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SAFETY FIRST!

Even if you've flown a Robinson for years, there's still more to learn. Helicentre, in Leicestershire, offer a training course that will make even the most experienced pilot better...

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THE first words I hear on this course at Helicentre's are: "The majority of fatal helicopter accidents could have been prevented if the pilot had made the right decision on the ground."

Richard (Dick) Sanford's intro to the European Robinson R22/R44 Flight Safety Course sets the pace for the rest of the three-day event, a captivating statement backed up with detailed statistics giving an in-depth look at why helicopter crashes happen and how we can avoid them.

Pilots of varying experience are in attendance. Some, like me, are freshly hatched PPL(H)s, while others have significantly more time at the controls of an aircraft. A 747 pilot, Brett Easton, has over 20,000 hr under his belt and owns a R44.

Rewind to 08:00, and pre-course coffee at Helicentre Aviation's plush Leicester HQ. It gives the group a chance to get to know each other, before Dick beckons us into a well-prepared classroom at 08:30 sharp.

Dick introduces himself by outlining some of his vast experience: 11,000 hours PIC, EASA Engineer and Technical Trainer, 20 years experience as an Air Accident Investigator, and links to Robinson for the past 32 years. This vast and wide-ranging experience with Robinson makes him a world-renowned authority on the American marque.

Without warning, Dick fires another thought-provoking statement across our bows: "Flying a helicopter is probably the most dangerous thing you'll ever do. The only other hobbies that fall into the same risk group are motorcycles and skydiving. Anybody here do either of those?"

My hand goes up: "Both." Dick shakes his head, chuckles and continues.

"Our job over the next three days is to expand your knowledge, giving you a deeper understanding of why things go wrong and how you can prevent it,"

says Dick. "Above all, you'll become safer pilots and that's what really matters."

Dick goes on to outline the format for the course, which will be mostly classroom-based, followed by two hours in the air.

A sharp dressed man, with an authoritative demeanour, Dick pulls no punches, explaining we will be shown the aftermath of several fatal helicopter crashes during one of the many video presentations we'll be shown over the three days.

"None of it's pretty but it's important you understand the consequences of making mistakes in this game."

I catch the eye of the chap sitting next to me; he looks decidedly uneasy, and judging by the rest of the group he's not on his own.

The course then outlines the primary causes of helicopter crashes, with wire strikes, weather, low main rotor RPM and Low G mast-bumping as some of the major contributors. The most disturbing fact that Dick releases from his armoury is that a significant number of pilots involved in wire-strike accidents knew the wires were there in the first place but simply forgot to avoid them!

An accompanying video of a R22 involved in a wire strike drives the message home. Unbelievably, the pilot had flown in and out of the same field several times that day, but still managed to run straight into them as he departed for the last time. Note to self: Look out for the bloody wires.

Dick gives us a few tips for avoiding wires, which are:

- 1 Look for upright wire poles, rather than looking for wires, as they're far easier to spot.
- 2 Always fly over the tops of poles or big masts (especially with guide wires running to the ground).
- 3 Assume that ALL poles have wires.
- 4 Assume ALL rivers will have wires running across them. Avoid buzzing up and down the length of a river at low level without a serious recce first.
- 5 Avoid flying around at lower level.

PILOTS AT MOST RISK

Dick then goes on to emphasise private owners are those most at risk, as they often put great demands on themselves, especially during the initial post-PPL stages:

"Private owners who fly in and out of their own homes, their friends' homes, using their machines to land at a variety of unfamiliar sites put immense pressure on themselves, which can lead to overload.

"A minor problem can soon develop into something more serious if a low-time pilot is asking too much of themselves, especially if they've taken on the extra responsibility of a passenger, or the weather turns bad."

Dick's words strike a familiar chord with the group, as many have yet to experience the responsibility



A minor problem can soon develop into something more serious

*** Far left: Flying during the course is a major part of understanding how the Robinson can behave**

of taking passengers with them into the air.

"A pilot's reaction under stress to a benign cockpit indication, such as a clutch warning light, often snowballs into something much bigger, when it doesn't need to.

"Many low-hour pilots have needlessly entered autorotation for something that could have simply been cured with a bit of straightforward thinking. This has often resulted in a wrecked machine, serious injury or even death. Do not overreact to a situation that doesn't warrant it."

Dick believes this is an embedded reaction from many low-hour pilots, and blames incorrect training as the major cause.

He says: "Many helicopter pilots are programmed to throw the machine at the floor [Dick's elegant

STUDENT PROFILE

NAME Brett Easton **AGE** 43 **OCCUPATION** Cathay Pacific Boeing 747 pilot
HOURS FLOWN 20,000+ **ROTARY EXPERIENCE** 200 hours **OWNS** Astro R44

Brett's a multi thousand-hour commercial pilot. Despite his extensive experience, he admits he needs to learn more about rotary, which is why he enrolled on the course. We asked him for his opinion of the three days.

"I've really enjoyed the course from start to finish. Dick's product knowledge is second-to-none, so you know you're getting the facts straight from source.

"Despite having substantial fixed-wing experience, I still class myself as a novice when it comes to helicopters, so the course has been invaluable. I've learned a great deal more about the R44 and now have a much deeper understanding.

"I'd have liked a technical walkaround of both aircraft, rather than a slide show presentation. It would have added so much more to the course; I'm not sure why Dick didn't take the opportunity, as both helicopters were stood outside the building. That said, it's a fantastic course, I'd recommend to anyone who regularly flies a Robbo."



*** Even with more than 20,000 hours in his log book, Brett still found the course helpful**

phrase for autorotation] at the first hint of a problem, usually when it's a totally unnecessary thing."

Again, this kind of insight borne from experience and numerous investigations typifies the structure of the course, with real-life incidents used as revealing examples, backed up by an in-depth synopsis and a detailed explanation of how to avoid getting yourself in a similar situation.

WEATHER

The course moves on to weather, and how making correct assessment of met forecasts can save a lot of trouble for the pilot, even before leaving the ground. When you think about it, it's simple stuff that is very easily overlooked.

We're then shown a series of slides via Dick's video presentation taken from inside the cockpit of a Jet Ranger. The young PPL, non-instrument rated pilot and his three friends are about to set off for a flight.

"Look at the visibility," says Dick. "The cloud's almost on the ground. Would you take off in that?"

The pictures show visibility to be less than a couple of hundred feet. The mood in the room turns to disbelief, surely no-one would attempt to fly into that?

Dick then explains that less than five minutes after the last photo was taken all four were killed following a high-speed impact with the ground due to disorientation. The camera was thrown clear of the wreckage and the pictures used as part of the crash investigation.

True to form, we're shown a shot of the aftermath. It's not gory in the slightest, just immensely thought-provoking for us all.

"Pilots who are anti-authority, impulsive or simply think that they're invincible are the ones most at risk of a serious accident."

It's something that makes the class sit back and take in what's been said; message received and understood.

Real-life incidents are used, backed up by in-depth synopsis

*** Below main: Helicentre instructor Llewis Ingamells giving advice during the flying section of the course**

DAY TWO: IN-DEPTH TECHNICAL ANALYSIS OF THE R22/R44

Day two focuses on the Robinson brand, taking an in-depth technical look at both the R22 and R44. Dick's unparalleled knowledge is impressive; he has a deep understanding of each model and is able to answer a barrage of questions quickly and concisely.

The major parts of the aircraft are covered in detail, from engine, governor, fuel system, electrics, main and tail rotor mechanisms, with plenty of hard information for the course to digest.

Dick even hands out a complimentary booklet he's written about carb icing, amusingly entitled 'No Ice, Thanks'. This prompts an in-depth debate involving all members of the group, as to why carb icing is so potentially lethal and how we can avoid it.

Much of the technical briefing is spent discussing piston engine reliability and performance. According to

Dick, the Lycoming engines used in both the R22 and R44 are immensely reliable, and he says: "I've not witnessed one engine failure in over 20 years dealing with air accident investigations."

More gritty technical information is delivered covering the drive belt system, rotor blade production, and overall machine maintenance. By the end of the day we all feel we've attained a much deeper and fuller understanding of how both the two- and four-seater Robinsons function.

FLIGHT TRAINING

The course culminates with two hour-long flights with several of Helicentre's experienced instructors.

I'm teamed up with the company's Chief Instructor, Captain Sarah Bowen. Having started flying less than 10 years ago, Sarah has worked hard to establish herself as a multi-thousand hour pilot with extensive teaching experience on



a variety of aircraft. Her teaching style is calming yet confident, which makes me feel at ease as we hover taxi out for our first session.

Sarah asks me to fly the Robinson R22 with the governor switched off.

"It's important, just in case the governor ever malfunctions," says Sarah. "No one wants to be left stranded, or worse. At least an understanding of how to fly without the governor should get you home safely."

Flying without the watchful eye of the governor, which involves manual manipulation of the throttle, is an unnerving and somewhat confusing experience, especially considering the emphasis placed during PPL(H) training on maintaining main rotor RPM.

Anyone who's flown a R22 will probably be familiar with the shrill sound of the low main rotor RPM warning horn, and also know the importance of restoring lost RPM as soon as possible.

During part of our training flight Sarah demonstrated how throttle manipulation, lowering the collective, or moving the cyclic aft, could restore RPM. By the end of the flight I'd started to react much more efficiently to the low RPM warning horn, rather than slamming the collective to the floor in a blind panic.

Naturally, the consequences of rapid deterioration of main rotor RPM was never far from my mind throughout the exercise. It was never far from Sarah's either, as she kept a guiding hand on the collective throughout the hour-long flight.

Our second hour of flying was entirely 'governor on', involving numerous practice autorotations, a demonstration of vortex ring and some general fine-tuning of my airmanship.

Once again, Sarah's instruction was encouraging but firm throughout the flight, making the experience fun as well as informative.



There's a huge amount of information presented in the course

* Below, clockwise from main: Brett completing preflight checks; Remember your note pad!; Taking notes during Dick's presentation

VERDICT

I've only managed to give a very brief outline of the course structure, so you'll have to enroll for all the nitty-gritty, but I think it's an absolute must for anyone who flies Robinson helicopters on a regular basis. There's a mass of information presented in the course (so make sure you take a note pad and pen) and some seriously good safety advice for low-hour and experienced pilots alike.

Dick's unparalleled experience and enthusiasm is obvious. Moreover, what he says is straight fact from source, so you know you're getting a definitive response to any questions.

Was there anything about the course I didn't like? Both a R22 and a R44 were parked outside but we didn't get a technical walkround on either at any point, which would have added substantially to the dynamics of the course, as well as giving us a classroom break. Instead, we were

shown slides of aircraft parts during the presentation, which was a real shame and, I feel, an opportunity missed.

But on the whole I'd say it was an immensely worthwhile experience, and one I would recommend to anyone who is looking to become a better, more knowledgeable pilot.

Despite Dick's long-standing relationship with Robinson, he doesn't shy away from speaking his mind regarding things he doesn't like about the American company's helicopters. It's a well-crafted approach, which enhances Dick's image as an independent expert, rather than a just Robinson company mouthpiece.

The course is held throughout the year at Helicentre's Leics HQ. Dates vary, so check the website for details. The course is £375(+VAT), plus standard hourly rates for flight training (R22, or R44). www.flyheli.co.uk

