



**Onboard the**

# **BIG BOATS**

**Top Tips for Luxury  
Yacht Owners**



**In this exclusive article for HeliOps magazine, Nigel Watson, CEO for Heli Riviera – the specialist consultancy for acquiring, integrating and managing helicopters for use on luxury yachts – shares key lessons he has learned from managing air operations for some of the world's most prestigious vessels.**



**Safely embarked. A perfect helicopter/yacht combination.**

**N**igel Watson has dubbed his philosophy 'the 3D approach,' reflecting the understanding of the human, technical and financial dimensions required to implement an ideal helicopter/yacht solution.

### The Human Dimension

A little imagination is the starting point for a successful helicopter/yacht implementation. Whether a vessel is still on the drawing board, or a customer is looking to acquire a new helicopter for an existing yacht, we always begin by asking our clients to shut their eyes and share their helicopter dream with us. It might sound odd, but acquiring a machine that will support an owner's vision is the foundation for selecting the right helicopter.

Without a doubt, the most fundamental issue for owners, their families and guests, is one of safety. Advising clients on this issue is vital, and gives rise to the inevitable, perennial question – one engine or two? Early discussions naturally weigh the safety advantages of twin-

engined aircraft against the economic benefits of single-engined models. Having considered the question of modern turbine-engine reliability, some clients opt for the savings of single-engined machines, whilst others prefer to pay extra for the reassurance of twin-engines.

Of course, external issues – such as life insurance policies of the principal or any other likely guest on the vessel - may exclude their flying in single-engine helicopters and may circumvent that decision-making process. However, if the subject of one-engine or two is open for debate, prudent owners will want to look at the numbers.

So what is the cost differential between the single and twin-engined options? Let's take the popular manufacturer Eurocopter as a case in point. Their EC130B4 has become a popular single-engined, embarked helicopter and costs in the region of US\$2.5 million, whereas their twin-engined EC135 is nearer US\$5 million. So, even though we can streamline the acquisition and ownership costs, as discussed later in the 'financial dimension' section, owners will obviously want to give this question

considerable thought.

Having crossed that first, difficult hurdle, a whole range of less painful questions arises. These concern the intended use of the helicopter, and really relate the owner's original vision. In a nutshell, it boils down to the question, "Do you want the aerial equivalent of a limousine or a Land Rover?"

Some clients have a distinct preference for luxurious, air-conditioned, VIP aircraft, optimized to carry people to and from social events. Others prefer rugged machines that can be loaded with golf clubs, mountain bikes or climbing equipment. Just as with car makers, helicopter manufacturers offer a range of models to suit the different needs of different owners and we manage them all – 'limousines' to 'Land Rovers'.

The largest yachts cater for this diversity, with both wheeled and skidded helicopters found onboard. In these instances, they are normally both twin-engined models: the skid-equipped machine giving greater flexibility away from the airport, whereas the wheeled helicopter is perfect for the helipad at the racecourse or

# HARMONIZING THE HELICOPTER AND THE YACHT FROM THE DRAWING BOARD STAGE IS THE IDEAL SOLUTION – BUT LIFE ISN'T ALWAYS LIKE THAT.

local airport. Once again, the owner's vision dictates the basic specification.

The helicopter choices that our clients make are as varied as human nature itself. The important thing is that we give our customers an informed, objective basis upon which to make their buying decisions.

## The Technical Dimension

Once we have short-listed the helicopters that conform to an owner's vision, we examine the technical considerations of matching the helicopter with the vessel.

Of course, the ideal time to consider the choice of helicopter is while the yacht is still on the drawing board. It is only at this stage that we as the helicopter consultant, together with the client and the marine architect, can arrive at the perfect solution.

Where to start? At an organizational level, the well-informed owner should not forget the requirements of build-class and flag-state. For example, a yacht may be classed under Lloyds, or a similar society, and be registered in Hamilton, Bermuda. Both authorities correctly view the operation of helicopters, and particularly the carriage of aviation fuel, as important issues.

At a physical level, the amount of yacht 'real estate' to be allocated to the helicopter must be identified. Fire-fighting equipment, both fixed and portable; the storage and management of

the appropriate fuel; navigational aids for both day and night operation, plus deck lighting, are all aspects that an architect must consider. Our consulting services streamline helicopter implementation for the architect and owner by addressing all of these issues. Owners, their management teams, marine architects and shipyards can effectively outsource the on-vessel flight infrastructure to us. Once the helicopter vision has been agreed from the initial 'human dimension' audit, we can optimize the space needed for the flight-related environment. Failure to provide for aircraft support at the design stage can seriously limit an owner's helicopter options in the future.

So, harmonizing the helicopter and the yacht from the drawing board stage is the ideal solution – but life isn't always like that. Sometimes we are asked to participate late in the design process, or for refit projects, when the real estate has already been allocated. At first glance, a refit project would seem to be a simple matter of moving the sun loungers and painting an 'H' on the deck, but scratch the surface and difficulties appear. Structural loads – both static and dynamic – must be considered, sometimes necessitating expensive structural changes. Similarly, the carriage of fuel opens a Pandora's box of challenges, although for an embarked helicopter with an active cruising program we would always

recommend having fuel on board the yacht.

In instances where we have come to the party late, speed is usually of the essence. Here, we can greatly assist project teams by recommending products we have had success with in the past. Composite deck materials, UV illumination to create a glowing helipad and our own 'helideck incident kit' – a compact roll of compliant emergency incident equipment now used on many yachts' helidecks around the world – are just a few examples.

Other technical considerations are hangarage and on-board aircraft maintenance facilities. Owners who have purchased helicopters invariably want to embark their investments onboard their yachts as they travel around the world, and this makes hangarage and maintenance facilities important. When space is limited, and when retrofitting a yacht with flight facilities, we always recommend a custom-made, breathable cover for the helicopter.

For new-builds, a dedicated hangar is the better approach, but the question of allocating real estate will dictate whether this is a viable option. Helicopters with blade-folding rotor designs lend themselves perfectly to compact hangars. A hangar also offers a facility to store documentation, tooling and spares, and is a real 'headquarters' for the air department onboard a vessel. It also provides the possibility of a controlled-air environment to help offset the

**Eurocopter EC155 secured and ready for use.**



**Sikorsky S76 with rotor blades folded.**



inevitable corrosion issues, which we must address when using the helicopter in a harsh marine environment. Still on the subject of storage, on-board maintenance is something that must be clearly understood. Whilst planned maintenance is not usually carried out on a yacht, we give our clients a schedule for yacht-based, preventative maintenance. Preventative maintenance increases safety and enhances the residual value of an aircraft. It is something that happens every single day a helicopter is embarked. For example, we rinse the exterior with high quality, fresh water several times a day; rinse the engines' turbines after each flight, and make liberal use of inhibiting agents to prevent attacks on the more sensitive areas of the machine. We also instigate checks on hidden areas of the aircraft, for such things as decomposition of 'sealed' tail rotor drive-shaft bearings. Corrosion inside main rotor gearboxes is rare, but not unheard of in terms of maintenance events. It all means that in-depth, planned maintenance is a vital and valuable part of the ownership program.

Once we have an agreed vision, and an understanding of the effect that vision will have on the real estate of the yacht, we can narrow the shortlist of potential helicopters to just one 'dream machine'. We can then acquire and operate that aircraft in the most cost-effective way.



**On location. EC135 pilot Gary Butcher awaits his next assignment.**

important. This might surprise the helicopter community, as the typical embarked helicopter will only fly between 100 and 300 hours per annum, but we have found these programs cost-effective, and give the added bonus of ensuring reactivity of support from the manufacturer for an aircraft-on-the-ground situation. Helicopter unserviceability is simply not an option – even for owners who visit their yachts infrequently.

Prudent legal ownership can save VAT bills of over US\$1,000,000 on the acquisition

regulations that need to be implemented from the outset.

Following acquisition, helicopter lifecycle-management is another crucial consideration. A major asset to any flight venture is hiring a competent, proven pilot/technician. An alternative option is to employ a dedicated helicopter technician and then also use this person in other technical areas onboard the vessel. Both have advantages and drawbacks and, like many employment situations, depend on the personality and enthusiasm

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### The Financial Dimension

So how do we work with owners to get the right aircraft at the right price, and then operate it cost-efficiently?

In two ways – firstly, we aim to minimize the acquisition cost by correctly specifying the helicopter. For example, we may dissuade an over-zealous owner from adding such things as an expensive voyage management system if the aircraft were normally to be used only for short hops between yacht and shore.

Secondly, we reduce the cost-of-ownership through efficient management. Offshore helicopters are more expensive to own than their shore-based cousins. Safety can never be compromised, and reliability and availability are vital to owners. We have found that programs such as 'parts by the hour' are

of a helicopter and its subsequent operation. Nobody wants to pay VAT unnecessarily, but associating the helicopter with a foreign-flagged vessel operating on a global basis is not an automatic route to VAT exemption.

We have also advised clients wishing to operate helicopters commercially, both under Part 135 and on European Air Operating Certificates. Commercial registration seems appealing at first glance, but must be weighed against increased operating costs and geographical cabotage restrictions to give an accurate picture. Once again, we offer our clients an informed, objective basis upon which to make far-reaching decisions of this nature. In short, we advise them on proven and legitimate acquisition and operating methods complying with tax, custom and air authority

of the individual. As a consultancy we have relationships with many pilots and technicians who, between them, are experienced in the whole spectrum of helicopter types and maintenance conditions. As part of our service, we match the aircrew to the client.

On the financial dimension, our clients also need to consider the investment they make in our services. This usually takes the form of a one-off consulting fee to handle agreed design and acquisition tasks, with the option of an ongoing management package to handle flight-related tasks like aircraft lifecycle management, flight permits and pilot resourcing. Over the years, we at HeliRiviera have acquired a high degree of helicopter/yacht knowledge. In a typical week we might review the VAT exposure on a client's aircraft ,



**TOP: Weatherproof covers protect a valuable asset.**

**BOTTOM: EC135 embarking on forward helipad.**

untangle the bureaucratic challenge of French flying permits for both aircrew and vessel, or ensure that the next planned cruise to South America is helicopter-friendly.

### In Summary

Once the hard work has been done, the benefits of a '3D' approach for the owner are immense. The trip from the airport or villa to the yacht takes minutes, and the ownership of a helicopter considerably extends the potential for day trips. Golf courses, social events or inland restaurants all become easily accessible from the comfort of the yacht.

There are other advantages too. For example, with only a conventional floating tender, an owner may have to leave a pleasant anchorage in order to come nearer to shore or a local

airport, to ferry family and guests to and from the yacht. With a helicopter as tender, the need to reposition the yacht is overcome. And, of course, medical emergencies are dealt with much more efficiently using an on-board helicopter.

Even if an owner does not purchase a helicopter but rents one on an ad-hoc basis, the implementation of a helipad can allow SAR, medical or charter helicopters to visit a yacht. Our design consultancy can help to create the ideal non-embarked landing facility. Out of interest, with regard to other aircraft visiting a yacht, our full-management clients can use our website as a place to post information to pilots, so that aircraft visiting for the first time have 24/7 access to essential yacht data, such as dimensions, onboard equipment and training awareness,

radio frequencies and rotor-strike hazards.

This provision of flight information for a yacht touches on the subjects of safety and operational procedures, which are high priorities at HeliRiviera. We offer our clients specialized operating procedures based on action sheets specially designed for yacht-based helicopter operations, which can be fully integrated into a ship's standing orders, and auditable within the vessel's safety management procedures.

In addition, our training courses, such as shore- or vessel-based fire-fighting programs, have become industry standards. Most recently, we have introduced a dunker course to simulate ditching at sea, both from a floating and a submerged helicopter. This innovative program has been specially modified for owners, their families and entourage; while such groups might not normally consider taking such a course, it underlines our commitment to managing every aspect of marine helicopter management.

So, what is the bottom line? In summary, my advice to owners of luxury yachts is threefold.

- 1) First decide between single or twin-engined aircraft.
- 2) Make sure your yacht has the right helicopter infrastructure, preferably at the initial design stage.
- 3) Plan from the outset to acquire and operate your chosen helicopter in the most efficient way. 🧭

### About the author

Nigel Watson has spent 20 years at sea in the Royal Navy, Sultan of Oman's Navy, and the luxury yachting industry. He was part of the build team on two luxury yacht projects, and commanded MY Golden Shadow for four years of global cruising with helicopter and seaplane assets. Watson, a qualified commercial helicopter pilot himself, founded Heli Riviera in 2000. In addition to acquiring helicopters for yacht owners and managing the flight operations of a number of yachts, Watson has acted as a helicopter consultant for HeliThai, a pleasure-flight business based in Phuket. More information on HeliRiviera can be found at [www.heliriviera.com](http://www.heliriviera.com)