OWNERS MANUAL





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INTRODUCTION

We are delighted to welcome you to the family of DRAGONFLY owners with our warmest congratulations on your new DRAGONFLY.

This manual is meant to help you enjoy sailing and understand the comfort and safety of your boat. The manual describes the boat, the equipment and includes a maintenance guidance. Before you and your crew take off to sea, please read this manual carefully to avoid damages and trouble - make youself at home on board your boat before going sailing.

We keep improving our boats as we want you to benefit from new technology and breakthroughs, new equipment, materials and, of course, our experience. Therefore, the characteristics and information hereby provided are not binding and can be changed without prior notice or updated obligation.

DRAGONFLY is built with more than 35 years of experience in multihulls, and today we feel that we are delivering a consistent product of high quality and design. Quorning Boats endeavours to deliver a perfect product. If minor problems should occur we kindly ask you to contact your dealer.

Please keep your DRAGONFLY in respectable condition as well at sea as ashore.

We wish you, your family and crew all the best and lots of fun with your DRAGONFLY

Jens Quorning

Børge Quorning

REGISTRATION FORM

Type of boat :	DRAGONFLY 1200 (Trimaran sailboat)	SWING WING OCEAN CRUISER
CE certification :	Category A	

Date of delivery

Name of boat

Home port

Owner's name and address :

1	Name	
/	Address	
(City	 •
(Country	

Registration No:

Hull No

Hull indification No

Engine serial No

YOUR DEALER :

Quorning Boats ApS, Skærbækvej 101, DK-7000 Fredericia, Phone + 45 75 56 26 26, Fax + 45 75 51 31 31

DOCUMENT AND RECEIPT FOR DRAGONFLY 1200

 Hull No _____
 Hull ID No _____

 Owners name and address :

 Name

Address	
City	
Country	

Owner of this craft hereby certifies that I have accepted delivery and read the information in the Owners Manual delivered with the boat.

Date : _____

Sign. : _____

Hull No _____

Hull ID No _____

Owner's name and address :

Name	
Address	
City	
Country	

Owner of this craft hereby certifies that I have accepted delivery and read the information in the Owners Manual delivered with the boat.

Date : _____

Sign. : _____

Before use of the craft, please return this slip to :

If not, Quorning Boats ApS cannot be held responsible for any kind of damage or injury

QUORNING BOATS ApS Skærbækvej 101 7000 Fredericia Denmark

GENERAL SPECIFICATIONS

Dragonfly 1200 Swing Wing Ocean Cruiser

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CE Design category	A
Length overall "centre bull" (evel rudder and anchor)	11 96 m
Length overall centre hull (excl. hudder and anchor)	11.00 m
	12.65 m
	13.00 m
Beam max	8.60 m
Beam folded	4.30 m
Draft incl. centre board	2.00 m
Draft excl. centre board	0.75 m
Draft folded excl. centre board	0.70 m
Weight - <u>basic</u> boat incl. sails, batteries and inboard-engine, but excl.	
fuel, water, anchor equipment, personal gear and other extra options	5,000 kgs
Payload incl. crew	1,500 kgs
Max total weight	7,230 kgs
Water tank	140 I
Hot water boiler	30
Fuel tank	165 I
Holding tank (optional)	80 I
Max engine-hp.	150 hp/110 kw
Max No of persons by category "A"	8
Mast section total excl. antennas over deck	15.12 m
Max mast height over water level excl. antennas	16.90 m
Mainsail	59 m²
Standard genoa	35 m²
Spinnaker symmetric	130 m²
Spinnaker asymmetric	125/140 m²
Bowsprit length	1.00/2.00 m

DRAGONFLY 1200 SWING WING

WEIGHT DIAGRAM

Standard boat incl. sails, 50 Hp engine, empty tanks, 4 batteries, complete rigging and one 20 kg. anker	5.500 Kg.
Optional equipment	400 Kg.
Diesel fuel	160 Kg.
Freshwater + hotwater	180 Kg.
Holding tank	80 Kg.
Liferaft (8 persons)	60 Kg.
Personal gear and cargo	850 Kg.
Total max loaded displacement excl. crew	7.230 Kg.

Payload total

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1.730 Kg.

DRAGONFLY 1200 SWING WING

Weight diagram

Max. Total loaded displacement	7.230 kgs
	2
Standard boat incl. Sails, 50 Hp engine,	
empty tanks, 4 batteries, complete rigging, anchor	
and wharp	5.000 kgs
Optimal equipment	300 kgs
Diesel tank	165 litres
Water tank	140 litres
Hotwater boiler	30 litres
Holding tank	80 litres
Liferaft (8 persons)	50 kgs
8 persons	600 kgs
Personal gear and cargo	900 kgs
Total	7.230 kgs

Max. engine

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150 Hp / 110 kW





If this is your first multihull we highly recommend before "taking command" to get some training in controlling the boat while sailing as well as powering (manoeuvring) to ensure your safety and comfort. Your dealer will give you this basic information. We strongly advise when receiving the boat to get to know the boat well first under easy calm conditions, especially also manoeuvring the boat under power, try this out in "open" water first using a fender or similar and manoeuvre the boat around this floating object, get to learn how the boat turns, stops and how it manoeuvres in reverse etc. This is a very important exercise. This boat is not more difficult to handle than a conventional yacht and many times easier, but it behaves differently, before you get to know the boat. We recommend starting with max. 6 Beaufort = 25 knots true wind.

IMPORTANT:

Always before taking the boat out: Pull down the centre board for better manoeuvring without the centre board down the boat can not make a sharp turn and will drift much quicker.

CLASSIFICATION:

The DRAGONFLY 1200 is classified according to the CE-standards in category A.

DRAGONFLY 1200 is designed also for offshore trips, during which the wind may max rise to 8 on the Beaufort scale = 40 knots = 20 m/sec. true wind and the waves may rise to max 4 m significant height. The craft is classified for the CE by notified organisation (body) IMCI No 0609. Sails must be set according to our wind/sail diagram. Please see page 6.2.

SAILING:

DANGER

Wear your lifejacket In heavy weather wear the safety harness Make sure to have lifejackets for the whole crew

MANOEUVRING AND MOORING – RECOMMENDATIONS/MAINTENANCE:

A sufficient number of mooring ropes, of adequate dimensions and suitable for the environment should be on board.

- Always manoeuvre the boat with the engine in harbour areas
- Handle the boat consistent with the current and wind
- Protect the boat with suitably-sized fenders
- Always keep the ropes unfold and home
- Handle the boat at slow speed in harbour 2 to 4 knots

DANGER

Never try to stop the boat with your foot, your hand or a boat hook.

When taut:

- Protect the ropes from chafing with plastic sleeves
- Make allowance for the tide, as the case may be
- Make sure to use spring lines before you leave the boat alongside a dock

PRECAUTION:

Be well acquainted with the boat before taking it out in more than 6 Beaufort (25 knots – 12 m/sec).

Learn to handle the boat well under power to make safe harbour manoeuvring.

Be aware that the boat can capsize in folded condition by winds exceeding 10 Beaufort (50 knots - 25 m/sec). In that case secure sideways the stability with one halyard to each side.

The boat is at all times unsinkable. If anything should happen, always stay with the boat.

In capsized position the boat will stay afloat approx where hull and deck are assembled.

By each wing base underside you will find a stainless eye for lifelines.

IMPORTANT:

When folding in or out in strong winds, <u>power up or downwind</u>. In strong winds best downwind, if you have waves.

Never keep or power the boat in folded condition where wave heights exceed max. 1 foot or 30 cm, otherwise the folding system can get damaged and by bigger sideway waves the boat can even capsize.

Be aware that the boat can capsize if not handled correctly and sailing instructions are followed.

All sails must be down while in folding position.

IMPORTANT INFORMATION ON THE RIGGING:

Always check the rigging, halyards, reefing lines, water stays, rudder downhaul and swing-wing system before taking the boat out to sea.

Every 6 months or min. once a year shorten all halyards, reefing lines and swing wing lines by min 30 cm/1 foot. After some years turn them around or change these.

Standing and running rigging we recommend changing every 5 years using the same quality of products. We recommend changing the waterstays afters 5 years of min. 15,000 NM.

Never use shackles or similar on the boatsman chair.

Never climb the rigging when the boat is in folded position.

Tension on the rigging, please see rig diagram. The diamond stay must be checked minimum twice a year according to tension diagram as well as before making long-distance trips.

Never change the tension on the diamonds without checking tension with a tension meter according to rig tension diagram, changing the rig tension can cause the mast to break.

OPERATING THE SWING WING SYSTEM:

IMPORTANT – The Swing Wing system must only be used in protected harbour areas. Max. total wave height of 0,3 m/1 foot. Any use elsewhere at owner's own risk.

ALWAYS use the Swing Wing system WITHOUT SAILS. The sails must NEVER be hoisted when the floats are folded in, or when operating the folding system.

ALWAYS pack down and secure the sails safely BEFORE you start operating the Swing Wing system.

ALWAYS point the boat into the wind when operating the Swing Wing system, and point downwind in strong winds.

Max. boat speed in folded position under power is 8 knots – more speed will damage the folding system.

Procedure how to fold out the floats:

- 1. Take away all the fenders and mooring lines
- 2. Prepare the endless swing wing line by the stainless double block by the inside windscreen and make sure the line has no kinks
- 3. Take the marked "fold out" line four turns around the electrical winch
- 4. Release (fully) the double rope stopper (Easylock) in the side locker
- 5. Slowly activate the electrical winch to begin with, and the float/ama will start to come out (fold only one side at a time as two winches take too much power at the same time)
- 6. Keep an eye that no lines jam between the wings and centre hull. Once again ensure that the endless swing wing line has no kinks
- 7. If something jams stop winching immediately
- 8. As the ama comes out, it is useful to pull by hand. Tighten the backstay only in the side where you operate the folding system

- 9. Stop when the forward edge of the wings touches the forward edge of the wing base of the main hull. Now this side is folded fully out close the rope stopper before easing off the swing wing line of the winch
- 10. Tighten by hand only the slack of the backstay
- 11. Do the same procedure on the other side
- 12. When both sides have been folded out, fix the forward safety cables that come from the centre hull bow to the rear forward wing U-bolt by the float
- 13. Now tighten both backstays by the winch and check that both sides approx. are pulled similar by checking visually the angle of the sidestays/backstays
- 14. No persons are allowed on the ama and wings when operating the folding system. Keep hands away from the wing/hull joint

Procedure how to fold in the floats:

- 1. Release the forward safety cables on both port and SB-side
- 2. Prepare the endless swing wing line by the stainless double block by the inside windscreen and make sure the line has no kinks
- 3. Take the line marked "fold in" four turns around the winch so it is ready to operate
- 4. IMPORTANT Release the backstay only in the same one side; release the backstay slowly by easing the backstay line out around a winch. If the backstay has been set very hard, you should ease off the other backstay also by approx. one meter on the backstay line
- 5. Release the double rope stopper (Easylock) for the swing-wing system. The float can now be winched in towards the centre hull make sure that the swing wing lines do no kink and that the backstay line is slack also
- 6. The waterstays and trampolines "take care" of themselves
- 7. Immediately stop winching in the float when the inside rub rail touches the wooden teak block under the aft wing base on the centre hull

IMPORTANT

Max. tension on the backstays is ONLY what one person can pull by using ONE hand only on the backstay winch on the cockpit coaming.

By sailing in hard wind and wave conditions the leeward backstay will get slack – but pull this slack by hand only to leeward – never use the winch, as this can put too much tension on the rigging.

The swing-wing system must not be operated in winds exceeding 15 m/s or 30 knots by true wind speed.

The boat will stay stabile in a slip as long as waves are max. 0,3 m/1 foot and wind speeds from sideway do not exceed 25 m/s or 50 knots of true wind speed. If higher winds are expected either make sure the boat faces the wind, or secure the mast sideways – or, in worst case (like heavy storm or hurricane warning), take the mast down.

CHECK LIST BEFORE YOU GO SAILING

- Check the weather forecast
- Check water tank level
- Check fuel tank level
- Check the power on your batteries are adequate
- Check engine oil and cooling water on the engine
- Check and make sure that the water intake filter to the engine is clean
- When starting up the engine, check and make sure that cooling water is coming out of the exhaust system at the transom (if not, check that sea cork for engine water intake is open and not blocked)
- Check that you have enough propane for cooking (only for longer trips)
- Check that ALL hatches are closed especially on the floats
- Make sure that all equipment is stowed correctly and has been secured

IMPORTANT NOTICE

Beware of the following:

- Make sure that there always are lifejackets and/or life preservers onboard for the whole crew
- Always as minimum we strongly recommend to use lifebelts outside the cockpit when sailing or even motoring at night
- No persons are allowed on neither trampolines, wings nor floats when sailing offshore in strong wind conditions
- High tension/voltage cables. Mast height above sea level is 19 metres/63 feet with no antennas
- For ocean crossings we recommend to install a life raft on the aft rail outside in case of fire
- For ocean crossings and long distance offshore sailing we recommend either a safety hatch in case of capsize and/or in main and aft cabin a fixed joint watertight flash light a reasonable size hammer or axe to cut your way through the freeboard
- In case of capsize stay calmly inside the boat and cut your way through the freeboard. DO NOT try to dive out, as the risk of getting strangled in ropes hanging down is very big
- By long distance sailing, make sure that all on board are aware of the above-mentioned procedures
- For long distance sailing or ocean crossings, make sure to have up-to-date flayers and other safety devices, like Epirp etc.

LAUNCHING THE BOAT:

When launching or handling the boat otherwise for either transport or winter storage, the lifting eyes and cables are guaranteed to hold ONLY when provided from Quorning Boats and used under the following conditions:

- 1. Lifting eyes and cables are designed for single hook system use only not for individually use or use elsewhere, i.e. all four cables to one crane hook
- 2. Lifting cables must not be used elsewhere
- 3. When lifting you must check and make sure that the lifting eyebolts are facing and line up with the lifting cables. If not, this can cause break of the lifting eyes, and for this Quorning Boats cannot be held responsible
- 4. Make sure that NOBODY walks under the boat. If work has to be done under the hull, make sure that your support can take the full load of the boat, if the cables should fail
- 5. The cables are designed for the boat only NO crew onboard and the bilges MUST be empty. If the total weight exceeds 7,000 kgs/15,400 pounds, the cables should not be used
- 6. No persons are allowed on the boat while craning
- 7. Before craning the boat out of the water, make sure to lift up and secure the centreboard and release the rudder downhaul, so this can be lifted up when setting the boat down on the cradle
- 8. When craning with the lifting cables the boat MUST be in folded position. Mast can either stay up or not – no difference in the balance
- 9. IMPORTANT before launching the boat, check that log and depth sounder are in the correct place to avoid flooding the centre hull. Travel lift can be used if this is not too small. The belts should be mounted forward of the forward crossbeam and aft of the aft crossbeam. Be careful neither to get the belt around the propeller aft nor the skeg below the propeller

SAILING TIPS:

MANOEUVRING IN HARBOUR. If the water is deep enough always sail or motor with the swing keel DOWN for better manoeuvring. The boat manoeuvres the same way in folded and/or unfolded position. Remember the boat is light and by wind it drifts easier than conventional yachts. In full marinas you can take advantage of the low draft to moor where nobody else can go. If you find room in a normal small berth always enter with the bow first as the floats are 1.65 meter longer aft than the main hull when the boat is folded.

m/sec.	Knots	Beaufort	Upwind and beam reach		
0 – 8	0 – 16	4	Full main + full genoa		
9 – 11	16 – 21	5	Full main + genoa 1 reef		
11 – 14	22 – 27	6	Main 1 reef + genoa 1 reef		
14 – 16	28 – 32	7	Main 1 reef + genoa 2 reefs		
16 – 20	33 – 40	8	Main 2 reefs + genoa 3 reefs		
20 – 24	40 – 47	9	Main 3 reefs + genoa almost or completely		
			furled		
25 – 28	48 – 55	10	Upwind sailing not recommended		
			– only with good experience		

DIAGRAM OF SAIL ARE	A TO TRUE	WIND SPEED:
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Beware that the mainsail has two cockpit-operated reefs only and that the third reef is manual operated at the mast and boom

m/sec.	Knots	Beaufort	Downwind		
0 – 8	0 – 16	4	Full main + full genoa or spi		
9 – 11	16 – 21	5	Full main + full genoa (or wing/wing)		
11 – 14	22 – 27	6	Main 1 reef + genoa 1 reef		
14 – 16	28 – 32	7	Main 2 reefs + genoa 2 reefs		
16 – 20	33 – 40	8	Main 3 reefs (or no main) + genoa 2 reefs (or		
			less)		
20 – 24	40 – 47	9	No main + almost fully furled genoa		
25 – 28	48 – 55	10	No sails – use drift anchor or simular		

For an inexperienced crew we do not recommend sailing in more wind than max 25 knots or 5 Beaufort.

IMPORTANT – If this diagram is not respected Quorning Boats ApS and dealers cannot be held responsible for boat, crew and/or gear. Beware that the boat can capsize if not handled correctly.

For downwind sailing if "solid" seawater gets over the bow – this is the first warning to reduce sail.

If winds are "gusty", make sure to be ready to release the sheets quickly.

SAILING AND TRIMMING:

IMPORTANT – It is of great importance to keep your sheets and halyards tidy when sailing because all lines come to the cockpit. This is an important safety factor and improves the joy of sailing.

TRIMMING THE GENOA:

The luff tension is to be adjusted by the genoa halyard. In light winds of course only little tension to avoid wrinkles along the luff. In more wind the luff needs more tension, but only to keep the luff tight, more is not necessary – over tensioning can damage the sail.

Under normal conditions the genoa car on the cabin roof should be placed in the aft end of the track, if the genoa "closes" in the aft leach, move the genoa car aft, and if the genoa "opens" further up in the aft leach, pull the genoa car forward. You can adjust the genoa car from the cockpit via the genoa track outhaul on the easylock, and also the genoa sheet goes through the easylock on the outside, marked GENOA I. The easylock is normally left open, and ONLY used if the winch is needed for another purpose. in case you need to put a reef in the genoa you must pull the genoa car forward for right trim. For reef 1 the genoa wagon is pulled approx. 50 to 60 cm = 2' forward on the track, and for reef 2 it is pulled approx. 100-120 cm = $3\frac{1}{2}$ -4' forward, if the genoa is reefed more, the traveller is pulled approx. up to the forward end of the track. For your information, only use the barberhaul beam reach or downwind.

MAST TRIMMING:

The mast is always in trim from the yard, but generally the mast must bend approx. 7 cm over the aft edge in full length. When holding the main halyard close tight and to the aft end of the mast ends, the distance to the mast should be approx. 7 cm = 3" at the diamonds position.

Do not change the trim of the diamond stays, as this can cause mast failure.

TRIMMING THE MAIN SAIL:

REEFING THE MAIN SAIL – First set the lazy jack (topping lift), so the boom does not fall down. In order to reef the main you loosen the main sail halyard and it is recommended to mark on the halyard where "reef 1" and where reef 2 has to be locked on the easylock. The halyard is loosened and the reef line is pulled approx. so that the reefing block by the luff are approx. 20 cm = 8" above the boom. This is important to avoid chafing.

Luff into the wind and ease off the main sheet, the main halyard is loosened till the mark reef 1 and then you pull the reef 1 line which is marked on the portside easylock. This line will then automatically reef the luff first and then the leach. Same procedure applies to reef 2 and the reverse when reefing out. After each reef the sail ought to be "packed" with chock cords for less wind resistance.

Pulling the reef line in the reefing procedure is fulfilled when the reef block in the aft leach just has "touched down" with the boom.

MAIN SAIL:

The main needs much more trimming than a monohull, especially on the main sheet as the boat has many speed potentials within few wind forces, this calls for concentrated trimming if you want maximum speed in your boat. Generally the leach seen from the boom end to the mast top must be almost straight, no matter what wind force: the roach must absolutely not "fall out" or twist unless the boat is pressed too hard. Trimming the main in a breeze takes great effort for maximum performance.

TACKING:

When tacking the boat, it sometimes helps to ease the main sheet a little (especially in strong winds and waves). If you stall the boat after a tack it also helps to ease the main sail until the boat builds up speed. If the boat starts to go backwards after a tack, then immediately turn the rudder blade reverse to windward, this helps the bow to bear off and get wind into the sails again. Do not turn the rudder to "normal" again until the boat starts moving forward again.

MAIN SAIL FOOT:

- is trimmed normally. Light wind when tacking, light curve approx. max. 12 cm = 5'. Downwind, big curve. Medium air tacking, flat foot. And downwind, large curve. Hard wind tacking, flat foot max. 10 cm = 4', and downwind also flat foot.

MAIN SAIL LUFF TENSION:

In light wind you set the main halyard only to avoid "wrinkles" in the sail, which has the effect that you have to help the main when tacking so that the battens are turned right for the new tack.

In medium air the main halyard is only tightened so much that the wrinkles in the sail are gone and the luff straight.

IMPORTANT

In heavy wind the main halyard is tightened hard to flatten the sail and avoid wrinkles in the luff – this can sometimes not be avoided. By tensioning the mainsail luff upwind in winds exceeding 8 m/s (16 knots), you must release the main sheet when tensioning the luff.

If for example you are anchoring or beaching for a short time with the main sail set, then loosen the main halyard to release the tension in the sail to quieten the boat.

MAIN SHEET CAR:

Mulithulls have a rule that goes: the mainsheet car must NEVER pass the centreline of the boat to windward. Not even in light air. If the wind is increasing when tacking upwind and you find the main has too much power and whether helm try sheeting the traveller, approx. 10-15 cm = 4-6" to leeward instead for slackening the main sheet and therefore not hollowing the main. Doing this the boat can take more wind without reefing. Eventually you can also ease off the sheet.

SYMMETRIC SPINNAKER SAILING:

Sailing with the spinnaker is a third dimension in sailing, which a lot of people dread, caused by bad experiences. On a trimaran spinnaker sailing is fun and a comfortable adventure. A trimaran is not heeling over from one side to the other (rolling), and the spinnaker pole is nonexistent. With a little practice you can actually handle the spinnaker alone, but always handle it with respect!!! If you respect the spinnaker and use it with reason it is great – also when cruising.

BARBERHAUL:

If your spinnaker equipment is delivered from the yard you mount the barberhaul as follows: First you lead the barberhaul through the block in the bow of the float, further back to the outer side of the front wing, through the small black plastic lead eye with the steel eye, further on up to the double block at the genoa sheet, which is placed in front of the genoa-lead block. The barberhaul goes through the other wheel in the double block and from here to the sheave block, which is placed at the end in front of the aft wing on the float. Now you have a barberhaul system serving both spinnaker and genoa. The barberhaul appears in the frontend double sheave box on the cockpit coaming.

SPINNAKER SHEET:

Is lead from the cockpit to the top block above the barberhaul in the U-bolt and directly outside the top shroud to the small block at the end of the barberhaul on the float bow through this block to the eye in the pulpit.

SPINNAKER:

After sailing with the spinnaker pack it every time, i.e. pack it systematically, so that you end up with the head and the two clews at the top of the bag, ready for use. If the spinnaker has been damp or wet from sailing it should be dried before packing. Or if it is not too wet leave it in the cabin spread out to dry.

SETTING THE SPINNAKER:

You can set the spinnaker either from the leeward trampoline or from the bow pulpit in front of the forestay or even best directly out of the forward float compartment. Tie the spinnaker bag to the boat and mount sheets and the halyard. Make sure the lines run correctly (see sketch), that the spinnaker halyard for example is not twisted round the forestay or the diamond spreader.

When the sheets are mounted, pack it all into the spinnaker bag so it does not fall out. Set the windward barberhaul and slacken off the barberhaul on the leeward side completely. Alter your course to full downwind (watch out for the boom) and hoist the spinnaker quickly to prevent it from falling into the water. It is a good thing if another person starts pulling the leeward sheet when the spinnaker is halfway up and when ³/₄ up pull the windward and your spinnaker will set perfect.

CAUTION – If you feel any resistance hoisting it or sheeting it, stop pulling immediately. It does not take much to rip it apart if it is stuck! When the spinnaker is full, roll in the genoa. It is very important that your spinnaker fills first or you will find yourself rolling it into the genoa. It normally never pays sailing with both genoa and spinnaker.

USING THE BARBERHAUL:

Leeward side must always be slack. The windward barberhaul must always full tighten on beam reach, and sailing downwind the windward barberhaul can be set, approx. 1 meter off from the ama bow.

JIBING WITH SPINNAKER:

Bear off to downwind course and set both barberhauls in broad reach position. Now everything is ready and you slowly jibe to your new course and at the same time jibe the main under control to the other side. All this while the spinnaker still pulls, if it is very windy pull the main sheet tight when jibing and slack again afterwards. This way you avoid the so-called "bang"-jibing that can smash everything. The new leeward barberhaul is loosened again and the job is done.

TAKING DOWN THE SPINNAKER:

NEVER sail the spinnaker without main sail!!!

If the wind increases it is more difficult to take down the spinnaker. Practice can eliminate this problem. Prepare the spinnaker halyard and sheets so that these can "run" out without any problems. Bear off to a dead downwind course and slacken the windward sheet completely off and from the leeward trampoline netting you can collect the foot of the spinnaker close behind the main, like a folded curtain to take out the wind. This way you can control the spinnaker, easily and elegantly, now you can ease off the halyard slowly and pull the spinnaker down. Do not ease off faster than it is pulled down and the spinnaker will not fly out and "draw air".

With average knowledge to spinnaker handling do not sail it in stronger winds than max. 8 m/s (16 knots) – with good experience the spinnaker can be sailed up to approx. 13 m/s (26 knots).

For easier spinnaker handling we recommend to use a spinnaker sock.

ASYMMETRIC SPINNAKER HANDLING:

This goes pretty much like handling the symmetric spinnaker, but for this sail a bowsprit is required. Never set the asymmetric spinnaker (AS) without the mainsail and furling genoa, as these sails provide the "no-air" vacuum behind the mainsail.

As for foldable bowsprits, set the bowsprit down in position and do not forget to hold on to the tack line. Pull the waterstay (downhaul tackle system) tight in the anchor well by the Easylock stopper. While sailing watch and make sure that the bowsprit pole stays down and does not come up under load. Always double check that the waterstay cable for the bowsprit does not catch the topside of the anchor.

Make sure the AS is packed correctly and that the sheet tack is forward "clew" at the bowsprit.

Bear off to almost downwind course and pull up the AS – when it is halfway up, pull the clew back to the sidestay, and when it is ³/₄ up, you can at the same time best pull the tack line also, so the tack gets all out to the bowsprit. When the spinnaker is pulled all up, you can start to head more into the wind and the AS will set nicely.

First when the AS is "full", you can furl the genoa.

We recommend not using the AS on "hard" beam reach in more wind than 8 m/s (16 knots) of true wind speed.

For average AS experience we recommend max. downwind wind speed of 10 m/s (20 knots) – for beginners max. 7 to 8 m/s (15 knots) downwind.

For experienced crew it is much more efficient on downwind course to pull out the AS tack to the windward ama bow by using the barberhaul in the tack. This way the AS gets away from the "wind shade" behind the mainsail, and you can go much "deeper" course, which is more efficient for this type of multihull. Complete gibing angle downwind from one tack to the other is total approx. 40 to 45° and in stronger winds less.

GIBING THE ASYMMETRIC SPINNAKER:

The tack is at the bowsprit – and the sheets go between forestay and tack/luff of AS. Bear off to almost dead downwind and be careful that the mainsail does not "come over". Then release the leeward AS sheet and pull the windward sheet quickly. First when the AS's clew has passed the forestay be approx. 2 metres (6-7'), you can gibe the mainsail as well. Make sure to do this controlled and in stronger winds pull in the main sheet so it does not slam over. Keep pulling the AS sheet till it sets again. This way you pull over the AS in leeward of the mainsail while the AS has no tension. It is very easy – if you bring over the mainsail too quickly, the AS will fill with wind again and this can cause problems.

Take the AS down behind the mainsail and genoa. Furl out the genoa as this prevents the AS from wrapping itself around the forestay. Go downwind – ease off the tack line fully and from the leeward trampoline take down the AS just behind the mainsail. The wind "vacuum" behind the mainsail makes this operation very easy – even in stronger winds.

For easier handling we recommend to use a spinnaker sock.

ANCHORING:

The anchor bracket max. 20 kgs anchor.

Use chain (8 - 10 mm diameter) or 16-18 mm rope with internal lead up front by the anchor of min 5 metres and thereafter 16 mm flexible anchor line.

Recommended length of anchor line should be min. 5 times the depth.

PRECAUTION - Before anchoring check the depth of water, current, power and nature of the seabed – and of course the weather forecast.

By beaching or drying out the boat beware of rocks and stones, only on sand.

When anchoring secure the anchor line to the cleats or make a bridle, which you can fasten on the stainless pad eye on the front of each forward wing. Using a bridle prevents the boat from fishtailing.

ALWAYS anchor in protected waters!!

Note that multihulls have more wind age than conventional yachts.

By anchoring of the stern the engine should be stopped.

SWING KEEL – KICK UP SYSTEM:

The centre board has been constructed in such a way that even the slightest touch of ground makes it kick up automatically via the release cleat on the cabin top aft. To remount the release cleat there is a small pawl on the underside, which you bob down, and the clam cleat can be repositioned.

Up- and downhaul you can adjust from the cockpit cabin top. Just like you can trim a dinghy on the centreboard you can also profitably do that on the Dragonfly.

Generally we always recommend placing the centre board all the way down when tacking. On a reach half way down and sailing downwind all up.

Do remember, though, lowering the centreboard before tacking again. Under sail pressure you cannot possibly adjust the centreboard you will have to either luff or bear off to dead downwind to adjust the centreboard. Downwind you will seldom find adjusting problems.

By trying to pull the centre board down while sailing, you can brake the blocks or control lines to the centre board system.



Quorning Boats Aps	Emne:	CENTERBO)ARD	SYSTE	M DOWN	Båd lype: DRAGONFLY
Tegnet af: LMR	Godk:	Dolo: Rev.dalo: 13.11.2001	Scole		Tegnini: Tecnical Doc.	DF 1200

CENTREBOARD SYSTEM

" UP "



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RUDDER SYSTEM:

The rudder also has a "kick-up" system, so by hitting the ground the rudder will always kick up. The downhaul line and release cleat is placed in the port aft cockpit locker.

IMPORTANT – Be sure that the rudder is always fully down in position, otherwise the rudder gets hard weather helm.

Do regularly check the downhaul cable for kinks or damage. The rudder is not designed to be used while sailing in no other position than fully down, otherwise the rudder system will bend and be loose or even break off.

To pull up the rudder, release the downhaul line and pull the uphaul line back aft. Also regularly check the bolt where the rudder is bolted to the rudder head (key No 24).

Always make sure that the downhaul line is always ready to release with no kinks or knots on the line and that the line always is lead into the aft locker via the block under the release cleat.

When beaching the Dragonfly just release the downhaul line so it goes up easier and makes less damage on the rudder.



Quorning Boats Aps	Emne:	RUDDER SYSTEM		Båd type: DRAGONFLY DF 1200
LMR	Godk:	Dato: Rev.dato: Scale: 14.11.2001	Tegn,nr: Tecnical Doc.	



STEERING SYSTEM

STEERING SYSTEM

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INFORMATION ABOUT PRODUCTS USED FOR DRAGONFLY:

Hull colour:	Gel coat RAL No 9010 (off white)
Foam:	Foam 20 mm; type 75 Divinycell, Airex or Klegecell
Streamers:	3M SC100 series
Antiosmosis coating:	International Gelschield 200 Epoxy
Antifouling:	International Micron Extra For recoating all 3 hulls you need 2.50 litres - apply with shorthaired roller
Batteries:	4 x VARTA, 60/80 No

The woodwork in the cabin is varnished with two part satin varnish. To varnish again sand with grit 180 or finer sandpaper. You can use either one or two component varnish with satin finish.

Dragonfly is built of hand laid, reinforced fibreglass and polyester combined with 20 mm PVC sandwich foam core.

For eventual repairs use ONLY products on polyester basis. Epoxy can be used in an emergency, but cannot be cosmetically improved later with gel coat as you can with the polyester products.

BY ANY DAMAGE TO THE BOAT:

Contact your dealer or the yard for instructions. If not, you could endanger your safety and/or loose your warranty.

GELCOAT REPAIRS:

IMPORTANT – Successful repairs require dry weather and a temperature between $15^{\circ} - 25^{\circ}$ C.

- Ratio of hardener is min 2% and max 3%
- Gel setting time is approx. half an hour
- Never work in direct sun when applying gel coat or Polyester repairs

How to make gel coat repairs:

- First sand the actual repair with grit 80
- Then sand the area around it with grit 180-240
- Apply gel coat by 2 or 3 layers
- When completely dry sand it down with 120-240, thereafter with 500 800 1,200
- After that polish with rubber compound and finally wax the whole area
- Use lots of ventilation, gloves, glasses and dust mask
- Keep children away

WARNING

- The catalyst is a dangerous product and should not be left within children's reach.
- Avoid contact with skins and mucosa
- In case of contact, wash with soapy water and rinse liberally

Clean all tools with acetone.

GENERAL SERVICING:

- Clean blocks and sheets well in freshwater regularly
- Lubricate blocks and easylocks every 2-3 months
- Clean all tracks frequently where travellers are functioning. Also the mast track
- Min once a year clean and grease the winches and check the springs
- Keep the sails covered at all times when not in use to protect from the sun
- Keep the sails dry and rinse regularly with freshwater. If sails get damaged immediate repair is required
- Let a sail maker check the sails once a year

SPRING CLEANING:

- 1. Exterior: Wash and wax the boat. (Do not wax the non-skid areas). Interior: Clean the boat everywhere
- 2. Antifouling: Main hull. First wash the bottom of the boat with freshwater, if necessary. high pressure washing, dry it out and apply antifouling with a lacquer roll. You will need approx. 2½ litres.

The centre board has enough antifouling for the first two max three seasons, you will then have lift the boat with a crane to antifoul the centre board.

- 3. It is recommended that all blocks, wheels and easylocks are greased with teflon spray, especially the easylocks this should preferably be repeated a few times through the season.
- 4. Mast, boom and head foil must be washed and waxed to keep the sails clean. If you do not immediately succeed in cleaning the aluminium you can use polish cream.

Happy sailing!!

CLEANING UP FOR THE WINTER:

- 1. You are recommended to wash the boat completely clean, wax and polish all surfaces except the non-skid.
- 2. Make sure to take off the sails, sprayhood and cockpit tent. Wash and rinse out dirt and salt. Everything must be completely dry, before stowed away for the winter and kept in a dry place.
- 3. Cushions: For cleaning of cushions you can remove the cover by unfastening the zip on the back of the cushion. For washing or dry-cleaning, check which material your cushions are made of.
- 4. Various steel wires can be washed in warm soap and water, rinsed clean, dried and afterwards wiped with an oilcloth.
- 5. All ropes and blocks should be washed in warm soap and water, rinsed and dried.
- Rigging and boom: Make sure all lines and halyards are intact. Should a halyard have a failure at the end, turn it over. Every year all halyards and reefing lines should be shortened approx. 25 cm.
- 7. The water tank must be emptied and cleaned by unscrewing the lid under the port floor board.
- 8. The engine: Please contact your local dealer.
- 9. The marine battery is removed from the boat and discharged, and then you recharge the battery and store it like the cushions and the sails in a nice dry place. A good thing for the battery is, during the winter to "drain" the battery and charge it again two times during the winter.
- 10. Dry out the hulls completely to avoid frost damage.

11. Make sure that ventilation is good before storing the boat for the winter. The best thing to do is to store the boat indoors for the winter period, if you use a canvas cover make sure it does not touch the boat as it might scratch it.

Any damages and lacks on boat, sails or instrumentation should be fixed in the autumn; everybody can give the best service at that time of the year.

ROPE DIAGRAM

Dragonfly 1200 Swing Wing Ocean Cruiser

Text:	Material	No of lines	Diameter	Length in metres
Main sheet	Polyester	1	10 mm	30
Swing Wing line	Dyneema	2	10 mm	22
Main sheet car	Polyester	2	10 mm	6
Genoa sheet	Polyester	2	12 mm	18
Centreboard up- and downhaul	Dyneema	2	8 mm	10
Barberhaul	Polyester	2	10 mm	25
Backstay	Dyneema	2	10 mm	18
Preventer	Dyneema	2	10 mm	15
Furling line	Dyneema	1	10 mm	22
Rudder downhaul	Dyneema	1.	8 mm	1
Rudder downhaul	Dyneema	1	8 mm	10
Genoa traveller	Dyneema	2	10 mm	12
Mooring line	Poly Propylen	4	16 mm	14
Spinnaker sheet asymmetric/		· .		
lightwind genoa	Polyester	1	10 mm	55
Bowsprit tackline	Dyneema	1	10 mm	22
Main halyard	Dyneema	1	10 mm	60
Jib halyard	Dyneema	1	10 mm	35
Spinnaker halyard	Polyester	1	10 mm	45
Reef I	Dyneema	1	10 mm	25
Reef II	Dyneema	1	10 mm	35

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V/JAN DVERBAILE . LANGELANDSVEJ 1 . DK-5500 MIDDELFART . DFWHARK Telephone: 445 64 41 82 00 . Telefax: 445 64 41 82 50 P SHEET NR.: 002 J.O. EL-MONTAGE MT. EL-MSTALLATOR (LANTERN CONTROL CIRCUIT ON PCB WITH PCB TERMINAL NUMBER REV .: PUSHBUTTOM FOR STEPRELAY DRAW NR.: D1202002 DATE: 2001.03.06 LED - VOLTMETER LIGHT ARMATUR LIGHT DIMMER STEP-RELAY 14 VOLT -7 1200 ELECTRIC SYSTEM GUIDE \otimes 0 2 lQ БЗ 12 VOLT DC SYSTEM \bigcirc P.A DRAGONFLY NEGATIVE TERMINAL CIRCUIT BREAKER WITH AMP. VALUE FUSE WITH AMP. VALUE TERMINAL POINT TERMINAL POINT SWITCH 2.POL. SWITCH. 1-POL SWITCH 2.POL LIGHT DIODE CONDUCTOR MULTIPLUG RESISTOR BATTERY SYMBOL DESCRIPTION AA ↓ 15 A 15 A 1,5Q W दा Ļ BILGE PUMP I, MANUEL CONTROL BILGE PUMP 2, MANUEL CONTROL FRESHMATER PUMP - TRICOLOUR LIGHT - DIRECT+ FOR AUTOSTEREO \bigcirc PANEL 2 > INSTRUMENTS, AUTOPILOT, VHF-RADIO AND CD-RADIO DIRECT POSITIVE CONDUCTOR - HEATER - INSTRUMENTS PANEL 2 > NAVIGATION LIGHTS AND DECK LIGHT. PANEL 2 > CABIN LIGHTS NAVIGATION LIGHTS - DECK LIGHT NAVIGATOR - BILGE PUMPS, AUTOMATIC CONTROL AUTOPILOT - SOLENOID CONTROL VHF/UKW RADIO - NAVIGATION LIGHTS ANCHOR LIGHT - 12V DC RECEPTACLES HULL REAR > WASTE LEVEL PROBE FUEL LEVEL - FRESH WATER LEVEL TERMINAL NUMBER ON MULTIPLUC PANEL 2 > PUMPS PANEL 2 > LEVEL PROBES HULL REAR > PANEL 2 PANEL 1 > HULL REAR PANEL 1 > HULL REAR NEGATIVE CONDUKTOR FRIDGE - CD-RADIO PLACING BETWEEN: FEMALE COUPLING - MALE COUPLING CABIN LIGHTS EMPLOYMENT: - MULTIPLUG SYMBOLS ON TERMINAL-NUMBERS ELECTRIC WIRE DESCRIPTION MULTIPLUG SPECIFICATION: TRANSMISSION LINES: **GREY/BLACK** BL VE DARK BL VE 6 POL. 4 POL. 6 POL. 6 POL. 6 POL. COUL OR: 8 POL. ORANGE 4 POL. YELLOW VIOLE7 TYPE: BROWN BLACK RED GREY WHITE 3 EXAMPLE: CODE: GY/B NB.: 0/8 8U DBU 12 12 13 13 M N N ۲ C N 0 œ œ



















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OWNER'S LIST

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