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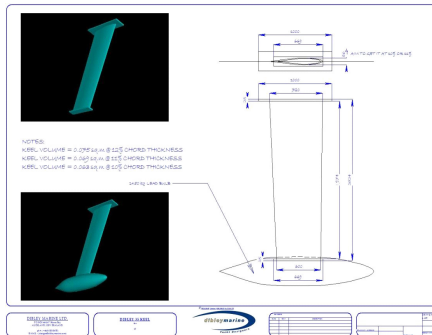
DIBLEY MARINE SERVICES

- Naval Architecture
- Yacht Design
- Design Modifications
- Stability & Trim Analysis
- Keel and Rudder Design
- VPP & Performance Analysis
- Racing & Cruising Yachts
- Planing & Displacement Launches
- Design Reviews

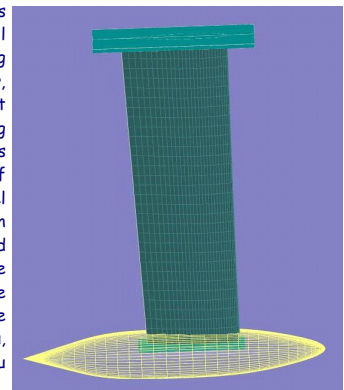
Appendage Refits—Why?

Over the past few years, Dibley Marine has been involved in a number of Keel, Bulb and Rudder modifications for existing yachts. These yachts have ranged from 25 feet up to 150 feet and from various design houses around the world. The two main reasons our clients have approached us for new Appendages is for either a performance gain, or draft restrictions.

Other reasons, and some are related to the above, are: Reducing Leeway, Minimising Drag, Increasing VMG [Velocity Made Good], To correct a Trim Issue, To correct a Weight Issue and to help with Helm Balance. Yachts are usually designed for a specific service to their original owner, or to a Marketing Teams vision of what the masses want in a yacht. But when a yacht has been on-sold, sometimes the total package doesn't quite fit within the new owners requirements, and changing the appendages can be a good way of getting a great yacht that performs to their expectations.



We recently did a new keel for a client who had increased his sail area by 20% and found that the existing keels profile area couldn't resist the new sail plans side force. So they were pointing higher and going faster over the water, but they were slipping sideways a lot more and thus their VMG took a big dive as compared to their previous performance numbers. A good rule of thumb is that most performance keel profile areas should not be less than 2.5% of the sail area [Main and Foretriangle]. Cruising yachts may have more, and some high performance racing yachts have less. With the

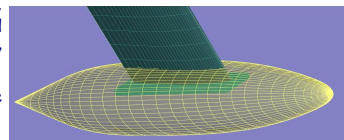


latter, unless you keep the yacht moving at all times, and allowing the keel to work for you, the leeway loss from hitting a bad wave, or having a bad mark rounding can ruin any gains you had built up through having less wetted surface and drag.

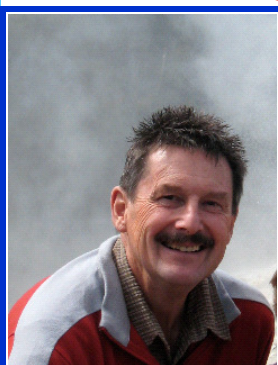
Another project involved a cruising yacht that was stern heavy due to large fuel tanks aft.

We re-designed a keel so that half that fuel could be stored in the fin. The result was better trim and a bonus of higher performance through a lower VCG [Vertical Centre of Gravity]. A lot of the time, if new keels are designed, we look at a new rudder as well. This depends on what the performance increase is going to be though. With increased speeds, better sectional and profile shapes can be used to better effect. If more draft is designed in, sometimes a more efficient aspect ratio can be used in the rudder, which previously may not have been ideal as it might have been as it had to work around the old keels draft.

For those who are unsure whether it can be done, best to drop us a line and we'll review the options and benefits for you.



TEAM PROFILE



The world of yacht design is all encompassing in as far as the amount of knowledge and detail required to achieve successful project completion. It has been Dibley Marine's practice to bring in specialists, when required, to ensure the client gets the most up to date and professional service possible. Recently we brought in our good friend, John Harray of SeaSpark Ltd, to help out with a very tricky stability challenge for our latest Russian Project. John and his staff, besides being structural engineers and project managers, are authorised to approve the designs and survey of all classes of Non SOLAS New Zealand and Queensland registered vessels, in all type of materials. They provide a rare combination of design and compliance capability and are experienced in working with most Classification Authority's world-wide. They also provide compliance documentation for vessels from the EU (CE), USA (USCG), and UK (MCA). It sounds complicated, and it is, but John and his team help make our design management, at critical stages, easier.

John Harray, a qualified Naval Architect and Registered Engineer, has had a stellar career within the Ministry of Defence (UK), including pioneering the structural design of the UK's first GRP Minesweeper, 'HMS Wilton' and followed by the structural design of a fleet of 10 Mine Countermeasure Vessels. His UK career followed with 4 years as technical support for the Polaris Nuclear Submarine Programme.

After 2 years as a Naval Constructor with the Royal New Zealand Navy, John became the Head of the School of Engineering at the Central Institute of Technology in New Zealand. He became an accredited Surveyor for Maritime New Zealand in 1992 and for Maritime Safety Queensland in 2003.

This background is way beyond our normal requirements as yacht designers, but there are services, he provides, that makes our work, and the client's end Product, a success all round.



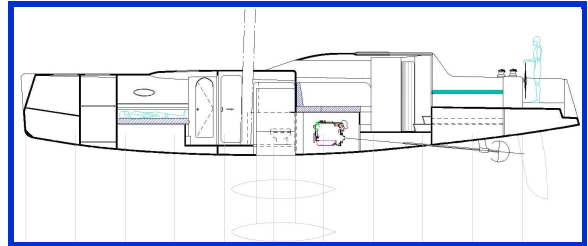
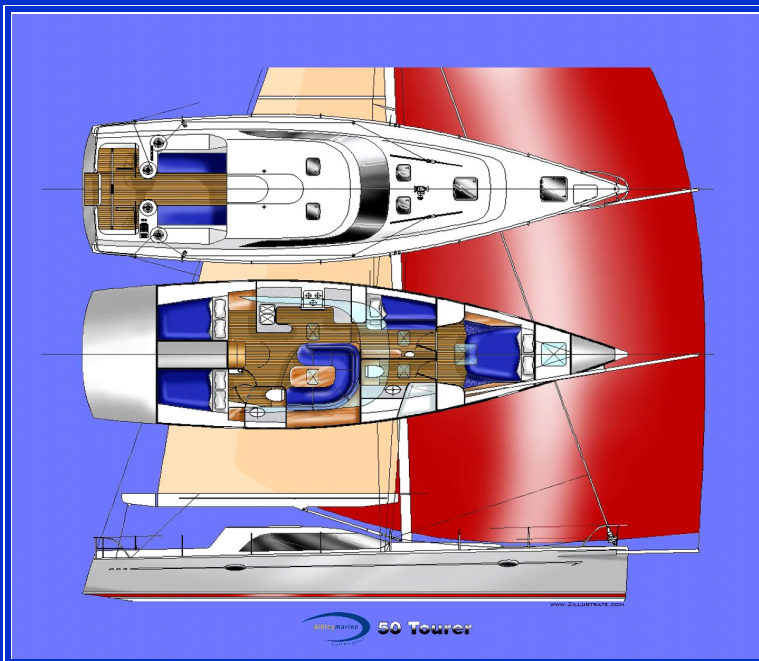
Dibley Marine Ltd. - P.O.Box 46-167 Herne Bay, Auckland, New Zealand

15 Westhaven Drive, Westhaven, Auckland, New Zealand

Ph: +64-9-940-9745; Fax: +64-9-374-4462; Email: info@dibleymarine.com

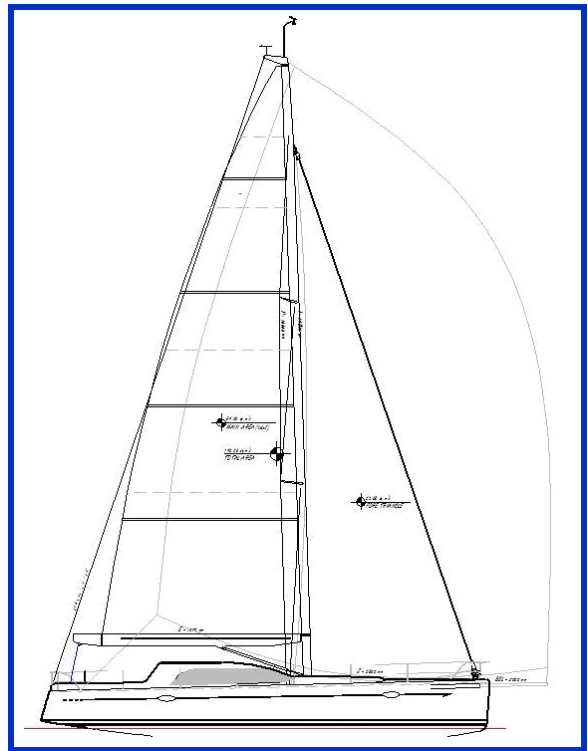
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ON THE DRAWING BOARD



SPECIFICATIONS:

LOA	15.760 m's	51' - 8"
LWL	14.000 m's	45' - 11"
BEAM	4.548 m's	14' - 11"
Draft (Board up)	1.800 m's	5' - 11"
Draft (Board up)	3.000 m's	9' - 10"
DISP (1/2 load)	11,255 kg's	24.810 lb's
Disp/Length Ratio	115	
SA/Disp Ratio	28.4	



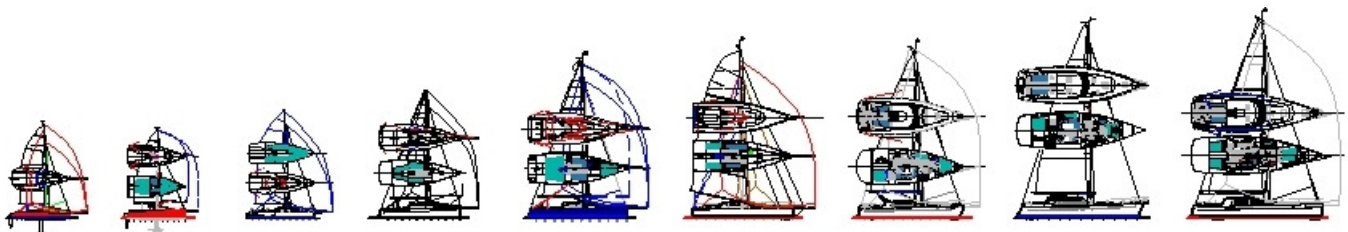
Dibley 50 Performance Cruising Yacht

Designed as a fast, performance orientated cruising yacht; emphasis was also put into an open, easy flow between interior and cockpit. Our intent has been to provide a yacht that can be readily sailed short handed with the option of including guests and 'extras' when wanted. Not when needed. This is a true live-aboard design.

The hull has been designed with a slight V-shaped entry in the forward sections, a moderate beam and a well balanced hull volume distribution allowing excellent load carrying capacity [ie: long term cruising gear], without affecting the exciting performance characteristics of this design.

A lifting keel allows access to areas that are usually unattainable to yachts of this size, while at the same time allowing real upwind performance. The Interior has been carefully designed around the Keel Case so that it is virtually hidden from view.

This design is at the Concept Stage and only needs to be custom designed to suit a new owners needs and personal requirements.



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 Web: www.dibleymarine.com;



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Sailing Links and News

- [Sailing Anarchy](http://www.sailinganarchy.com)
www.sailinganarchy.com
- [Crew.org.nz— NZ Yacht forum](http://www.crew.org.nz)
www.crew.org.nz
- [2-Illustrate](http://www.2illustrate.com)
www.2illustrate.com
- [Yachting New Zealand](http://www.yachtingnz.org.nz)
www.yachtingnz.org.nz
- [Westlawn Institute of Marine Technology](http://www.westlawn.edu)
www.westlawn.edu
- [Super Yachts Unlimited](http://www.superyachtunlimited.co.nz)
www.superyachtunlimited.co.nz
- [Yacht Yakka](http://www.yachtyakka.co.nz)
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Design Studio, Westhaven Marina, Auckland, NZ 2009

FROM THE DESIGN OFFICE: `For those in the Southern Hemisphere, summer is just around the corner with a new season of weekday and weekend racing, and holiday cruising to balance out the busy work life. And for those in the Northern Hemisphere, Winter will allow you to start thinking and planning for a possible new design and adventure. One that will encompass all the positive reasons this boating past time is so important in our lives`
 Happy Boating. Kevin Dibley

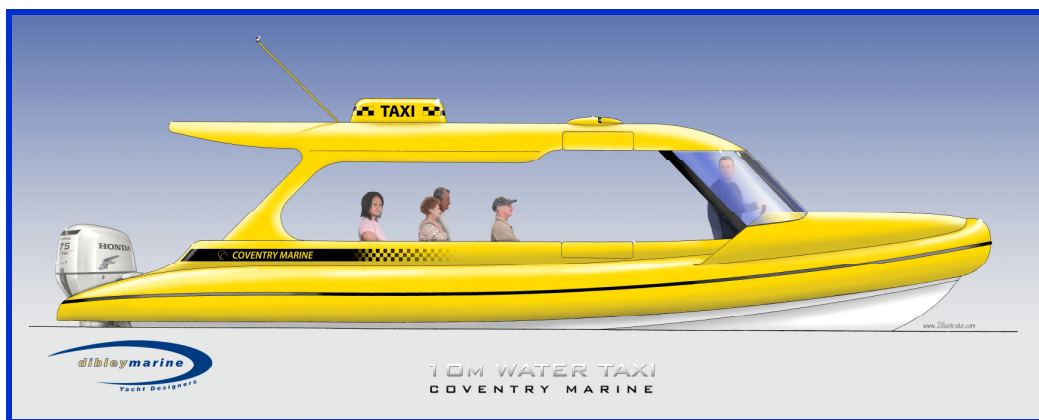
10 Metre Water Taxi for Production

Our newest design is a 10 metre Water Taxi that was commissioned by Coventry Marine Exports of New Zealand. Designed for Overseas Production the design brief was that it must be capable of carrying twenty Passengers at a top speed of 35 knots. To do this, we have given them the option of either Twin 175 horsepower Outboards or a 350 horsepower Inboard Diesel Engine coupled to a Seafury Surface Drive. Both options had to be designed into the Production Model. The Finished product also had to fit within a 40-foot Container so we looked at how to build this design

in modules so that it could be dismantled and packed into a container as one unit.

SPECIFICATIONS:

LOA	10.000 m's
LWL	8.150 m's
BEAM	2.975 m's
DISP (1/2 load)	3,450 kg's
Cruising Speed	35 knots
Max Speed	43 knots
Fuel Capacity	600 litres



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