

SWAN 431

SPECIFICATION

FOR THE

SWAN 431

GRP AUXILIARY SLOOP

DIMENSIONS:

LENGTH OVERALL	43,3'	(13,2 m)
LENGTH OF WATERLINE	33,3'	(10,2 m)
BEAM	13,4'	(4,1 m)
DRAFT	7,4'	(2,3 m)
DISPLACEMENT (IOR)	27500 lbs	(12.500 kg)
BALLAST	11900 lbs	(5.400 kg)

Designer: SPARKMAN & STEPHENS INC.

Builder:

NAUTOR

OY WILH. SCHAUMAN AB

PIETARSAARI, FINLAND
TELEPHONE, 18 204, TELEX 75-47 nauto sf

Note. These specifications are believed to be correct at the time of printing. Nautor will do its utmost to make sure that the vessel is built according to them. However, there may be minor alterations on the finished yachts, and we reserve the right to make these without prior notice. Draft and displacement stated above vary with load condition.

GENERAL CONDITIONS

These specifications are intended to supplement the design. While details may be changed as the result of experience in construction or use of the yachts, the standards of quality and completion will be maintained to furnish a yacht ready for service.

The Owner or his authorized agent will have access to the yacht and everything pertaining to the yacht at all reasonable times. Every facility will be afforded inspectors for the prosecution of their work.

The Builder reserves the right to approve or reject any changes in the details of the yacht when these are asked for after the yacht is ordered. The Builder guarantees skilled workmanship, in keeping with the best yacht practice, and in conformity with specifications.

INSURANCE — The Builder will maintain insurance on a yacht contracted for by an Owner, including all items furnished or delivered by Owner, provided that the Owner has delivered such items according to the Rules spelled out in the Contract Appendix following the Sales Contract. The insurance is appropriate to the value of the Owner's investment until the yacht is delivered to the Owner at the yard, or dispatched by road, train or vessel.

DAMAGED WORK — The Builder will protect and be responsible for all work until date of despatch and make good any or all damage from whatever cause, to any part of the yacht or its equipment or furnishings.

CLEANING — The Builder will at all times keep the yacht reasonably clean throughout. Particular care is to be taken that all chips, shavings and other foreign matter are removed and all parts cleaned before application of paint, and that when the yacht is delivered, her bilges and pockets are free from such matter.

ACCESS TO COMPARTMENTS — Arrangements for access to and for cleaning out and painting all compartments and all parts of the yacht are provided wherever practical. Floorings are fitted with suitable hatches. Access to the engine, steering gear and all other equipment that may require service of any kind will be provided. Care is taken on locating pipes and other parts to avoid blocking of access. If necessary, removable sections are utilized.

TESTS — The standard machinery will be operated to the satisfaction of the Builder with the yacht in the water, running continuously for one hour and at as much speed as is practical on a new engine. Steering and reversing tests will also be done. All standard auxiliaries, such as pumps etc. will be thoroughly tried out. The yacht will be properly rigged with standing and running rigging. During tests, the yacht is at all times in the care, custody, and control of the Builder.

TRIM — The Builder reserves the right to add internal ballast for trimming purposes.

WARRANTY — If any defective workmanship and/or materials are discovered within six months after delivery, except for the Owner-furnished items or installation of same, or unless due to negligence or other improper act of the Owner or any other user of the vessel, the Builder shall accept responsibility thereof. Owner must notify builder of any discrepancies during the six month warranty period.

Under such circumstances, the Builder shall either procure the repair or authorize such a repair to be made in a way agreed upon in writing between the parties. The Builder shall not be responsible for any proprietary articles which shall bear the customary guarantee of the manufacturers.

HULL

Scantlings, materials and workmanship throughout are consistent with the construction of a light hull, but without any sacrifice of strength or stiffness.

Construction

The hull is built of glassfibre reinforced polyester by the hand laying-up method with scantlings and materials approved by Lloyd's Register of Shipping. Every yacht is delivered with a Lloyd's Register Building Certificate. Structural bulkheads are of marine grade water-proof plywood, laminated to hull and deck. Stiffeners are GRP lay-ups over foam cores. Web floors of GRP are laminated to hull. Engine beds are of GRP with steel inserts. Special care is taken to assure rigid foundation and proper adhesion to hull.

Finish

All gelcoat pigments used are of approved type. Standard topside colour is white, boot top, cove stripe and coaming stripe blue. Uncoloured gelcoat below waterline. Flotation reference marks are located at bow and stern 12" above DWL. Bottom primed with antifouling. Yacht's name and home port is painted on transom when specified.

Keel

Ballast keel is a lead casting with antimony. Cast-in keel bolts are of stainless steel. Lower flange of mast step connects to the keel bolts. Single point lifting lug incorporated in mast step. Docking shoe of stainless steel fitted to lower edge of keel. Stainless steel fairing pieces fitted to keel trailing edge.

Rig anchorage

The mast is stepped through the deck onto a galvanized mild steel mast step with movable shoe for mast rake adjustment. Transverse bolt through heel of mast. Heavy GRP brackets are laminated to hull for the stainless steel chain plates.

Rudder

Of foam filled GRP with integral stainless steel shaft, supported by three polymer bushed bearings.

Steering gear

Cable steering gear, sheaves provided with guards to prevent jamming. Aluminium steering quadrant bolted to rudder shaft. Destroyer type wheel with sprocket and friction brake mounted on pedestal. Emergency tiller of stainless steel stowed in liferaft locker, with spanner for rudder shaft access plate attached.

DECK

Construction and finish

Deck is made in GRP sandwich construction to Lloyd's requirements. Single laminate with aluminium back-up plates under all deck fittings. Deck surface has painted non-slip finish, standard colour light grey.

Woodwork on deck

Teak hatch frames and hand rails, Locust sheet and halyard cleats.

GRP mouldings on deck

Hood for companionway hatch, lazarette, and liferaft locker hatches.

Deck fittings for running rigging

On cockpit coaming:

Two genoa sheet winches Lewmar 55 or equal
Two spinnaker sheet winches Lewmar 48 or equal
Two mainsheet winches Lewmar 40 or equal for double-ended sheet
Aluminium clam cleats each side for main sheet locking.

Genoa inhauler eyes stn. 7 and 7. 5

On cabin trunk:

Mainsheet track with slider and tag lines
Two genoa halyard winches Lewmar 43 or equal
Two spinnaker halyard winches Lewmar 43 or equal
Two pole lift/foreguy winches Lewmar 40 or equal
Staysail sheet track stn. 4,1...5,1

On deck:

One pair of genoa double foot blocks stn. 9,3
Inner genoa sheet track stn. 6.7 ...9
Outer genoa sheet track stn. 4,1 ...8,5
Spinnaker aft guy fittings at toe rail each side stn. 6
Lugs for spinnaker sheet blocks at each quarter
Six lead blocks for halyards at mast collar
Two deck eyes for slabreefing pennants at mast collar
Track on foredeck centerline stn. —1 ... 0,3
One eye for spinnaker foreguy blocks at stemhead
Forestay release lever box on foredeck
Eyes for running backstays on footblocks
Stowage provision for removable forestay and runners.

Other deck fittings

Anodized aluminium toe rail with one pair of hawse holes amidships, and drain holes where necessary.
12" aluminium mooring cleats, two on fore deck with fairleads, two aft.
Pulpit, pushpit and life line stanchions of stainless steel, with bases bolted through deck. Height and spacing conform to ORC requirements.
Isolated and plastic covered lifelines.
Socket for flag pole on pushpit. Aluminium mast collar.
Stemhead fitting of stainless steel with chain roller and double headsail tack attachment, including sheaves for headsail Cunningham.
Spinnaker and jockey pole fastenings on deck.
Stowage for two 8-man liferafts in cockpit lockers.

Hatches and windows

On fore deck tinted acryl sliding hatch to fo'c's'le, with sailbag hooks below deck at each corner.
Deck prism in head adjacent passageway.
Two deck prisms in aft cabin.
Aft of mast hinged hatch Goiot 115 or equal.
In cabin trunk sides fixed windows forward, openable portholes aft.
Two openable portholes from cockpit to aft cabin.
Main companionway lockable sliding hatch of tinted acryl, large enough for passing engine.

INTERIOR

General

All joiner work is done in accordance with the best yacht practice, using first-grade materials. Teak with hand rubbed satin finish is used for all visible wood-work.

Floorboards with laid teak veneer, and providing access to the bilge.
Teak grating in fo'c's'le and head.
Topsides where visible lined with teak ribs.
Overhead lined with removable Vinyl-covered panelling.
Tables, bureaus, seats, dressers etc. have rounded corners.
Doors, partitions, and panelling throughout are plywood.
Door sills have stainless steel chafing pieces. Hooks installed to hold doors in open position. Hanging lockers are equipped with rods and hooks and their doors are provided with louvres.
Drawers have to be lifted to open.
Wooden companionway ladders with tool box behind.

Fo'c's'le

Sail bins under folding pipe berths
One canvas stowage bag each side.
Steps below hatch.

Main cabin

Removable drop leaf table with fiddles.
Lockers behind settee backrests each side.
Space for bottles and glasses in locker at forward end, port side.
U-sofa convertible to double berth. Above of U-sofa shelf and lockers.

Aft cabin

Shelves over berths. Double berth with divided mattress and wooden leeboard.
Access between berths to steering gear. Ventilation louvres to lazarette.
Openable Perspex window to galley. Stowage locker for rolled charts in starboard coaming.

Navigation area

Chart stowage under table top, book shelf outboard, if space available after radio installation.

Head

Equipped with mirror, towel and paper holder and waste container.

Galley

Insulated and sheathed space for stove.
Stainless steel sinks with quick-acting gate valve. Waste container below sinks.
130 l ice box insulated with 75 mm thick foam, including provisions for the installation of an optional refrigerating unit, and lined with GRP.
Racks and drain provided.
Counter tops of Formica or equivalent. Racks for crockery behind sliding doors.
Cupboard on aft bulkhead above window to aft cabin.

PROPULSION MACHINERY

Engine

Perkins four-cylinder 4-stroke marine diesel, type 4-108M rated 35 kW (47 HP) at 60 rps (3600 rpm), on flexible mountings with Borg-Warner hydraulic reverse gear, reduction 2,91:1.
Drip tray integral with engine bed.
Engine box internally sound insulated.

Starting system

The engine has its own starting battery, 95 Ah, 12 V, located with the service batteries.

Engine controls in cockpit

Engine controls on/off

Start and stop buttons

Cold start aid button

Single lever control of throttle and gear shift

Tachometer

Water temperature gauge

Oil pressure gauge

Control light for battery charging

Warning light for low oil pressure

Warning light for high engine or exhaust temperature

Audible alarm for low oil pressure/high engine or exhaust temperature

At chart table:

Warning light for low oil pressure/high engine or exhaust temperature

Propeller shaft

Made of corrosion resistant steel with rigid shaft coupling, outboard end supported by strut with rubber bearing. Morse or equal stuffing box flexibly supported by hose connection to stern tube. Shaft lock and zinc anode on shaft.

Left handed Nautomatic folding propeller, diameter 21".

Engine cooling system

Thermostat-controlled fresh water cooling with heat exchanger.

Strainer on seawater intake, discharge through exhaust system.

Fuel system

Fuel capacity about 150 litres (39 US gallons) in one tank with shut-off cock.

Filler on deck SB side. Entire fuel system of metal with short flexible joints where necessary. Water separator on fuel feed line, return line provided. Tank vented to bridgedeck.

Exhaust system

Wet system exhaust with rubber silencer and cooling water bypass, discharging at transom.

Raw water loop provided with bleed line, discharging through topside.

PLUMBING AND VENTILATION

General

Sea cocks of bronze for all below waterline through-hull fittings, finished flush with outside and located in accessible positions. Inboard side of sea cocks fitted with nipple long enough to take two hose clamps.

Sea water piping of reinforced PVC tubing, fresh water piping of nylon or copper tubing. All fuel and water tanks of welded stainless steel, and provided with baffles, inspection covers, sounding plug, and vent pipes. Head sump tank of GRP, integral with the molded floor liner.

Fresh water system

Water capacity about 375 litres (99 US gallons) in three tanks. One filler line from deck. Tank vent pipes drain into galley sink. Foot pumps for galley sinks and wash basin.

Sea water system

Foot pump for galley sink spout.

Drainage system

Galley sinks and wash basin drain through sea cocks.
Shower tray drains to sump tank, capacity about 40 l.
Sump tank is emptied by hand pump to outlet above waterline.
Two manual bilge pumps, one below, one in cockpit. Inside pump discharges through sink sea cock, outside pump into cockpit scupper.
Two 2" drains in cockpit discharging above waterline.
Ice box drained to translucent plastic tank in bilge.

Toilets

BABY BLAKE oval pan toilet with seawater pump, shut-off valve, and drainage pump.

Stove

Three-burner gas stove with oven, gimballed and provided with fiddles.
Gas shut-off cock adjacent to stove.
One drained and sealed metal locker for gas bottle under lazarette hatch, port side.

Ventilation

Dorade ventilators on foredeck, at main companionway and aft coaming.
Exhaust ventilators in head and galley, provided with two-speed blowers.
Engine space air inlet in lazarette, outlet with blower to aft side of coaming.
Battery box ventilated to aft coaming.

ELECTRICAL

All standard electrical installations comply with Lloyd's specifications.
12 V DC two-wire system for lighting, instruments, and battery charging.
Care is taken that cables are heavy enough to prevent excessive voltage loss.
For lightning protection, headstay, backstay, and main chain plates are grounded to ballast keel bolts with heavy cable.

Service power

One battery set 190 Ah, 12 V in glassfibre box between aft cabin berths.

Outlets

Three 12 V outlets, one at main switchboard, one in fo'c's'le, one watertight in cockpit.

Lighting arrangements

Interior:

Fo'c's'le, 1 dome, 2 berth lights
Head, 1 dome light
Passage, 1 dome light
Main cabin, 3 dome, 2 berth lights
At floor level 3 red night lights
Galley, 2 dome lights
Chart table, 1 dome light and 1 flexible light
Aft cabin, 1 dome light, 2 berth lights
1 dome light under the cockpit floor between berths

Outside:

Downward flood light on fore side of mast
Masthead light

Navigation lights:

Red and green side lights on pulpit
White stern light on pushpit
White bowlight on forward side of mast

Main switchboard 12 V DC

Protected by a Perspex door, and provided with main switch and necessary breakers of trip circuit type, four spares included.

One V-meter with two-way switch for checking service and starting battery voltage.

Two Ammeters, one for service, one for starting battery charging control. Switches for outside and navigation lights.

Charging system

On the engine there is a 55 Amp 12 V alternator for charging the service and starting batteries through isolating diodes.

Cockpit controls

Push button for mast flood light

One spare button

Rheostat for compass light

INSTRUMENTS

Compass

One Danforth Constellation C 654 C steering compass or equivalent, mounted in binnacle on steering pedestal. Corrector magnets removed. No magnetic materials within six feet radius.

RIG

Scantlings within Sparkman & Stephens specifications. Spars of extruded aluminium alloy tubing, anodized.

Mast

Of elliptical section, with joint at approximately half length, and stainless steel tangs. Tapered and welded masthead with two spinnaker cranes and four halyard sheaves. Spare halyard messenger provided.

Internal wiring, shielded in a PVC tube secured to mast.

Spinnaker pole track on forward face.

Two eyes each side for jockey pole.

Main halyard winch Lewmar 40 or equal.

Tapered spreaders of aluminium alloy.

Neoprene rubber mast boot with Dacron cover.

Main boom

Of round section with internal outhaul tackle, and arrangements for slab reefing with lock-off cams. Topping lift led forward internally from boom end.

Poles

Two spinnaker poles and one jockey pole. Of round section with appropriate fittings.

Standing rigging

Main and upper shrouds are of solid Navtec rod or equivalent, all others stainless steel 1 x 19 wire with Norseman or equal terminals. Rigging screws of bronze with toggles at lower end. Rigging screw with handles for baby stay and for backstay adjustment. Headstay and forestay also have toggles at upper end.

Running rigging

Main and genoa halyards are of 7 x 19 stainless construction, ropes Trevira.

Main halyard with screw shackle. All other halyards as well as spinnaker sheets and guys with snap shackles. Internal halyards and topping lifts.

Description	Quantity	Material	Diameter
Main sheet with blocks	one	braid	14 mm (9/16")
Heavy genoa sheets	two	braid	16 mm (5/8")
Light genoa sheets	two	braid	9 mm (3/8")
Heavy spinnaker sheets	two	braid	12 mm (1/2")
Light spinnaker sheets	two	braid	8 mm (5/16")
Staysail sheets	two	braid	12 mm (1/2")
Aft guys	two	braid	16 mm (5/8")
Fore guys	two	braid	12 mm (1/2")
Main boom topping lift	one	wire	3 mm (1/8")
Tail end with blocks for above	one	braid	10 mm (3/8")
Outhaul	one	wire	5 mm (7/32")
Outhaul tackle with blocks	one	braid	12 mm (1/2")
Cunningham line	one	braid	12 mm (1/2")
Reefing pennants	two	braid	12 mm (1/2")
Running backstays (1 x 19)	two	wire	6 mm (1/4")
Tail end for above	two	braid	16 mm (5/8")
Spinn. pole lifts	two	braid	12 mm (1/2")
Spinn. bell lift/downhaul with blocks	one	braid	12 mm (1/2")
Spinn. halyards	two	braid	14 mm (9/16")
Genoa halyards	two	wire	6 mm (1/4")
Tail ends for above	two	braid	11 mm (7/16")
Main halyard	one	wire	5 mm (7/32")
Tail end for above	one	braid	12 mm (1/2")
Staysail halyard	one	wire	5 mm (7/32")
Tail end for above	one	braid	9 mm (3/8")
Heavy boom vang tackle	one	braid	12 mm (1/2")
Lace line for reefing	three	braid	5 mm (7/32")

STANDARD EQUIPMENT

Owner's Manual with directions for use and maintenance, including engine handbook, electrical and plumbing diagrams, docking plan, and spare part order forms.

Anchoring and mooring

One Danforth 40 lbs anchor stowed in fo'c's'le
 6 metres anchor chain 1/2"
 50 m plaited nylon anchor line, diameter 20 mm (3/4")
 Two chain links 7/16"
 Two shackles R73
 Four mooring lines 20 m each, diameter 16 mm (5/8")
 Four airfenders with lines
 One boat hook
 Battery powered anchor light

Sailing gear

Six snatch blocks, four large, two small
 Four genoa fairlead cars
 Seven slide cars with separate stoppers
 Two spreader blocks for spinnaker sheets
 Two blocks with shackles for spinnaker aft guys
 Winch handles: one 10" lock-in, two 8" lock-in, two single grip 10", two double grip 10"
 Bosun's chair
 Flag pole
 Masthead swivel flag pole
 Hatch dodgers for main cabin hinged hatch and fo'c's'le sliding hatch

Miscellaneous

One half model of hull
1 litre of gelcoat, hull colour
1/4 litre gelcoat, boot top colour
Catalyst for above
Spanner for rudder shaft stuffing box
Safety belts for navigator and cook
Sounding rods for fuel and water tanks
One 6 kg gasbottle

Except pipe berths forward, all berths are equipped with canvas leeboards and 10 cm (4") thick mattresses of flexible foam. Textile covers with Velcro zippers, colour to owner's choice.

Engine spare parts
Engine tool kit
Electric spare parts
GRP tool box under main cabin settee