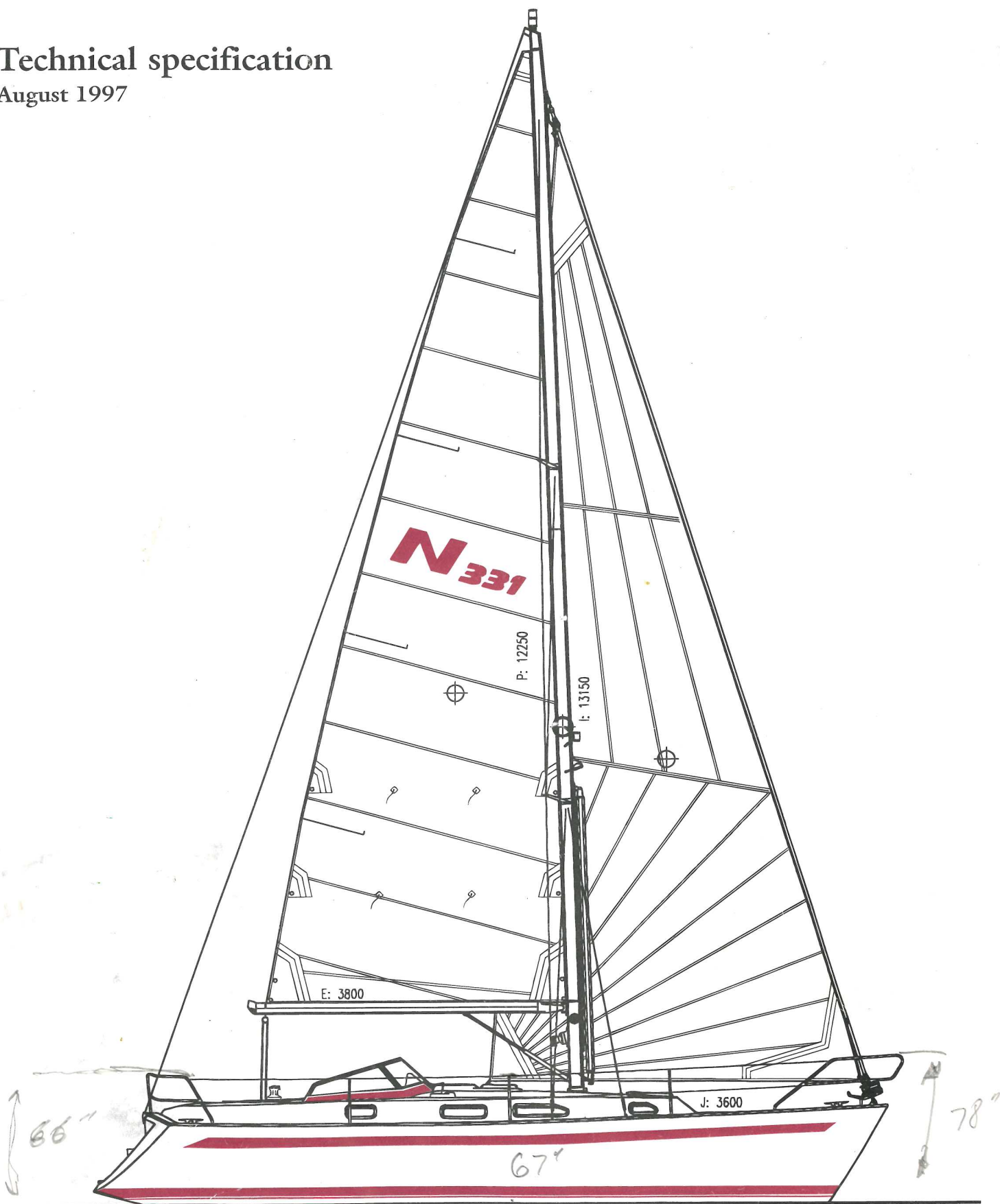


Technical specification

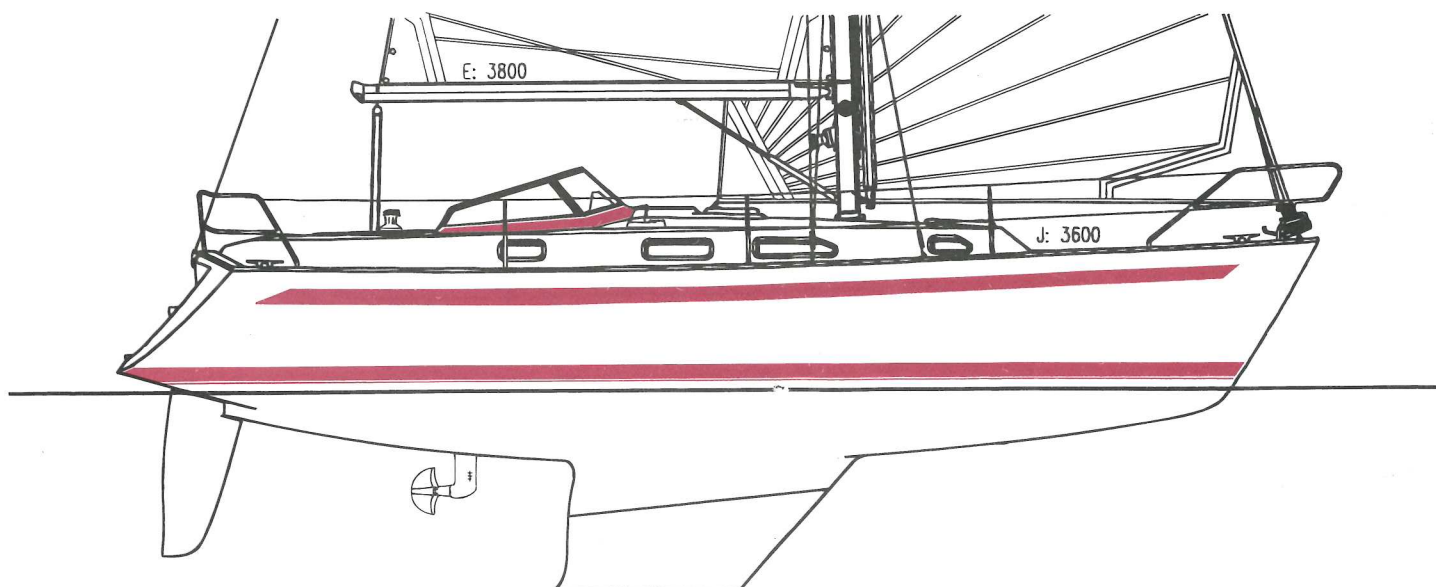
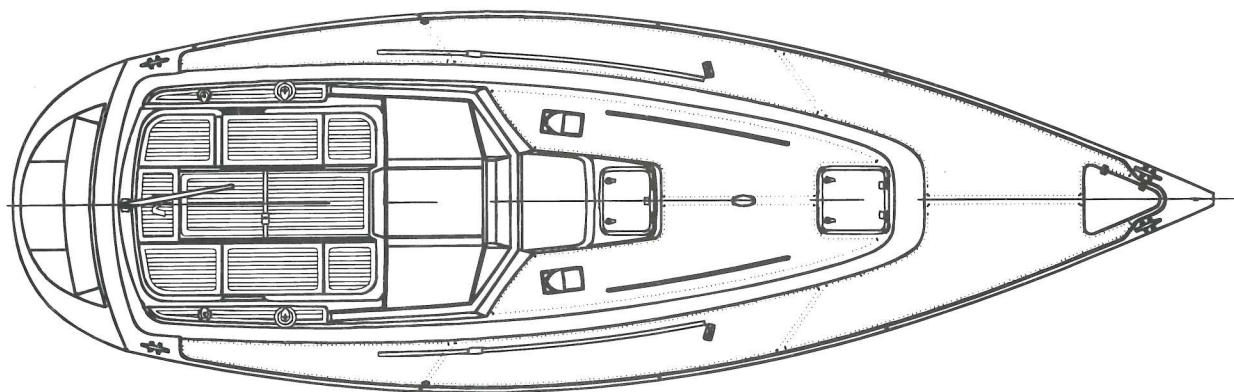
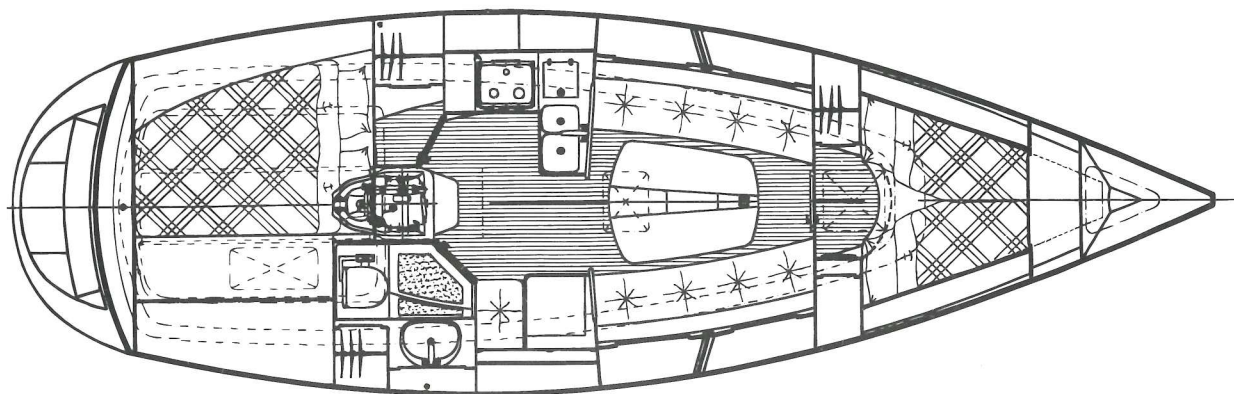
August 1997



NAJAD
331

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Specification

Design: Najadvarvet/Eric Segerlind

Dimensions and data

Length overall	32'8"	(9.98 m)
Length waterline	26'8"	(8.14 m)
Beam	10'8"	(3.26 m)
Draught	5'6"	(1.70 m)
* Alternative draught	4'11"	(1.50 m)
Displacement	5 300 kg	(5.3 t)
Bolted lead keel	2 100 kg	(3.2 t)
Mast height		
above water line	49'11"	(15.2 m)
Headroom in saloon	6'1"	(1.86 m)
Total height for transportation	12'	(3.65 m)

Gelcoat

hull	Neste GN 1000 LSE
deck	Neste GN 1000 LSE
trim and water lines	Jotun GE 2001

Engine

Volvo Penta MD2030 S,
propeller shaft output 28,0 h.p., 20,2 kW

Tanks

Fuel tank in stainless steel.	
Fresh water and holding tanks in acid resistant stainless steel.	
Water capacity	37 gal. 170 l
Fuel capacity	20 gal. 92 l
Holding capacity	9 gal. 40 l

Sail areas

Cruising	538 sq.ft. (50,0 m ²)
Main	280 sq.ft. (26,0 m ²)
Working jib 110%	258 sq.ft. (24,0 m ²)

* Fully battened main	285 sq.ft. (26,5 m ²)
* Furling main (mast)	258 sq.ft. (24,0 m ²)
* Furling Genoa, 135%	334 sq.ft. (31,0 m ²)
* Hard wind jib	204 sq.ft. (19,0 m ²)
* Self tacking jib	194 sq.ft. (18,0 m ²)
* Storm jib	97 sq.ft. (9,0 m ²)
* Spinnaker	947 sq.ft. (88,0 m ²)
* Cruising chute	775 sq.ft. (72,0 m ²)

* = Extra equipment

Handicap LYS: 1.17

Mast and rig

Fractional rig, 19/20, with twin spreaders angled backwards 17 degrees and forward lower shrouds.

Seldén mast in silver anodised aluminium profile 117/115 mm, height 44'11" (13.70 m) above deck, stepped on the coachroof and supported by a galvanised steel pillar, that is based on the longitudinal and transverse bottom reinforcements.

The mast is fitted with, deck light, steaming light and prepared for spinnaker equipment. Two internal wire/terylene halyards in terylene. Ample cleats.

1x halyard stainless steel self-tailing winch Andersen 12ST.

Stainless steel reefing winch.

Winch handle pocket, Windex and lines for guest flags.

19-ply stainless steel wire standing rigging.

6 mm forestay, standing backstay.

7 mm top and lower shrouds.

5 mm intermediate shrouds.

Head sail furling system, Seldén Furlex 8C.

Backstay adjuster, mechanical.

Seldén rodkick and topping lift

Stainless steel rigging screws. 7/16" for intermediate shrouds and all others 5/8".

Stainless steel chain plates, bolted to transverse bulkheads, bonded on both sides to the hull sides.

Seldén boom in silver anodised aluminium profile 143/76 with internal outhaul and double reefing lines with stoppers.

Six to one cut main sheet to a fixed eye in the cockpit floor.

Sails

Main sail with sliders on luff mast and bolt rope on foot in 340 g/m² high quality Dacron cloth. The main sail is fitted with sail number, battens, telltales and two reefs. The working jib in 360 g/m² high quality Dacron cloth with telltales.

Sailbags.

Deck fittings

2 x stainless steel self-tailing genoa sheet winches, Andersen 40ST.

2 x 10" (25 cm) lockable winch handles.

4 x 10" (25 cm) mooring cleats, through bolted.

2 x 8" (20 cm) spring cleats, midships, through bolted.

Steamhead fitting and separate anchor roller.

Pulpit and pushpit in acid resistant steel, through bolted.

Spinnakerblock fittings at the pushpit.

A teak step is fitted to the pulpit.

Double lifelines with three pairs of stanchions, mounted on fittings which below the teak capping are through bolted to the hull side. See sketch.

Ladder fitted in the integral swimming platform.

Mainsheet track with trim lines to ball bearing car.

2 x 2,5 m long genoa tracks with 2 x from cockpit with trim lines adjustable sheet blocks.

Windscreen of toughened glass in aluminium frame.

2 x hatches, 1'3" x 1'8" (37x 50 cm) and 1 x 1'8" x 1'8"

8 x portholes in the coachroof (2 opening).

1 porthole from the aft cabin to the cockpit (opening).

Ports opening to forward cabin, toilet and galley.

All portholes in 8 mm acrylic glass in aluminium frames.

2 x deck ventilators with stainless steel protectors.

Teak grab rails on the coachroof.

Deck fittings for water- and fueltanks fillers.

Additional deck fittings

Internationally approved navigation lights.

Illuminated compass.

Sprayhood from the top of the windscreen.

12 kg folding anchor, 9'10"

(3 m) chain and 131' (40 m) 14 mm warp

4 x 33' (10 m) 14 mm mooring lines.

4 x 8"x 27" fenders.

Ensign staff and boat hook

Hand-operated bilge pump, mounted in cockpit.

Deck and superstructure

Deck and coachroof are built in sandwich construction in glass fibre reinforced polyester with divinycell as spacing material for strength and insulation.

The colour is white with carmine red stripe. Hull and deck are laminated together in accordance with Lloyd's specification and guidelines.

Strengthened glass fibre laminate beneath stressed areas.

Substantial teak capping.

The deck and coach roof are laminated with non-slip surface.

Large self-draining locker forward for chain, warps, fenders and gas bottles.

Four 25 mm internal deck drains to avoid smears to topsides.

Cockpit

Spacious cockpit with large navigation table in teak below fixed windscreen.

Seats and cockpit floor covered with seamed untreated teak.

Helmsman's seat with inlaid Najad logo.

Flush recesses in the coamings on both sides. The one on starboard side also contains the engine control panel.

Behind the windscreen and in the recesses there are space for additional instrumentation.

Grab rails are built in to the teak forward in the cockpit.

The sprayhood is splash-proof and fitted in a groove to the top edge of the windscreen. The sprayhood offers a completely protected area forward end of the cockpit.

A sprayhood extension can be fitted to cover the whole cockpit (extra equipment). Sliding hatch in acrylic glass.

Spacious cockpit locker under the starboard seat which contains cockpit table, washboards and fire extinguisher.

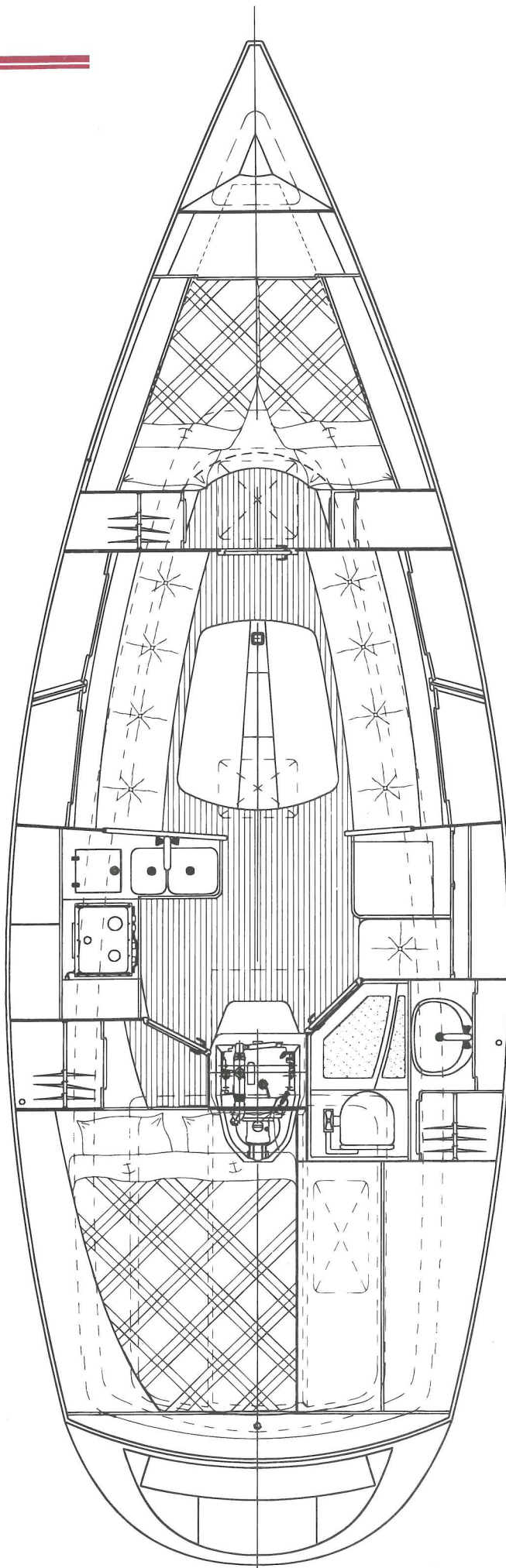
Two cockpit lockers to port side for gas bottles, anchor, chain etc.

Hand-operated bilge pump installed to be operated from the cockpit.

2 x 1" (32 mm) cockpit drains with drains from the seats.

Easily fitted cockpit table.

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Interior

The interior is handcrafted in selected and unstained African mahogany, hand polished and varnished to a satin finish.

Cupboards and doors in solid mahogany with profile-milled frames.

Hull sides above berths are lined in mahogany.

Flooring of varnished teak and holly plywood.

Removable hatches for the bilge and tank gauges.

Headlining of white vinyl covered panels with mahogany strips.

Layout

The standard layout in the Najad 331 is built according to drawing in this specification. It may be altered according to client's requirement, but the alterations have to be confirmed by the yard.

Salon

The spacious saloon is the central living area in the boat. Two sofas with hinged backrests surround the salon table. Folding table top on both sides. Bottle stowage in centre of table.

Shelves and overhead cupboards above the sofa backrests.

Standing headroom 1,86 m.

Ample overhead lights and reading lights for settees and berths.

Grab rail on starboard side in the saloon ceiling and on both sides of the companionway.

The companionway steps can be removed for easy access to the engine room.

Fire extinguisher under the saloon table.

Galley

The L-shaped galley is located amidships to the port side allowing free passage between the cockpit and saloon. Separated to the saloon with a bulkhead with integrated grab rail.

Stainless steel twin sinks. Pressure system with accumulator tank for cold fresh water. Foot pump for manual operation.

Single lever tap for hot and cold water.

Gimballed twin burner gas cooker with oven.

Gaspipes with shut-off valve between cooker and gas bottle.

Work top over cooker, easy to stow.

Large work areas in easily cleaned and durable laminate.

Well insulated ice box of easily 8 gal. (40 ltr.) with refrigeration unit, 1 suspended basket and space for standing bottles.

Stowage area outboard of sinks.

Plenty of storage cupboards for plates, cups and glasses.

Cupboard under cooker for pans, etc.

Waste basket under sink.

Drawers. Cutting board with crumb box.

Lights over work area.

Opening porthole over cooker.

Aft cabin

The aft cabin has one very wide full size double berth. Hanging wardrobes and shelves.

Opening porthole to cockpit.

Ample lights and reading lights.

Underside the berths bottoms are unvarnished and ventilated with holes to avoid dampness.

Standing headroom 5'6" (1,67 m).

Forward cabin

The fore cabin has two wide full length berths 6'7" (2m).

Numerous cupboards and hanging wardrobe.

Standing headroom 6'10" (1,87 m)

Underside the berths bottoms are unvarnished and ventilated with holes to avoid dampness.

Two portholes and a deck hatch which also can be used as an emergency exit.

Navigation area

The large navigation area is located amidships to starboard ahead of the toilet, facing forward, separated to the saloon with a bulkhead with integrated grab rail.

Chart table with stowage for charts and drawers.

Chart lamp with dimmer.

Ample space for individual instrumentation and modern navigation equipment.

Folding switchboard for easy access, equipped with circuit breakers and prepared for additional circuits.

Toilet

Large toilet compartment amidships to starboard, with white laminate bulkheads together with the bench surface and the sole in matching Corian. Standing headroom 6'10" (1,87 m).

The WC is placed longitudinal with supporting bulkheads on each side. Easy to use at sea.

Manually operated toilet to holding tank.

Large wash basin built into the work top.

Cold pressurised water with single lever tap.

Below the sole there is a bilge sump.

Large mirror inside the upper part of the door.

12 V socket and lights.

Cupboards and ventilated wet locker.

Opening porthole and a ventilator to the cockpit.

The toilet compartment can be equipped with shower, and the sump drained to the sea with an electrical pump (extra equipment).

Textiles

Saloon settees: 125 mm cushion with raised forward edge made up of from 75 mm, 35 kg/m³ and topped with 50 mm, 26 kg/m³ foam.

Berths: 120 mm cushion made from 100 mm, 35 kg/m³ polyeter and topped with 20 mm fibre fill.

Upholstery: all cushions are covered with hardy and strong furniture Manchester plush fabrics in blue colour. Flame-proof BS 5852.

Ventilation

Forward cabin: Opening deck hatch.

Saloon: Opening deck hatch and opening porthole at the galley. Ventilation grills in washboards and two deck ventilators.

Aft cabin: Two opening portholes.

Toilet: Opening porthole and ventilator.

Hull

The hull is built in a sandwich construction of glass fibre reinforced ISO polyester.

Both laminate are laid by hand with rowing using Isophall in polyester resin.

The surface layer is of NGA gelcoat for maximum protection against water penetration.

A core of divinycell for strength and insulation.

① The bilge is reinforced with a longitudinal and transverse floor plate construction. This supports, keel fittings, mast pillar and the cabin floor.

There are additional longitudinal reinforcements (stringers) in the hull.

All main bulkheads are laminated on both sides to the hull. Transverse chain plate fittings laminated to the hull.

② The galvanised steel mast pillar is bolted to the floor plate construction.

At the stern there is an integrated swimming platform with a bathing- and safety ladder.

The colour is white with carmine red trim and water lines inlaid in the gelcoat.

Below the water line the hull is treated with epoxy primer and black antifouling paint.

The hull is topcoated internally.

Keel

③ The lead keel is bolted on with 8 pcs M20 acid resistant stainless steel bolts.

A small wing at the bottom of the keel reduces the water flow beneath the keel which results in less drag.

Ballast keel for less draught (extra equipment).

Rudder and steering

Rudder in NACA profile.

Semi-balanced rudder in glass fibre reinforced polyester with alloyed aluminium rudder post. Roller bearings in the hull and deck.

Steering by tiller, that together with the Semi-balanced rudder gives the right sailing feeling.

Prepared for wheel steering (extra equipment).

Tanks

④ Fresh water tank in acid resistant stainless steel installed under port sofa in the saloon. The tank is fitted with inspection hatches and level gauge.

⑤ Fuel tank in stainless steel on top of the floor plate construction on port side amidst-hips with level gauge.

⑥ Holding tank in acid resistant stainless steel, prepared for deck evacuation, on the bulkhead to toilet in the cockpit locker.

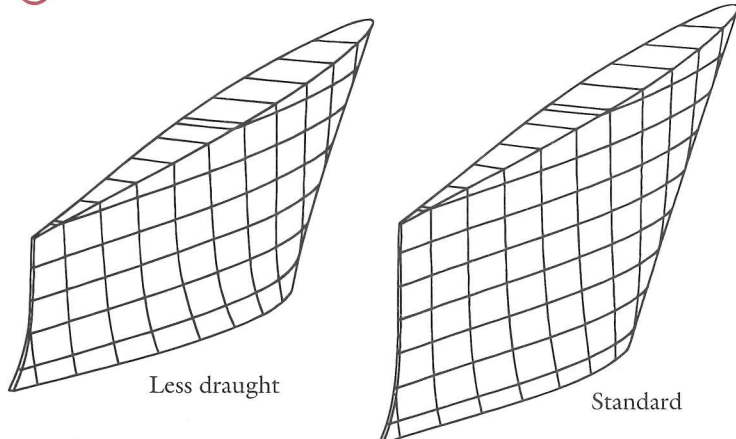
All hoses connected to the Wc and tank are gas tight.

Through hull fittings

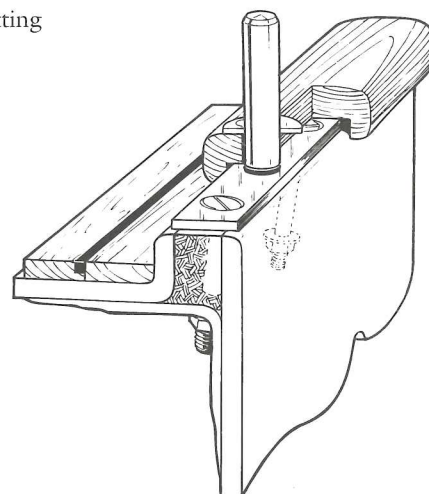
All through hull fittings up to the waterline are fitted with sea cocks.

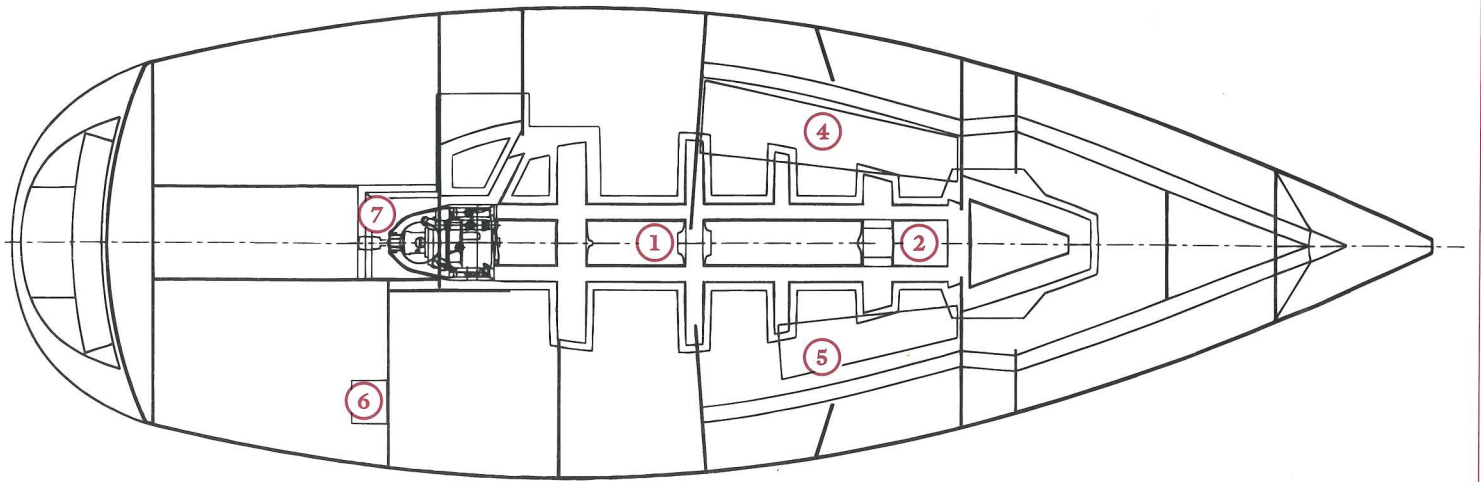
The reinforced hoses have twin clips in acid resistant stainless steel.

③ Keel



Stanchion fitting





Engine

⑦ Volvo Penta MD2030 with S-drive, 3-cylinder direct injection 4-stroke marine diesel with fresh water cooling. Power output at propeller shaft is 20,2 kW (28 h.p. at 3 600 r.p.m.)

Mechanical reverse gear with single lever control.

Instrument panel with:

- rev. counter
- display for
 - low oil pressure
 - high engine temperature
 - charging
 - audible warning for oil pressure and engine temperature

2 blade folding propellar, bronze.

The engine is built together with the S-drive and suspended on rubber cushions for effective vibration damping.

Wet exhaust pipe with swan neck and effective rubber silencer.

Well sound insulated engine room.

The engine is easily accessible for service behind the companionway steps and below the aft cabin bunk.

Electrical system

12 volt, twin electric pole system.

2 x 75 amp.hr. domestic lighting battery.

1 x 75 amp.hr. engine battery.

12 volt a.c./60 amp. alternator.

Current regulator with battery charging adept.

Well dimensioned electrical cables. The cables are to a large extent run in conduits.

Main switch panel with circuit breakers adjacent to chart table.

Water and fuel meters, voltmeter.

Two main switches.

12 volt power sockets in the forward cabin, at the navigation table and in the aft cabin.

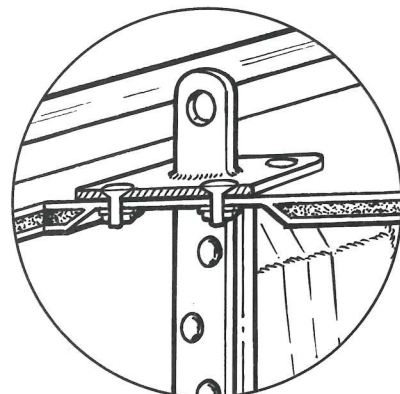
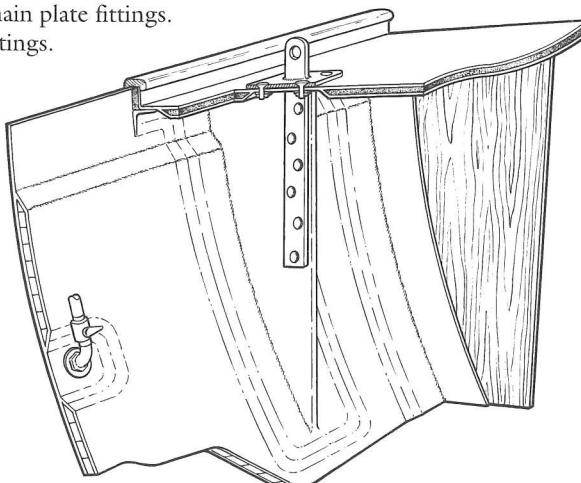
Additional installed equipment

Diaphragm bilge pump installed in the cockpit locker.

2 x fire extinguishers (powder ABE).

2 x 2,75 kg gas bottles.

Bulkhead and chain plate fittings.
Through hull fittings.



Design

New technique and many years of experience are the ensures that the Najad 331 has been a product of perfection from Najad Yard. Najad 331 is a modern long distance cruiser with sailing performance and layout which fulfils the highest requirements for coastal cruising and blue water sailing.

The Najad 331 is designed with a long waterline and the stern lifted up from the water. This results in a slimmed hull with a full and finer line for the water to flow.

The stern is wide to give space for the big cockpit and to give a spacious aft cabin, and also to increase the stiffness and the down wind performances.

The bow is designed to part the waves in the roughest seas.

An integral swimming platform is built into the stern for comfort and safety.

The design and length of the keel gives Najad 331 good course stability and motion at sea. Out of the water the keel is long enough to be stepped on the shore, not to be supported longitudinally.

A well dimensioned floor plate construction is laminated in the hull to support forces from both rig and keel.

The ballast keel is bolted on and a small wing at the bottom of the keel reduces the water flow beneath the keel which results in less drag.

The design is of NACA wing sections to optimize the water flow on keel and rudder/skeg. This ensures an effective steering, which results in less rudder angles to course corrections and consequently less steering power.

The semi-balanced rudder also improves the steering. This also helps when manoeuvring the boat astern.

The rig is fractional with the proportions 19/20. The advances with this rigging system is that there can be tension in the fore stay like in a masthead rig, but still the possibility to bend the mast like on a 7/8 rig to flatten out the main.

The sail surface is relatively high, which together with the displacement of the boat gives the boat very good tacking performances.

Ballast ratio 40 per cent.

Below deck the layout is basically the same as in many of the other Najad models. Due to experience this layout has proven to be the best out at sea.

Built to order

All Najad yachts are built to order. Therefore, the layout and the equipment can be specified to each customer's requirement. Layout or equipment that are non-standard have to be confirmed by the yard regarding price and delivery time. Owners will have access to the boat during the whole building period as far as possible, providing production is not disturbed.

Due to extra equipment the Najad Yard reserve the right to trim the boat with internal ballast.

Built according to Lloyd's specifications

The hull and deck are built to Lloyd's specifications for "Certificate of Hull Construction". Each boat is checked by a Lloyd's inspector as to hull, deck, superstructure, main bulkheads, engine bed, chain plate attachments and stem fittings. A Lloyd's Certificate is supplied with each boat.



Engine installation certificate

Engine installation and other equipment in the engine room is approved by Volvo Penta regarding fuel and air inlets, temperature and ventilation.

A Volvo Penta engine installation certificate is supplied with each yacht.

Insurance

The yard's own insurance will cover the boat and other equipment supplied by the builder during the building time until delivery. Owner supplied items to be insured by the same.

Warranty

The hull has five (5) years warranty against faults in the laminate caused by water penetration (see warranty condition).

The boat has one year (12 months) warranty against production and material faults. Installed equipment has manufacturer's warranty according to their warranty conditions.

General

This specification is valid at the time of printing. Details of the construction, manufacture and equipment may be changed as a result of development from production and sailing the boats. The standard of quality and equipment will, however, be at least as specified herein. Drawings may in some cases show extra equipment.

Extra equipment

For additional equipment, please see separate list of accessories.

