

MD21A
ENGINE N° 221130-3/133135
1977 NK 16

R.B. Reduction Gear

We are pleased to hear that you have made the HALLBERG RASSY 41 your choice.

Probably you have sailed for years, you might even have had a boat from our yard before and know many details. Even so, please do not put this booklet away. In this we have tried to put together the most important instructions and hints that apply to the HR 41.

This booklet does not in any way claim to be complete and is not intended as an "Operation Manual" but deals primarily with details which are specifically related to this boat. As a rule the new owner always has to dedicate sufficient time in order to get himself acquainted with his new boat and its constructions. The responsibility for the proper maintenance is also up to the owner.

We wish you many happy days on your new HR 41.

All particulars in this booklet are given in god faith but are not guaranteed

HALLBERG-RASSY 41'

SPECIFICATION
AUG. 1976

MAIN DATAS:

Designer: Olle Enderlein

Length over all	12,50 m	41'
Length in wl	10,40 m	34' 2"
Beam	3,60 m	11' 10"
Draft	1,84 m	5' 9"
Displacement	abt. 9,8 t	21600 lbs
Keelweight	3,8 t	8400 lbs
Sail area	82,0 m ²	890 sqft
Height of mast above wl	abt. 17,0 m	56'
Number of berths	7-9	
Speed under Power	8,5 knots	

HULL:

GRP in hand lay up. Colour: White.
Bottom treated with Antifouling.
Built in longitudinal stringers and tanks in GRP.
Ballast keel, iron, moulded in and completely protected in GRP.
Rudder blade in GRP.
Rudder main piece ϕ 40 mm bronze.
Heavy cast rudder fittings in bronze.
Scantlings and workmanship in hull, deck, rudder, ruddershaf, chainplates with Lloyds "Hull Moulding Certificate".

DECK AND SUPERSTRUCTURE:

GRP-sandwich construction, 25 mm with polyvinylcellular plastic as core material for strength and insulation.

Colour: Ivory white.

Hull and deck completely joined by overlapping GRP laminate.

Bulwark formed in the deck and hull mouldings and fitted with a solid capping in teak.

Handrails, Cappings on cockpit, Coamings, Companionway, Hatchguides, Sole and seats in cockpit are all in solid natural teak.

Laid teakdeck on top of GRP deck, $\frac{1}{2}$ ".

The deck is provided with four 1" scuppers draining below the waterline.

Two $1\frac{1}{2}$ " scuppers from the watertight and selfdraining cockpit.

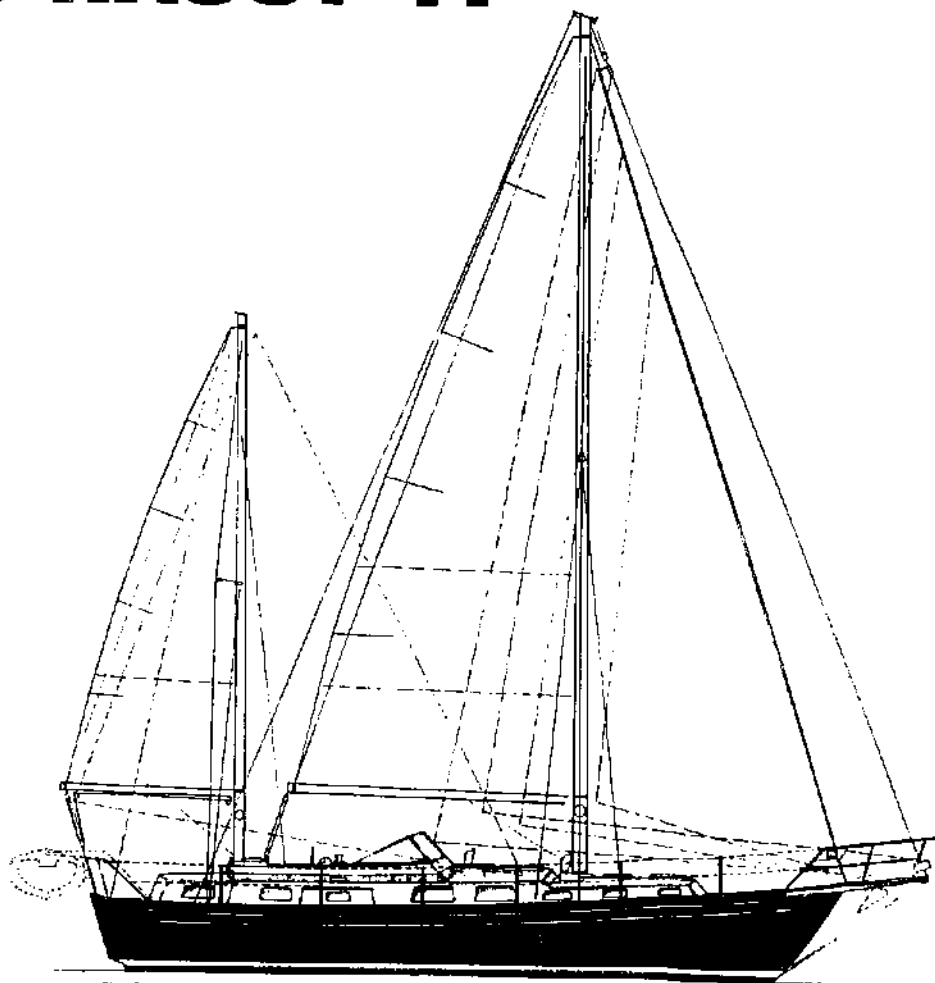
SPARS AND RIGGING:

Mast and boom in anodized light alloy profiles. Main mast: 239x162, 6,1 lbs/foot. Mizzen mast: 162x104, 2,8 lbs/foot.

The masts are provided with a special channel for later installment of cables for electrical equipment.

The masts are stepped on the cabin tops directly over strengthened bulkheads. Modern Jiffyreff for the main.

2 halyard reel type winches Lewmar 2 or equiv. and one Lewmar 8 for mizzen.



Scale 1:125

On the mainboom two Lewmar 8 for reef and outhaul. Boom vang tackle for main and mizzen.

Internal halyards.

Decklights in both masts.

Fittings for spinnakerhalyard at masthead, pennantlines, fittings for mizzenstaysail at mizzen masthead.

Mainsheet 4-part with Lewmar 25 or equiv.

Mizzen sheet 3-part with clamcleat.

Two sets of foresailsheet.

Four Lewmar adjustable track cars for foresailsheets on 10' Lewmar light alloy track.

Two heavy footblocks for better lead to winches.

Main shrouds and stays in ϕ 8 mm (5/16") 1x19, one aftstay insulated. Mizzen shrouds and stays ϕ 6 mm (1/4") 1x19.

Turnbuckles 5/8" resp. 7/16".

Jib and main halyards 6 mm (1/4") 7x19.

Mizzen 4 mm (3/16") 7x19.

Boomlifts.

Stainless chainplates and stemheadfitting.

The outer forestay is equipped with jibroler: Varioturn 3 or equiv.

SAILS:

First class workmanship in terylene or daeron, soft treated cloth.

Main and mizzen sails with slides for track in masts.

Mainsail: abt. 34,5 m² 300 grms/m² 380 sqft.

Workingjib: „ 34,0 m² 300 grms/m² 375 sqft.

Mizzen: „ 11,7 m² 300 grms/m² 130 sqft.

Genua „ 55,5 m² 220 grms/m² 610 sqft.

"for roller"

All sails are delivered in bags with eventual battens.

Sailcovers for main and mizzen sail.

EQUIPMENT:

Sheetwinches, two Lewmar 44, three speed. Winchhandles 10", "Lock in", three provided.

Four 15" mooringcleats.

Two 10" mooringcleats, amidships.

Davits for dinghy.

Pulpit, open type for easy embarkment.



Hallberg-Rassy

HALLBERG-RASSY VARV AB

S-440 80 ELLÖS - SWEDEN

PHONE 0304/502 90

Built in rubbingsrake with bronze profile. Double lifelines with seven pairs of conical stanchions. Gates portside and starboard-side.

The yacht is delivered with permanent windscreens with heat treated glass in light alloy frames.

In the windscreen one window is opening and provided with electric wiper. A canvas canopy attached to windscreen protects the forward part of the cockpit.

Portlights in heat treated glass in light alloy frames.

Bowsprit with electr. anchor windlass.

Two double rollers.

One selfstowing 45 lbs CQR anchor.

The chain is lead to a selfdraining chainlocker. 80' of 3/8" chain is provided.

Steering with Edson wire rope steering, easy adoptable for autopilot.

Compass: Sestral Moore or equiv.

One electric bilgepump and one manual, type Whale Gusher 10.

International navigation lights, 4".

One anchorline 100'.

Six mooringlines 33'.

Six fenders 6".

Bosthook.

MOTOR:

Volvo Penta diesel MD 21 A. 75 hp SAE at 4500 rpm. Used output 51 hp (smmt) at 3000 rpm. Four cylinder diesel of swirl-chamber type, crankshaft in five main bearings. The engine is FW-cooled and equipped with oil cooler. Reverse and reduction gear type RB 191.1. 12 V electrical system with 38 A alternator, four batteries each 114 Ah, one for engine starting and three on separate circuit for lightning etc.

Instruments comprise Tachometer. Temperature and optic and acoustic warning.

Propeller: 3-blade, pitch 11", diameter 17", left hand.

Propellershaft ϕ 30 mm, stainless steel. Engine and shaft carefully aligned and rubber suspended. The engine compartment is sound insulated for lowest possible sound level.

Shaft bearing. Cutless waterlubricated rubber-bearing.

"Wet" exhaust line with compensator, waterlock and effective rubber silencer.

Two built in fuel tanks 460 l. (abt 120 US gallons) with separate pump for draining eventual water or sludge.

Washbasin in china, sunk into the counter-top. Running hot and cold water with telephone type shower. Manual FW-pump in reserve. Showercurtain, mirror and toilet-lockers. The floor is dished and drained for showering. The walls are covered with light colour linen texture vinyl.

The maincabin is built with fair size sofas. berths P and SB. Port side sofa is made as a 7'0" L-sofa. The starboard sofa is 6'8". Bookshelves and lockers outside the sofas. The inside of the hull above berths is paneled with mahogany. The ceiling is lined with Somvyl. Aft in the main cabin is a L-shaped galley equipped with 2-burner stove with oven in gimbal. Permanent tubing with shut of valve for liquid gas from stove to gasbottle. Icebox 220 lbs., drained and with refrigeration unit with icemaker. Stainless sink 13"X16" with running hot and cold water, manual pumpe in reserve. The working surfaces on counter top in easy cleaned teak texture plastic laminate. Locker for china, drawers etc.

Under the floors in the main cabin is a built in freshwater tank abt. 560 ltrs (160 US gallon).

On the Port side is navigators table with chartlocker, drawers, el. switchpanel with voltmeter and meters for freshwater and fuel.

Oilskin locker behind the accomodation ladder.

In the passageway to the aft cabin there is a workbench with stowagelockers.

The engine room is reached from the passageway through big insulated doors.

In the aft cabin there are two berths 6'10"

ACCOMODATION:

First class workmanship in selected mahogany, handrubbed and treated to a silk smooth finish.

The accomodation consists from forward: Water and gastight stowage for liquid-gas bottles, anchor chain below.

The space is accessible from deck and drained overboard.

Forward stateroom with two comfortable berths. Length of berths: 2,05 m (6'8"). Filler between berths gives 0,8 m (2'8") width at shoulder. Below the berths stowage accessible through doors.

The inside of the hull is lined with mahogany. Shelves at sides.

A slidingdoor separates the forward stateroom from the passage to the main cabin.

On the Starboard side of the passage there is a good sized hanging locker. On the Port side is an enclosed toilet compartment with a marine toilet. 10 gallon holdingtank.

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In the aft cabin there are two berths 6'10"

X2'9". The inside of the hull is lined with mahogany. Shelves at sides.

The roomy separate toilet compartment in the aftcabin is similar equipped as the forward. Headroom 6'8".

On the Port side in the aftcabin there are hanginglocker and drawers.

Door to main cabin. Escape ladder to cockpit.

The cushions are all in heavy 5" polyeter foam. The upholstery in high quality furniture fabrics.

The floorboards are all teak, covered by wall to wall carpets. Curtains in all windows.

24 cabintlights and 2 fluorescent lights, one in galley and one in engine room.

The cockpit is selfdraining.

Seats and gratings in teak.

Stowroom accessible from cockpit, 35 cft.

Upper charttable and cockpittable.

Steering stand in GRP and steering wheel in teak.

Panel for instruments.

Permanent stowage for a life raft, mooring-lines etc. on the aftcabin top.

VENTILATION:

Forward stateroom: opening skylight.

Passageway and toiletroom: opening skylight and two opening portlights.

Main cabin: One opening skylight and four dorade vents.

Aft cabin: Two opening portlights and one dorade vent.

Aft toilet compartment: one opening portlight.

Ventilating panels in main and escape hatchways.

EXTRA EQUIPMENT:

Heating.

Additional sails.

Autopilot.

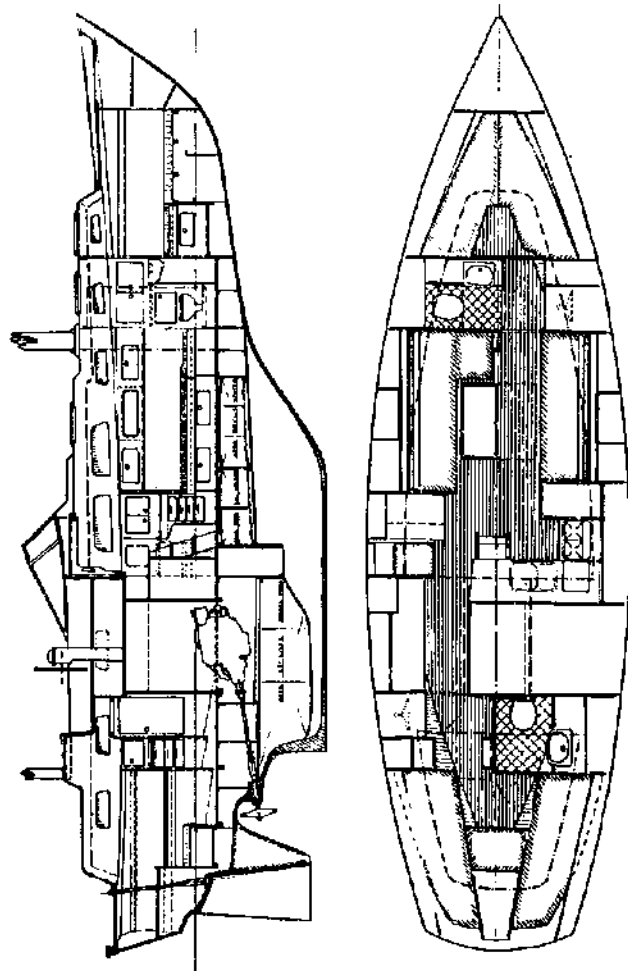
Navigation instruments etc.

The right of changes to specification is reserved.

Member of

Sweboat

Swedish Boating Industries Association



Scale 1:100

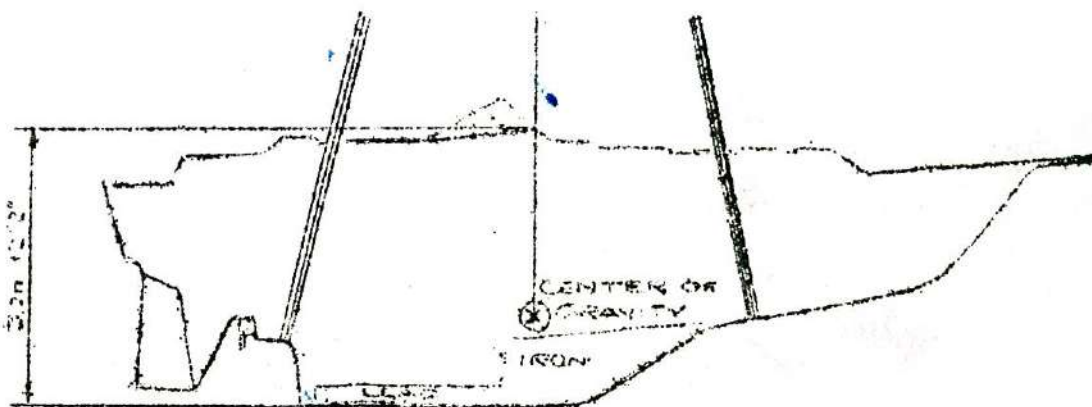
Measurements for transports etc.

Weight with empty tanks about 10 tons (about 22.000 lbs.).

Overall Height without windshields from underside keel to top of GRP coaming (compass steering wheel and pulpit removed)
3,7 m (12' 2")

Overall Beam including rubbing strake 3,62 m (11' 2").

If the boat is to be lifted with strops in a crane or travel lift the after strop is placed about 0,5 m forward of the screw and the forward strop about 0,5 m forward of the mast step. The centre of gravity is located on a vertical line from the top of the forward GRP cockpit coaming (where the central opening windshield panel is screwed).



Length over all means length from rear end of transom to fore most end of the stem and is 12,50 m (41' 0"). "Extreme length" is inclusive bowsprit and davits and amount to 15 m (49' 2")

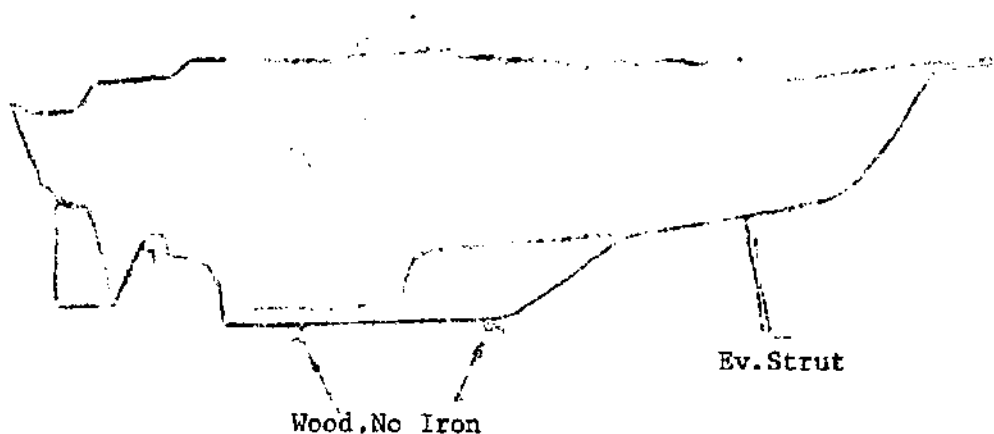
For road transport the bowsprit, windshields, compass, steering wheel and davits can be removed with the tools normally carried in board.

The length of the main mast without any instruments or antennas is 15,25 m (50").

The height of the main mast over water line is 16,85 m (55' 3") without any instruments etc.

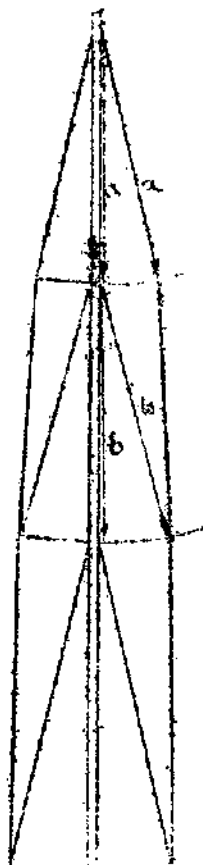
The small plans in the specification are made in scale and could give additional information. Measurements, specially as regards sails and rigging, are best checked on board.

When lifting on a slipway it is important that the boat will not rest direct on iron beams or rails. Two wooden blocks 8" wide are sufficient. An additional strut under the bow can give additional safety against tipping over under extra loads forward.



Mast and rigging

If the boat is not delivered at our yard the new owner in most cases takes care of the rigging of the boat. The halyards and sheeve should be checked and the stays and shrouds attached to the mast. Do not forget to mount the top light and to check with a battery that all lights work. The cross trees are best mounted according to the sketch below. The correct adjustment of these is not only important for the look but also for the safety of the mast.



If a shroud is stretched along the mast and marked at the height of the spreader base fitting, this is the correct position for the spreader tip on the shroud.

The upper top shrouds must be fixed in the upper cross tree tips. The lower crosstree tips are drilled with one smaller and one larger hole. The top shroud is carried loose in the larger hole and the intermediate shroud is fixed in the smaller.

The short lengths of PVC hose that come with the boat are used as protection over the rigging screws and must be fitted before stepping the masts. All rigging screws are best fitted so right turning will tighten the stay.

Main mast

For stepping the mast the foot of the mast is placed with the locating bolts in the slotted holes in mast step. Stays and shrouds are attached and first loosely set to prevent the mast from falling. The fore and after stays are set to about 2,000 lbs. The rake should be about 4". After this the forward lower shrouds are set and adjusted until the mast is vertical athwartships and at the same time the mast is pulled forward at half height about 1". Next come the top and intermediate shrouds which are also set to about 2,000 lbs. The top shrouds a little more than the intermediate. The after lower are only set so loosely that the 1" bend is still there.

The tension in the fore and aft stays and the top shrouds should be higher than the forward lower and the after lower next to loose.

The stay for the furling jib should not be overtightened to avoid damage to the roller bearings.

Mizzen mast

The four mizzen lower shrouds are set medium tight. The top shrouds tighter. The stay between the main and mizzen mast heads should only be tightened sufficient to keep the mizzen masthead from going aft when the mizzen is sheeted in hard in the wind.

Tuning of the rigging

The complete rigging must be kept under observation during the first hours of sail. The rigging and mast will settle after the first hours in hard wind and a retuning must be done.

It is true that a tight forestay helps the performance on the wind but puts also heavy loads on the hull. The use of hydraulic or mechanical jacks for the back stay must be made with care and heavy permanent loads are to be avoided.

The purpose of the tuning of rigging is to provide a straight mast when sailing well heeled. S-bends and top bending forward are to be avoided.

The mast and rigging can under special conditions vibrate. This is caused by the airodynamically favourable form of the mast and the high tension in rigging. They appear almost only when the boat is moored with a strong breeze blowing from abeam.

The vibrations are natural and harmless but if disturbing can in most cases be cured by either:

1. Changing the rigging tension to disturb resonance.
2. Hoisting a line along the mast to break the airflow around the mast profile.

A leaflet from the sparmaker is available for the owner who wants to go in detail with the rigging and trimming of the masts.

Start and running of engine

All boats are tested in the water prior to the delivery from the yard regardless if the boat is to be trucked away or taken over at the yard. The motor has been run and is ready to start except during the winter, when the engines are winterized again after testing. When the boats are trucked away from the yard only enough fuel for testing is filled. Otherwise the tanks are filled up.

Starting

In the oilskin locker under the main accommodation ladder are the two main switches. One for the engine starting circuit and one for the general purpose circuit. To start the engine the engine main switch must be on.

Further follow the Volvo Penta instruction book, page 10, "produce before starting, starting and stopping". Note the instructions for running-in and the warning plate at the instrument panel.

Gear change

We know from experience that the smoothest manoeuvring in harbours is achieved with the engine on fast idling (1000-1200 RPM) and shifting between ahead, neutral and astern using only the gear lever without adjusting the RPM lever. The shifting should be done with distinct movements and with a firm hand on the lever.

Reversing

When a faster response for stopping the vessel is needed, the RPM lever is moved to 1500 to 1800 RPM.

Cavitation

Below 1000 RPM the thrust of the propeller is very low and the running irregular. Over 2000 RPM when manoeuvring the propeller will cavitate especially in reverse. That means that the propeller loses its grip in the water and the thrust drops. Avoid high RPM in manoeuvres especially in reverse.

The turning effect of the screw

The screw is left hand. The bow is turning to port at astern manoeuvres. With the rudder hard over to port and engine shifting between slow ahead and slow astern the boat will turn 360° at the spot. As soon as the boat has started to move, ahead or astern, full steering control is obtained.

General

Before getting used to the boat berthing in close quarter should be avoided in heavy wind. The fine steering control that is obtained on the vessel when going astern often makes it better to back out than try to turn the boat into the wind against a strong crosswind, if the room is not sufficient to pick up headway. After some practice it is surprising to see the precision which can be obtained in manoeuvres also in close quarters and critical conditions.

S A I L

Sail setting

As a general rule the tension on the bolt ropes of all sails should be adjusted so that no wrinkles will appear at these but not so tight as to form folds along spars and stays. This means that the tension has to be adjusted to the windstrength. The halyard winches and the internal purchase on the outhaul make this possible when on the wind.

Mizzen

We are of the opinion that it is most comfortable to set the mizzen first. Without heeling the boat it has a steadying effect.

Main sail

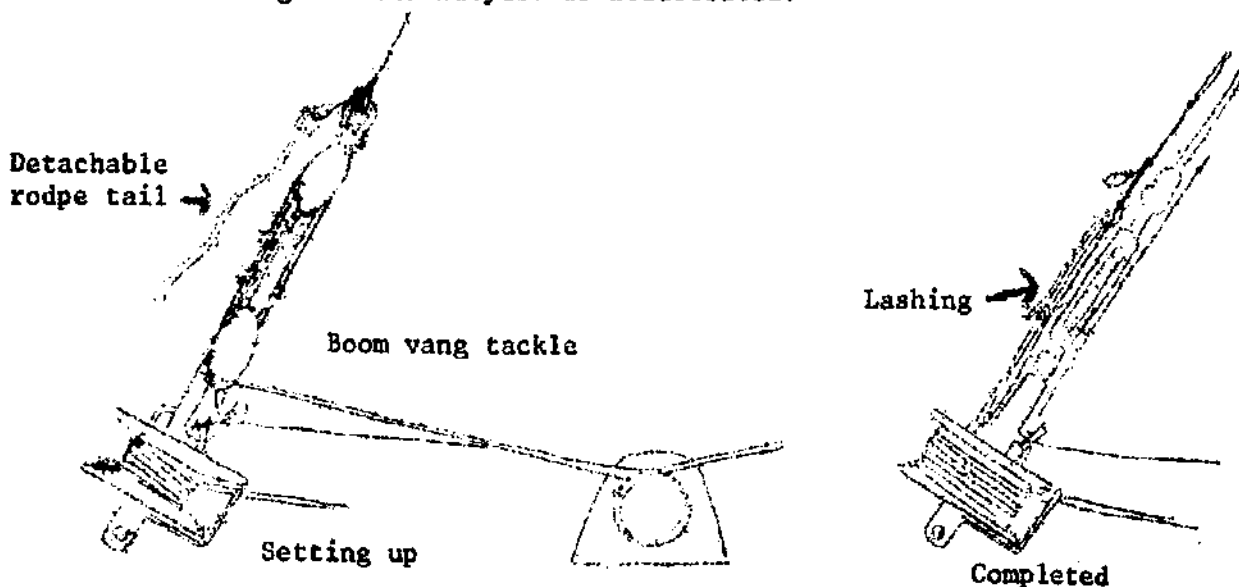
The drums of the main- and head sail halyard winches have two separate sections. When hoisting a sail the halyard is rolled up on the outer section until only a few feet are left. These are rolled up on the narrow inner drum to avoid that the wire will bury and bind under tension. The brake has a free-wheel effect and is best set before starting to hoist.

WARNING!! Do not release the brake to let down the sail with the winch handle still in the winch. The spinning handle may break an arm.

Roller furling jib

The furling jib is rigged in the following way:

The sail is bent on the stay in usual way and shackled to one of the clamps on the drum. The special halyard is cleared and the sail is pulled up with the detachable rop tail. The boom vang tackle together with the drum-gipsy on the windlass is used to tighten the halyard as illustrated.



The tension set up by the tackle should be a little more than normally required (1-2 inch.). The rope tail is detached and between the now free eye on the halyard and the forward clamp on the drum a 3/4" circ. terylene line is taken six to seven times to form a strong lashing. After this the sail is rolled up on the stay by turning the drum clockwise. When the sail is completely rolled up including a few turns on the sheet a 1" circ. prestretched terylene rope about 35' long is entered through the lead and on the drum through the hole in the top and secured with a knot on top. When the line is pulled the sail will roll up. The two part sheet is intended for the furling jib and is best attached to the sail by a bow-line knot. The one part sheet with hook is intended for the foresails on the inner forestay.

The furling jib is a ideal sail for all light wind conditions except for short tacking. In many cases it will be used instead of a spinnaker.

Hints on sail, trimming and carrying

Headsails: The furling jib (610 sqft.) can be carried up to force 4. The working jib (380 sqft.) is carried up to force 6. From force 7 we recommend the 200 sqft. heavy wind jib. When on the wind the working jib should not be sheeted harder than that the sail is 4"-6" from the lee shrouds.

Mainsail: The main is carried without reef up to force 6 and above force 7 the choice is between a second reef and no mizzen or mizzen and no mainsail. The mainsail should not be over-trimmed on the wind, as it is in the nature of the ketch rigged cruiser not to point as high as the racing sloop but to pick up on speed.

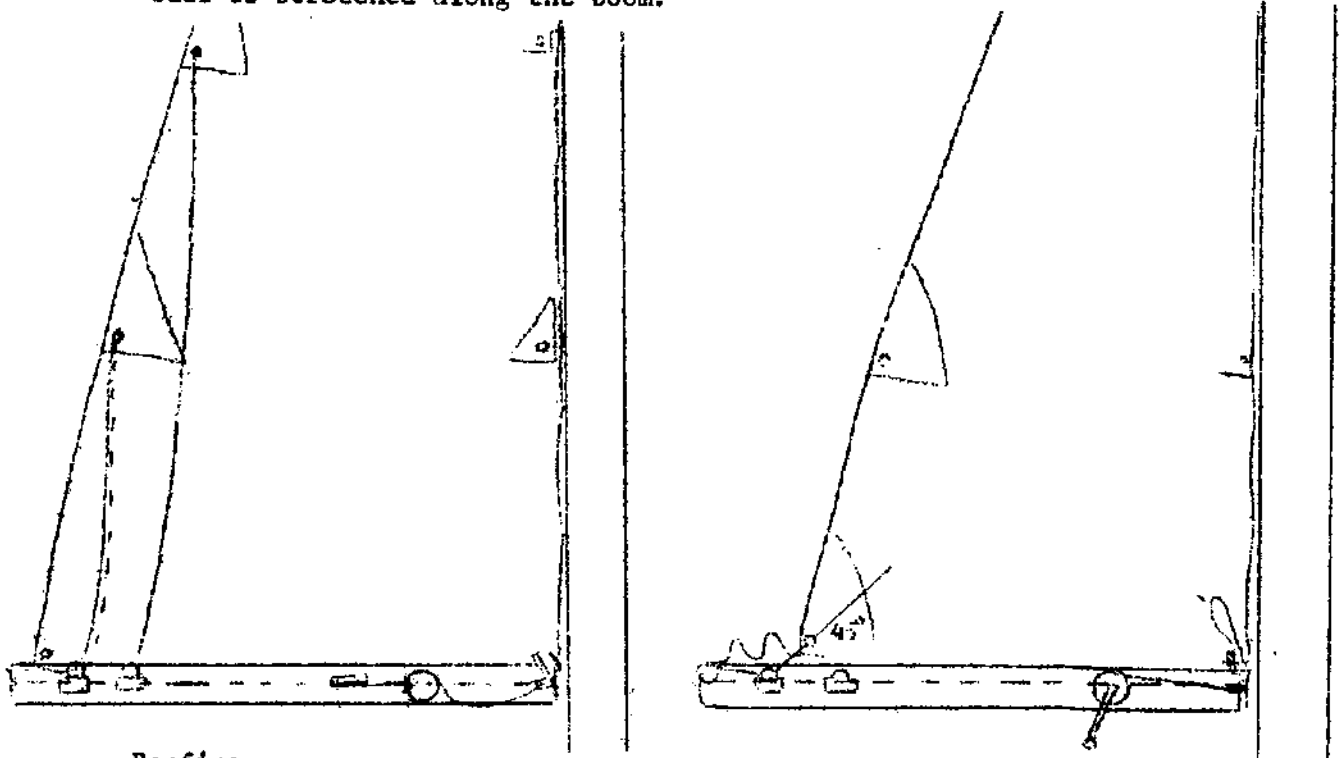
Mizzen: The possibility to reef the mizzen is very seldom used. Generally speaking regarding the choice between a deep reefed mainsail or jib and mizzen we say: Jib and mainsail will give the best windward performance. Jib and mizzen are steadying the boat better and are easier to control. This combination is also better in the case of a sudden increase in wind.

The possibility of having different sail combinations in balance and the facility of carrying extra light wind sails are reasons making the ketch rig the ideal cruising rig. The combination with the big furling jib the mizzen staysail gives real good off wind potential without the requirement for a big crew.

Preparation for reefing

On both sides of the main boom two movable loops are fitted. There are two reef brooks running inside the boom, one on each side appearing in the ends of the boom. The shorter one on SB side is for the first reef and the longer line on the port side is intended for the second reef.

When the mainsail has been bent on in the usual way outer end of the reef line for the first reef is taken through the after loop on SB side through the eye for the lower reef in the sail and is fixed to the after loop on the port side with a bowline knot. The reef line for the second reef is taken through the forward loop on portside through second reefing eye in sail and to the forward loop on SB side. The travellers with the loops are moved along the boom to give a 45° lead in when the sail is stretched along the boom.



Reefing

1. Heading abt 45° from appearant wind.
2. The boomlift is set but the boom is not lifted.
3. With winch handle in firm grip the brake is slowly released and the sail is allowed to come down until the eye of the first reef can be hooked at the tack.
4. The reef line for the first reef is taken to the winch on the boom and is tightened until the sail is properly stretched along the boom.
5. The halyard is retightened not forgetting to push the wire over on the inner drum for the last turns.
6. The lift is released.

A reefed sail should be flat and the position of the loops on the boom may have to be adjusted. The second reef is taken in the same way. To let out a reef the same operation is made in reverse.

ENGINE INSTALLATION

For the engine itself we refer to the Instruction book from Volvo Penta. This should be read carefully.

Venting of the fuel system

In the event of running the fuel tank empty or a filter has had to be cleaned, the fuel system must be vented. This is described in the Instruction book. It should be noted that the "banjo screw" mentioned as a standard has been replaced by a valve screw that should normally be open but is closed for the venting operation.

Propeller shaft stuffing box

The propeller shaft is in its outer end suspended in a cutless self lubricating rubber bearing, but the stuffing box is to be lubricated. This should be done sparingly as overlubrication may result in that grease will reach the rubber in the bearing. During the running in period (first 10-20 hours), half a turn on the greaser should be made every second hour. The greaser is situated in the rear end of the engine compartment. The stuffing box may be examined by lifting the floor boards in the aft cabin. A slight dripping is normal when the engine is running. The box can be tightened by loosening the stop nut and turning the box half a turn. After tightening the box should be lubricated a few times and checked for overheating.

The cooling water intake is located on port side in the engine room. In the intake line a water strainer is placed, either on the engine or separately. The strainer should be checked regularly.

Vacuum valve

In the cooling water line is a vacuum valve fitted to prevent water from entering the engine by suction after it has been stopped. This is placed in the engine room locker on the port side forward. Twice each season the vacuum valve should be opened and cleaned in fresh water.

1. Loosen the complete valve from its fixture and invert it.
2. Loosen the cap, check and clean the membrane and refit in opposit order. If the membrane is damaged it must be replaced.

NOTE! Check carefully that the membrane is correctly located when reassembling.

Gearbox

As has been stressed before in this book, the movement of the gear control should always be firm assuring that the gear engages properly. The control cables should also always be kept adjusted so full movement is possible. This is important as slipping of the clutch will damage it.

Fuel tanks and lines

As illustrated there are two fuel tanks. One, the main tank, containing abt. 240 litres (abt. 53 imp gall or 63 US gall) is built in below the engine intergral with the hull. The second is a reserve tank in stainless steel below the port side sofa in the main cabin. This tank contains abt. 220 litres (48 imp gall or 58 US gall). The contents of this tank can be piped into the main tank by opening the valve situated under the rear end of the sofa.

In the main tank is a tankmeter with gauge in the instrument panel. Do not run the tank dry as the fuel system has to be vented before the engine will start if air has entered the suction pipes.

There are suction pipes, one for the engine and one for the optional heater. There is also a third suction pipe for a test pump from the lowest point of the tank with which eventual sludge and condensation water can be pumped out. The pump is situated in the engine compartment.

Both tanks can be sounded manually.

Hose clamps, important checkpoint

Some time after delivery and then at least annually all hose connections should be checked for leaks and tightness. If the hose can not be twisted by hand and no leaks are appearant, the hose clamps should not be further tightened, as this will only damage the hose or the treads. Almost all hose clamps are in stainless steel and will not rust.

Electric wirering

The electric circuits are divided in one for the engine and one for lighting and general purpose. One 115 AH battery serves the engine and three 115 AH are for the other circuit. The batteries are automatically charged together but the engine starting battery can not be drained by lights or refrigerator and will always be practically fully charged. The warning in the Volvo Penta Instruction book not to turn the mainswitches off while running the motor is not valid for this boat, as the alternator is permanently connected to the batteries. Wirering diagrams are included.

If by mistake the three general purpose batteries have been totally drained, difficulties may arise to get the alternator to charge. If this happens, which is indicated by the amp. red light not going out, this is helped if the two circuits are connected for a moment by a jumper or a tool (at the back of the main switches).

Optional second alternator

If a second 75 amp. alternator is fitted, this is charging the three light/general purpose batteries and the standard alternator is charging the starting battery. The wiring is shown by dotted lines on the diagrams.

Heating (optional)

The Webasto diesel burning air heater is mounted on the SB bulkhead in the engine room. The exhaust and combustion air is led through a combined fitting on the outside of SB cockpit coaming. Fresh air is taken by duct from the outer chart-table. Before starting remove the rubber cap protecting the exhaust.

The starting of the heater is automatic and electronically programmed as is the stopping. The switch is flipped to "heat" for operation and to neutral for stop. Position "vent" is not normally used. The distribution of the warm air is controlled by push pull knobs moving flap valves in the ducting. One control knob on bulkhead above the sink in the galley controls the distribution forward or aft, two others above the sofas the outlets on the main cabin.

The thermostat at the navigating desk can be used to control the temperature but the frequent stopping and starting of the unit will put a heavier load on the batteries and discolouring by soot around the exhaust.

Engine room blower

For use when the main engine is not running, there is an electric blower in the engine compartment. This blower is normally only used if the heater has been running for a long period or after stopping the main engine after a long run.

Bilgepumps

There are two independent bilgepumps, one manually operated situated in the sail locker and one, electric automatic, situated in the engine compartment. The electric pump has a pneumatic sensor in the bilge well forward of the engine room.

*Electric pump
ABCC -
Sensor.
Hydro auto
4875
PETERSE RUSSEL,
SPRINGFIELD
USA.
0110*

Watertank and FW system

The FW tank and lines are shown on attached diagram. The FW tank is built as an intergral part of the GRP hull. The curved tanktop is provided with two manholes for cleaning out. The automatic pressure water system is doubled up with footpumps. The electric FW pump is situated in the engine compartment and will start automatically when the pressure in the tap lines drops.

Also situated in the engine compartment is a carbon filter and an air chamber. The filter charge may be boiled to clean if a replacement is not available. To remove the filter charge the FW pump is switched off at the instrument panel and the pressure is released by pressing the button on top of the filter house. The bowl is unscrewed to remove the filter inset. The FW system can be operated without the inset by simply replacing the bowl and starting up again.

After the air chamber (black cylinder) which levers out pulsations in the pressure from the pump, the line branches off to different taps and to the water heater that is built in under the floor in the sail locker. The main valve on the hot water system is also situated under the floor in the sail locker on the engine room bulkhead.

The water heater is operating from the cooling system of the main engine. After the engine is started it will only take a quarter of an hour before hot water is available. The insulation will keep the water hot overnight.

When leaving the boat the automatic FW pump should be switched off at the instrument panel. If the pump runs and stops without any tap is open this indicates a leak somewhere.

To drain the system, see chapter "Winterizing".

Wheel steering

The wheel steering system should be examined carefully annually and the sheaves, the chain and the wire lightly oiled with motor oil. The bearings on the wheel shaft is greased every second year. The wire should be replaced at the sign of a broken strand. The tension of the wires is set up at the rudder quadrant.

Toilets

Two dependable marine toilets are fitted.

The double acting pump is operated with the black handle at the same time flushing with seawater and emptying the bowl. The flushing action is controlled by the small lever below the pump handle. This lever should be in the "dry bowl" position when the toilet is not used. The outlet valves and the valves to holdingtank are also kept closed at sea or when the boat is left.

Note: Any foreign objects can block the toilet.

Holdingtanks

For European waters the boat comes equipped with small holdingtanks that can be emptied in open sea by opening the bottom valve. The valve to the tanks should always be shut except when pumping in or dumping out to prevent back flow into the toilet bowl.

Bottled gas

As standards for bottled gas vary in different countries, the HR 41 is delivered without such bottles and reduction valve for the propane gas stove. Stowage for two 6 kg (12 lbs.) gas bottles is provided in a separate ventilated compartment in the forepeak. A one piece 8 mm od copper pipe is drawn to a shut off valve at the gas range. The reduction valve should be for 30 mbar (300 mm water head). The connections should be periodically tested for leaks with soap water.

The standard UPO cooker is provided with a flame failure device that shuts off the gas supply in the event of a flame blow out.

To light either burner the device is bypassed by pressing in the control knob turning to igniting position and holding in for 10-15 seconds. To ignite the oven the small separate button must be pressed.

Anchor winch

To let go the anchor from its stowed position in the bowsprit, the pawl on the inner side of the chain gipsy is disengaged and handle bar is used on the star nut on the outside to release the clutch. The clutch can be used to brake the chain.

For hauling in the clutch is first engaged and then the electric motor is operated by either the knob on the winch or by a push button at the charttable in the cockpit.

If the winch is overloaded the breaker in the Overload Protection will trip out. The Overload Protection Unit is situated in the oilskin locker next to the accommodation ladder. By switching lever to the second breaker power is immediately available again. The anchor winch can be manually operated as a hand winch with the handle bar.

If the push button switch is used to haul in the anchor, the last couple of feet should always be controlled from the forward position.

Gelcoat - Repair of Damages

The outer, colored coating of a fiberglass boat is called the Gelcoat. This is a plain coating, which protects the fiberglass hull and at the same time gives the boat an elegant and easy-to-care exterior. The thickness of the Gelcoat is approximately $1/32 - 1/64$ of an inch and thus considerably thicker than a normal color coat. It is completely homogenous and has the same hardness right through. This is why it is often possible to remove bad scratches through grinding or polishing without having to apply any new plastic. It is not difficult either to repair deeper scratches or damages. Any air bubbles, scratches or ruptures that may occur in this outer coating does not mean that water can penetrate the laminate.

1) Maintenance of plastic surfaces in good condition

The plastic surfaces of the boat should be kept clean and spotless for a nice appearance. Use regular detergents and water but avoid detergents which may cause scratches. Do not use detergents containing ammonia as they may damage fittings, plexiglass, etc. Detergents and solutions should be thoroughly rinsed off. Should the shiny surfaces get dull they can be polished either by hand, using a polishing agent, or by using a low revolution machine. There are several special polishing agents for fiberglass boats on the market.

Waxing is not normally required, but can do no harm. When waxing notice that the wax has to be worked well. Do not wax any surfaces with pattern, which will make them slippery.

2) Repair of superficial scratches, etc.

Scratches in the gelcoating may often look deeper than they really are and as the scratched surface is different in color than the shiny one, you may think that the colored coating has been penetrated. For reasonably deep scratches use water sanding. Start with a coarse paper and little by little change down to a fine paper (No 800). Rub the surface after sanding, i.e. use polish and an abrasive on the surface as well as on the surrounding undamaged surfaces.

3) Repair of deep scratches and scuffings

If the gelcoating has been damaged and completely removed, the repair is done as follows. Get Gelcoat in the proper color (see Information Sheet) and a hardener from a fiberglass manufacturer or the yard. The damage is then cleaned with the edge of a knife and covered with masking tape very closely on both sides of the hole. Mix the Gelcoat and the hardener (approximately 2% of the hardener). The temperature in the working area should be between 60-80 F.

Use a generous amount of the Gelcoat to fill in the damaged spot and immediately place a piece of tape over the same to avoid the Gelcoat from running. After the plastic has hardened, grind off the surplus and polish the surface.

Scaffings under the waterline are filled with putty epoxy (Interpad) and then painted with a 2-component primer, e.g. International Poly Ground.

Larger scaffings, in case the boat hits bottom hard, have to be cleaned from crushed fiberglass through grinding and are then repaired with fiberglass mat and plastic before final putting (repair sets are available on the market).

Maintenance of Wood - Interior

The interior surfaces of mahogany are thoroughly treated with a synthetic laquer and even after many years of use do not normally need any other maintenance than a cleaning. Should a surface, however, be damaged to the extent that it would be necessary to re-varnish same, the whole damaged surface has to be sanded and then varnished with a mat laquer (International Lagolac or similar). Most of the minor damages are taken care of with a little bit of oil. Interior teak, mouldings, etc. can be oiled once in a while with teak oil.

Exterior Wood

The exterior wood is made of genuine teak and is not dependent on either laquer or oil for its protection. It is thus a matter of taste whether the teak should be varnished or be left untreated. It is our opinion that the varnished teak has a better appearance and that it sets off a better contrast against the other plastic surfaces. But of course a certain maintenance is required to keep it up from wear and tear. Decks and seats should never be varnished. When the teak is treated at the yard we use a synthetic varnish with a phenolic resin glue base. Varnish with a pure oil base is not suitable and a 2-component varnish should not be used on top of the old varnish. Untreated teak is scrubbed thoroughly at the same time as the cleaning of the fiberglass surfaces and will after some time take on a silverygrey shade. In our experience, the use of teak oil on the exterior may cause bad looking surfaces, which are difficult to maintain. Therefore we do not advise any oiling. It is most important that the maintenance treatment of varnished surfaces is made in time. When you can see that it is needed it is too late. It is a good piece of advice to re-varnish already after one or two months in the first season and then at least once every year. When you re-varnish, the surrounding fiberglass surfaces must be well protected from streaks or drips of varnish, which otherwise leaves spots which are difficult to remove. Should you happen to spill some varnish be careful to remove same immediately as, even if it is practically translucent from the start, it will from the sun turn yellow very quickly on the fiberglass surfaces.

Spars

The masts and booms are made in anodised light alloy. Under special circumstances light alloy is subject to electrolysis. For this reason no bronze or brass fittings should be attached directly to the spars. Also bigger fittings in stainless steel should be isolated from the light alloy with a plastic sheet. The spars must not be stowed away with salt deposits for winter. Hosing down with fresh water, drying and waxing will prevent damage in store. Rigging should be removed or isolated if wrapped round the spar.

Winches All winches should be greased at least once a year, preferably before the winter layup. When the locking ring at the top of a winch is removed the drum can be lifted for inspection cleaning and greasing.

Carpets The quality of the carpets permits cleaning by scrubbing and hosing down with fresh water on deck.

Winterizing in areas subject to freezing temperatures

Engine

The engine is prepared according to the instruction book. When your boat is delivered from the yard antifreeze has been added to the freshwater coolant.

Toilets and holding tanks

A washing detergent is pumped through and the system is flushed with freshwater. The drainplugs under the pump-manifold are removed. The WC discharge seacock from the forward toilet should be dismantled and greased with waterproof grease.

Freshwater system

Remove both suction hoses on the after end of the FW. tank so the contents of the tank and the lines can be drained out. The inlet hose to the waterheater is disconnected at the forward underside of the heater. three hoses connected to the thermostat mixer for the shower are disconnected and the manifold is blown dry. The housing for the carbonfilter is detached and drained. The black airchamber after the carbon filter is drained by loosening of the air plug on the top. Run the automatic pressure pump for a minute to remove most possible water. Also operate the footpumps in the toilet and pentry compartments until dry.

(A)
(B)
(C)
(D)

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The bilge

When the boat is on dry land the drain plugs from the bilgewell is unscrewed and the bilges is cleaned and flushed.

Batteries

If the batteries are well charged they can be left in the boat provided that the cables are disconnected and the terminals greased. If a battery charger is permanently fitted in the boat (optional equipment) the operation of this must be blocked if the battery terminals are disconnected.

Sätter du dig in i tankarna bakom HR 41 finner du också skäl till att varje detalj ser ut som den gör!

Rigg och tillhörande utrustning har utformats för bekväm segelsättning och manövrering.

Under bogsprötet har plogankaret en permanent plats, färdigt att fällas och med ett elektriskt ankarspel som även kan manövreras från sittbrunnen.

Bogsprötet öppnar fler möjligheter. Med permanent rullflockbeslag har vi här placerat ett mycket stort försegel, som kan sättas och tas in på nolltid. Med den här typen av båt är det visserligen aldrig fråga om att vinna kappseglingar – aktuella mätregler har vi kunnat bortse ifrån. Där emot vill man hålla god medelfart, vilket kräver ett speciellt lättvindsegel. Vid kryss och i hårdare vind utnyttjas det ordinarie förstaget för förseglet.

Bogsprötet är givetvis av modern typ med en bred slät översida som är bekväm att gå på.

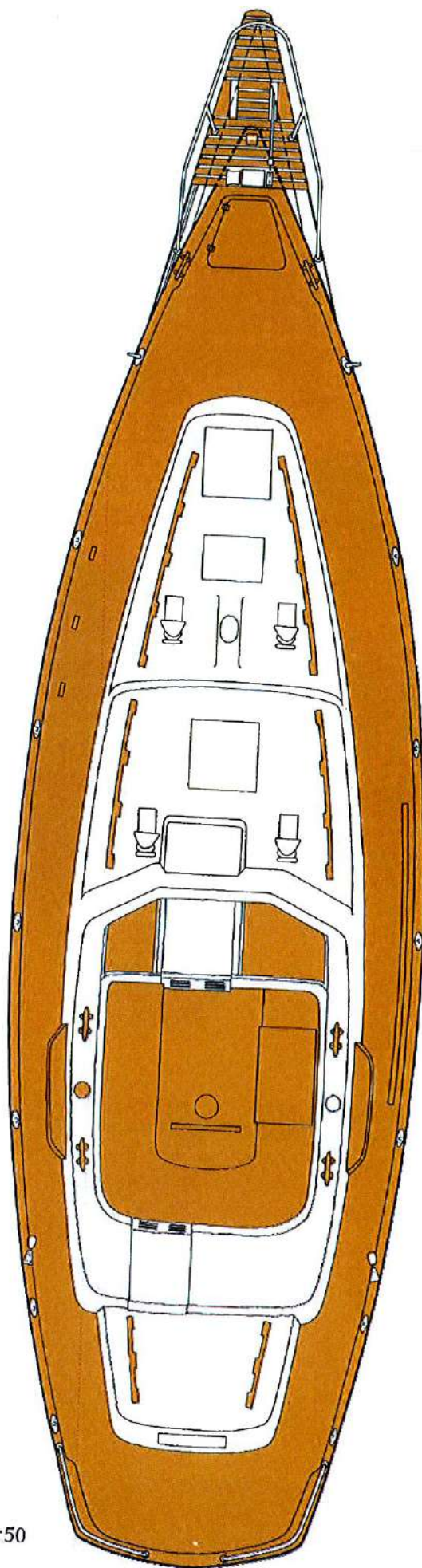
HR41 har måttligt höga fribord. Höjden är avvägd så att man har önskvärt utrymme ombord men ändå nära till vattnet. Den förenklar t.ex. förtöjning vid boj. Dessutom innebär den begränsade fribordshöjden att båten är mycket okänslig för sidvind.

Längs hela båten finns det handräcken i rätt höjd – man tar sig fram säkert på däck även i hårt väder.

I varmt klimat sätter man värde på de rikliga möjligheterna till ventilation – det finns tre öppningsbara skylights, fem öppningsbara fönster och fyra doradeventiler.

Däcket är av teak – den enda lösning som motsvarar professionella krav. Det är också enkelt att hålla rent och snyggt.

Sittbrunnen har utformats så att rorsman har mycket god sikt framåt, även med stora försegel. Sittbrunnssargarna har rätt höjd för att ge det stöd åt ryggen som man behöver under långa seglingsetapper.



Skala 1:50

