

# LAURENT GILES ARCHIVE

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## STUDY NOTES



## VIA MARIS

**Design No. 0604**

**For: XXXXX**

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## The Laurent Giles Archive

### The Recreational Directive (94/25/EC) Notice to boat builders

This is Important Notice for boat builders who are planning or undertaking boat building projects where the vessel will be built or sold within the member states of the European Economic Area.

#### The Recreational Craft Directive (94/25/EC)

Implementation dates The Directive came into force on 16 June 1996, with a transition period, which ended on 15 June 1998. This means that all new built craft must be CE marked. While in theory The Treaty of Rome should ensure that legislation governing CE marked products is the same across the whole of the EEA, the reality is that the regulations implementing and enforcing the Directives are drafted individually in each member state and do sometimes interpret the Directives differently. It is important, therefore, to check the interpretation of the Directive in every country in which a product is to be marketed. Complying with the regulations of one Member State does not automatically guarantee compliance in others and it does not ensure against interference from other responsible authorities or even from prosecution.

Purpose and application The Recreational Craft Directive has been introduced by the European Commission to ensure a uniform level of safety in the design and manufacture of recreational craft throughout the European Economic Area. The Directive applies to all craft that it is intended will be used for sporting and recreational purposes with a hull length of between 2.5 metres and 24 metres. Certain particular items of equipment are also covered, including ignition-protected equipment for inboard and stern drive engines; start-in-gear protection devices for outboard engines; steering wheels, steering mechanisms and cable assemblies; fuel tanks and fuel hoses and prefabricated hatches and port lights.

Exclusions There are also certain specific exclusions from the Directive. The Directive does not apply to: Craft intended solely for racing, canoes, kayaks, gondolas and pedalos, surfboards and sailboards, historical replicas, submersibles, hovercraft and hydrofoils or craft intended to be crewed and to carry passengers for commercial purposes (these are covered by another directive). Craft built for use by the builder are also excluded from the Directive provided they are not subsequently placed on the market for at least five years.

Administrative requirements The Directive has both administrative and protection requirements. The administration requirements are that the product be marked with the CE logo, and that the manufacturer compiles a file of technical information. In the case of complete craft or hulls, this file is to include test reports or calculations demonstrating that the craft has adequate stability in the anticipated sea conditions. The manufacturer also has to complete a Declaration of Conformity. The Directive also lays down requirements for type testing by a notified body and/or quality control procedures. These are set out in a series of 'modules' and are based on the size of the craft and whether any of the appropriate harmonised standards have been used when designing the craft.

Protection requirements The Directive lays out the essential requirements of recreational craft in some depth. These are based upon the conditions for which the craft have been designed: In all there are thirty separate headings under which safety requirements are listed. These include requirements for marking, stability, fire protection, gas equipment, engine protection and many other items. Some are already the subject of harmonised standards, while others have standards in preparation.

The majority of designs provided by **The Laurent Giles Archive** fall into one of the four design categories:

A: Ocean: Designed for extended voyages where conditions may exceed wind force 8 (Beaufort scale) and significant wave heights of 4m and above, and vessels largely self sufficient.

B: Offshore: Designed for offshore voyages where conditions up to and including wind force 8 (Beaufort scale) and significant wave heights up to, and including 2m may be experienced.

C: Inshore: Designed for voyages in coastal waters, large bays, estuaries, lakes and rivers where conditions up to and including wind force 6 (Beaufort scale) and significant wave heights up to, and including 2m may be experienced.

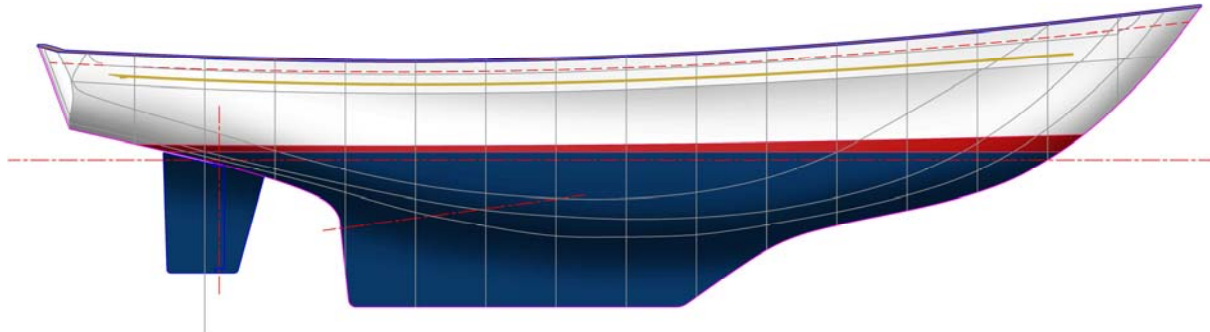
D: Sheltered waters: Designed for voyages on small lakes, rivers and canals where conditions up to and including wind force 4 (Beaufort scale) and significant wave heights up to, and including 0,5m may be experienced.

An indication for the appropriate category (as far as stability issues are concerned) is given in the Study Package. Vessels whose design remain unchanged and were first designed and built before 1950 are classed as Historical Vessels and are therefore exempt. Certain of the designs have been modified since their inception pre 1950, particularly those that have been updated to strip-plank or steel construction. For the majority of designs it may be possible to bypass much of the paperwork insofar as a case can be put to prove by record, each vessels seaworthiness and hull strength. This will not however be true for other aspects of the outfit such as (but not limited to) the fitting of ignition-protected equipment for inboard and stern drive engines; start-in-gear protection devices for outboard engines; steering wheels, steering mechanisms and cable assemblies; fuel tanks, fuel hoses and prefabricated hatches and port lights, or safety equipment (L.S.A) fitted on each vessel.

Purchasers of plans from the Laurent Giles Archive are therefore reminded that under the terms of the requirements of the Directive, it is the sole responsibility of the builder to ensure that their craft is constructed in a way where it is compliant with the Directive.

## Introduction

Design number 0604 was prepared in 1970 for Doctor and Mrs Fred. E. Ellis who had previously owned *Mia*; the second of the Laurent Giles designed *Donella Class* which bore design number 0361 and was built of wood ten years earlier by A. H. Moodys & Sons.



Design Number 0604 *Via Maris* aluminium development of the *Donella* design, built by Wolter Huisman and finished by A.H. Moody &

To be named *Via Maris* (the Latin term, meaning "Way of the Sea") the designed was developed from the *Donella* and *Dorus Mhor* classes with a bold sheer, plenty of forward flare and of course Giles' signature forward knuckle which featured so often on his motor sailers and cruising sailing yacht designs from that era.

In the case of his cruising yachts Giles leant towards over specified construction scantlings and this was certainly true of *Via Maris*' aluminium hull scantlings which are in excess of Lloyds scantling requirements and used the transverse framing system with integral water and fuel tanks and a fully plated ring deck upon which a 7/8" teak deck was laid.

### Principal Dimensions & Data

Length Overall	50' 0"	15.55m
*Length Waterline	37' 1"	11.31m
Beam	12' 5"	3.82m
Draft	6' 5"	1.98m

\* The datum waterline is established for the purposes of design and building and is intended to represent only the approximate flotation of the yacht on completion.

TM	25.0	
Designed displacement (light ship)	16.3 tons	16,500 kgs
Ballast Internal lead	6.0 tons	6400 kgs
C□	321.0	
Rig Auxiliary Ketch		
Sail Area	1074ft <sup>2</sup>	100m <sup>2</sup>
Main Engine	Mercedes Benz OM.352 6 cylinder	

### Deadweights

Fuel	190 gallons	863 litres
Water	220 gallons	1000 litres

## General Arrangement

The general arrangement of *Via Maris* is fairly straightforward: A central head and shower serves both the aft double and forward twin sleeping cabins. There is also provision within the saloon for two fixed pilot berths outboard of the dinette. Head-rooms are generous for the time and access to the aft accommodation is through a portside passage way beneath the yacht's centre cockpit. Day to day access to the engine room is from within this passageway.



Design Number 0604 *Via Maris* a large walk-in engine room beneath the doghouse

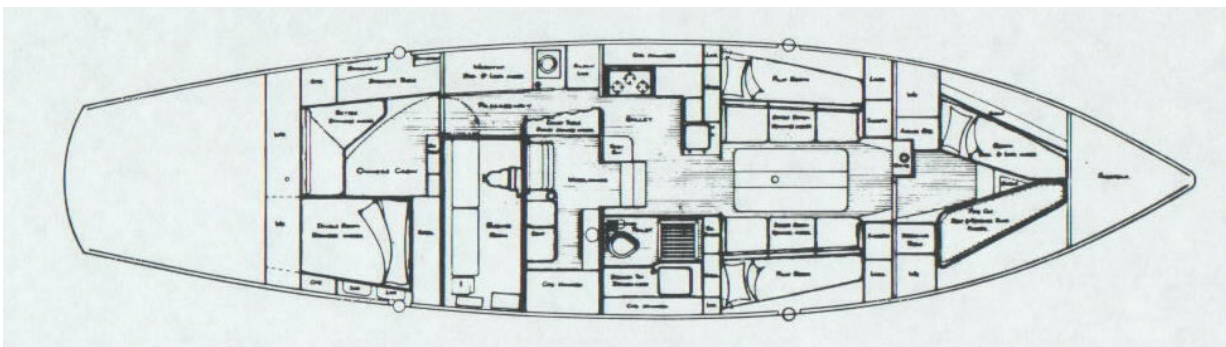
The deck works were kept to a minimum as was the case on the smaller *Donella* class. A feature that Dr. Ellis did admire. Consequently the doghouse is small and has a chart table on the port side with the helm and engine controls located to starboard. These are also duplicated in the cockpit. The idea being that in the wintertime and when the weather is cold the yacht can be sailed from, and in summer from the cockpit.

One interesting and fundamental design feature is that the head compartment is placed as near to the companionway as possible so that it is not necessary to make a long journey through the accommodation in wet oilskins. Elementary for a vessel whose main purpose is short handed year round offshore and ocean passage making.

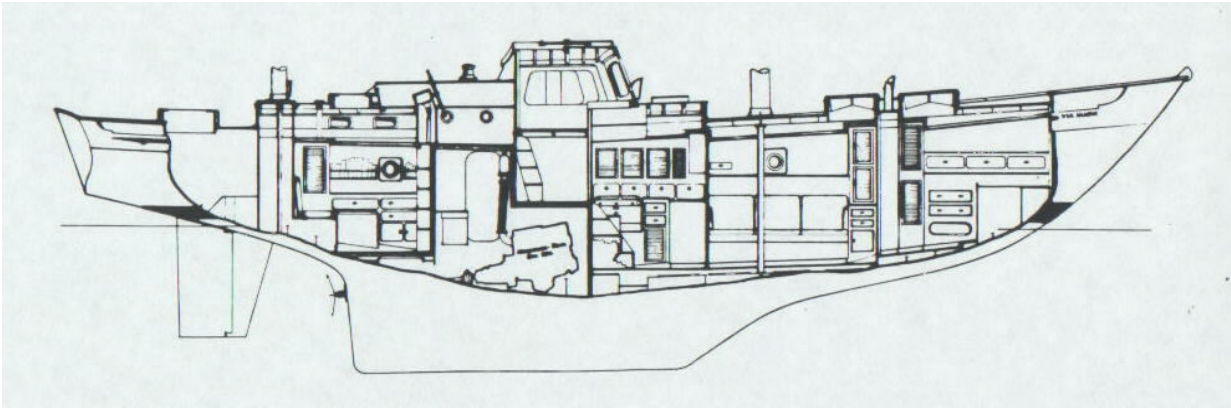
Like everything else in the boat the joiner work is beautifully made in teak with the ship's side lined out in narrow teak battens with beaded edges and all cupboard doors have ventilating louvers in teak. The general effect is of solid traditional craftsmanship but still has a modern (1970's) air about it, commensurate with the choice of colour scheme of the upholstery, stainless steel mast pillar, stainless steel cooking stove, and other details.

As one might expect the cabin soles are of solid teak. The aluminium hull and decks were as was common at the time, insulated with polyurethane foam and a Courtier slow combustion stove kept the yacht cosy and warm in winter.

.Minimum headroom below decks under the flush decked portion forward of the main mast is 6' 2" (1.9 metres)



Part of **Drawing Number 60423** - Generous locker space throughout



**Drawing Number 60423** the Reproduction General Arrangement Plan issued for publication in Arthur Beiser's *The Proper Yacht*. The working General Arrangement drawings contain more detailed information and show the arrangement prior to her 2008 refit

### Designs for 2008 refit

At the request of her new owner Laurent Giles prepared design schemes to update the interior and *Via Maris* was renamed *Bucephalus*. The modification work was undertaken at Vollenhoven with supreme skill.



Sketch Number 0604.D.002.01- Revisions to aft cabin include en-suite facilities



Sketch Number 0604.D.003.01- Revisions to main saloon

## Main Propulsion Machinery

The engine fitted was a 90 h.p. Mercedes Benz 6 cyl. marine diesel model OM.352 complete with Borg Warner reverse and 2:1 reduction gear. 24 volt electrics and, in addition to an extra 24 volt alternator mounted on the main engine, an Onan generating set. Great care has been taken in the electrical installation to ensure that leakage into the aluminium structure is avoided. Originally no provision was made for a shore supply of electricity. The propeller and propeller shafts are of stainless steel. The propeller itself being a fixed, three-bladed one. The yacht carries a 220 gallon (1000 litre) water and approximately 190 gallon (863 litre) of fuel all of which is contained within integral fuel tanks in the engine room wings and fuel and water tanks beneath the saloon sole. There is also provision for a black waste water tank.

## Construction

### Hull and Superstructure

The hull is an all aluminium welded structure with integral fuel and water tanks and with a lead keel encapsulated within the fin. All metal fittings are of stainless steel. The rudder is of independent type with a full depth skeg. The entire hull fabrication which weighs in at approximately 5.5 tonnes was constructed by Overrijsselse Jachtwerf (W. Huisman) of Vollenhove, Holland where the 6.4 tonnes of lead ballast was fitted within the fin keel prior to the hull being towed to Moodys at Swanwick for outfitting and completion and where the rig was stepped.

The deck is fully plated in aluminium alloy and has a 7/8" thick, conventionally laid, teak deck on top and the deck works are of teak.

The yacht is of flush deck type with bulwarks running round the deck. A point which should perhaps have been mentioned earlier, when dealing with the hull, is that she is fitted with a heavy teak rubbing strake round her hull level with the deck. The deck works are of fairly limited scope, the only house of any size being the wheelhouse immediately forward of the cockpit. All the hatches are standard Laurent Giles design of double coaming type and are very heavily constructed in teak with dovetailed corners and heavy armour plated glass windows in them. The ports in the topsides of the hull are of old fashioned circular type with heavy galvanised malleable iron rings and bronze fittings and deadlights.

It is a matter of interest that Dr. Ellis and Giles went to Huismans because they were one of very few builders who, at that time, were prepared to take their chance with aluminium, a building material which imposed high demands of skill and quality. Equally Moody's were selected to finish the yacht because they were regarded as the best firm in the world so far as the construction of really well-made joiner work is concerned. Typically the deck hatches were made by one of their old craftsmen who had already retired and who came back to work for three days each week in order to make them.

## Deck Arrangement

A notable feature of the boat is the clear and uncluttered deck. This is due to the fact that there is no coachroof forward of the mainmast. This was a feature which, in the 1970's before the development of high strength composite structures could not have been achieved without the use of a metal hull enabling the designers to create integral water and fuel tanks, thus saving a considerable amount of space and particularly height below decks.

This feature of the flush deck coupled with the very snug and workmanlike deckworks is what has given *Via Maris* her really 'shippy' appeal and was used before to great effect by Giles on Guzzwell's *Treasure* and Dr Ellis' earlier *Mia*. The topsides in the fore body are

brought into a knuckle at the lower edge of the rubbing strake and this, combined with a full and flaring bow, keeps the yacht extremely dry when punching into head seas, either under power or sail.

The main mast is deck stepped and supported below by a stout stainless steel pillar which passes the mast compression loads straight into the fabricated keel structure through a system of aluminium transverse floors. The mizzen mast however, which exerts far less compression loads, is stepped upon the low aft coach roof and pillars within the joinery beneath. Both of the foredeck hatches are raised well above the flush foredeck as is the aft lazarette hatch raised above the aft deck

## **Performance Under Power and Sail**

Under power the vessel will achieve 8.5 knots with her 90 bhp Mercedes. Normal cruising speed would be about 8 knots.

### **Giles' notes following sail trials and delivery (1971)**

Under sail the yacht has proved to be both weatherly and fast. The boom staysail rig is not a particularly efficient one to windward, but with the wind just free she travels along very well

### **Extract from a letter from Dr Ellis to Giles upon reaching Las Palmas**

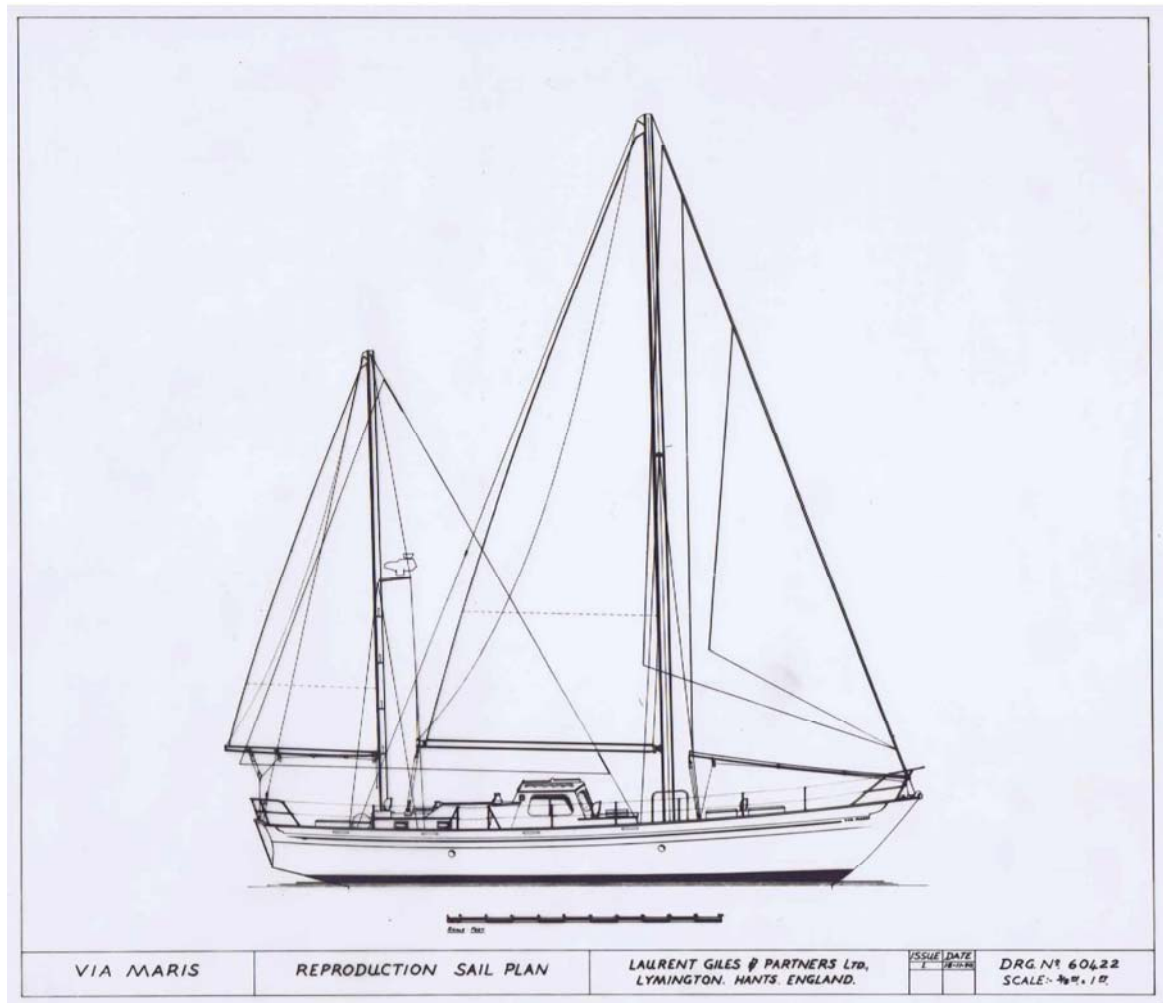
“Performance-wise, *Via Maris* has proved to be a lovely ship, easy on the helm, dry and weatherly yet fast. At almost all times with the exception of when we were running with the twins, we had full main, staysail and mizzen in winds up to 35 knots and she fairly flew through the water... She takes us where we want to go in comfort and speed and is a delight to live aboard. In every port we have visited she never fails to elicit the most favourable sort of comment, and those who have been aboard have been literally awed by what they saw. Need I say more?”

### **Extract from a letter from Dr Ellis to the Editor of Holland Export Magazine**

“I assembled a crew (two older daughters and a son) and set off on an Atlantic voyage which was to take some 9000 miles from the Hamble River in England back to the Hamble. We visited Bayona in Spain, Lisbon, Funchal, Madeira, Santa Cruz, Tenerife, the West Indian Islands of Martinique, Guadeloupe, Antigua, Nevis, St Kitts, Saba, St Martin and Anguila. From Anguila we headed north to Bermuda thence eastwards to the Azores and finally back to England.

Our best run was in the Bay of Biscay where we logged 10½ knots fairly surfing over a deep blue sea in warm sunshine. In contrast gale conditions off the coast of Portugal demonstrated amply the sea kindliness of *Via Maris* and the dependable strength of her aluminium construction. Winds reached a steady 55 knots with occasional bursts to 60 knots with the rigging screaming and the grey seas cresting and breaking”.





**Drawing Number 60422** Reproduction Sail Plan issued for publication in Arthur Beiser's *The Proper Yacht*.  
The working Sail Plan drawing contain more detailed information and sail sizes

## Rig and Rigging

The rig is pretty straightforward, being a boom staysail ketch. All spars are aluminium and standing rigging stainless which are secured at the lower ends to stainless steel Giles' standard 'hoop' shroud plates.

In addition to the boom staysail it is also possible to set a large light weight genoa and for trade wind sailing with the wind aft, two large high cut jibs are set and the clews of these sails are held outboard by twin aluminium booms pivoted from the mast. The heels of these booms slide up and down the mast on aluminium tracks. A mizzen staysail is also carried and slab reefing is used on the main and mizzen.

## List of Original Drawings Issued for Construction of *Via Mari*

6042	Offset Sheet
6043/1	Construction Plan (Profile & Upper Deck)
6043/2	Construction Plan (Bulkheads etc.)
6043 fly	Stowage of Ballast
6044/1	General Arrangement sheet1
6044/2	General Arrangement sheet2
6045	Sail Plan

6046/1	Rudder etc. Details sheet1
6046/2	Rudder etc. Details sheet2
6046/3	Details of Upper Bearing Housing & Muff Coupling
6047	Body Plan (to displacement stations)
6048	Scantling Section
6049	Shell Expansion
60410	Welding Details
60411	Deckworks
60412	Combined Forehatch & Saloon Skylight
60413	Moulding Details
60414	Schedule of Standing Rigging
60415/1	Schedule of Running Rigging sheet1
60415/2	Schedule of Running Rigging sheet2
60416	Stemhead Fitting
60417	Chainplate Details
60418	Engine Room Arrangements
60419	Deck Plan
60420	Main & Mizzen Mast Heel Arrangements
60421	Name & Caveta
60424	Propeller Tail & Shaft Fittings
60425	Arrangement of Stern Tube
60426	Securing Pads for Sacrificial Anodes
60427	Revised Stemhead Fitting (Twin Forestay)
Sketch A	Detail of Accommodation Ladder into Deckhouse
Sketch A	Pads for Skin Fittings in Shell & Tanktops
Sketch B	Revised Cockpit & Wheelhouse Arrangement
Sketch C	Proposed Arrangement of Forward Bulkhead
Sketch	Ballast Lead
Sketch	Refrigerator Cabinet
Sketch	Pilot Berth
Sketch	Tank Calculation

## **Cost of Plans and Licence to Build**

One full set of standard plans with sail/hull number and licence to build one vessel to the design currently costs NZ\$ 9,250.00 (+GST if applicable). Should you wish to build further vessels to the design, a Royalty payment would become due.

Individual drawing copies are priced at NZ\$ 85.00 per copy (including postage)

## **Notes**