it? Also bear in mind that the system works better in more wind, so don't slow down the motor. If the sail is new, see the section below 'Just installed the system'. Occasionally, the control line spacing is incorrect or you may need an extra control line. The maximum distance between the control lines should be about 6.5' or 2m, while the typical spacing is around 5' or 1.5m. If the spacing is over the maximum, take a picture of the sail up and down, and measure the distance from the mast to each control lines, to the clew, and to the upper shroud (stay). Sometimes we can add a third line. If the sail is soft, it will need more straightening than a stiff sail. A stiff sail, especially if fully battened, will need under 10 seconds of straightening, while a soft sail will need about 20 seconds of straightening.

Just installed the system, and it's not working. We sometimes hear from someone who has just installed the system. They try it out at the dock, without the sail into the wind, and before the sail has any memory. It won't be that impressive. Allow the sail to luff when dropping it, and carefully neaten out the sail the first few times. It will 'learn' the correct way to flake. See the section 'Lowering the Sail' for more info. The more you use it, the more effectively it will operate (unlike many other things!).

Sail does not drop easily. This is almost never the fault of the Sail Flaking System, as long as the sail is luffing as you drop it. To check, pull the lines out of the sail, and try raising and lowering it, or slide a fairlead up or down on the control line. If the control line is old and dirty, clean or replace it. Also check that the fairleads or uppermost grommets have no sharp edges or grooves. Friction comes from several sources. If a full batten main, push the batten against the mast and check that the battens slide up and down easily, and twists around freely. If not (which is very common), consider our End Batten Fitting, which has ball bearings wheels, a full universal joint, and a reasonable price. Track Systems also work well, but are heavy and expensive. Friction also comes from the masthead sheave, obstructions inside the mast which can rub against the halyard, turning blocks, in short, anything the line touches. The sharper the turn, the more worthwhile a ball bearing block will be. See the section 'Slide Friction' for more information.

The lines make the sail dirty. This can happen if the boat is near a source of pollution like an airport or power plant. Clean the lines periodically by dropping them down and wiping them with silicone spray. This is easy with a halyard style topping lift. The C system allow you to store the control lines partly under the sail cover, which protects them, and prevents dirt from running down the lines through the sailcover slit when it rains. You can also do this with the A system by dropping down the topping lift pennant and storing the pennant and control lines under the sail cover. Support the boom with a rigid vang, gallows or the main halyard. or have the sailcover slit made more watertight. Finally we have a rain deflector you can attach to the control lines to help prevent this.

Please, contact us if you have any questions or problems.

My Dutchman System (Circle)

Notes:

A-26-2	A-60-3
A-30-2	A-60-4
A-40-2	A-60-5
A-40-3	A-90-5
A-50-2	A-90-6
A-50-3	