

27' 0" Waterline Auxiliary Ketch

CAMPER & NICHOLSONS DESIGN A.352.

"38 FOOT MOTOR SAILER"

BUILDING SPECIFICATION

L.O.A.	37' 10"	11.53 m.
L.W.L.	27' 0"	8.23 m.
Beam Extreme	10' 6"	3.20 m.
Draught	5. 2"	1.58 m.
Displacement	7.1 tons.	7214 Kgms.
Sail Area	611 sq. ft.	61.4 sq. m.
Thames Measurement	13 tons.	

and sheer

Conversion to 43 Spans

4 rails

8960

1. Hull and Deck.

The hull is a reinforced glass fibre moulding pigmented above the waterline, stiffened with bulkheads, webs, floors and joinery flanges. A lead keel of approximately 2.65 tons, (5,936 lbs.) is fitted inside the keel and is totally encapsulated. A cove line is moulded around the topsides. The deck and cockpit is a one piece G.R.P. moulding stiffened with top-hat-frames and ~~will on~~ expanded P.V.C. foam. Plinths are moulded for all standard deck fittings, and a non-skid surface is incorporated. Six integral scuppers are fitted.

The following items are supplied as standard moulded in G.R.P.:-

CABIN SOLE MOUNDINGS, SALOON & FORWARD CABIN.

- ✓ 1. Rudder.
- ✓ 2. Water tank (separate moulding complete).
- ✓ 3. Fuel tank (integral with hull) (separate moulding complete)
- ✓ 4. Main engine beds.
- ✓ 5. Main engine drip tray.
- ✓ 6. Shaft brake seat.
- ✓ 7. Mast step.
- ✓ 8. Cable clench.
- ✓ 9. ~~Forward toilet compartment complete less inboard side.~~ *panels starboard.*
- 10. ~~Aft toilet~~
- 11. ~~Top-bearing-box for rudder stock.~~
- 12. ~~Forehatch.~~
- 13. ~~Aft peak hatch.~~
- 14. ~~Saloon hatch.~~
- 15. ~~Aft cabin hatch.~~
- ✓ 16. Five waterbox ventilators.
- 17. ~~Portable section of cockpit sole for engine removal.~~
- 18. ~~Seating for wheel steering box.~~
- 19. Seating for steering gear ~~aft~~ bevel box.
- 20. ~~Two plinths for sheet winches.~~
- 21. ~~Plinth to take base of windscreen.~~
- 22. ~~Cockpit canopy top.~~

2. Hatches and Companionways.

- a. Forehatch: *Ice box, Chatterly moulding with Formica inserts*  
A single G.R.P. moulding hinged on the forward side and closing on a 2" x 1" rubber seal and secured by <sup>8 eyelet bolts</sup> toggle fasteners. The hatch is fitted with a teak grab handle athwartships on the top aft end and a rubber pad is fitted to bear on the ~~cockpit roof~~ <sup>deck</sup>. A teak hinging check is fitted at the forward end of the hatch and has a waterway included. *Strong hinges c.p. to be fitted*
- b. Main Saloon Hatch: *To be fitted on Tufnol slides of Agba framed*  
A single G.R.P. moulding with  $\frac{3}{8}$ " perspex top panel secured by a G.R.P. ring, fastened with s.s. self-tapping screws. *with ply top. Painted finish.*  
The hatch is hinged on the forward side and a hinged cabinet stay to retain this open is fitted on the starboard side. A barrel bolt with striking plate is fitted on the starboard side to hold this shut. A <sup>3/8" dia</sup> rebated piece is fitted at the aft end to take the ~~companion~~ <sup>companion</sup> doors. A  $\frac{3}{8}$ " ID section rubber seal is glued into the channel on the hatch plinth.

c. After Cabin Sliding Hatch:

A sandwich construction G.R.P. hatch fitted with Tufnol slides and rails. The Tufnol is of the cloth based type. The ends of the Tufnol rails are tapered. A teak grab handle is fitted on the top forward end and a rebated teak piece is fitted to take the companion doors. A barrel bolt is fitted on the starboard side to hold it shut.

d. After Peak Hatch:

A single G.R.P. moulding identical to the forehatch but hinged at the aft side. A hasp and staple with turnbutton and small brass padlock is fitted on the forward side. The hatch closes on 2" x 1/2" rubber strip.

e. Companion Doors: *WASH 202275* *in two sections rebated together*

*Wash 202275* Companion doors are of teak and are double with rebated teak surround secured to G.R.P. with s.s. screws. The hinges are of the lift-off type. *A 3/8"* A pinlock is fitted internally with handles and locking bolt. Barrel bolts are fitted top and bottom of lefthand door and striking plate is fitted on hatch rebate. The doors are halved at the centre join. A stainless steel sill plate is fitted with a chromium plated bronze cope strip.

~~Both forward and aft companion doors are similar.~~

f. Cockpit Hatches: *Locals* *3/4"*

The hatches are 3/4" thick faced with teak plydeck and edged with teak and are hinged on the outboard sides to solid teak ledgers each side. *the G.R.P.* A small portable section of the same construction is fitted at the forward end but is not hinged. A strong flush ring is fitted in each hatch for lifting. The hatches bed down on 1/2" wide 'D' section rubber glued into the channels provided in the cockpit moulding. *Front of forward cockpit lockers to give 1/2" length excess. Helmsman seat flap to have deep*

*Toerail* *Coastline* *to increase aperture.*  
~~Teak toerails 3/4" thick are attached with s.s. screws through the sheer flange of the hull to deck joint. Teak capping 3/4" thick is attached to the toerail, the top being curved to shed water. The fastenings are dowelled. All toerail joints are scarphed and glued. The toerail is laminated in teak and is capped and faired into the toerail.~~

3. Cockpit Lockers:

The cockpit lockers are separated by 1/2" plywood fore and aft bulkheads from the engine space. Teak locker lids are framed to prevent warping, hinged outboard and arranged with drains in the G.R.P. mould. The cockpit seat fronts have teak lift out panels retained by an anodised alloy frame, a double rebate arranged in the G.R.P. mould accommodates these.

Two small teak locker doors are fitted port and starboard to the space under the side deck above cockpit seat level. These doors are hinged at the bottom and have a blind finger hole and turnbutton at the top. A 1/2" ply shelf is fitted to form the bottom of this locker. Protection is fitted around the silencer.

4. Steering Gear:

The bronze rudder stock is moulded into the G.R.P. rudder and is complete with a bronze lower shoe bearing, an intermediate strap and a gland inboard. A steel muff coupling is fitted inboard to allow easy withdrawal and a Tufnol deck bearing is fitted at the top of the stock. The rudder stock is fitted with a tiller on the aft side working between rubber stops fitted on a beam between the joiners bulkheads. The steering gear is the Mathway gearbox and shaft type. A drag link connects the tiller to the aft gearbox which is bolted to an alloy tapping plate on a G.R.P. plinth. Four shafts connect to the wheel through two bulkhead bearings, a 90° 1:1 bevel box and a 90° 1 1/2:1 bevel box with a shaft for the 21" laminated teak wheel. An alloy bracket is matted into the steering pedestal for the wheel bevel box and an inspection panel is fitted through the saloon bulkhead and is retained by two turnbuttons. Care to be taken to ensure that when finally adjusted, tillers cannot be in line together. Gearboxes are filled with Spirax 90.

An emergency tiller is supplied to suit the squared top of the rudder stock; galvanised mild steel tubular construction.

Deck Fittings:

a. Stemhead Fitting:

The stainless steel stemhead fitting complete with roller, keep pin, pulpit stanchion socket and holes for forestay, jib tack, and foreguy block is secured with (6)  $\frac{1}{2}$ " s.s. bolts and bedded down on a teak pad similar in thickness to the rail cap.

The stainless steel bow pulpit with single rail and three legs is fitted with lugs for upper and lower guardrails port and starboard. A centreline plate is fitted to take the port and starboard navigation lights and is braced by a  $\frac{3}{16}$ " dia. s.s. bar across the top aft end. The aft legs of the pulpit are flanged at the deck and are each through bolted with (3)  $\frac{5}{16}$ " s.s. bolts. A rubber ferrule is fitted on the bottom of the port aft leg and a rubber ferrule on the bottom of the pulpit close to the centreline web for the navigation lights.

b. Stanchions:

A set of twelve s.s. stanchions with c.p. Superston sockets through fastened with s.s. bolts are fitted complete with four gangway stays.

c. Chainplates:

Stainless steel chainplates are fitted for all main and mizzen shrouds and are secured to G.R.P. webs.

d. Genoa Tracks:

Stainless steel genoa sheet tracks are fitted on G.R.P. plinths port and starboard and are through fastened with s.s. bolts. A Tufnol stop is fitted at the forward end of each track. One Superston slider is fitted on each track. A staysail boom track may be fitted as an extra.

e. Sheet Eyeplates:

Four s.s. eyebolts are fitted on the plinths provided, two for the mainsheet, two for the mizzen sheet. All eyes are fitted looking fore and aft.

f. Bollard:

A large mooring bollard is fitted on the foredeck.

g. Fairleads:

Two 8" fairleads are fitted forward and two aft, on the taffrail. These fairleads are fitted on chocks on the inboard side of the toerail and chafing strips are fitted on the outboard side.

h. Cleats:

Two teak bar type cleats are fitted on the foredeck and two aft by the mizzen shrouds.

i. Chainpipe:

A 2" chainpipe with hinged cover is fitted on the foredeck on the centreline.

j. Deck Fillers:

A flush fuel filler is fitted to port and a similar filler for water is fitted to starboard. Both engraved and supplied with keys.

- k. Louvres:  
Two stainless steel louvres are fitted in the wheel pedestal to provide ventilation to the engine space.  
Each louvre consisting of 4 - 6" x  $\frac{1}{4}$ " slots.
- l. Handrails:  
Teak handrails are fitted in four sections on the forward coachroof, and two sections on the aft coachroof. These are secured on the plinths provided using s.s. m/c screws tapped into the tapping plates matted under the deck.
- m. Cockpit Cleats:  
Three teak cleats are fitted to the outboard side of each cockpit coaming port and starboard and are through bolted through the outer part of the coaming and internal doubling plates. One teak cleat is fitted for the mainsheet on the aft coachroof.
- n. Ventilators:  
Five G.R.P. ventilators are glued to the plinths provided and two motorised Tannoy vents in stainless steel are fitted one over each toilet on the plinths provided.
- o. Emergency Steering:  
A 4" flush deck plate is fitted over the top of the rudder stock giving access for the emergency tiller.
- p. Anchor Chocks:  
Teak anchor chocks on the foredeck for a 35lb. C.Q.R. anchor complete with lashings are provided as standard.
- q. Compass:  
A Danforth White Corsair compass with black card and 5° markings mounted in a binnacle is fitted immediately in front of the wheel.
- r. Winches:  
Three bronze sheet winches are fitted. The two "E" type jib sheet winches are bolted to G.R.P. plinths which are in turn bolted to the deck and cockpit coaming port and starboard. The "T" type mainsheet winch is bolted to the plinth provided on the aft coachroof.
- s. Davits:  
Permanent stern davits are supplied as standard complete with hoisting tackles and cleats. Lugs are fitted for the centre mizzen sheet block and for the upper and lower guardrails port and starboard. Davits are white polythene coated. Stay-bar of stainless steel.
- t. Windscreen:  
A  $\frac{1}{4}$ " toughened glass Triplex windscreen is fitted in a silver anodised alloy frame fastened to the G.R.P. plinth provided. The screen consists of a one piece full width curved front panel and two flat side panels. Two stays are fitted to support centres of the front panel. A heavy duty windscreen wiper is fitted in front of the helmsman. Four attachment points are provided on the top of the screen for the portable canopy which is secured by 4 -  $\frac{3}{8}$ " wing bolts. A grooved track is fitted on the aft edge of the side panels to take side screens, if required.

u. Canopy:

A rigid G.R.P. canopy with teak handrails port and starboard is fitted to the windscreen and also in locking chocks on the coachroof. The aft end is supported on two 1 $\frac{1}{4}$ " O.D. brass tubes satin chrome plated. The bottom end of pillars fitting into cast bronze c.p. sockets bolted to the cockpit coaming with c.s.k. head c.p. brass bolts. The top ends fitting into brass tubes moulded into the canopy.

Two  $\frac{1}{2}$ " thick perspex panels are fitted into recesses moulded in the canopy top and secured with male and female interscrews.

iv. Windows:

Ten glazed unit windows with  $\frac{1}{4}$ " toughened glass and silver anodised alloy window frames are fitted in the coachroof sides. The bottom of the frames are formed to provide a drip channel. The windows are bedded and secured to the outside of the coachroof with s.s. self-tapping screws.

An opening window hinged at the top is fitted in the aft end of the aft coachroof. This window is of similar construction. A turn-button is arranged on the deckhead to hold this window open.

Note: Unless otherwise stated, all fittings and fastenings are brass or bronze chromium plated.

7. Accommodation:

a. After Peak:

A portable battened bulkhead is fitted to shield the steering gear, and a fixed batten protection is also fitted around the exhaust pipe.

b. After Cabin:

The cabin sole is of teak plydeck supported on pine bearers.

A hatch with finger hole is arranged in this to give access not to the stern gland, shaft coupling, shaft brake and toilet inlet seacock.

A box step with hinged lid is fitted at the entrance with rubber and all tread strips.

To starboard a double berth is arranged with an access panel in the top aft end and a hinged locker door in the inboard face. Forward of the berth a large stowage locker is arranged with a door hinged on the forward side. To port a single berth is fitted with the forward portion of the top panel portable so that this may give extra length for hanging clothes from the rail provided at the deckhead.

A curtain is fitted to blank off this space when used for clothes.

An access panel is fitted in the aft end of this berth. The top edge of the bunk boards are capped with black plastic strip.

A small shelf with fiddle is fitted between this berth and the washbasin which is fitted on the centreline with a cupboard below.

A plain edged mirror is fitted on the sloping bulkhead above the washbasin.

All joinery is of teak faced ply suitably edged. The hull sides are lined with P.V.C. covered ply panels. The bulkheads are covered with vynide. The side deckheads are lined with pegboard. The coachroof sides are lined with P.V.C. covered G.R.P. panels. The coachroof deckhead is lined with P.V.C. fitted in De La Rue strip.

Nylon carpet is fitted around the cabin sole.

Teak grabrails are fitted to the carlines port and starboard.

Teak rings and gly gauzes are fitted in way of the ventilators.

c. Aft Toilet:

This is a one piece G.R.P. moulding and has a teak plydeck access panel in the sole. The inboard bulkhead and door are lined in white Formica. The cabin side of the door being teak faced ply. A latch and locking bolt are fitted. A teak grabrail is fitted along the carline. A Headmaster toilet is fitted. Four lockers are provided under the sidedeck with perspex fiddles on the inboard edge of the upper lockers.

A small fiddle is fitted on the shelf over the steering gear and an access door is fitted to service this and drain the exhaust pipe when necessary.

Two coat hooks are fitted on the aft bulkhead and a toilet roll holder on the inboard bulkhead.

d. Galley:

A spacious 'L' shaped galley is fitted to port of the main saloon hatch. The working surface has a Formica faced top with a stainless steel sink inset. A matching sink cover with finger hole is fitted. Teak fiddles are fitted all round the working top. Below this, a teak Formica faced cupboard is fitted with two drawers and a large locker door, - a removable plastic gash bucket is fitted on the inside of this door. A mid-height shelf is fitted in this locker with a fiddle on the forward edge. A stowage hole is made in the bottom of this locker for the 10lb. Calor Gas cylinder. on the outboard side of this locker and the bottle is secured with an elastic cord and screw eyes. The bottom of this locker is fitted with an access trap to the bilge.

A fore and aft bulkhead is fitted close to the outboard side of the sink and a portable hatch with finger hole is fitted through the working top to give access to the space outboard and the sink drain seacock. The aft bulkhead is lined with teak Formica between the working top and the level of the carling. Forward of the working top is the cooker recess, this is lined with teak Formica and a gimballing arrangement is fitted for the Senior Star cooker. A locking latch is fitted at the bottom forward corner of the cooker. The cooker has two boiling burners, a grill and a controlled oven burner and is supplied complete with fiddles, grill pan, oven tray and rack and baking dish. A standard regulator is fitted on the bottle and Calor Gas approved flexible piping is fitted in one piece from the regulator to the stove.

Outboard of the cooker a shelf is fitted similar to the working surface and on this is fitted teak stowages to suit Melmex Fiestaware crockery.

Under the sidedeck two lockers are fitted, each with a teak Formica door hinged at the bottom edge.

Under the cooker a locker is fitted with a similar door.

The forward bulkhead of the galley is lined with teak Formica.

e. Chart Space:

An athwartships chart table 2½" deep inside is fitted to starboard of the main saloon hatch, the top 2' 3" above the sole. A lift up flap 1' 6" wide is fitted with flush hinges. A P.V.C. covered ply panel is fitted fore and aft between the opening in the aft bulkhead and the water filler pipe forward. The side deckhead is lined with pegboard. The bulkheads are lined with vinyl. Outboard of the chart table drawer, a shelf is fitted at the level of the bottom of the drawer with a deep fiddle to the forward bulkhead. Over this shelf is fitted a bookshelf with drop in keep-bar.

The starboard settee berth forms a seat for the navigator and is extended to the outboard edge of the chart table. A 9" deep fiddle is fitted fore and aft on the hull at this position and the exposed hull inboard of this is covered with carpet.

A ½" perspex panel is fitted between the deckhead and the inboard edge of the chart table to shield this from rain and spray.

f. Main Saloon:

The cabin sole is of teak plydeck on pine bearers and is arranged with access traps with finger holes to bilge at forward end, to water tank hatches and to fuel tank top. A box step with hinged lid and rubber and alloy tread strips is fitted on a portable section of the aft bulkhead which gives access to the engine. This section is retained by two barrel bolts.

On the port side is a settee with an overhung teak fiddle to retain the cushion and a teak faced ply front. The settee has a loose birch ply base giving access to stowage under. Outboard of the settee is built in the Electrolux M.R.J. refrigerator at the aft end and a bottle locker at the forward end with double teak faced ply doors capped with teak and secured with ball catches. No stowages are supplied as standard, so that Owner's requirements may be worked to exactly, when known. A locker with hinged door is fitted under the bottle locker. The ships side above the refrigerator is lined with a ply panel covered in P.V.C. and the side deckheads are lined with pegboard.

On the starboard side of the saloon is arranged a settee berth of similar construction to the port settee and outboard there is a pilot berth, the foot of which extends outboard of the forward toilet. The bottom of the pilot berth is a fixed birch ply panel.

Three lockers with hinged doors are fitted to the space between the pilot and settee berths. Divisions are fitted between each locker. The bottom of these lockers is birch ply on the settee berth bearers. The settee berth has a loose birch ply base giving access to the stowage under. No divisions in this locker. A separate loose panel is fitted to form the base of the chart table seat. The aft corner of this berth has an 8" radius.

The bunk board edges are all capped in black plastic strip. Above the forward end of the pilot berth is a separate locker with hinged door on the inboard side. A small fiddle shelf is arranged where this locker top is inboard of the carline. Teak handrails are fitted to the carlines port and starboard over the full length of the saloon.

The hull side is lined with a P.V.C. covered ply panel. The side deckheads are lined with pegboard. The coachroof sides are lined with P.V.C. covered G.R.P. panels. The bulkheads are covered with Vynide. The deckhead is lined with P.V.C. on De La Rue strip. The bulkhead corners are covered with an "L" shaped teak section. A teak cover strip is fitted around the edges of the bulkheads. Teak rings and fly gauzes are fitted in way of the ventilators. The saloon table is arranged with a hinged flap the same width as the main part and the whole hinged up against the bulkhead and is retained by a barrel bolt. The table is supported by a single teak leg at the aft end, and is fitted with a thumbscrew to the cabin sole and a barrel bolt to retain it in the folded position. The table surfaces are Formica and it is edged with plastic strip. Sliding supports are fitted to support the hinged flap. All joinery in the saloon is teak finished, the framing of the berths is of pine.

g. Hanging Lockers:

A large hanging locker is fitted at the forward end of the saloon on the port side. A curtain rail and curtain to Owner's choice is fitted over the opening.

A slightly smaller hanging locker for oilskins is fitted immediately forward of this. The tops of these lockers are covered by a teak Formica shelf with fiddles all round. The clothes locker is fitted with six coat hooks. The Plydeck cabin sole inboard of these lockers is portable for access to the mast wedges and bilge.

h. Forward Toilet:

This is a one piece G.R.P. moulding and has a G.R.P. shower tray with a teak shower fiddle grating. The inboard bulkhead and door are faced with white Formica, the passage side of the door is teak faced and the bulkhead covered in Vynide. The door is fitted with sliding gear and special latch. A Headmaster toilet is fitted, a small Plydeck access panel is fitted in the sole inboard of the toilet to give access to the toilet outlet seacock. Two lockers are fitted under the washbasin, the forward locker is open with a Perspex fiddle and the aft locker is fitted with a hinged door which gives access to the washbasin seacock and shower drain pump. A small locker is fitted over the foot of the pilot berth with a hinged door. These locker doors are white Formica faced ply.



A locker outboard of the wash basin is divided into six sections for toilet requisites. A teak fascia is fitted with plastic beading around the openings. A plain edged mirror is fitted on the forward bulkhead, with two coat hooks, a toilet roll holder is fitted outboard of the toilet, a towel rail is fitted on the aft bulkhead together with the shower valve, flexible hose and telephone type hand set shower fitting and bulkhead bracket. A teak handrail is fitted along the carline.

#### Forward Cabin:

This is fitted with two berths with a hinged locker door in the front of each berth. Teak handrails are fitted to the carlines port and starboard. The cabin sole has a lifting panel to give access to the toilet inlet seacock. The construction of the berths and lining materials are as in the saloon. The bunk board edges are capped with black plastic strip. A curtain rail and curtain to owner's choice is fitted across the passageway to ensure privacy. Carpet is fitted where cabin sole does not cover hull surface. Three teak steps are fitted with rubber and alloy tread strips on the aft bulkhead on the starboard side. The berth top panels are fixed but there is a loose panel with finger hole over the chain locker. An Alkathene chainpipe is fitted from the deck to the top of the chain locker with welded flanges top and bottom.

#### Forepeak:

There is no lining fitted in the forepeak forward of the berths as standard.

#### Generally.

All hinged locker doors are fitted with moulded teak finger rings and internal elbow catches. All visible fittings are brass chrome plated, unless otherwise stated.

#### Upholstery:

All berth mattresses and the settee cushions are made up on 4" thick foam. The settee backrests are 1½" thick and are mounted on ply panels secured in place by keyhole slots and screws. All cushions are in one piece except the following:  
Port berth in aft cabin in two pieces to suit portable bunk bottom.  
Starboard settee berth has separate piece at aft end for chart table seat.  
Forward cabin mattresses in two pieces to suit chain locker hatch.  
The covering material is either the standard red or blue vinyl, or to owner's choice at extra cost.

#### Painting:

The standard finish is as follows:-

Forepeak, lockers under all berths, all toilet lockers, hanging lockers, bottle locker, galley lockers, locker at forward end of aft cabin, locker outboard of chart table, cockpit lockers, locker under aft cabin wash basin, aft ak -

All to be finished in white enamel, two coats.

Engine space to be finished in fire retardant paint, white, two coats.

Cabin sole bearers, underside of cabin sole and bulkheads not in lockers, two coats metallic wood primer, grey.

Toilet soil pipes, two coats, finished white enamel.

All interior teak joinery work is to have one coat of teak oil, buffed when dry.

Cabin and cockpit sole shall be given two coats of Bourneseal.

All exterior teak work is to receive one filling coat and three further coats of Spinnaker or Fastnet varnish and is to be well rubbed down between each coat.

- h. The cove line is to be primed and finished in enamel to Owner's colour choice.
- i. The antifouling is Detel Marina, two coats, after careful removal of the parting agent and scurfing of the surface up to the top of the boot-top. A contrasting colour boot-top may be arranged at extra cost, if required.
- j. The bilge is to be painted with Danboline or similar.

10. PLUMBING:

a. Fresh Water System:

The tank holds approximately 35 gallons of water and has two Henderson type inspection hatches. The tank is filled via a deck filler on the starboard side with a Polythene pipe to the tank. The air vent is taken in Polythene tube to a fitting delivering into the galley sink. The Jabsco pressure set is fitted with a low level cut-out switch and a restriction on the delivery. The unit being mounted on the inboard bulkhead in the galley cupboard. The galley tap is fitted on a pillar to give better access. A standby Whale hand pump is also fitted at the galley sink, with a separate suction to the tank. Supply to the galley hand pump and to the galley and washbasin taps and shower via the pressure set is by non-tainting hose. Wastes from the sink, washbasins and shower are by commercial plastic hose to separate seacocks.

The shower tray is drained by a Jabsco pump fitted in the locker under the washbasin and discharges to the washbasin drain seacock in the same locker.

Both washbasins are white porcelain complete with cold tap, plug and chain.

b. Bilge System:

The Henderson bilge pump with removable handle is fitted in the port cockpit locker. Suction is via convoluted hose to a removable strum box. Discharge is via polythene hose and copper pipe to the seacock in the port cockpit locker, just above the waterline.

c. Water Closets:

Each toilet is fitted with a Headmaster toilet. The inlet seacock is connected with convoluted hose to the toilet and the soil pipe is of convoluted hose looped above the waterline and discharged at right angles through the hull, via a straight gate valve. The W.C. in the aft toilet is mounted on a 3" teak chock. The W.C. in the forward toilet is mounted direct on the G.R.F. moulding.

d. Cockpit Drains:

Polythene hose is connected to the stub pipes in the moulding, draining the cockpit seats and cockpit sole port and starboard. These are 'teed' together and lead to seacocks port and starboard. These drains are not crossed.

11. ENGINE INSTALLATION:

a. Engine:

Parsons Penguin Perkins 4/107, 40 h.p. diesel engine with 2:1 reduction reverse gearbox is installed on pedestal resilient mountings. The engine is supplied complete with a tool kit and sump drain pump.

b. Stern Gear:

Drive is taken through a bronze intermediate shaft with flexible couplings at each end and a bronze tail shaft running in white metal bearings in a bronze sterntube which is provided with a remote greaser mounted on the starboard engine bed.

The propeller is manganese bronze, 3 bladed, right hand 16" dia x 11½" pitch. All shafting 1½" dia.

A seating is provided for a shaft brake which may be fitted if required at extra cost.

c. Exhaust System:

Stainless steel Anaconda bellows are fitted from the manifold to a steel pipe to the Parsons silencer fitted high up in the aft end of the port cockpit locker. This length of pipe is lagged with two layers of 1" dia. asbestos rope. There is a short section of nickel bronze pipe, immediately aft of the silencer, to take the salt water cooling at the hottest part, and aft of this reinforced rubber diesel hose is fitted, clipped to the ship's structure and fitted with a drain cock at the lowest point in the aft toilet locker. A McMurdo silencer is fitted at the transom, direct to the skin fitting which has a drip tray.

d. Cooling System:

The engine is fresh water cooled via a heat exchanger. The sea water intake is via a Parsons seacock and strainer unit, fitted at the forward end of the engine on the port side. The outlet is piped direct to the Parsons silencer.

e. Fuel System:

The 35 gallon tank is filled via a filler on the port sidedeck plumbed in plastic hose to the tank. The tank has a bolted s.s. inspection cover. The air vent is taken via plastic hose to a swan neck inside the port cockpit coaming and the outlet is finally covered by a small c.p. brass shield on the outside of this coaming. Supply is via copper tube to a visible filter and fireproof flexible hose to the engine. A dipstick is provided in the tank inspection cover. A return fuel line is fed back to the main tank via a copper tube to the tank cover.

f. Controls and Instruments:

The engine is equipped with a 12 volt dynamo and starter and voltage control equipment. Instruments comprise, mechanical tachometer, water temperature, ammeter and an oil pressure warning light. These are fitted in a panel on the console in the cockpit and are covered by a removable perspex cover.

A Morse combined Throttle and Gear Shift is installed on the console, connection being via flexible Morse cables to the engine. The starter switch, stop control and oil pressure light circuit switch are all located conveniently inside the forward end of the port cockpit locker.

12. Electrical Service:

- a. Power supply will be fed via voltage control to two 12 volt 94 amp. hour batteries fitted in a lead lined tray to starboard of the engine. Two battery isolating switches are fitted so that the batteries may be charged or discharged independently or in unison. A distribution box with fuses and switches is fitted in a teak box above the chart table.

Following circuits to be fused and switched:-

1. Cabin lights.
2. Pressure set.
3. Navigation lights.
4. Masthead steaming light.
5. Spare.

Wiring looms to be plastic sheathed, colour coded and well clipped and concealed behind furnishings.

- b. The following lights are provided as standard:-

1. Main saloon deckhead )
2. Galley deckhead ) 1 switch on fuse box.
3. Chart table, 2 Wipac swivel lights, self switched.
4. Pilot berth light with integral switch.
5. Forward toilet deckhead, switch on locker front.

6. Forward cabin deckhead, switch on foreside of oilskin locker.
7. Forward cabin bunklights 2 with integral switches.
8. Aft cabin deckhead switch by door on starboard side.
9. Aft cabin bunklights, 2 with integral switches.
10. Aft toilet light on bulkhead with integral switch.
11. Port and starboard and stern navigation lights, switch in fuse locker.
- 12.. Masthead steaming light, switch in fuse locker.

c. The following items are also supplied as standard:-

Motorised Tannoy vents in each toilet, complete with Ventrol switches, giving 2 speeds and intake or exhaust.  
Compass light complete with dimmer fitted to starboard of wheel.  
Shower drain pump and switch in forward toilet, switch on locker front.  
Pressure set F.W. pump under galley. Fuse and switch in fuse locker.  
Windscreen Wiper.

13. Masts and Spars:

These are by Ian Proctor Metal Masts - sail plan A/352/27.

a. Mainmast:

Silver anodised 'N' section, sound deadened, with same fittings as the NICHOLSON 32, but with the addition of serial attachment eye and suitably shielded steaming light at masthead. Electric cable fitted from heel to masthead. Pull through fitted to spreaders. Housing to bottom of tenon 6' 11". Deck to top of lower black band 2' 11". Standard tenon 2" wide x 1½" high to fit between fibreglass flanges. 1" internal track (with gate) to take sail slides and roller reefing gooseneck. Stop fitted at top and bottom of track. Eye for main tack downhaul. Black anodised cleats to be fitted as follows:-

- 8" Main halliard.
- 8" Genoa halliard.
- 8" Spinnaker halliard.
- 6" Topping lift.
- 6" Spinnaker pole lifts (2).
- 4" Burgee halliard (below sail coat).
- 6" Main tack downhaul.

Two "D" type bronze halliard winches complete with handles, are fitted on anodised alloy bases.

Spinnaker boom track and slide on foreside of mast, stop fitted top and bottom.

Spreaders tapered silver anodised and fittings as NICHOLSON 32.

½" dia. clevis pins for lower shrouds.

Eye for spinnaker pole lift block.

Masthead fitting with two internal alloy sheaves, tangs for spinnaker and topping lift blocks, eye for burgee halliard.

7/16" dia. clevis pins for cap shrouds, forestay and backstay.

b. Main Boom:

Silver anodised R.E.4.5. section with roller reefing gear and alloy swivelling outer end fitting. Integral foot rope groove and downhaul track and slide. Shackles for sail tack and tack downhaul. Complete with roller reefing handle satin chromed.

c. Mizzen Mast:

Silver anodised S.2. section sound deadened and stepped on deck.

4' 0" to top of boom. 14' 0" deck to centre of spreaders. 23' 0" deck to top of mast. Black anodised cleats. Mizzen halliard 6", mizzen

topping lift 5", spinnaker staysail halliard 6" and ensign halliard 4".

'L' type bronze halliard winch to be fitted 3' above deck on anodised alloy base on starboard side. Winch complete with handle. Saddle for mainmast backstay 2' 0" above deck on forward side.

$\frac{5}{8}$ " internal track with keep pin at bottom and stop at top. Pull through fitted to masthead.  
Spreaders tapered silver anodised alloy 2' 7" from mast to shroud, angled forward  $28^{\circ}$  as per deck plan.  $\frac{5}{16}$ " dia. clevis pins for lower shrouds.

Masthead with integral alloy sheave for halliard. Tangs for topping lift block and spinnaker staysail halliard. Eye for aerial to mainmast. Eye for ensign halliard.  $\frac{3}{8}$ " dia. clevis pins for cap shrouds and backstays.

d. Mizzen Boom:

Silver anodised 'J' section fixed gooseneck Gibb type 560. Integral foot rope groove. Swivel eyes fitted on each side and on top at outboard end. Fixed pin for clew outhaul. Tang for sheet block as sail plan. 4" cleat fitted on starboard side of boom, 3ft. from outer end for clew outhaul.

e. Mizzen Mast Stop:

A stainless steel shoe is supplied to suit heel of mizzen mast with rubber lining and large drainage hole. A strong web is arranged to take a  $\frac{1}{2}$ " Lewmar bottlescrew fork end on the forward side of the shoe. The shoe is bolted to the aft deck with 3 -  $\frac{5}{16}$ " s.s. csk. head machine screws.

f. Extras available:

Spinnaker Boom:

Silver anodised  $3\frac{1}{2}$ " dia. tapered each end to small Proctor type plunger fittings as NICHOLSON 32. 13' 5" length overall. Eye for lift in centre with shackle and one shackle each end. Release lines fitted from each end to centre.

14. Standing Rigging:

Main:

- a. Forestay 1" circumference 1 x 19 stainless steel. Lewmar 511  $\frac{1}{2}$ " screw with 514 toggle.
- b. Backstay 1" circumference 1 x 19 stainless steel. Lewmar 511  $\frac{1}{2}$ " screw. No toggle.
- c. Cap Shrouds 2 off. 1" circumference 1 x 19 stainless steel. Lewmar 511  $\frac{1}{2}$ " screws with 514 toggles, and 6' 0" of  $\frac{5}{8}$ " o.d. diameter nylon tube rollers and parrell balls.
- d. Lower Shrouds 4 off  $\frac{3}{4}$ " circumference 1 x 19 stainless steel. Lewmar 509  $\frac{3}{8}$ " screws with 512 toggles. Forward lowers to have 6' 0" of  $\frac{5}{8}$ " o.d. diameter nylon tube rollers and parrell balls.

Mizzen:

- e. Cap Shrouds 2 off  $\frac{3}{4}$ " circumference 1 x 19 stainless steel. Lewmar 509  $\frac{3}{8}$ " screws with 512 toggles.
- f. Backstays 2 off  $\frac{3}{4}$ " circumference 1 x 19 stainless steel with Ansell Jones H.G. 3730  $\frac{3}{8}$ " pin 'D' shackles. Topfit Cat. No. 162  $\frac{3}{8}$ " rigging screws with quick release ends. No toggles.
- g. Lower Shrouds 4 off  $\frac{1}{2}$ " circumference 1 x 19 stainless steel. Lewmar 497  $\frac{5}{16}$ " screws with 498 toggles.

#### h. Guardrails:

Plastic coated double guardrails are fitted port and starboard. The forward ends have bottlescrews with fork ends. Fork ends are fitted at gangways port and starboard with gangway sections with eye end forward and pelican hooks aft, working into oval eyes at forward end of aft lifelines with bottlescrews and fork ends at aft ends of lifelines at davits.

#### i. Note

All standing rigging will have Norseman terminals with eye ends as follows :-

Main mast head 5/16" dia. terminal. Hole size .563"  
Main mast lowers 1/4" dia. terminal. Hole size .437"  
Mizzen mast head 1/4" dia. terminal. Hole size .437"  
Mizzen mast lowers 5/32" dia. terminal. Hole size .266" - (.315")

15.

#### Running Rigging:

##### a. Main Halliard

3/4" circumference 6 x 24 G.F.S.W.R. with 1 1/4" circumference terylene tail. 15' 0" of wire on winch when sail fully hoisted. Galvanised thimble, stainless steel shackle, Ansell Jones HG 3700A. Integral masthead sheave.

##### b. Jib Halliard

As main halliard, but to have four turns of wire on each when genoa fully hoisted. Galvanised thimble with Lewmar 233 snapshackle. Integral masthead sheave.

##### c. Main Topping Lift

1 1/4" circumference terylene with Simpson-Lawrence 1615 snapshackle spliced in direct. Masthead block Lewmar 353.

##### d. Main Tack Tackle

1" circumference terylene, upper block on gooseneck Gibb 116 lower block on mast tang Gibb 193. Splice to becket on upper block. Sheave pins fore and aft.

##### e. Jib Tack Strop

3/4" circumference. 7 x 7 stainless steel with stainless steel thimbles and Lewmar 233 snapshackle and bow shackle Ansell Jones HG. 3731 - 3/8" pin.

##### f. Mainsheet

1 1/2" circumference terylene. Spliced to starboard quarter block Lewmar 350. Double block on boom Lewmar 351. Tail leads to 'I' type winch on aft coachroof. Stainless steel shackles to all blocks. Two Ansell Jones HG. 3730 5/16" dia. pin for quarter blocks and one Ansell Jones HG. 3731 3/8" pin for boom block.

##### g. Jib Sheet

1 1/2" circumference terylene. Spliced to nylon thimbles. Stainless steel bow shackle 3731 3/8" dia. pin, Ansell Jones. Two jib sheet blocks Lewmar 304.

##### h. Foreguy

1 1/4" circumference terylene with stainless steel thimble and Lewmar 233 snapshackle and Lewmar 216 snatchblock. To reach from end of boom to stemhead to cockpit cleat.

- i. Mizzen Halliard  $\frac{1}{2}$ " circumference 6 x 24 galvanised F.S.W.R. with galvanised thimble. Ansell Jones stainless steel. H.G. 3700/B halliard shackle.  $1\frac{1}{4}$ " circumference terylene tail. Four turns of wire on winch when sail is fully hoisted.
- j. Mizzen Sheet  $1\frac{1}{4}$ " circumference terylene double ended. Quarter blocks Lewmar 353. Centreline block Lewmar 350. Boom double block Lewmar 351. Four stainless steel shackles for blocks, Ansell Jones HG. 3730 5/16" dia. pin.
- k. Mizzen Topping Lift 1" circumference terylene spliced direct to Simpson Lawrence 1615 snapshackle. Gibb 112 block at masthead.
- l. Ensign Halliard to Mizzen Head  $\frac{3}{8}$ " circumference plaited terylene.
- m. Burgee Halliard to Mainmast Head  $\frac{3}{8}$ " circumference plaited terylene.
- n. Wheel Lashing 1" circumference terylene 6' 0" long.
- o. Halliard Lashings 3 - 3/16" dia. x 3' 0" long Bodic clips each end Elastic.
- p. Mast Coat Butyl rubber mast coat securely lashed to mast and to deck coaming.

q. Note:

All split pins to be carefully opened and taped to avoid snagging.

End of main spreaders to be well padded with adhesive P.V.C. tape.

All shackles aloft to be securely wired.

$\frac{1}{2}$ " x 4" strip of rubber is to be inserted around the mast at the deck.

16. SAILS:

The following are provided as standard. For other sails see Extras List. All sails are by Ratsey and Lapthorn.

- a. Mainsail in 9 $\frac{3}{4}$ oz. Terylene complete with nylon slides, battens, clew outhaul lacing, 3 loose slides with individual lanyards, sail bag and racing numbers if required.
- b. Mizzen in 8 $\frac{1}{2}$ oz. Terylene complete with nylon slides, battens, clew outhaul lacing and sail bag.
- c. Working jib in 9 $\frac{3}{4}$ oz. Terylene complete with plastic covered luff wire, and 6' 6" head pennant, piston hanks and sail bag.
- d. Main and mizzen covers in blue P.V.C. coated nylon with elastic lacings.

17. Loose Equipment Supplied as Standard:

- 1 - boathook, Ash stave, c.p. fitting.
- 4 - fenders - 10" x 6" Rubazote.
- 1 - emergency tiller.
- 1 - 35lb. C.Q.R. anchor.
- 15 fms. 5/16" short link chain. Terylene lashing to cable clench.
- 1 - 20 fm.  $1\frac{1}{2}$ " circumference Polypropylene warp.

- 2 8 fathom  $1\frac{1}{2}$ " circ. Polypropylene warps.
- 1 set Engine tools.
- 1 Sump drain pump.
- 1 Water filler key.
- 1 Fuel filler key.
- 1 Emergency tiller fitting key.
- 1 Engine starter key.
- 2 Cabin keys.
- 1 Padlock key.
- Running rigging and blocks complete - see Specification.
- 1 set Standard sails.
- 1 set Upholstery.
- 2 Curtains.
- 6 Winch handles.
- 2 Sheet track runners.
- 1 Roller reefing handle.
- 1 Bilge pump handle.
- 1 10lb. gas bottle.