

The newsletter of Bruntons Propellers

Latest Amel fits Autoprop (as usual)



One of Autoprops longest running associations with an individual boat builder exists with highly respected French yacht builder Chantiers Amel.

In the early '90's Amel decided to put an Autoprop on 'extended' test fitted to one of their yachts. The standard Autoprop wouldn't fit an Amel so Bruntons produced one with a specially extended hub. Once Amel were satisfied that the propeller was the right one for their yachts they modified each models design so that the standard Autoprop could be accommodated.

For the last 13 years Amel have only fitted Autoprops to their beautifully engineered and built yachts and they recently confirmed that their latest model, the 64, will continue the 'tradition' The first 64 should be completed by March 2010 and will make her world debut at the Cannes Boat Show.

The 'Hymar' Project gets underway

In last years Proptalk we were able to talk about our involvement with the Hymar project for the first time: now with the project finally underway we can fill in a little more detail - continued inside....

The Bodrum Cup Victory for Varifold

Well, actually it was a victory for the SY 'Daima', a recently launched 37 metre Turkish Gulet. Gulets are the traditional, broad beamed sailing vessels that, until recently, were used mainly for fishing and local trading. Today their looks and spacious broad beam design means that many have been converted into cruising yachts and the latest new builds are being built specifically for that purpose, but still using traditional methods and materials.

Why was this years Bodrum Cup a victory for Varifold and 'Daima'? Simply because she was the only Gulet in this years event, which has been running since 1989, which was fitted with Varifolds and 'Daima', took on the other 59 yachts in this years 'race fleet' and won all three races in the series convincingly.



That 'Daima' was able to do so well comes as no surprise to our Naval Architects who explained that replacing her two large four blade fixed propellers, and the resulting drag, with 40" four blade Varifolds would probably have increased her speed potential under sail by between 1.5 and 2.0 knots.

Daima's victory, and by such a margin was unlikely to go unnoticed, and it hasn't! Already her designer, the well known Turkish Naval Architect and Gulet specialist, Ibrahim Karatas, has asked us for a quote to supply Varifolds for an earlier design of his, whose owner, 'wishes to go as fast as 'Daima'!

The Varifolds were undoubtedly a major factor in Daima's sailing success – as to her abilities under power, we will leave you to judge from the image!



Also inside

• Autoprops many applications • Wightlink Ferries • Discovery 50 Catamaran chooses Varifold

A Varifold on every Oyster

It's almost four years ago that Oyster Marine, a world leader in the production of high quality semi-custom sailing yachts, first started trials of four blade Varifold propellers on the larger models in its range: soon after the company announced that Varifold would be the standard propeller for use on all models above 62 feet.

Now, with thousands of sea miles of experience available to them, we are delighted that Oyster have decided to fit Varifolds as standard across their whole range, which starts with the 46. The first boat to feature Varifold is the superb new Oyster 575, which will be launched at the London and Düsseldorf Boat Shows. Oyster, who do not make equipment decisions for their yachts lightly, appreciate the many advantages that come with Varifold, notably, shaped blades which reduce acoustic anomalies to a minimum and provide the power and balance of a fixed propeller with the undoubted speed benefits of a folding prop when under sail.



Bruntons to lead research and design role

Bruntons, which already provides a significant design function for other companies in the Stone Marine Group to which it belongs, has been selected to provide the Group with a central research and design facility.

The 'Centre of Excellence' team will be headed by Bruntons Technical Manager, Toby Ramsay, and is being housed in a large extension currently being built at Bruntons headquarters. Together with Naval Architects and Metallurgists at sister companies, Stone Marine Propulsion, and Stone Marine Singapore, the new team will have specialists in every aspect of marine propulsion and ensures the Group will stay at the leading edge of propulsion research and design.

The research and design centre team will be available, not just to the Stone Marine Group, but also to Naval Architects, Ship and Yacht builders, around the world who require access to specialist propulsion knowledge.

Autoprops many applications

Every year we receive many messages of thanks from satisfied Autoprop users. Here are just two about very different craft. The full stories can be found on our download pages at www.bruntons-propellers.com/downloads



Replica Dutch Barge - 'Ermintrude'

An unusual application perhaps for Autoprop, but the highly successful results suggest it should become the norm. 'Ermintrude's' owner cites several advantages gained by using an Autoprop on his wing engine that will be of great interest to owners of similar craft – excellent thrust astern, optimum thrust throughout the rev range, plus a new approach to handling bad weather and less use of the main engine in canals, all made possible by the Autoprops unique auto-pitching abilities. The full story is a "must read" for any canal boat owner and it's available at the address above.



The beautiful classic 'Maica'

This lovely, classically styled yacht, was re-engined with a 30hp unit to replace her previous 10hp; and fitted with an Autoprop instead of a fixed propeller. Her owner reports that if he, and the boat yard, had known the power delivery that the Autoprop provides, he could have saved weight and money by fitting a 20hp engine. Lower fuel consumption, cruising at lower revs and huge power reserves are the main messages from this story; available in full from the address above.

Superyachts to Warships!

Whatever the requirement, with over 100 years of experience and some of the best propulsion experts working for us, it is hardly surprising that the vessels we design propulsion systems for are many and varied.

Pictured here is a new patrol boat for one of the world's leading navies which is fitted with a complete Bruntons designed and built fixed pitch propeller and sterngear package.



Wightlink Ferries run on 'Bruntons'

Regular visitors to the Solent will be familiar with the Wightlink Ferries that run between Portsmouth and the Isle of Wight, but very few will know that if they have a Bruntons Propeller on their yacht they have that in common with the ferry.

Commercial ship building today is a truly international business and Bruntons, together with its sister companies in the Stone Marine Group, are ideally based to provide the complete research, design and build package that few others can: the 'Wight' ferries are a very good example.



The propellers for each ferry were designed by Bruntons, working closely with Nigel Gee BMT Naval Architects, who are based in Southampton and designed the boats. The propellers were built by Stone Marine Singapore who supplied them to the FBMA Shipyard in the Philippines where the boats were built.

Apart from designing the propellers, Bruntons design team worked closely with the vessels naval architects to ensure that the complete propulsion system for the ferries produced optimum performance.

Discovery 50 Catamaran chooses Varifold

More and more Catamaran builders the world over are choosing Varifold to propel their yachts. Latest in this ever extending line are Discovery Yachts whose first Catamaran, the 50, makes its public debut at the 2010 London Boat Show.

Discovery's choice of propeller is understandable; as manufacturers themselves of very well designed, high quality yachts, they recognise the importance of fitting the best equipment. Varifolds smooth power delivery, excellent thrust, both astern and ahead, plus 'drag free' sailing ensures that their new catamaran will deliver the performance promised by such a well designed and built yacht.



The 'Hymar' Project gets underway

continued

Many attempts have been made to produce a marine diesel electric / hybrid drive system for smaller craft, none so far have been totally successful despite the fact that they have been used satisfactorily for many years on some larger ships and submarines. The objectives of Hymar are to bring the many and varied benefits of hybrid drive to smaller craft. So what would be the benefits? The major ones include:-

- Zero emissions to air and zero external noise and vibration in port.
- A reduction in overall fuel consumption of between 30%, and up to 90%, when fitted on long distance sailing yachts by using regenerative techniques which will be fully researched and applied as part of the project.
- Up to 30% reduction in CO2 emissions, and up to 50% reduction in HC and Nox on fishing boats and small commercial ferries.

Bruntons role, using its unique Autoprop propeller, and working closely with all the partners but particularly with INSEAN, the Italian Hydrodynamic Research Centre, is to design a version of Autoprop specially developed to maximise its thrust delivery under electric power, and its re-generation capabilities when sailing.

The other partners in the project contain some of the best 'brains' in their respective fields – the full list can be found on our 'Hymar' web pages at www.bruntons-propellers.com/hymar together with more information about the projects benefits.



Meet us at
the boat shows!

2010

- London** Jan 8 - 17
- Toronto** Jan 9 - 17
- Chicago** Jan 13 - 17
- Dusseldorf** Jan 23 - 31
- Miami** Feb 11 - 15
- Hiswa Amsterdam** Mar 2 - 7
- Stockholm** Mar 5 - 14
- Auckland** Mar 11 - 14
- Maine** Mar 19 - 21
- Vancouver** Apr 8 - 11
- Oakland** Apr 15 - 19
- Sanctary Cove** May 20 - 23
- Amsterdam Seaport** Aug 31 - Sept 5
- Southampton** Sept 10 - 19
- Newport** Sept 16 - 19
- Friedrichshafen** Sept 18 - 26
- Monaco** Sept 22 - 25
- Genoa** Oct 2 - 10
- Annapolis** Oct 7 - 11
- Hamburg** Oct 30 - Nov 7
- Barcelona** Nov 6 - 14
- Amsterdam - Mets** Nov 16 - 18
- Paris** Dec 4 - 12

List correct at the time of going to press

So different but for one item!

You could hardly get two yachts that are so different, and yet they still have one piece of equipment which is common to both, and that is their propellers.



The Gunboat 90 (left) is a hair-raisingly fast, lightweight cruising catamaran while the Hoek 108 (below), is right at the other end of the yachting spectrum, a classically beautiful yacht which, while still an excellent sailing yacht, would have no chance of hanging onto the Gunboat in full cry.



Below the waterline however both these yachts use Varifold propellers. Just the one on the Hoek and a pair for the twin engines of the Gunboat.

The reasons for the choice in both cases however are identical, both require the smooth, quiet, power delivery in both ahead and astern, that comes from the unique Varifold design and the virtually 'no drag' situation which exists, when the blades are folded.

Flat v Shaped Blades - Just What is the Difference?

Ever asked yourself the question, why are Bruntons folding and feathering propellers so curvy and pretty much everybody else's less so? If you haven't, you should, because there are very good reasons for our designs.

It is a bit technical but, put simply, although a flat bladed or only slightly shaped feathering propeller has been a traditional and popular choice for low drag, the flatter blades means lower efficiency than a fixed propeller. The pitch on a flat blade increases linearly towards the blade tips, whereas a basic fixed propeller has a constant pitch from blade root to tips, which creates a 'twist' to the blade. Using a flat blade the load is increased linearly towards the blade tips, which creates a poor radial load distribution and hence lower efficiency; it will also make the propeller blades noisier as they pass the hull. To avoid this, and to give Varifold the other qualities that make it the class leading folding propeller by far, we have designed in as much 'fixed' propeller shape as possible.

Our feathering propeller, Autoprop, offers the best efficiency across the widest operating range because it is self pitching. Its efficiency is very good through the whole rpm range, whereas with the other types (including fixed), the efficiency drops sharply off away from the maximum rpm. This is because the Autoprop blades automatically adjust to the optimum angle depending on the rpm and boat speed. In practise this means faster cruising at lower rpms, and extremely efficient motor sailing at low rpm because the blades compensate for the extra speed given by the sails.

You are probably left asking, why are not all yachts fitting Autoprops if they are the most efficient when motoring. The answer to this, and other questions, can be found on an extended version of this article at: www.bruntons-propellers.com/whichone