

## Choosing the right helicopter for your yacht

Words - Jim Raycroft and Pascal Lardy

# MISSION: POSSIBLE

**W**e have flown into Caribbean volcanoes, transported guests from the yacht to elaborate beach parties, landed the guests at the base of a waterfall for a picnic. One time, we had charter guests waterskiing in the Mediterranean near Villefranche and twenty minutes later they were playing in the snow in the Alps,” reminisces Mark Elliott, a former captain, now a yacht broker at IYC and always a helicopter pilot.

Nothing compares with the convenience, utility and excitement of a helicopter. It’s a great sightseeing vehicle, of course, but also a useful pick-up truck, a life-saving ambulance and the ultimate taxi. Not to mention that the sight of a beautifully sleek helicopter poised on the flight deck of a magnificent superyacht tends to conjure fantasies of mystery and intrigue. And with the ever-growing fleet of helicopter-capable superyachts pushing out into every corner of the globe, the sight is becoming more common.

While the helicopter is the most awesome toy in the superyacht toy box, it’s also arguably the most complex and high maintenance. Yacht owners who are well-versed in the personal land-based aviation experience tend to transition easily to the addition of a helicopter. Often on these yachts, the captain and pilot handle all logistics on board. On the other end of the spectrum, there are professional aviation management companies that can be tapped to handle any and all aspects of yacht-based aviation, from advising on helipad design to training crew, supplying contract pilots and complying with international regulations.

There is no “one size fits all” solution when considering a yacht-based flight program. Before yacht owners can decide on the proper helicopter, they need to determine how it will be used beyond flying to the yacht, their “mission profile” in helicopter parlance. For charter? For emergency evacuation? Other questions to ask are: How many seats are needed? In what environment

will you be flying? What operational limitation is acceptable? The least-risk option is a twin-turbine helicopter that is Category A, meaning if one engine fails, there is enough power or altitude margin to complete a take-off or landing. Category B helicopters can be single engine or multiengine, but the crew are not required to follow a flight profile to increase the safety margin and would not have enough power to fly in the event of engine failure; a power-off landing would be the only option.

Taking the shortlisted models that fit the yacht owner’s entire mission profile, the next step is to determine which ones are suitable for the available yacht space – which is not as straightforward as it may first appear to the layman.

“It isn’t so much that it may fit on paper aboard the owner’s yacht (i.e. per a diagram from an naval architect),” says Dan Deutermann, managing director of aviation consultant The Squadron, which provides independent third-party assessment of and support for yacht-based helicopter operations. “Fitting means factoring in operational parameters that meet suitable safety margins with respect to aircraft safety systems, helideck area, obstacles, surface material and deck’s structural strength.”

Once these questions have been answered, owners can “weigh the operational and financial pros and cons of each helicopter that makes the cut and make an informed decision,” says Deutermann.

“Another approach we have witnessed, which was a good scenario,” he adds, “is where the owner already had the aircraft and wanted to know if it would actually be good to fly on board a yacht he was going to purchase. The owner was also the pilot and he had a dream about how he wanted to go around the world for a year with his family – so he took a barebones, easy-to-maintain Enstrom 420 and had us integrate it. We trained him as the pilot, trained the crew, set down limitations that the captain could hold him to for the voyage. He made the trip and had a blast.” ■



191' Mi Sueño

Scenario 1

### CHOPPER CHOICES

Let’s say I want to carry at least four passengers, at most six, with some luggage. I want the aircraft to be able to fly VFR (Visual Flight Rules) day and night. I accept a slight risk as I’m not willing to maintain and train the full crew and maintenance personnel required for a twin-engine Category A-capable helicopter.

My first choice is the Bell 407 with its single engine, small four-blade rotor system. In service since 1996, this helicopter will carry more weight faster, farther with plenty of power in reserve than most of its twin-engine counterparts. This helicopter has millions of proven flight hours in the Gulf of Mexico oilfields with a very good reputation and reliability (even more so for the Bell 206L older version). It can carry six passengers with cargo, with a full load of fuel, at 135 knots. Very agile, it is easy to tame with forgiving control. The base model starts at \$2.6 million.

The Airbus AS350 is another good option. It’s similar to the Bell 407 power-wise, but the very sensitive flight controls can make it difficult to tame during hovering (which is why the French call it *l’Ecreuil* or “the squirrel”). If you have a large helideck, this is not a problem, and for a million dollars less than the Bell 407, it becomes a very attractive alternative. But if you have a small, confined helideck, this is not the one for you. The cabin has one pilot/six passengers in tandem with fantastic visibility and a good cargo bay.

Much more affordable than the Bell 407, the Bell 206L4 has a similar cabin to the Bell 407, but is fitted with a smaller engine and a different and bigger two-rotor blade system. It’s also somewhat limited in power, 20 to 25 knots slower than the Bell 407. But it has fantastic reliability and will carry four to five light persons at any time and, occasionally, five to six light persons (for instance two men, three women and one child).

If carrying fewer passengers is acceptable, there are a couple of other companies that make models carrying three plus the pilot, MD and Robinson. The MD 500E and MD 530F are super-fast, versatile helicopters. Compact, stable and agile, they fit well on a small helideck.

The problem is the cabin is small for the back passengers who have limited visibility. MD has made strides to improve its technical support, but parts and service have been notoriously slow.

The Robinson 44 Clipper II (marine version) is the best bang for the buck at \$450,000 base with low maintenance costs, as it’s fitted with a single piston engine instead of a turbine. Worst-case scenario: Your pilot mismanages the power and burns an engine due to a wind gust on landing; it will cost about \$25,000 to replace it. Expensive? Changing the Rolls-Royce 250C30 of your Bell 206L4 will set you back \$300,000. Robinson also makes a larger R66, but the seating configuration is uncomfortable for anyone taller than five feet, nine inches; the Bell 206L4 is so much roomier.



AS350



Bell 407

### YOUR OPTIONS

Nothing compares with the convenience, utility and excitement of a helicopter.

## Scenario 2 CHOPPER CHOICES

Now let's say I want to carry at any time six passengers with some luggage. I want the aircraft to be able to fly in all weather (IFR - Instrument Flight Rules) day and night, with Category-A performance because taking any risk is not acceptable. My budget is over \$5 million, and I'm willing to maintain a full crew: pilot, mechanic, fire crew. I also will be able to refuel the helicopter from my yacht.

The Bell 429 and the EC135 T3/P3 (or H135 as it's now being rebranded by Airbus) would be my first choices. Both are about the same price. The Bell 429's payload (fuel plus passenger weight) is less than the H135, but since its fuel burn is much lower, it carries less fuel, which means more weight allocated to passengers. It also flies faster. The EC135 airframe has logged a thousand hours in salt environment with good success. Performance-wise, the Bell 429 and H135 are both full Category A, single IFR pilot-certified. (The EC135's older or lower versions, T1 and T2, aren't Category A.) Both are basically the same size, so it comes down to the question of looks and personal preference.

Another option is the EC145 full Category A, which is rebranding as H145. It has the latest technology (being introduced now in the Gulf of Mexico for oilfield work), full IFR, is reasonably priced (considering) and is the largest of all the helicopters mentioned, carrying up to eight passengers, depending on configuration.

The AS355 is the twin-engine counterpart of the AS350. Squirrely like its brother, it gives you the Category A capability but has been known for being high maintenance. Airbus recently announced it is dropping the model from its range.

Lastly, a Category A, IFR-certified aircraft, the Agusta 109 Grand is perfect for the job. But with an \$8.1 million base price, it's a couple million more than its competition.

ONE OPTION



Bell 429



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## PILOTS' PICKS



H130

### Best for sightseeing

Airbus' AS350, AS355 and H130 (formerly EC130 T2), due to their seating configurations



H135

### Best for expeditions

For operation above 5,000 feet: AS350 B3 and H135 (formerly EC135 T3/P3). The H135 has a fantastic cargo bay and is also being used for medical evacuation. For operation below 5,000 feet: Bell 407, Bell 429 and AS350 B2.



R44

### Best for cost-effective taxiing

Light, small and inexpensive, the Robinson R44 Clipper II marine version will take two passengers plus luggage, or three with no luggage.



H145

### Best for luxury

H145 Mercedes-Benz Style. Also impressive are the VIP versions of the Bell 429 and the H135. The Agusta 109 Grand also has a very nice package that can be designed by Ferrari.

Flying in Antarctica off the 212-foot yacht *SuRi* was "a very difficult trip to set up," says Steve Zito, who manages the flight operations of the AS350 on board. "You need to be over-prepared. It is no place to have an 'uh-oh' moment.... After experiencing the trip, I understand why we needed to go the extra mile preparing. It is an awe-inspiring place but it is so isolated, it can be incredibly scary. As scary as it was at times, I took away so much.

How many people can actually say, 'I've landed on an iceberg?'"