MORNING MIST11

Australian Registered Ship No.: 855399

Queensland Registration No.: MN479Q

Design:	John Sayer 15C
Builder:	Aluminium and Steel Boat
LOA:	15 mtr
Beam:	4.6 mtr
Draft:	1.8 mtr
Displacement:	23 Tonnes
Type:	Cutter
Hull:	Round Bilge Steel
Keel:	¾ Length Nacra section with wings
Mast:	Keel stepped
Sails:	ULMAN
Rig:	Allspars
Steering:	Hydraulic
Power:	Cummins B6 120bhp

Generator: Kubota 8KVA

Morning Mist was designed to be a powerful world cruiser able to sail well on all points of sail, cross oceans , carry enough stores and water to make extended voyages and have an engine with the capability of keeping her off a lee shore and still provide a reasonable range under power.

The vessels dimensions were determined by the following:

Beam and draft that would allow transiting of the canals of Europe and draft and mast height that would allow passage of the Intercostal Canal on the east cost of USA.

Since most cruisers spend approximately 20% of the time on voyage and 80% of time at anchor or in a mariner berth the accommodation has been designed , as far as possible , to suit both situations.

At sea the watchkeeper is protected by a semi enclosed pilot house with sail controls at hand and bunks and settees positioned so that a lee berth is available for the off watch crew.

In port the accommodation provides room for six in three separate cabins with two bathrooms, galley and saloon. A large deck cockpit with ice box provides an entertainment area for 8-10 people.

Accommodation:

Aft Cabin: Is air conditioned with full head room and fitted with a Queen size double bed ,underneath storage, wardrobes and drawers with a ensuite containing shower , electric toilet and sink vanity.

Galley: Runs longitudinally so that the cook is braced in by cupboards and benches either side . Contains gas cook top, double bowl sink, hot and cold water, domestic frig, 200 ltr freezer, two domestic fridges and automatic washing machine.

A gimbled stove was not fitted as in the past cooking at angles of heel or a head sea is not a pleasant or safe task. The rationale here is that meals are prepared in port and frozen ,or the microwave and or a sea rail on the cook top with a deep saucepan is used for heating up the food.

Main Saloon: On the port side is a settee with dining table that seats four and with the use of folding chairs will seat seven. The nav station is also on this side of the saloon. The stb side is fitted with a large settee for lounging and watching TV. Overhead and indirect lighting can be chosen for attractive mood

Twin Cabin: Contains upper and lower single bunks.

Forward Bathroom: Hot and cold pressurised shower , basin and vanity with electric toilet.

Forward Double Cabin: double bunk and settee desk wardrobe

Construction:

The lines for the hull were designed and drawn by John Sayer noted for his high performance designs.

The construction plans were drawn up by Fred. Boulae , a local qualified naval architect, and comply with American Bureau of Shipping 100 A1 yacht class.

The hull framing consists of both transverse and longitudinal framing and when combined with the hull plating gives a modulus strength of area which exceeds the above society's scantling rules.

Three water tanks and two fuel tanks are integral to the hull as double bottom tanks and there are water tight bulkheads forward and aft.

A ¾ length Nacra section keel was chosen for directional stability when on passage and the ability to haul out on marine slip ways where travel lifts are not available , without the need to prop the hull forward and aft .

A winged keel was chosen in order to keep the draft at 1.8 mtr (6Fft) for a vessel of this size. The wings are an integral part of the keel and are constructed to take the weight of the vessel in the unhappy event of a grounding.

The mast is keel stepped and is supported across several frames and is further strengthened by three deep transverse frames to take the rigging load.

Rudder is mounted on a skeg for support and protection from floating obstacles.

Engine room: the cockpit sole , over the engine room is removable as well as galley side and forward bulk head to facilitate any major overhaul .

Coatings:

The hull both inside and outside was grit blasted ,primed with two pot epoxy, two pot high build epoxy and polyurethane two pot finish.

Outside underwater sections were coated with two pot epoxy primer , three coats of tar epoxy and two coats of chlorinated rubber as a tie coat for the anti fouling.

Insulation:

The complete interior of the hull was sprayed with insulation foam for comfort in hot and cold weather and also acts as noise insulation.

The interior of the hull can be closed off from the cockpit by sliding hatch and is not dependant on the pilot house windows for watertight integrity.

Ventilation:

The vessel was designed with tropical cruising in mind and has six dorade vents, six deck hatches and 12 opening ports in the hull.

A reverse cycle air con is fitted in the aft cabin and if the aft cabin door is left open will cool the complete boat.

12 volt fans are also fitted.

Rig:

A cutter rig was chosen because of its versatility and the fact that the yacht was going to be sailed with a crew of two.

Selden single point slab reefing , a furling genoa and a self tacking inner fore sail coupled three reefs in the main and with a storm tri sail gives the vessel a wide range of sail combinations through fair weather and foul.

The mast is supported by two backstays and two running backstays.

The rig has been designed and built without the need for running backstays however it is my preference to have them for heavy weather when the yacht's sail plan is reduced. The running backstays are so placed that tacking up wind is achieved without the need to release the lee stay.

An asymmetrical spinnaker is to be used for down wind light airs.

Six self tailing Arco winches are fitted to handle sail halyards and sheeting.

Interior and Cabinetry:

Constructed of water proof ply and Queensland Maple veneers and joinery with teak cabin sole.

Ample storage is available in drawers, cupboards , under bunk and settee storage as well as under cabin sole.

Ground Tackle:

A Muir Vertical hydraulic driven anchor winch is fitted with 100 metres of 12.5 mm short length proof tested galvanised chain attached to a 35kg plough anchor.

Control of the anchor windlass is achieved by a wandering lead which allows the anchor to be raised and lowered from the helm position and working locally for housing and stowing the anchor.

80 metre of 25mm diam. three strand nylon rope attached to5 mtre of 12.5mm short link chain (as above) with swivel and 15kg Danforth anchor is a back up.

Sewage:

Different States have implemented rules for the discharge of sewage overboard which vary from one another.

Queensland has used some common sense in this regard and implemented rules that allow overboard discharge in certain areas provided that a macerator pump is used. For this purpose two electric toilets are fitted.

A 100ltr holding tank is fitted to retain sewage on board when in restricted areas. This tank has never been used as the problems with odour and clean outs makes life less than perfect. For cruising in restricted areas there is a Porta Potty on board which can be taken ashore and emptied in proper facilities.

Electrical:

Power for instruments and domestic living is supplied by shore power, diesel generator battery banks or a combination of some.

Power systems are 240 volt single phase AC and 12 volt DC from batteries.

12 Volt Battery System:

Four 200 amp/hr 12 volt deep cycle maintenance free gel batteries comprise the house batteries.

A Heart 20 Battery charger/inverter is used for charging the batteries and supply of 240 v AC .

A Link 1000 battery manager controls battery charging rates and AC sources.

For example: if the Link 1000 detects a 240v supply it will change inverter to battery charger mode and depending on switchboard load decide on battery charging rate. If the switchboard load decreases then charging rate will increase until the batts are fully charged and then the battery manager will go into float mode so that batts are not overcharged.

Shore Power Supply; Some mariners will only have a 10 amp load on shore lead so that appliance use must be selective so that supply does not trip out.

Example: If the electric HWS service is heating only a toaster and electric jug can be used, If another appliance is required then you would need to manually shut off the HWS .

Diesel Generator: This power source will operate all appliances at the one time as well as charging the batts.

Inverter from Batts alone: 240v to appliances and 12v to instruments and lighting .Depending on responsible usage just how often recharging is required.

Other sources:

Shaft Alternator: a pulley has been fitted to the prop shaft so that a car alternator can be fitted for 12v dc production when sailing. A special sailing propeller is fitted along with the gearbox which is designed to trail.

A shaft brake is also fitted to stop shaft rotating if desired.

Solar panels : Provision is made to fit two panels to the aft targa bar and wiring is in place.

Wind Generator : Provision is made foe the fitting of a wind generator and wiring is in place. I personally think they are too noisy and dangerous

<u>Main Switch Board:</u>

Is wired with 12 volt DC and 240 volt ac. The 240 volt circuits have safety switches fitted both to shore and generator supply and one to inverter supply.

WARNING: NEVER OPEN SWITCHBOARD WITHOUT ISOLATING 240 v AC SHORE POWER AND SHUTTING DOWN 240 v AC INVERTER.

Allways use a licenced Electrician for any work to do with the 240 volt AC system.

Water Catchment:

The deck has been designed to collect rainwater and when drinkable it can then be drained down to the water tanks via plugs in the deck port and stb.

VESSEL INVENTORY

Navigation:

Magnetic Compass, make: Suunto , steel boat model, pedestal mounted

GPS , make: Furono , model GP 70-Mk 2 , mounted at chart table

GPS , make: Shipmate , model Rs-700. New spare stored at chart table.

GPS, make: Magellan , hand held

Communications:

HF radio : make : Icon, model IC 707, this unit also has all Ham radio frequencies

VHF radio , make: Icon, model: IC M27

VHF: hand held radio, make: Icon , model:IC-V8 , two radios

Rig: Cutter

Mast , aluminium with two sets of spreaders

Standing rigging: Stainless steel, lower shrouds x four , upper shrouds x two, fore stays 1x outer and 1 x inner, back stay x 2 and running backstays x 2

Running Rigging: All sheets non stretch xxxxxxxxx leading back to cockpit, main sheet is four part block leading back to cockpit winch with traveller.

Furler: Profurl

Sails:

Made by ULMAN

Main x 1, Furling Genoa x 1, Inner Foresail self tacking x x1, Storm Tri sail x 1

Ground Tackle:

35 kg CQR Plough anchor x 1

15 kg Danforth anchor x 2

Chain, 12.5 mm short link galvanised proof tested x 100 mtr

Anchor rope , 25 mm dia three strand nylon with 5 mtr x 12.5 mm chain x 80 mtr

Windlass, Vertical Muir hydraulic driven with wandering lead control

Mooring, 25mm three strand nylon rope x four (in use) and two new spares

Fenders, inflatable type x four

Bilge Pumps:

Auto 12v electric x 1 in use ,spare x 1

Manual, Whale gusher type x 1

Propulsion:

Engine ,

Cummins B series normally aspirated 6 cylinder 120 bhp.

Hurth gear box, hydraulic clutch and capable of trailing a propeller with out damage

Flexible coupling to propeller shaft

PPS stern tube

Stern tube bearings ,inner and outer both Cutlass bearing

Propeller, designed and made by Rogers and Rough marine engineers of Brisbane

Spares for above,

Engine cooling water hoses

Engine driven alternator drive belt x 1

Engine cooling water pump complete

Gear box power take off complete

Exhaust system, spare length of reinforced hose x 1.5 m

Accommodation:

Air Con , split system.

Washing machine auto

Fans 12v and 240v x4

Beds all with mattresses x 4

Lighting, light fittings and switches ,gold plated and imported from Italy, can be changed to LED bulbs

Toilets, electric macerator type x 2

Manual Jabsco as spare x 1

Galley,

Gas cook top 4 burner

Microwave duel oven

Crockery, cutlery , cooking utensils , etc

Pressure hot and cold water supplied by two Shoreflow pumps , will tolerate dry running if FW tank runs out. One in service and one on standby.

Charcoal water filter on galley sink

Fridg one in galley and one under chart table

Freezer, appox 180 ltr, eutectic plate and set to -18c supplied by 240v sealed refig compressor system.

Cockpit,

Cushions , portable table , built in ice box.

Bimini Top

Boat Awnings , usable but should be replaced

Dinghy , Walker Bay 2.6 m sailing rowing and o/b , takes a 3 hp o/b ,not supplied.

Miscellaneous:

Spare Light bulbs ,fuzes, pipe fittings ,hose various size etc

Vessel Inventory

Navigation:

Magnetic Compass, steel boat type , Make: SUUNTO , pedestal mounted.

GPS: Jap mounted at chart table

GPS: Shipmate New Spare

GPS: Magellan , hand held

Radar: 24 mile, range make: Anritsu CRT.

Running Lights:

Masthead: Tri colour, Anchor light, Flashing strobe

Pulpit: Port and Stb lights

Aft Railing: Stern light

Communication:

HF Radio, make: Icom , This radio has all ham frequencies. Needs an antenna tuner and has never been used.

VHF: make: Icom , mounted at chart table.

VHF: Hand held units X 2

Sails:

Make: Ulman

Main sail ,single point Seldon reefing , 3 reefing points.

Genoa, Profurl furler x 1

Inner Foresail, self tacking x 1

Storm Tri sail x 1

Provision for spinnaker

Rig:

Designed by John Sayer and built by Allspars ,Brisbane

Mast and boom :aluminium

Standing rigging: Stainless wire consisting of Forestay, Inner Forestay, Two backstays, four lower shrouds, two upper shrouds , two backstays and two running back stays.

Running rigging is all non stretch

Deck Hardware:

All supplied by Allspars ,some items custom made.

Winches : Arco self tailing , four in cockpit for sheets and two on mast for halyards.

Ground Tackle:

Primary anchor, 40kg CQR Plough

Chain, 12.5mm proof tested galvanised short link x 100 m with swivel.

Muir Vertical Hydraulic windlass engine driven.

Secondary anchor: Danforth 10kg connected to 5 m x 12.5mm short link chain to 25mm diam. three strand nylon 70 mtr length.