

The newsletter of Bruntons Propellers

Autoprop to Spitsbergen

While Varifold transforms the performance of many yachts for others it is our Autoprop which provides very significant improvements whether sailing, motor sailing or just motoring.

A typical example is this Seastream 43, a well found and highly regarded cruising yacht whose owner, Alistair Stenhouse, found the performance of his boat was considerably improved with an Autoprop. He tells us, "My original prop was a 3 blade fixed and I changed it to permit more efficient sailing on the trip I planned from Scotland to Spitsbergen and back via Norway; a trip which included successfully reaching 80 degrees north.

With an estimated trip distance approximating 4000Nm and anticipated light winds at high latitude and increasing fuel costs, the purchase was made to make "Tournesol" more efficient and cost effective for the trip and for the future. In reality we made 4500Nm of which about 50% was under sail and the rest under power. With the engine developing cruising speed at about 200revs less than before, I estimate that we saved about 50 gallons of diesel over the trip and saved about 2 days sailing due to increased speed under sail. I think that the lack of drag when sailing maybe makes "Tournesol" point a little bit higher also."

If you are unsure whether it should be an Autoprop or Varifold for your yacht come and talk to us at a Boat Show, ring us, or go to www.bruntons-propellers.com/ whichone.



Varifold - transforming older vessels – the 'making' of new ones.



Launched in 1915 the beautiful Herreshoff designed schooner, 'Mariette', pictured below, recently completed a major refit at Pendennis Shipyard in Falmouth. At 95 years old Mariette is one of the oldest yachts re-equipped with Varifold folding propellers.

The effect on her overall performance has been very noticeable as her Captain Charlie Wroe reports, "In conclusion the new setup is much better than before. Noise due to cavitation is much reduced and there is generally less vibration throughout the boat while motoring. I'd say that top end motoring speed is about a half knot greater than before, as predicted by Bruntons. Drag while sailing is harder to quantify but I'm sure that we have benefited from a considerable gain in sailing performance using the Varifold design propellers."

While lovely old ladies like 'Mariette' get a new lease of life, thanks to a couple of four blade Varifolds, the very latest yachts, like the Swan 90 above, start their lives with all the advantages of our remarkable propeller. There are two, three and four blade Varifolds to suit vessels with engines from ten to one thousand horsepower and all of them hold the promise of little or no vibration and excellent performance under both sail and power. Our website will give you the full story.



Also inside

- **CPP System** - Our new CPP System completes our range of propulsion products.
- **IonGuard** - Our IonGuard System gets its own protection.
- **Autoprop goes electric** - Autoprop proves more than ready for the 21st centuries power source.
- **Southerly transformation** - 'Eye popping' results when a Southerly 57 'goes' Varifold.

Autoprop Goes Electric

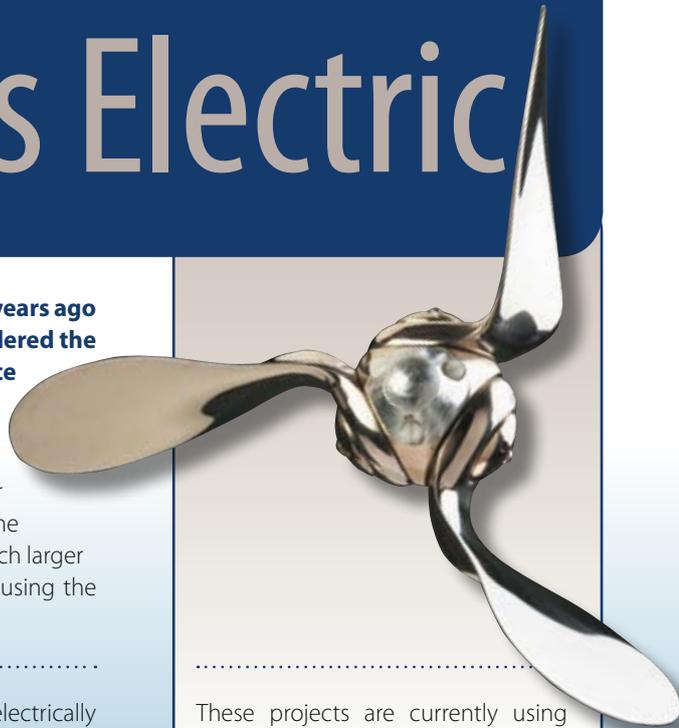
The designers and engineers who produced the first Autoprops over twenty years ago could have had little idea that their brilliant invention would today be considered the ideal propeller to make the best use of the 21st century's new power source for boats; electricity... and Autoprops unique properties make them as attractive to electrically driven motor boats as they are to sailing yachts.

In issue 4 of Proptalk, still available on our website, we told readers about the owner of a 21 foot motor boat, conventionally powered, who used an Autoprop to cross the Atlantic using significantly less fuel than with a fixed propeller. There are however much larger vessels powered by either hybrid diesel electric systems or just electricity that are using the benefits of an Autoprop to propel them.

Autoprop is propelling the VPLP designed and French built "Solar Odyssey", an electrically powered trimaran. Although she looks like a sailing yacht without a rig this research vessel is purely engine driven and during this year she will be attempting to beat the current world record for an Atlantic crossing and later a full circumnavigation with zero CO2 emissions.



Visitors to Sydney in Australia may have seen the 'Sydney Solar Sailor' which is used for ferry work and chartering. In service for ten years she is a hybrid vessel meaning she can be powered solely by electricity, which is generated by solar panels and the generator on board, or it can be powered conventionally depending on conditions and service requirements. Needless to say she is much better for the environment and much more economical to run than a purely conventionally powered vessel.



These projects are currently using existing Autoprop technology and are yet to benefit from the extensive research and development program which the propeller is being subjected to as part of the Hymar project. Model testing and the simulation programme are complete and the propellers design is currently being put through cavitation tunnel tests and computational fluid dynamics analysis to optimise it for the different characteristics of electric propulsion motors. One user of 'existing design' Autoprops, whose top secret boat designs have yet to be announced, has revealed that they are at least 30% more efficient than the comparable fixed propellers; these results hold out high hopes that the propellers created as a result of the Hymar project will be even more efficient.



IonGuard's European Patent

Our recently launched electrolysis protection product IonGuard has had its uniqueness confirmed by the European Patent Office who has granted it wide ranging patent rights that protect it in over 30 European countries.

Whether you have a small yacht which requires little protection or a larger one that is fitted with several anodes you will always be wondering whether or not your vessel is fully protected. IonGuard is the answer! On smaller vessels an IonGuard is all you need for complete protection and you can check the state of the anode at any time while the boat is afloat; if the anode needs changing it can be done in minutes with the boat in the water.

For larger vessels the problem has, up until now, been when to call in the divers or have the boat hauled out; costly, whichever solution is chosen. Now in seconds your IonGuard, working in this situation as a reference anode, can be withdrawn and decisions made as to whether the vessel needs to have replacement anodes fitted or not.

With many yachts staying afloat for longer and longer periods and with electrolysis being one of the most damaging of conditions to affect a vessel's underwater metal parts the modest cost of an IonGuard unit, allowing regular checks as to the effectiveness of the yachts protection, is almost a 'no brainer'!

More information on IonGuard and its other benefits can be found in a paper which is available for download from our website.



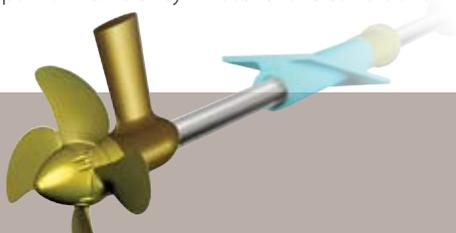
CPP System completes the model range

As if working on 'electrifying' Autoprop was not enough for one year, our designers have also been developing the final and missing part of the Bruntons Propulsion jigsaw – a fully feathering and controllable pitch propeller system. The new system which can handle yachts with engines up to around 1000hp is now ready and we are currently working on larger versions which will shortly be available for vessels of 2000hp and beyond.

The addition of our CPP System means that we are now able provide a full range of products to our customers; fixed, folding, feathering and controllable pitch.

As you would expect the new Bruntons CPP is 21st century, with many features designed to overcome the design weaknesses of others. These include a hub which contains two cams; this increases the blade operating angles and reduces the forces required to move it. Many CPP systems can place the propeller blades under considerable load in some positions and our 'twin cam' system radically reduces this. We have also developed a new blade retention system which ensures a significantly lower wear rate than with older types.

Sailing or motoring Bruntons CPP System will provide excellent performance. Careful and extremely detailed hub and blade design will ensure minimum drag when the blades are fully feathered for sailing. When motoring the CPP is managed by a newly developed and highly sophisticated control module linked to the engine management system which ensures the blades are always at exactly the right pitch for optimum efficiency whatever the conditions.



'Eye popping' performance from Southerly 57

While the Southerly 57 is obviously an outstanding sailing yacht, the reference to 'eye popping' performance has come from the yacht's owner after a four blade Varifold propeller replaced another manufacturer's three blade product.

The owner's comments pretty much say it all – "we can say that we are extremely happy with the performance of the Varifold 4 blade that replaced the propeller that came with the boat and can verify that after 50 hours of engine use the results coming from the Steyr diagnostics were perfect from the point of view of loading on the engine." He went on to say, "The immediate results were eye popping relative to the performance we had from the original propeller. My experience with sailboat and powerboat propellers is extensive enough to know a significant change when I see one and the change to the Varifold was a significant change. Not only did it knock down the vibration caused by cavitation but it allowed us to motor at 9.8 knots at times. Not bad for a 57' x 70,000 lbs sailboat."

We cannot add anything to this, except another very satisfied client.



Photo courtesy: Northshore Yachts Ltd



Meet us at the boat shows! 2011

London	Jan 7 - 16
Toronto	Jan 8 - 16
Chicago	Jan 12 - 16
Düsseldorf	Jan 22 - 30
Atlantic City	Feb 2 - 6
Goteborg	Feb 4 - 13
Eurasia Boat Show (Turkey)	Feb 11 - 20
Miami	Feb 17 - 21
Hiswa Amsterdam	Mar 1 - 6
Austrian Boat Show	Mar 3 - 6
Stockholm	Mar 5 - 13
Maine	Mar 18 - 20
Oakland California	Apr 14 - 17
Sanctuary Cove	May 19 - 22
Seaworks International	June 14 - 16
Stockholm (In Water Show)	Sept 1 - 4
Amsterdam Seaport	Sept 6 - 11
Newport	Sept 15 - 18
Auckland	Sept 15 - 18
Southampton	Sept 16 - 25
Friedrichshafen	Sept 17 - 25
Monaco	Sept 21 - 24
Genoa	Oct 1 - 9
Annapolis	Oct 6 - 10
Hamburg	Oct 29 - Nov 6
Amsterdam - Mets	Nov 15 - 17
Marintec	Nov 29 - Dec 2
Paris	Dec 4 - 11

List correct at the time of going to press

Superyacht Success

A growing number of Superyacht builders around the world are entrusting the design and manufacture of the propellers and sterngear for the yachts they build to us.



Photo courtesy: Holland Jachtbouw/ Bill Langan

Latest in this lengthening line of vessels is a recent launch at Holland Jachtbouw, one of the world's leading Superyacht builders. 'Calliope' is a 42 metre semi-displacement motoryacht which has been built to the very high standards expected from this yard; standards that had to be matched by the vessel's propulsion equipment, it was a challenge we were delighted to accept.

We are told by the yard that the equipment we supplied has more than matched those requirements with the vessel reaching its design speed and smooth power being delivered exactly in line with the engine's performance curves.

Our ability to produce such good results comes from the many years' experience that our designers and engineers have with providing propulsion solutions for commercial and naval craft around the world. These vessels often present complex design and technology problems which require innovative solutions and these solutions can often be passed on to the products that we produce for leisure vessels. Bruntons has now developed its technical department to the extent that it is now the main propulsion research and design centre for the Stone Marine Group.

New NPT high efficiency propeller

We have touched on this connection with advanced design in the past in Proptalk. Here is a glimpse of the future when it comes to the propellers being fitted to commercial ships. It comes as no surprise to know that the owners of commercial ships are looking for ways to reduce both operating costs and emissions. Working closely with Dr Sasaki the Stone Marine Group can offer the NPT propeller, shown on the right, which increases propeller efficiency. We are co-operating with MAN Diesel on using NPT Propellers in conjunction with engine modifications to reduce fuel consumption and emissions. Recent studies have shown the investment can be recovered in as short a period as eight months.



Stone Group companies have been designing propellers for over 170 years and with the NPT and Bruntons CPP System we are more than demonstrating that we remain at the forefront of propulsion technology whatever type of vessel it might be.