

2004 Mini 6.50 USA- 415 FOR SALE

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This raced the 2013 Newport Bermuda 1-2 and on the LIS for the last 2 years including 2014 Vineyard.

With Jay Sharkey and myself starting in 2013 - Extensively rebuilt since 2010;

- upgrades in a new Southern Spars carbon fiber mast,
- backup daggerboard,
- backup rudder and pintles,
- AIS inclusion,
- all new running rigging,
- back stay adjustments,
- adjustable bow sprit,
- New selden top down furlers for the asymmetrical spinnakers,
- new autopilot tiller drive,
- 2014 Tohatsu outboard,
- life raft (2014 - Winslow ultra light),
- constrictor clutches added 2015,
- replaced all mast base blocks with frictionless rings,
- Replaced traveler and reinforced.

This boat is a Berret Racoupeau designed, MOS Composites built PROTO, 1725 lbs carbon with a canting keel and twin daggerboards. Draft is 6.7 ft. Current bottom paint is 7 coats epaint ZO-HP this season. Hull is awl grip, topside awl grip with kiwi grip in the cockpit.

Wintered in the dry, on the hard winter 2015-16 and ready for inspection. It is in Mamaroneck NY. Road trailer, dual axle in fair condition, needs brakes, not registered. Boat is registered in NY with custom hull number. Titled.

Sails are fair.

- Main, fair. Harken car system for compression battens, cars are brand new.
- Code zero, fair. Facnor furler
- Solent, north sails, fair
- Solent, uk sails, carbon load path, fair.
- Masthead runner, fair
- Fractional reacher, good.

Systems and gear are extensive

- 2012 - NKE gyropilot with 4 tiller arms, electrical. All top line systems and programmed for solo sailing. Interface for topline upgrades
- Backup Raymarine autopilot
- Simrad DSC radio – new 2012
- 2014 new - Simrad AIS B splitter to vhf
- Garmin 182 - GPS plotter – not class legal
- Ipad mount for navigation
- 100w solar panel and solar power regulator
- Methanol fuel cell (Max Power)
- Sleeping pads
- 2014 - Winslow life raft
- Ditch bag with all safety gear, current
- All fenders for berthing and dock lines
- Sail cover
- Cockpit cover
- New trailer lights
- 2 crates extra lines
- 2 crates extra paint for all systems (kiwi grip, ePaint, Awl Grip matched colors- grey and blue)
- Bean bags for sleeping
- 2 100a gel batteries and battery charger
- Backup led navigation lights,USCG approved (2nm)
- Sea drogue
- Standard and lightweight anchors
- Mast and boom are southern spars carbon with cathedral rigging, pbo. Soft lashings.

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Cette couru le 2013 Newport Bermuda 1-2 et sur la LIS pour les 2 dernières années, y compris 2014 Vineyard.

Avec Jay Sharkey et moi-même à partir de 2013 - Largement reconstruite depuis 2010;

- Mises à niveau dans une nouvelle Southern Spars mâts en fibre de carbone,
- dérive de sauvegarde,
- gouvernail de sauvegarde et de pivots,
- AIS inclusion,
- tout nouveau Gréement courant,
- retour rester ajustements,
- réglable bout dehors,
- Nouveau haut de Selden bas enrouleurs pour les spinnakers asymétriques,
- nouvelle barre lecteur de pilote automatique,
- 2014 Tohatsu hors-bord,
- radeau de sauvetage (2014 - Winslow ultra léger),
- embrayages constricteurs ajoutés 2015,
- remplacé tous les blocs de base de mâts avec des anneaux lisses,
- Remplacé voyageur et renforcé.

Ce bateau est un Berret Racoupeau conçu, construit MOS Composites PROTO, £ 1,725 carbone avec une quille pendulaire et dérives jumeaux. Projet est de 6,7 ft. Peinture inférieure actuel est de 7 manteaux ePaint ZO-HP cette saison. Hull est adhérence alêne, tende de tranche poignée de poinçon avec kiwi adhérence dans le cockpit.

Hiverné sur le sec, sur le dur hiver 2015-16 et prêt pour l'inspection. Il est à Mamaroneck NY. Remorque routière, double essieu en assez bon état, a besoin de freins, pas enregistrés. Le bateau est enregistré à New York avec le numéro de coque personnalisée. Titré.

Les voiles sont juste.

- Grand Voile, juste. Système de voiture Harken pour lattes de compression, les voitures sont neufs.
- Code de zéro, équitable. Facnor enrouleur
- Solent, north sails, équitable
- Solent, Royaume-Uni voiles, chemin de charge de carbone, équitable.
- Masthead coureur, juste
- Reacher fractionnaire, bon.

Systèmes et d'engins sont vastes

- 2012 - NKE gyropilot avec 4 bras de Tiller, électriques. Tous les systèmes et ligne supérieure programmés pour la navigation en solitaire. Interface pour les mises à niveau de topline
 - Sauvegarde pilote automatique Raymarine
 - la radio Simrad DSC - Nouveauté 2012
 - 2014 nouvelle - Simrad AIS B séparateur à vhf
 - Garmin 182 - GPS traceur - pas de classe juridique
 - Montage Ipad pour la navigation
 - panneau solaire 100w et le régulateur de l'énergie solaire
 - pile à combustible au méthanol (Max Power)
 - plaquettes de couchage
 - 2014 - la vie Winslow radeau
 - sac de Ditch avec tout l'équipement de sécurité, le courant
 - Tous les ailes pour l'accostage et quai lignes
 - Housse de voile
 - Taud de cockpit
 - Nouveaux feux de la remorque
 - 2 caisses lignes supplémentaires
 - 2 caisses peinture supplémentaire pour tous les systèmes (kiwi adhérence, ePaint, Grip Poinçon correspondait gris et bleu couleurs-)
 - sacs de fèves pour dormir
 - 2 100 batteries gel et chargeur de batterie
 - sauvegarde conduit feux de navigation, USCG approuvé (2 nm)
 - drogue de mer
 - Standard et ancrages légers
 - Mât et bôme sont Southern Spars carbone avec gréement cathédrale, le DPB.
- Saisines doux

Survey performed for:
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Survey conducted by:
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“415”
2003, M.A.T. Mini 6.50, Sailing Yacht
Prepurchase/Condition & Valuation, Survey
July 4, 2013



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SURVEY OVERVIEW

This survey has been prepared exclusively at the request of Shea Thorvaldsen, and is agreed by that by accepting this survey report, RHODE ISLAND MARINE SURVEY, LLC and Kevin C. Clarke shall be held harmless, and shall not be held liable or responsible for any error, omissions or oversights in the surveying of the vessel.

This survey was conducted following recommendations and standards for pleasure and recreational motor and sailing yachts published by the United States Coast Guard, the American Boat and Yacht Council, and the National Fire Protection Agency (NFPA 302) .

Unless specifically stated otherwise in this report, this surveyor visually inspected this vessel without removal of any fastenings, fixed or semi-fixed structures or equipment, and has not disassembled any hull structures, electronics, instruments, or machinery for inspection or testing. Therefore, due to this visual inspection this survey report does not cover latent defects not readily discovered without such removals and disassemblies. Locked compartments or otherwise inaccessible areas also precluded visual inspection. Owners are advised to open such areas periodically for self-inspection. Further, no determination of stability characteristics or inherent structural integrity has been made and no opinion is expressed with respect thereto. This survey report represents the condition of the vessel on the above dates, and is the unbiased opinion of the undersigned, but it is not to be considered an inventory or a warranty either specified or implied.

Complete inspection of piping, systems, tanks, electronics, electrical equipment and electrical wiring can only be made by continuous operation or disassembly. This has not been done.

Comments in this report are based on the assumption that this vessel will operate within its navigational and design limits. This survey is not a report either expressed or implied, of the seaworthiness of the vessel, or a check of the state of readiness to proceed to sea.

- **“415” Mini 6.50** was inspected on the hard on its trailer at 25 Huguenot Dr, East Greenwich RI. The hull, deck and cabin house were percussion sounded and a GRP33 moisture meter was used to check for any signs of delaminations or voids. A visual inspection of equipment was done.

NOTE:

1. This report is issued for the exclusive use of the individual(s), financial institution(s) and/or insurance company (ies) as may be specifically identified (named) upon this surveyor's report and may contain information that is privileged, confidential and exempt from disclosure under applicable law. Any entities or persons that are not identified herein are hereby advised that any dissemination, distribution or copying of this report is strictly prohibited; no such entity or person shall have any right to rely upon the contents of this surveyor's report.
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LIMIT ON LIABILITY:

1. The survey, which is the subject of this report, was conducted in accordance with generally accepted marine standards and criteria utilized in the marine surveying industry. Persons or entities entitled to rely upon this report are advised that this surveyor is not an engineer nor does he possess any specialized knowledge beyond the degree of skill commonly possessed by others in the same employment.
2. Surveyor shall have no liability for consequential damages, no liability for personal injury damages, no liability for property damages, no liabilities for punitive damages, all of which shall be deemed to have been knowingly and voluntarily waived upon the use of this report.
3. In no event shall the legal liability of the undersigned exceed the fee paid for this survey report, regardless of claims or suits and regardless of whether under theory of tort, contract, products liability, admiralty, or otherwise.

DEFINITION OF TERMS

These terms and words used in this report have the following meanings as used in this Report of Survey.

APPEARS: Indicates that a very close inspection of the particular system, component or item was not possible due to constraints imposed upon the surveyor (e.g. no power available, inability to remove panels, or requirements not to conduct destructive tests).

FIT FOR INTENDED USE: Use which is intended by Survey Purchaser (present or prospective owner)

SERVICEABLE ADEQUATE: Sufficient for a specific requirement.

POWERS UP: Power was applied only. This does not refer to operation of any system or component unless specifically indicated.

EXCELLENT CONDITION: New or like new.

GOOD CONDITION: Nearly new, with only minor cosmetic or structural discrepancies noted.

FAIR CONDITION: Denotes that system, component, or item is functional as is with minor repairs. (MONITOR OFTEN)

POOR CONDITION: Unusable as is. Requires repairs or replacement of system, component, or item to be considered functional.

USE OF **R :** Use of **R** in the body of this report will indicate that a finding will be listed in the “Recommendations” section pertaining to the **R** item.



Before the blue paint job

VESSEL SURVEY INFORMATION

Date of Survey..... Oct 29, 2013

Survey Location.....25 Huguenot Dr, East Greenwich, RI

Type of SurveyPrepurchase Survey

Name of Vessel“415”

Hull Identification #.....M.A.T. 650415

Documentation.....RI, Registration, 8753251

Hailing PortNewport, RI

Type of Vessel.....Offshore Racing Sail boat

Designer/BuilderBerret Racoupeau Yacht Design, Builder--M.A.T.

Year Built1986

LOA.....6.50 m

Beam2.99 m

Draft1.98 m

ConstructionFoam cored, epoxy/carbon-arimid-vacuum bagged, post cured

Displacement809 kg

PropulsionPrimary--- Sails.....Auxiliary 6 hp--Outboard

Water40 liter

Fuel5 gal

SURVEY REPORT

BOTTOM CONDITION & PAINT: The bottom of 415 has been professionally primed, faired and painted with white VC Offshore antifouling. It is burnished to a racing finish and is in very good condition. The bottom is race ready with some minor burnishing to be done.

KEEL TYPE: The keel is an attached canting keel with a steel blade that is wrapped in FRP and epoxy and a cast lead bulb. It appears to be in very good condition with no dings noted on the bottom of the keel. The canting mechanism inside the vessel is rigged with port and stbd, 6 to 1 pulley systems leading out to rope clutches on the deck. The keel and canting system appear to be in very good working order.



RUDDER TYPE: The twin rudders are transom-hung spade rudders made form FRP. They appear to be in very good condition. They have very minor dings and dents, and are in overall very good condition. The gudgeon pins and fasteners to the boat transom look to have been recently refastened and in solid condition.

CENTER BOARDS: The port and stbd center boards are made of carbon and look to be in like new condition

THRU-HULL FITTINGS: The thru hull fittings are flush mounted and in good operating condition.

DEPTH & SPEEDO: Both depth and speedo are by NKE and located approximately 1-foot in front of the keel. They appear to be in very good condition at the time of survey.

PROPULSION: There is a six HP out board that will be mounted on the high / low transom hung aluminum bracket . All appear to be in good working order.

BOTTOM CONDITION, cont'd;

DEFICIENCIES & SOUNDINGS: After a thorough phenolic hammer sounding, there are no defects noted in the bottom or it's appendages. No voids or cracks noted in the bottom at all.

CONDITION: The bottom and its gear is quite sound and in very good condition.

EXTERIOR HULL

PAINT & FINISH: The hull sides of **415** are painted with a dark blue Awlgrip . It looks like a very recent paint job. It is in very good shape. The lettering **415** is vinyl lettering, which is also in very shape. It is on both port and starboard bows and looks great. There are minimal, if any, dings and dents in the hull sides. There is just a minor cleaning that needs to be done where the waterways spill off the deck. Other than that the hull sides are in excellent condition.

HULL TO DECK JOINT: The hull-to-deck joint is deck laid on top, glued and screwed under a teak toe rail. The toe rail is about 3/4 x 3/4-inch. The hull to deck looks to be in very good condition.



STEM: The stem of the vessel has a carbon fiber headstay chain plate that looks to be in excellent condition with no defects.

TRANSOM: The open transom of the vessel has no moisture or structural defects at or near the gudgeon pin thru bolts, or in the transom itself, and would be considered to be in very good condition.

CONDITION: The overall condition of the hull is in very good to excellent condition.

DECKS & SUPERSTRUCTURE

DECK SURFACE/NONSKID: The deck surfaces of **415** are done in an off white Awlgrip. They look to have been painted in the last few years and have been finished with Awlgrip paint. The nonskid is sprayed on nonskid skittles with flattened agent in the Awlgrip. Very good nonslip surface.

TOE RAILS: The toe rails are 3/4-inch x 3/4-inch molded in carbon on both port and starboard sides. They look to be in very good shape.

DECKS & SUPERSTRUCTURE, cont'd;

HATCHES: Only hatch on board is an escape hatch aft, with locking dogs and it is in good shape at the time of survey.

PULPITS: Both bow and stern pulpits look to be in good shape. There is minor welding work to be done to a few of the islets on the pulpit. **R.** The bow and stern rails are securely fastened and caulked properly. All looks to be in good shape with a minor repair.

STANCHION, LIFELINES: The stanchions are the standard 1-inch stanchion. They are through bolted into their own sockets and look to be in very good shape. The lifelines are over and under uncoated stainless steel lifelines, in good shape.



WINCHES: There are three deck winches. They are Harken 30 AST winches securely mounted on the deck with carbon backing plates. They are black anodized selftailers. They are all in good working order at the time of survey.

DECK HARDWARE: The deck hardware is mostly Harken. There is a Harken mainsheet traveler and Harken car with blocks. All looks to be in very good condition. There are approximately eight Harken cam cleats and twelve line clutches located on the deck in different places. They all look to be in good working order. Some of them have fairleads and some of the do not, and two of them swivel. All look to be in good shape and good working order.

CHAIN PLATES: The chain plates are all carbon fiber built into the hull and deck. There are no signs of degradation on any of the chain plates.

MAST PARTNERS: The mast partners are a carbon fiber with an aluminum mast collar. The mast step is made of billet block aluminum, and is in very good shape.

COCKPIT: The cockpit is a very small working cockpit as the boat is primarily for racing. The cockpit is in clean condition with proper hardware. All looks to be in good shape.

DECKS & SUPERSTRUCTURE, cont'd;

PEDESTAL & COCKPIT INSTRUMENTS: The tiller is anodized aluminum with a custom aluminum bracket mounted to the rudder. It looks to be in very good condition.



COMPASS: There is a Ritchie 3 & 1/2-inch compass mounted on the aft cabin cockpit bulk head, in good working order.



DECKS & SUPERSTRUCTURE, cont'd;

SPEED & DEPTH: The speed and depth are NKE instruments. They were not tested at the time of survey, but look to be in good condition.

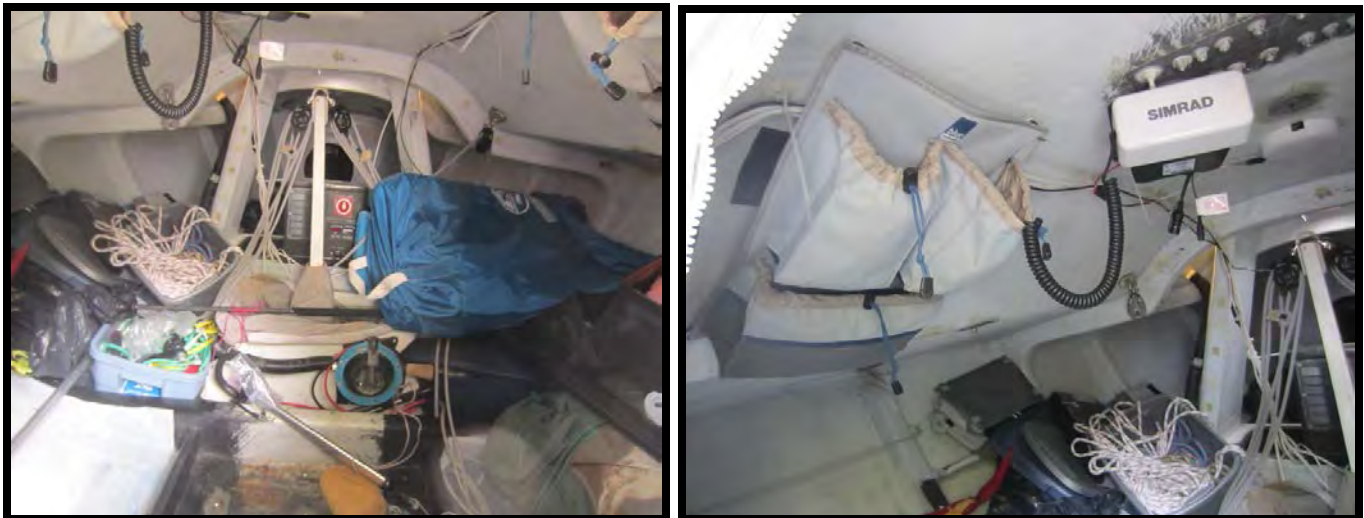
MANUAL BILGE PUMPS: The manual bilge pump is a Whale Gusher pump and looks to be in good shape. There is one manual Whale Gusher water ballast pump that appeared to be in good shape.

INTERIOR

JOINERY & FINISH: The interior of 415 is considered to be a stripped out race boat interior with a bunk on both port and stbd side just over the water ballast tanks, aft. The interior is in good condition for the age of the vessel. The interior is clean and functionally correct. The interior was cluttered with gear at the time of survey, but was thoroughly inspected for delamination and or cracking of which there were no defects found

BULKHEADS & TABBING: The carbon fiber, cored bulk heads are properly tabbed into the vessel on both sides all the way around. The interior hull structure is supported by two large carbon fiber ring frames fore and aft of the mast and two at the aft cockpit with full bulk head forward. The carbon hull frames and cockpit stanchions are found to be in excellent structural condition.

BILGES: The bilges are very clean and free of debris.



VENTILATION: Ventilation appears to be very good.

LIGHTING: The lighting in the vessel is done with small dome lights. They are in good working order at the time of survey.

ELECTRICAL SYSTEMS

DC VOLTAGE: 12-volt. **BATTERIES:** The single battery is a Group-31 batteries that look to be in very good shape and are on a trickle charger in the shop at the time of survey.

DC PANEL/MAIN BATTERY SWITCH: The main battery switch is a Blue Seas 12-volt switch mounted on the carbon electrical panel with Blue Seas breakers. All mounted in the center of the boat.



ELECTRONICS AND NAVIGATIONAL EQUIPMENT

VHF /HAILER: Simrad VHF mounted inside. One hand held unit in working condition.

RADAR: N/A **GPS:** Garmin 152 unit

AUTOPILOT: Both the NKE head unit and the Raymarine T 7001, head unit can operate the autopilot steering ram.

WIND/SPEED/DIRECTION: Raymarine St 60 series

SPEED LOG: Raymarine St 60 series

DEPTH SOUNDER: Raymarine St 60 series

COMPASSES: Ritchie 3 & ½ inch

ANTENNAS: 2 x GPS deck mounted antennas. The VHF antenna doubles with the AIS antenna.

All of the above electronics are reported as being in good working condition by the present owner.

SAFETY

NUMBER AND TYPE OF PFDS: There are four adult Type II lifejackets onboard.

THROWABLES: There is a new horseshoe life ring that mounts to the aft rail.

FIRE EXTINGUISHERS: There is one Kidd type 11 dry chemical unit onboard with good dates.

SOUND DEVICES: There are a couple of handheld air horns that look to be in good shape.

NAVIGATION LIGHTS: All the navigation lights are on the mast and appear to be of the best quality and in good working order.

EPIRB: There are two epirb's on board, both need servicing and need to be registered.

LIFE RAFT: The life raft was not available at the time of survey.

FLARE KIT: There is an Olin flare kit aboard with pistol fired and hand held flares.

DROUGH: There is a sea drough that can be deployed if needed.

RIGGING & SAILS

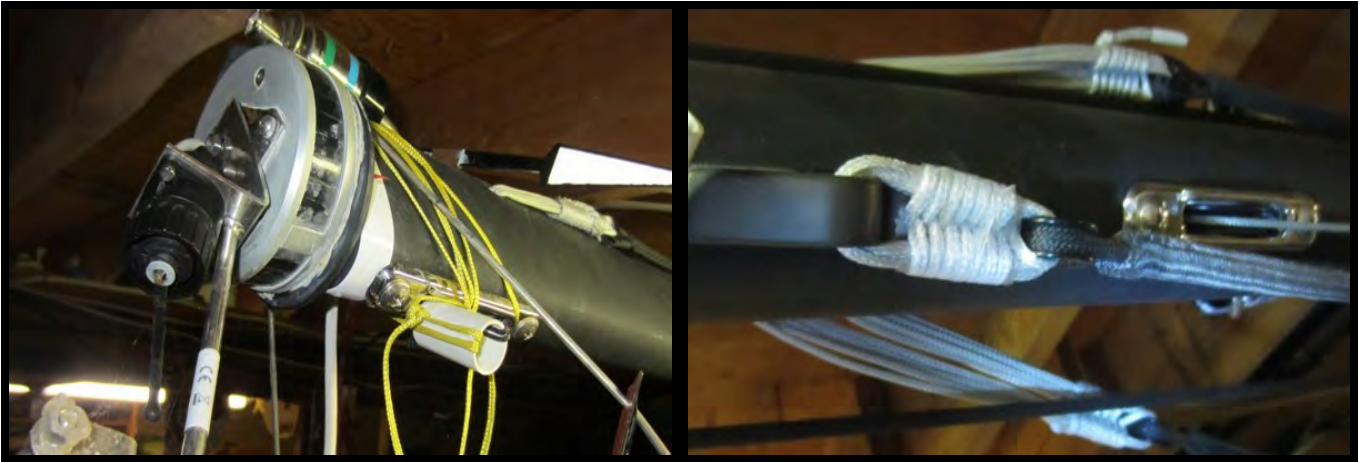
MAST&BOOM: The carbon fiber mast and boom were built by Southern Spars in 2010. The mast is a double spreader rig with only one race to its credit and is in like new condition. This is a \$60,000 new mast and boom.

SHROUDS AND STAYS: The rigging is all high tech carbon fiber / Dynema stays that have spliced ends along with special knotted ends. The backstay adjuster and boom vang are four to one line systems by Harken.



RIGGING & SAILS, cont'd:

RUNNING RIGGING: All of running rigging is high tech spectra and Dynema lines that are new.



SAILS

SAILS: The mainsail and jib are class sized and built by North Sails in 2010, with one season or one race on them. There are 2 back jibs and 2 Asymmetrical spinnakers that come with the boat. They look to be in excellent condition at the time of survey.



TRAILER: The trailer is a double-axle trailer. Both axles have drum brakes. The drum brakes look to have had a new electrical breakaway system installed on the trailer. It is an electrical system that locks the brake. Some of it looks to be rewired. The trailer has not been taken for a ride or tested out. All four tires look to be in good shape, and although the trailer looks to have been in and out of the water quite a few times, it does not look rotted away with rust. It does have minor rust on it, but overall looks to be in good shape. It looks as if the trailer takes a 2-inch ball. There are also new taillights at the end of the trailer. The trailer looks like it would go over the road carrying the vessel with no problems.

RECOMMENDATIONS

1. There is minor welding work to be done to a few of the islets on the pulpit. **R.**

SUMMARY & VALUATION

It is the opinion of this independent surveyor, and in consulting the BUC and NADA appraisal guides and comparable boats for sale on the various internet markets at this time, and considering the amount of upgrades, refit work and continual maintenance that **415** has been receiving, that it is valued at:

- ***Present Day Estimated Market Value (as is).....\$75,000***
- ***Estimated Replacement Value.....\$140,000***

415 is structurally and cosmetically in excellent condition. This vessel has been continuously upgraded through the years and has been kept up in Bristol fashion, needing only a few minor touch ups, and a minor repair. **415** is an ocean racing sailboat with a great pedigree, in top condition.

Kevin Clarke , RI Marine Survey.

11-14-2013

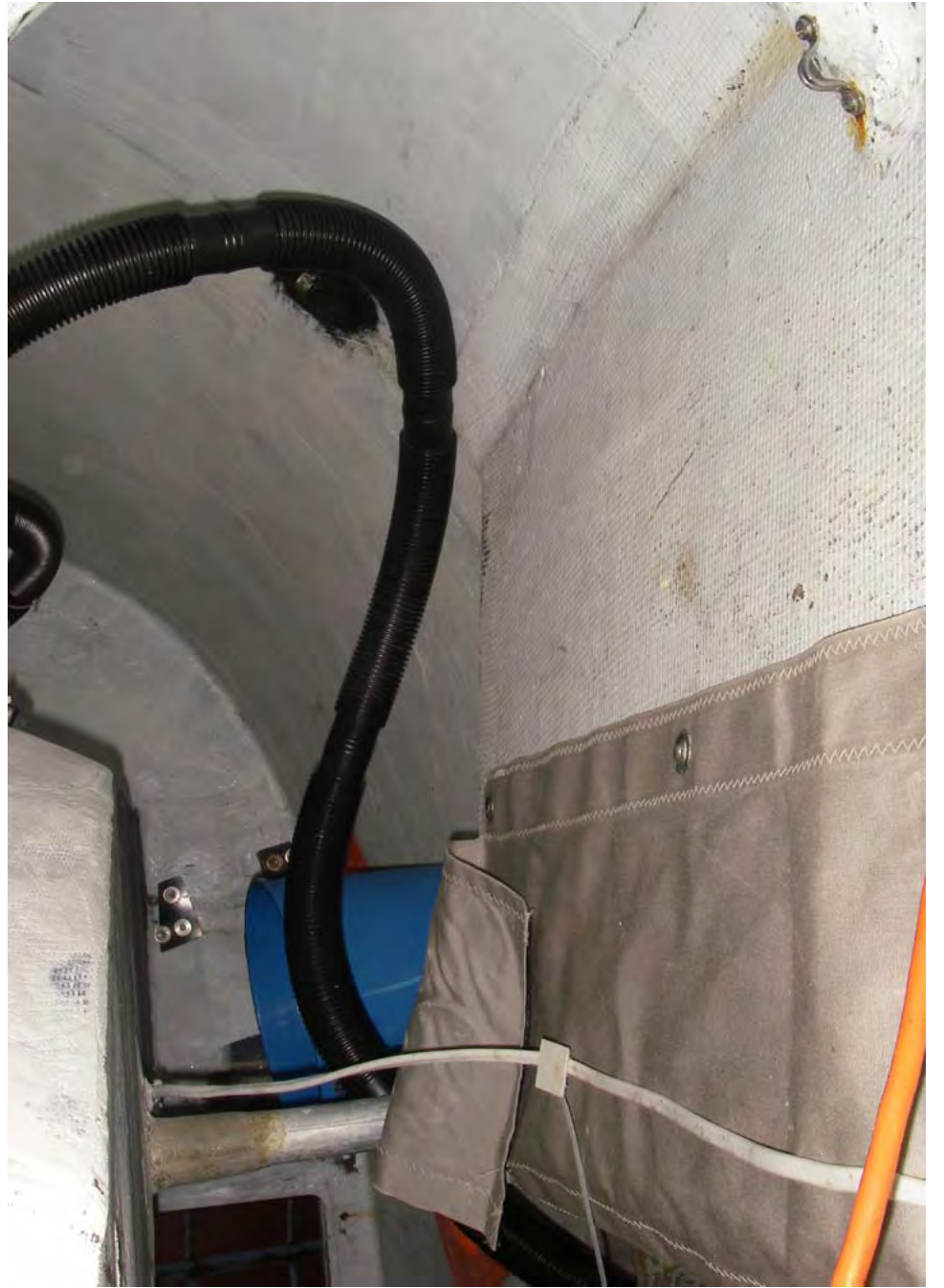
ABYC, Standards Certified

ABYC, Marine Systems Certified

SNT-TC-IA Trained Ultra Sound Level II

K Clarke



















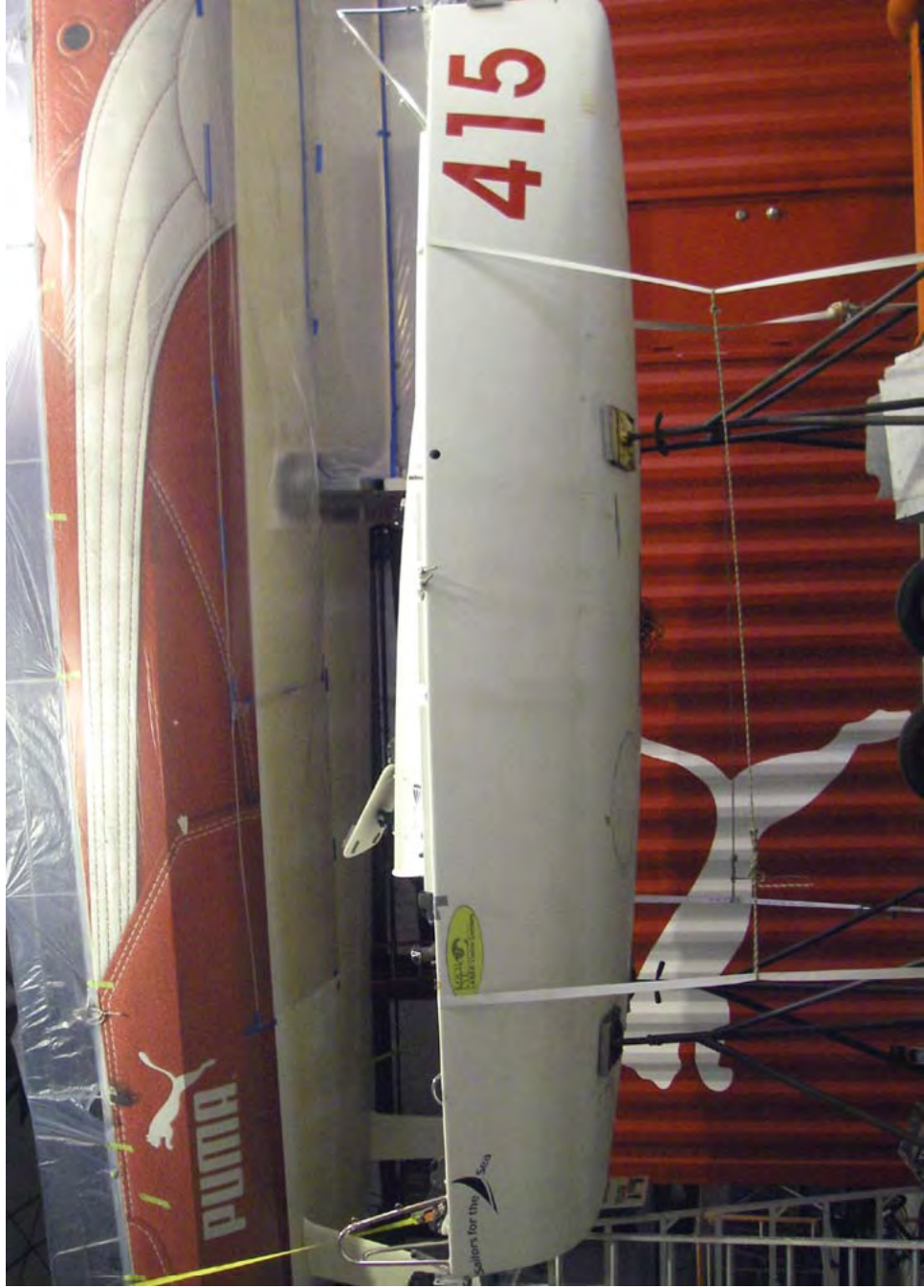


















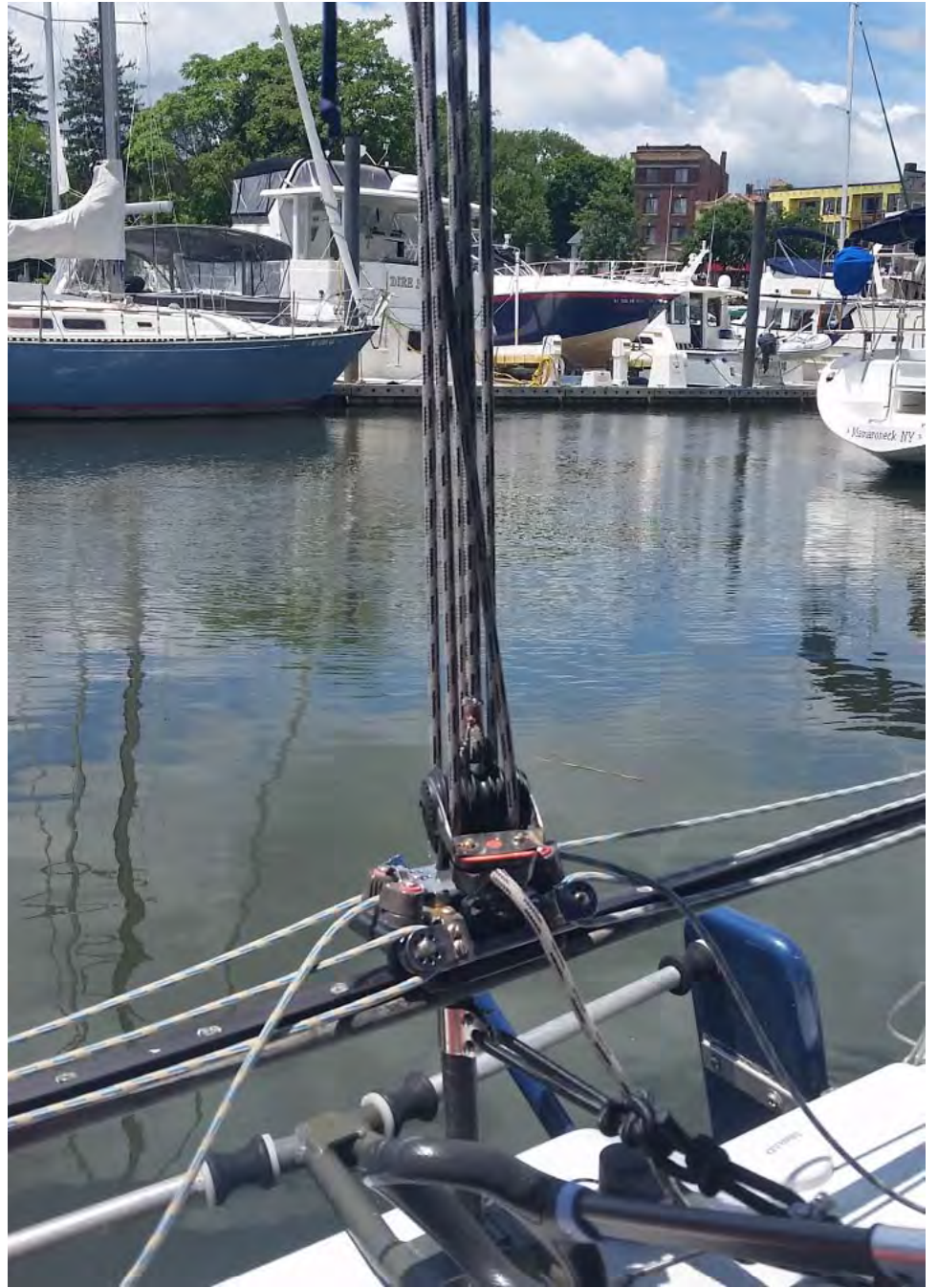


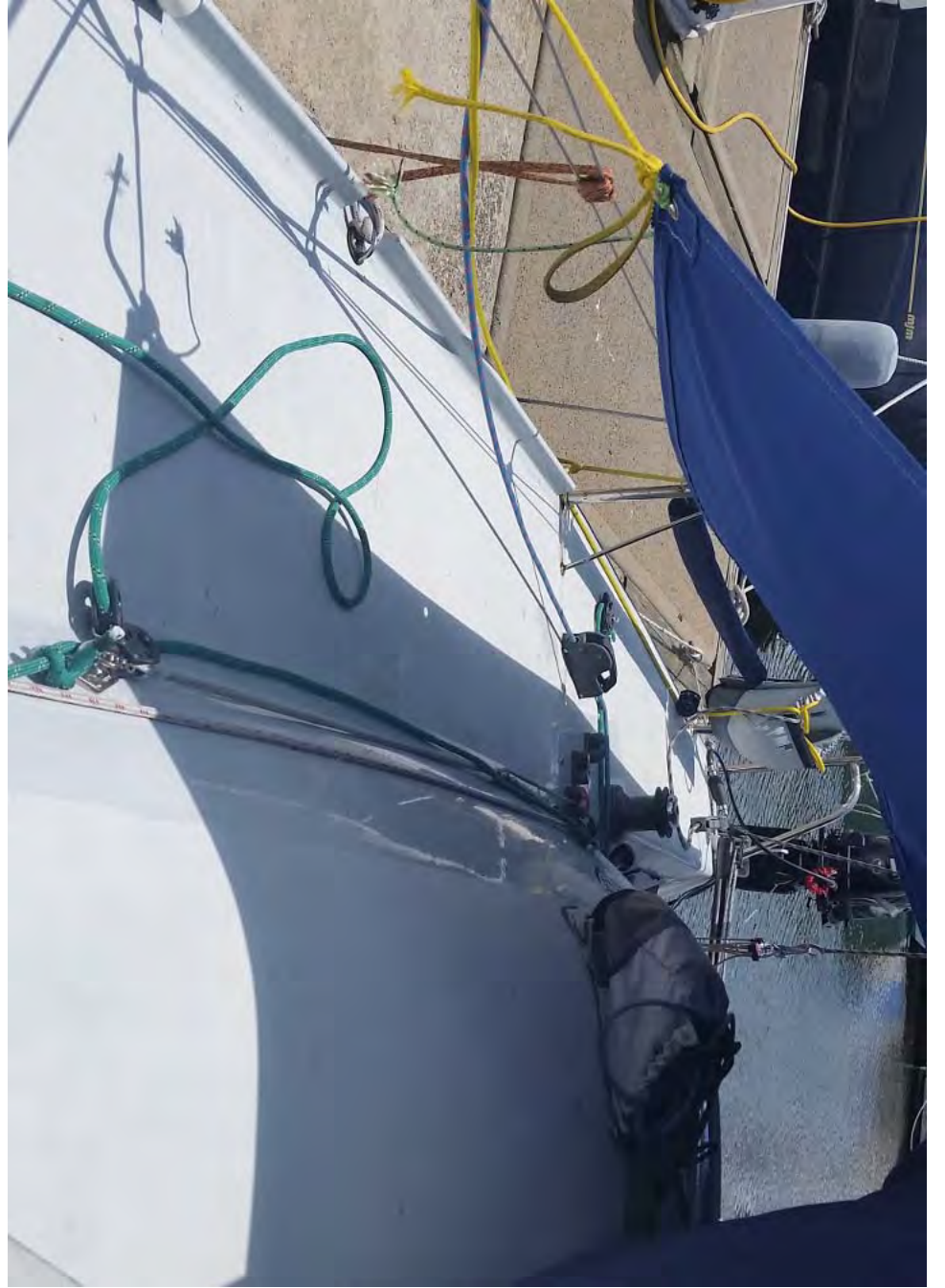


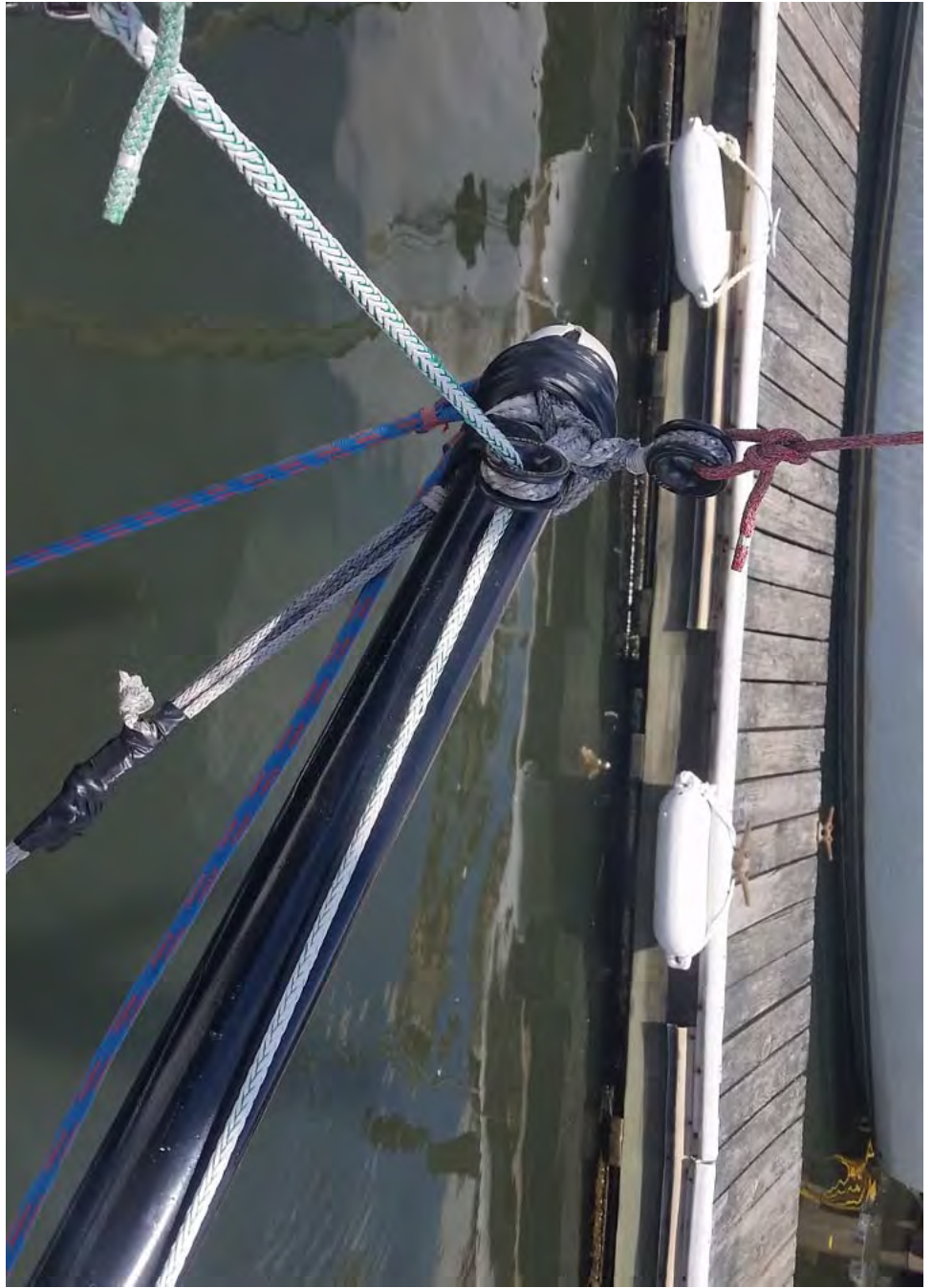


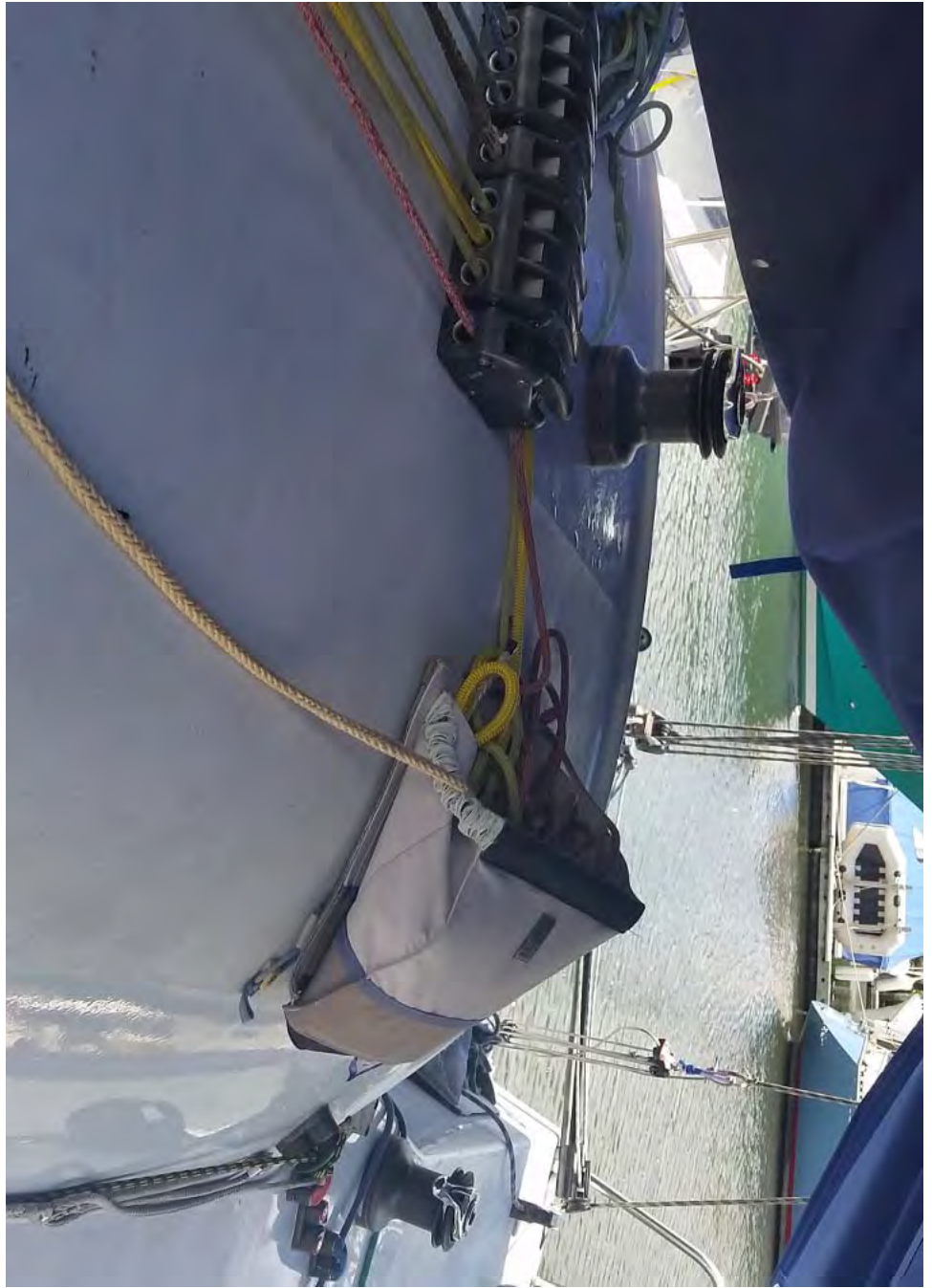




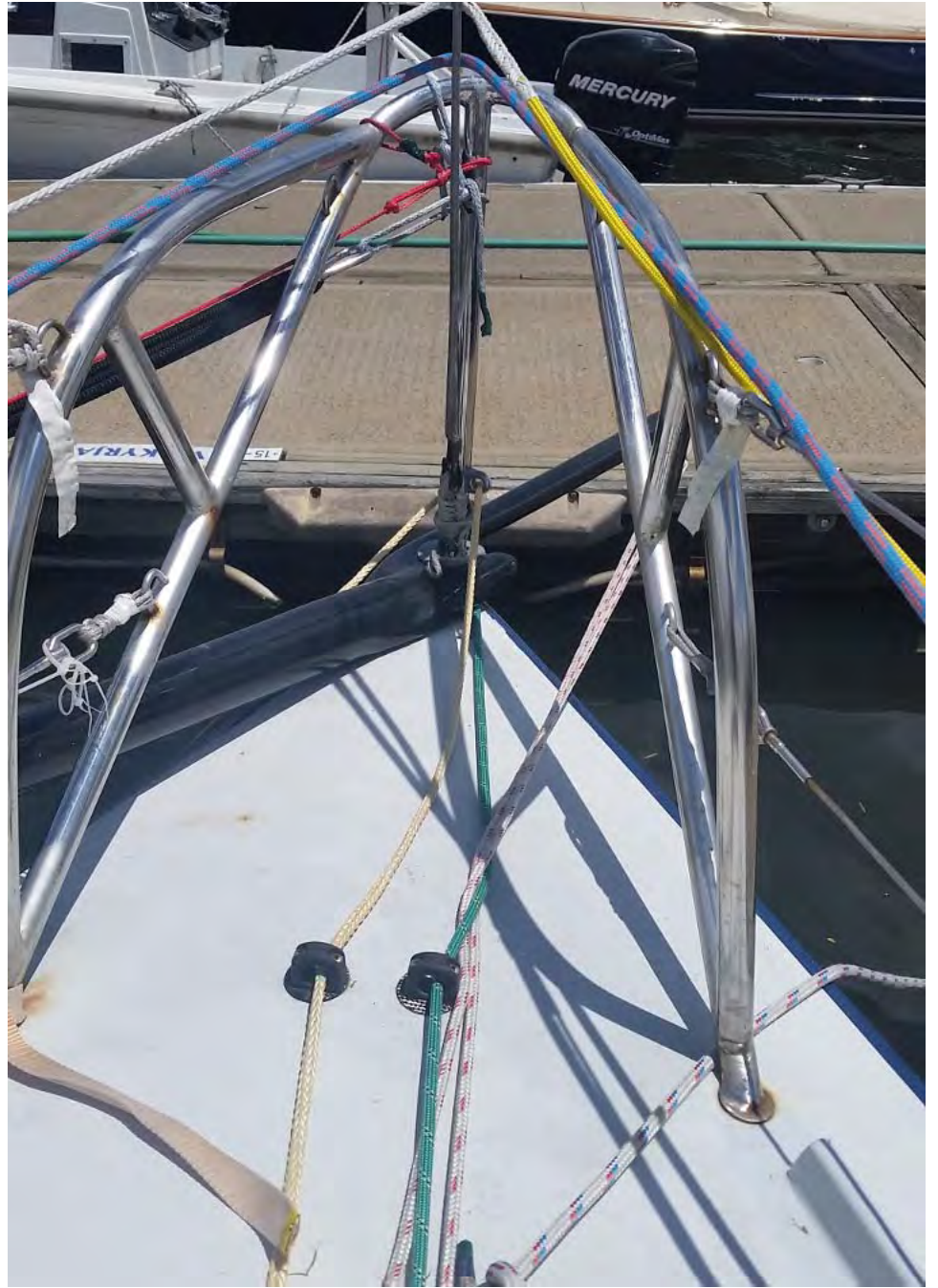


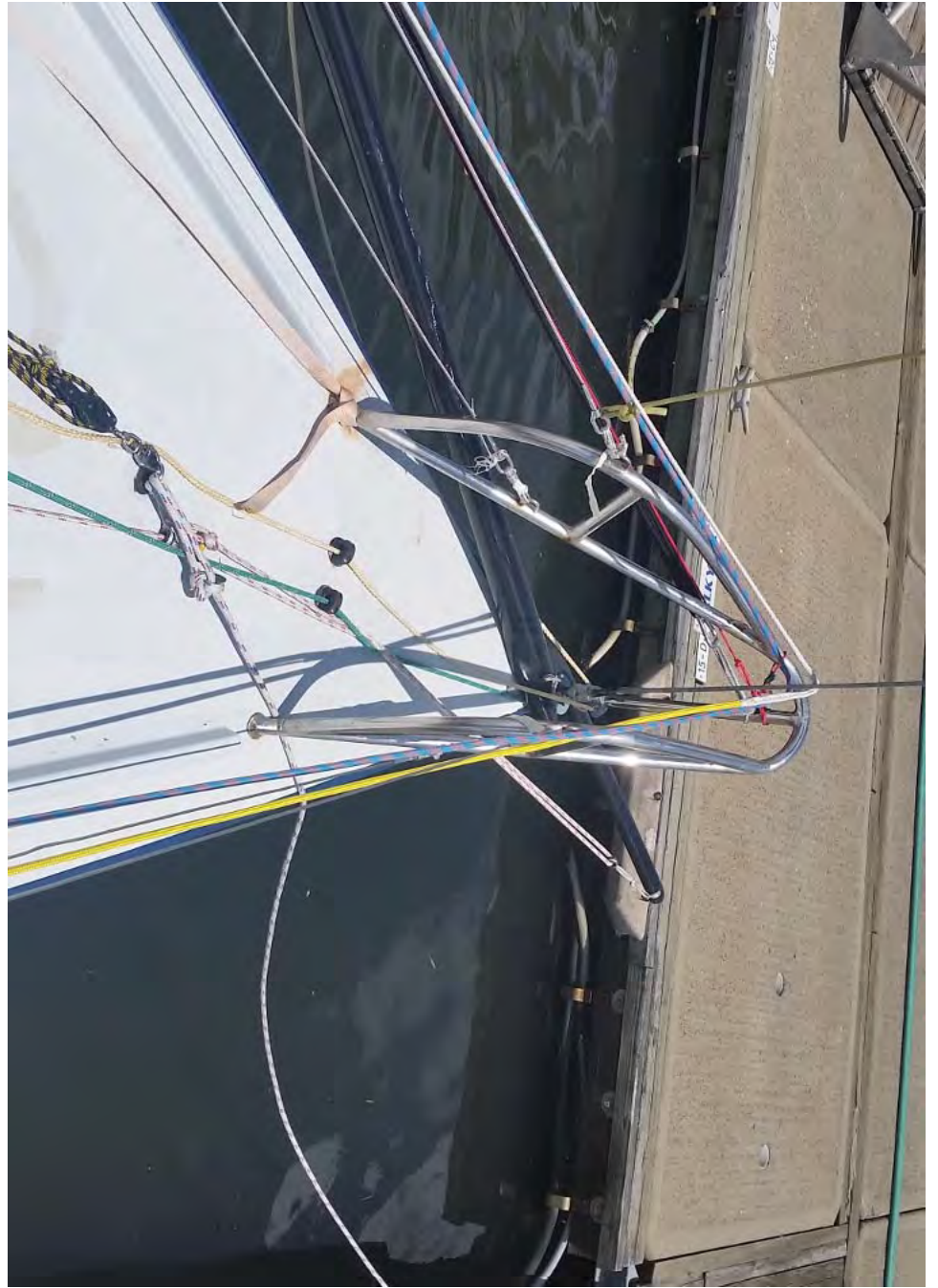


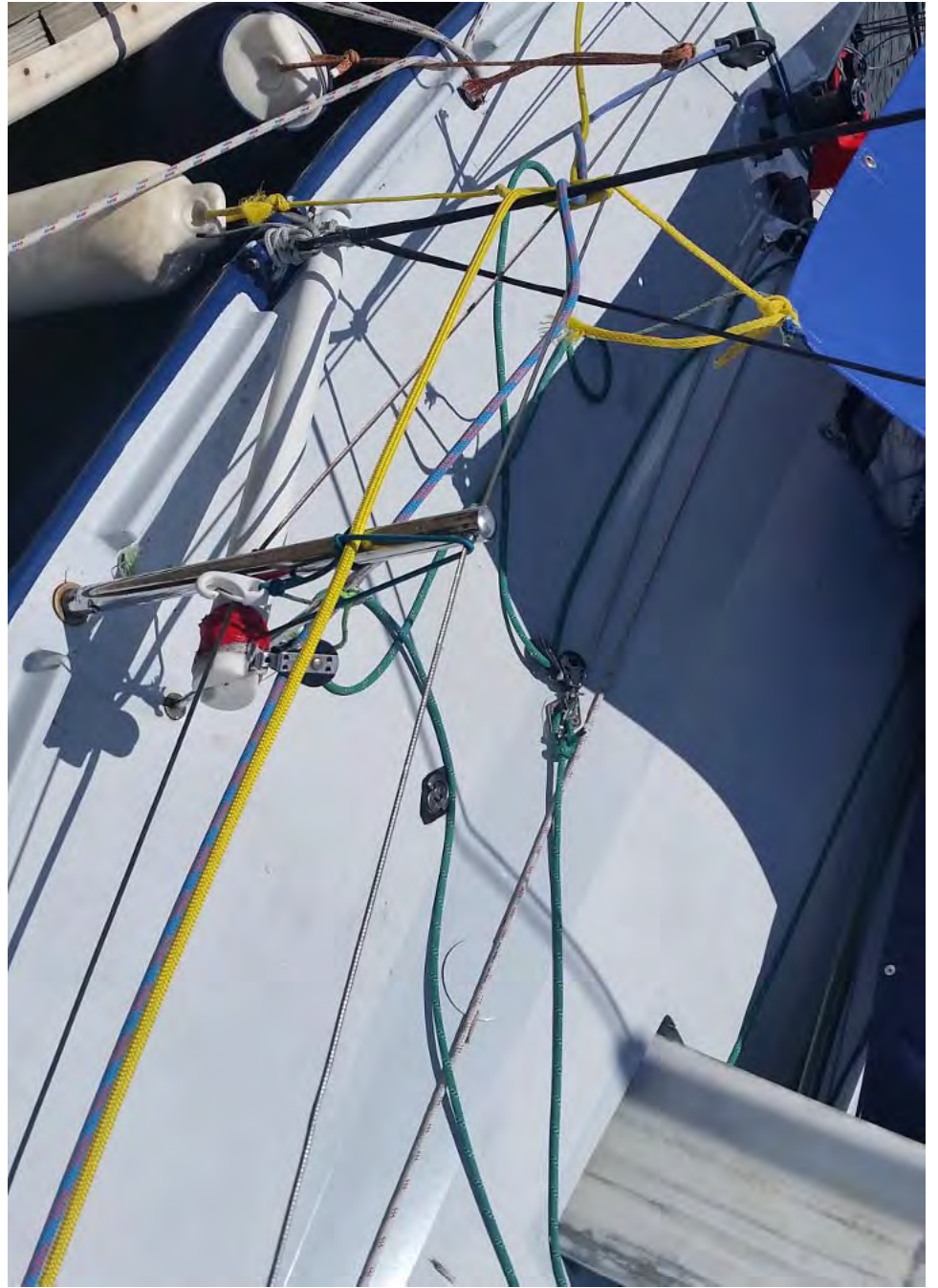












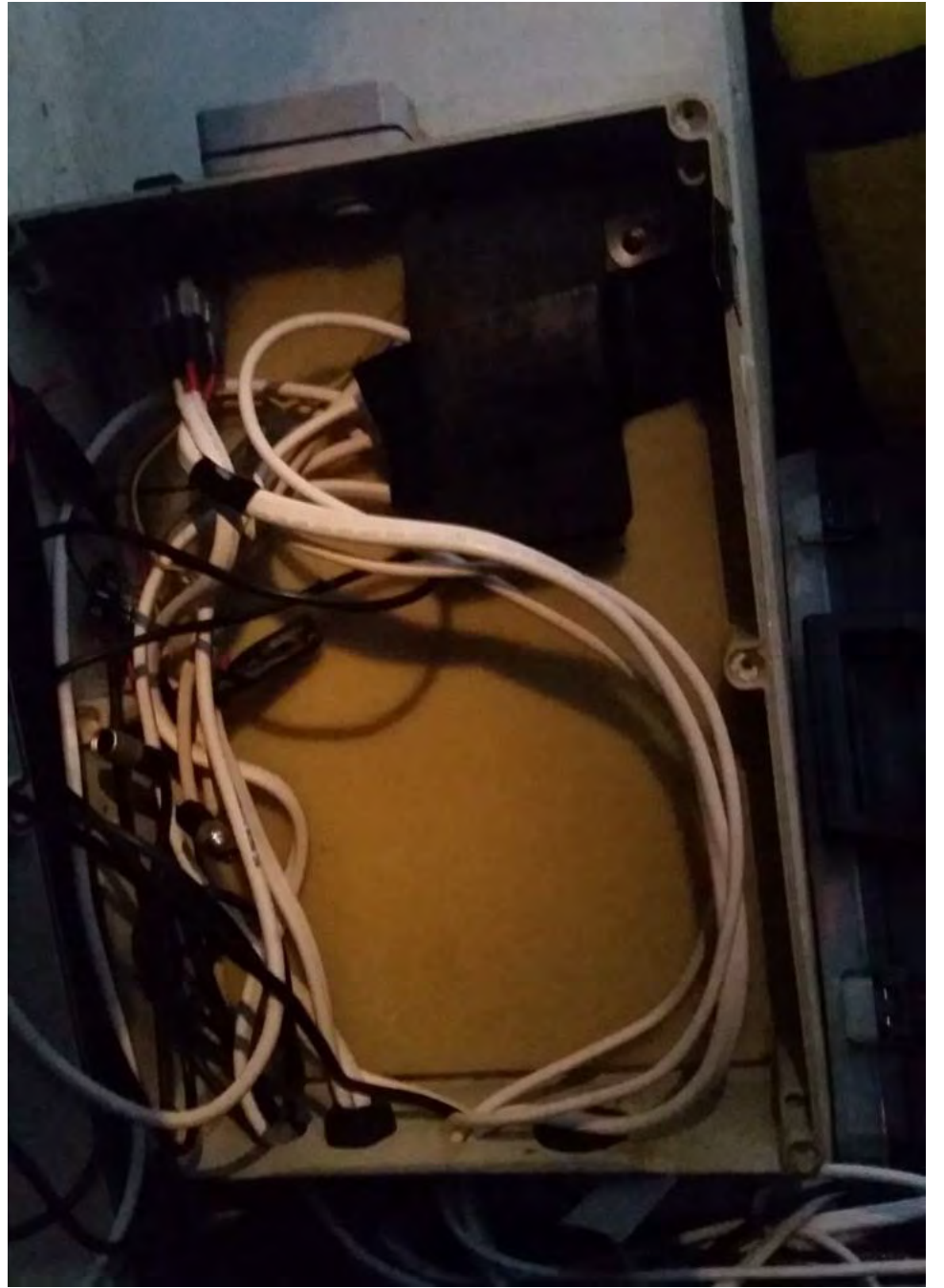












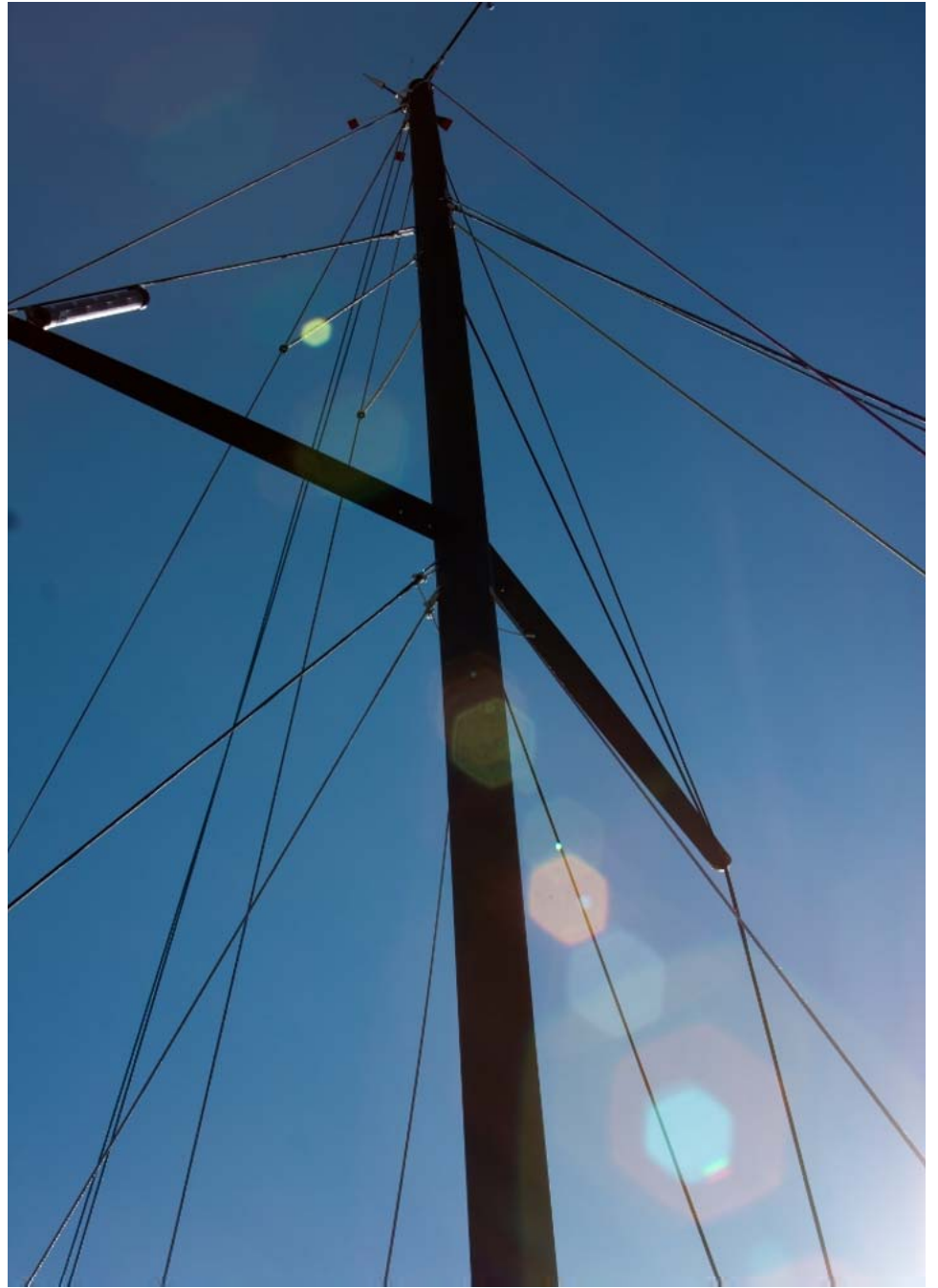


























M.A.T.

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Specification

February 2012

M.A.T. 6.5 mini

Classe mini 6.5 high tech offshore racing boat

Design

Berret Racoupeau Yacht Design

Dimensions

LOA	6.50 m
LWL	6.46 m
Beam	2.99 m
Draft	1.98 m
Disp	809 kg
Ballast	370 kg
I	9.47 m
J	2.70 m
P	10.58 m
E	3.60 m

Construction

Hull and deck in foam cored epoxy/carbon-aramid
Vacuum bagging, post curing

Keel

Canting keel
50 kg fabricated steel fin with composite foil
320 kg lead bulb
2 composite daggerboards P&S

Accommodation

Crash box, watertight bulkhead
Forward buoyancy tank
Ballast tank at keel step
Central area with settees P & S,
Batteries under companionway

Electrical

12 volt system with distribution panel and circuit breakers
Two 60 amp hour service battery
LED Interior lights
LED Navigation lights

Plumbing

Manual bilge pump
Manual ballast tank pump

Deck

Primaries: 2 Harken Radial 30.2 AST
Secondary: 1 Harken Radial 30.2 AST
Harken racing block and car package including:
jib track, cars and purchase system
Mainsheet traveller and track

Right to modification without prenotice reserved

M.A.T.

Namık Elal Caddesi 21Yelki

35310 İzmir Turkey

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www.mat.com.tr

2 jib sheet footblocks
4 halyard turning blocks
Mainsheet system 1:4 gross trim 1:24 fine tune
Purchase system for canting keel
4 Spinlock rope clutches for halyards
2 Spinlock rope clutches for canting keel
4 Spinlock rope clutches for runners
20 Harken cam cleats
Transom hatch for emergency exit and liferaft
Composite chainplates

Steering

Twin composite rudder
Alloy tiller

Rig

Alloy mast with 2 sets of 15 deg. swept spreaders
Alloy boom finished to match rig with internal outhaul
Provision for attachment of mainsheet at boom end and gooseneck
Rod (Nitronic 50) rigging
Runners
Navtec series 500 turnbuckles or similar
Roller system for spinnaker
Carbon fiber bow sprit

1 main halyard
1 jib halyard
1 spinnaker halyard

Finish

Hull and deck coloured with PU spray painting
Nonskid on deck and cockpit floor
International VC offshore antifouling

Price

Euro 69.000 ex-VAT, ex-works Izmir, Turkey

Mini 6.5m

PERFORMANCE RACING SLOOP

DESIGN CRITERIA

The vessels basic description is to operate as a performance sailing yacht. The rig & boom are to be of a modern design, constructed of carbon & aluminium materials, utilising state of the art engineering.

The following design criteria were used as the outline for the preparation of this specification document:

- Mast is designed to be lightweight but still retain standard operating safety factors as normally expected in this type of rig.
- Ease of operation and low maintenance are prime considerations in the construction of all components.
- Secondary equipment is selected from known suppliers with good worldwide service coverage.
- Assembly is consistent with common practices, to enable easy maintenance and service.
- Simple, efficient design allowing effortless assembly, stepping & tuning of the rig during commissioning and service life.

Important - The information in this proposal is confidential and is subject to legal privilege. If you are not the intended recipient, you must not use, disclose, distribute, copy or retain this document in any form.

BASIC YACHT SPECIFICATIONS

<i>P</i> =	10.575 m	<i>RM @ 1°</i> =	kg/m
<i>lsp</i> =	m	<i>RM @ 25°</i> =	kg/m
<i>lm</i> =	9.468 m	<i>RM Max</i> =	kg/m
<i>J</i> =	2.745 m	<i>BAD</i> =	0.380 m
<i>E</i> =	3.605 m	<i>CPW</i> =	2.590 m

Note - The above figures are to be confirmed by the client prior to contracting.

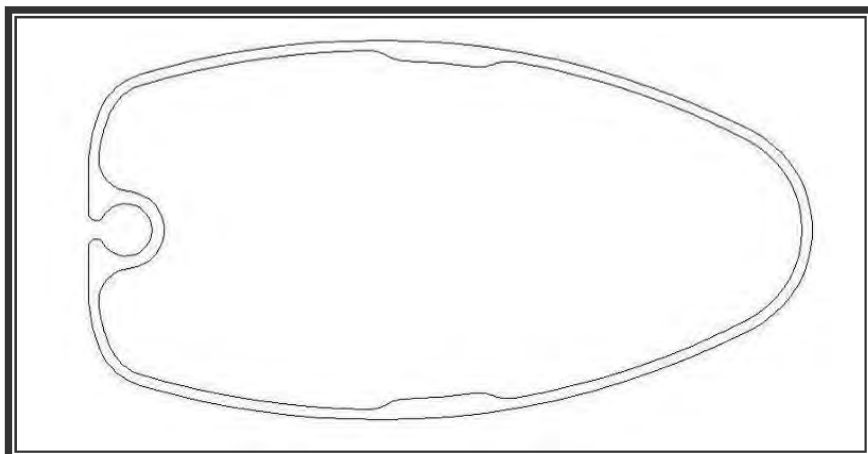
1.1 MAST

MAST SECTION DETAIL

Rig Configuration	2 Spreader Sets, Cathedral, Keel Stepped
Section Size	142 mm x 84 mm
Tube Length	11.850 m*

* To be confirmed.

MAST SECTION



CONSTRUCTION METHOD

Material:	Standard Modulus Carbon Fibre
Laminate:	Adjusted to the specific engineering values in each panel. Fibre cutting and placement accuracy measured and recorded with Southern Spars QC system to ensure laminate is processed as designed. High load areas and penetrations are reinforced with additional laminate reinforcement patches inserted at the time of laminating.

MASTHEAD

- The masthead is a standard modulus carbon fibre laminated structure, assembled and bonded in to the spar.
- Masthead to suit attachment of running backstays.
- Masthead platform to accommodate instruments & electronics as listed below (see **Electrics & Electronics**).
- Masthead designed for one (1) 2:1 main sail halyard & one (1) 1:1 spinnaker halyard.

HOUNDS / FORESTAY ATTACHMENT

- Single sheavebox to suit fractional spinnaker / wing halyard.
- Aluminium spectacle deflector fitted above forestay attachment point to suit wing / spinnaker halyards.
- D3 attachment to be t-balls.
- Cathedral (D4) attachment to be t-balls.
- Tang to suit attachment of forestay.
- Single sheavebox below forestay attachment point.
- Facility to suit attachment of hounds runners.

PANEL TWO

- Attachment to suit soft inner forestay.
- Inner forestay to attach to padeye on deck & be tensioned via client supplied tackle.
- Facility to suit attachment of checkstays.

PANEL ONE

- Allowance for four (4) halyard exit slots with stainless steel rubbing bars.
- Gooseneck bracket complete with swivel block to suit boom attachment and shackle for mainsail tack attachment.
- Two (2) padeyes, spectra luff strops & Tylaska T5 shackles to reef main sail luff.
- No allowance has been made for mast mounted jammers. All lines are assumed to lead to deck level turning blocks. Turning blocks to be yard supplied.
- No facility to attach push vang - to be discussed.

PANEL ZERO

- One (1) electrical exit located below deck, final location to be confirmed.
- Additional exits will be charged for accordingly.

MAST BASE & STEP ASSEMBLY

- Female type aluminium anodised mast heel.
- Anodised alloy male mast step with allowance for forward and aft adjustment via attachment bolts.
- Mast step to be installed by boat yard.
- Facility on mast step to attach deck tie-downs.
- Deck tie-downs not included.

SHEAVE LAYOUT

- All sheave assemblies to have mouse lines led for installing halyards.
- All custom sheaves to be acetyl with vesconite bushing.
- All sheaves to be removable for service.
- Sheave pins to be stainless steel.
- Provision for the following sheave assemblies:
 - One (1) 2:1 main halyard.
 - One (1) 1:1 masthead spinnaker halyard.
 - One (1) 1:1 wing halyard.
 - One (1) 1:1 genoa halyard.

SAIL ATTACHMENTS

- Integral mainsail boltrope track to suit 10mm boltrope.
- Stainless steel bolt rope feeder.
- All other sail attachments (headboard, battens, batten sliders etc) are not supplied by Southern Spars.

ELECTRICS & ELECTRONICS

- Supply and installation of the following items (to suit 12V system) -
 - Windex.
 - Windex light.
- Installation of customer supplied items to be confirmed & charged for accordingly.
- Wiring tails exiting mast to be three (3) metres long.

FINISH

- Mast is to be painted black.

NOTE

- All anodised aluminium fittings to be coated with “Marine Grade” anodising.
- All sheaves and terminations located as per final agreed rig layout drawing.

1.2 SPREADERS

- Two (2) sets of tapered, aero-foil shaped, carbon spreaders.
- Spreaders to be finished as per mast
- Inboard ends to attach to mast via throughbar.
- Diagonals to terminate in t-balls.
- Spreaders to be aft raked at 15°.
- Spreader outboard ends to suit rigging system.

2. BATTCAR TRACK

- Harken AA battcar track supplied & fitted to mast.
- Cars not included.
- Track modified to suit rigid vang insert (fixed end).

3. WATER TRAP

- Water trap fitted just below lower exit slot.

4. BOX BOOM

Material:	Standard Modulus Carbon Fibre
Boom Dimensions:	Length = 3.70m; Height = 153mm; Width = 52mm

SPECIFICATION

- Carbon section designed and tapered as dictated by designed bending and compressive loads.
- Inboard end designed and constructed to attach to mast gooseneck toggle.
- Outboard end with provision for four (4) reef line sheaves and one (1) outhaul sheave.
- Inboard end to allow four (4) reef line sheaves and one (1) outhaul sheave to be led to deck blocks.
- Single attachment point near outboard end for mainsheet block.
- Facility to suit attachment of outhaul purchase system.
- No facility to attach push vang.
- All boom sheave pins are to be stainless steel and are removable for easy service.
- Boom finished as per mast tube.
- Aluminium boom as well as other profiles available on request.

5. BOWSPRIT

- Carbon tube - OD: 75mm.
- Inboard end fitting to allow pole to rotate to windward.
- Outboard end to suit 2:1 tack line - tack line not included.
- Tack line to run internally & cleat on deck.
- Pole to suit attachment of seastays at outboard end & midway.
- Pole to suit attachment of topping lift.
- Pole to suit attachment of adjustable sidestays to allow pole to rotate to windward.
- Stays & topping lift not included.
- Pole to be painted.

6. PACKAGING

- Suitable protective packaging to approved shipping standards to protect the spar from moderate levels of damage during shipping and transport.
- Rigs packaged inside a framed plywood crate to suit break bulk shipping.
- Packaging price based on a shipment of one (1) rig package.

7. SHIPPING

- Shipping price is dependent on quantities, delivery address, exchange rate and date of shipping.
- Prices & options based on what is available at time of quoting.
- Shipping charged at cost and as a result, variations in actual price may occur.
- Southern Spars is not liable for extra charges due to price fluctuations, destination charges & unforeseen circumstances.
- Shipping price based on a shipment of one (1) rig package.
- Destination charges excluded.

PRICING PER ITEM (PLEASE TICK BOX IF ITEM IS REQUIRED)

	TICK	ITEM	PART #	EUR
1.1		STANDARD MODULUS CARBON MAST		€ 8 850.00
1.2		STANDARD MODULUS CARBON SPREADERS		€ 990.00
2.		BATTCAR TRACK		€ 605.00
3.		WATER TRAP		€ 160.00
4.		STANDARD MODULUS CARBON BOOM		€ 3 360.00
5.		BOWSPRIT		€ 2 010.00
6.		PACKAGING		€ 700.00
7.		SHIPPING		TBA

PLEASE NOTE: These prices are indicative. Accurate pricing will be supplied once the design details have been finalised.

SPECIAL TERMS AND CONDITIONS

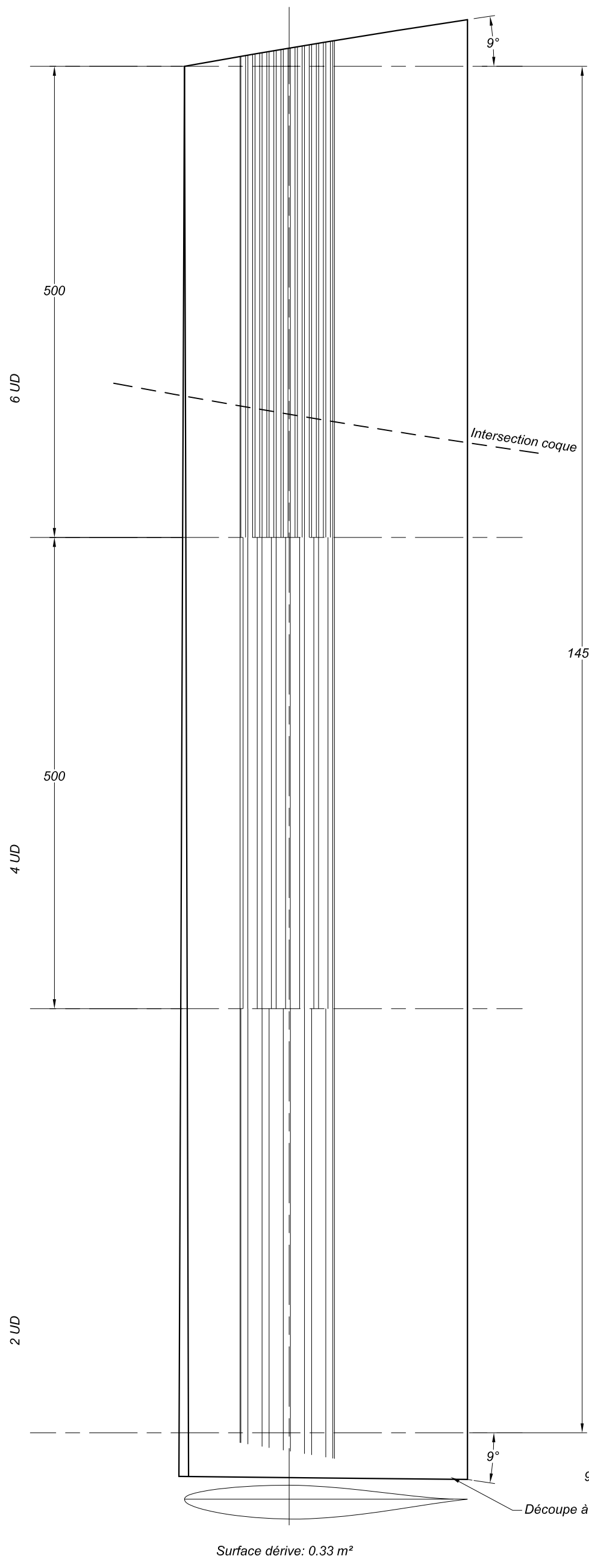
1. All prices are in Euros (EUR) unless otherwise stated.
2. All prices are ex-works.
3. Prices are based on present currency exchange rates and may alter without notice due to currency exchange fluctuations.
4. Prices are based on a duty free scenario. i.e. foreign funds to be transferred directly into our local bank account.
5. Southern Spars bank details to be on invoice or available on request.
6. Payment terms:
 - i) 50% of Purchase Price due with signed Order Confirmation to secure a production slot.
 - ii) Balance of Purchase Price, shipping & packaging due prior to despatch.
 - iii) Failure to meet these requirements may result in delay of goods.
7. This quotation is valid for thirty (30) days, from the date of quotation. Southern Spars reserves the right to withdraw any quotation at any time before the contract is formed with the customer.
8. Quotation is indicative until the specification has been confirmed as being correct. If the specifications are any different from those recorded above Southern Spars shall be entitled to amend the amount of the quotation. Any specifications in the above quote to be altered by written confirmation only.
9. Due to material delivery times, orders placed later than fourteen (14) weeks prior to commencement of production, may be subject to additional charges.
10. Southern Spars shall not be responsible for any defects arising from any material provided by the Purchaser or any construction stipulated by the Purchaser.
11. Purchaser supplied goods: Southern Spars accepts no liability for malfunction, damage or loss, as a result of fitment or storage of Purchaser supplied goods.
12. Transit insurance: in the case of loss of, damage to, or delay of goods in transit, Southern Spars shall not in any event whatsoever be liable to the Purchaser beyond the amount which Southern Spars is able to recover from its insurers, carriers or other third parties.
13. The above price is the discounted boat builder's price per unit based on a confirmed order for 1 rig.
14. Exclusions:
 - i) Stepping charges are excluded unless otherwise stated.
 - ii) Crane hire charges for Purchaser's account.
 - iii) Transport, packaging and insurance costs are excluded unless otherwise stated.
15. This quote is subject to our General Terms And Conditions.
16. The General Terms And Conditions are available on request.
17. Goods to be scheduled for production on receipt of the Signed Order Confirmation and deposit.
18. Completion Date to be established by Southern Spars on receipt of the signed Order Confirmation & deposit. Southern Spars will endeavour to meet this completion date, barring any unforeseen circumstances and subject to availability of material.

ORDER CONFIRMATION

I, _____ hereby accept the above Southern Spars quote, Special Terms And Conditions and General Terms And Conditions.

Signed _____

Dated _____



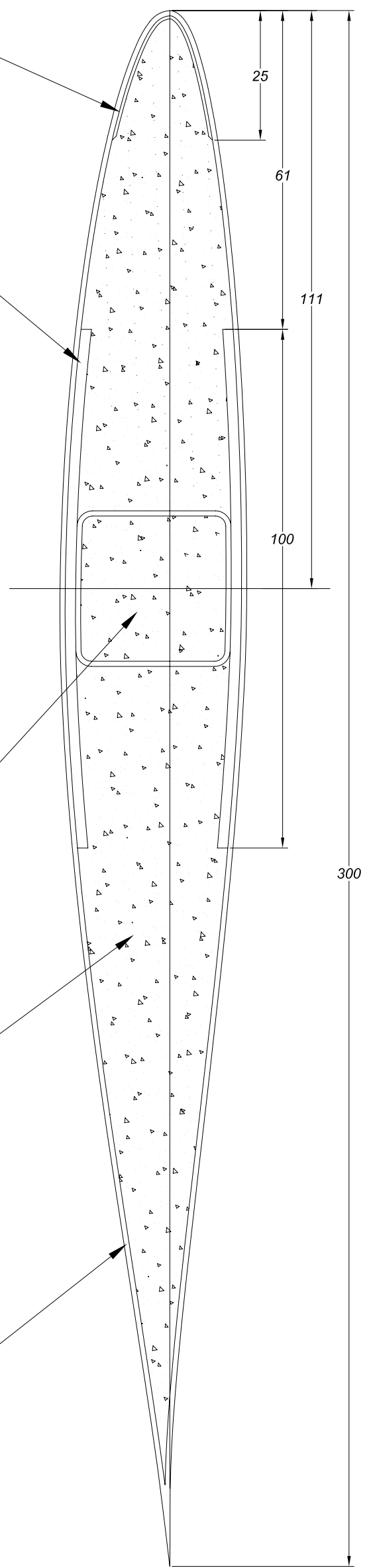
Renfort bord d'attaque:
1 bibiais @ +45°

Toile de renfort:
6 UD @ 0°
(ech. dégressif/
envergure)

Poutre:
Mousse PVC 80 kg/m³ profile 28*28
1 UD @ 0°
1 bibiais @ ±45°

Ame:
Mousse PVC 80kg/m³

Peau:
2 roving @ 0°



Note: Sauf spécification contraire, les tissus mentionnés dans ce plan sont définis selon le tableau suivant:

	Roving	UD	Bibiais
High-tech:	carbone 200 g/m ²	carbone 200 g/m ²	carbone 2*145 g/m ²
Mid tech:	Verre E 290 g/m ²	Verre E 230 g/m ²	Verre E 2x200g/m ²

Mini 6.50 2005 N° 307.03.10
Plan de dérive 1/5e Par : AM
Médéric Ceyrat Le : 26/08/05

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