

AOPA seeks PPL(H) instrument training review



Have we made a grievous error in teaching instrument flying to helicopter students? Pat Malone reports

AOPA is to seek a review of the requirement for ab initio helicopter pilots to undergo five hours of instrument training following a big increase in accidents involving continued VFR into IMC.

Instrument training was introduced by the JAA in an attempt to reduce the number of accidents caused by pilots losing control in cloud, but AOPA believes it has had the opposite effect. Five years ago, continued VFR into IMC accounted for 16 percent of helicopter accidents, but the figure is now 46 percent.

The review was proposed by accident investigator Richard Mornington-Sanford, an engineer and flying instructor who runs the Robinson Safety Course in the UK. Richard, a member of AOPA's Flying Instructor Committee, is backed by the Helicopter Club of Great Britain. AOPA is approaching EASA with the review request as the JAA is reaching the end of its lifespan.

Martin Robinson says: "We believe this is a classic example of counter-productive rule-making. I will be approaching EASA's director of rulemaking Claude Probst with a request to treat this review as a matter of urgency."

Until the advent of the JARs, helicopter students were given no instrument training until after they'd received their PPLs. When they'd gained some experience, they were required to have five hours instruction on instruments before they could qualify for a night rating or to remove a restriction which prevented them from flying out of sight of the ground (VFR on top).

Since the instrument flying requirement was introduced, many instructors have been at pains to tell students that while they are being taught to fly in IMC it would be fatal to attempt to do so in the real world. Unstabilised helicopters cannot safely be flown on the clocks, even by experienced pilots.

Richard Mornington-Sanford, who refuses to teach instrument flying to PPL students, says: "This is a confused situation that is costing the lives of pilots and their passengers. If we teach a student an exercise, then test their skill level and tell them they have passed, is it not right that they should think that they are competent in that skill?"

"So we teach them instrument familiarisation and then test them on this discipline during a 'skills test', and if they achieve the required standard we give them a licence. By doing so, have we not told them that they have proved a skill level sufficient to be able to fly the helicopter by reference to the aircraft's instruments as and when they might need to?"

"Why then are we so surprised when that same pilot ends up in the mortuary?"

"A lot of research has been done on the subject of spatial disorientation in aeroplanes – a considerably more stable platform than a helicopter – and it all comes up with the same result: to be able to fly by sole reference to instruments the pilot requires a considerable amount of training (not just five hours), currency and a stable platform. There are no certified single engine IFR helicopters.

"What we are doing is planting a kernel of belief in the student helicopter pilot's mind that flying on instruments might possibly be a way out of IMC. So instead of landing when they encounter bad weather, they might try it – and they will absolutely, positively kill themselves.

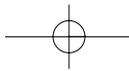
"Not only do we teach them that it's possible, but we teach them to try to turn through 180 degrees to get out of trouble. So they're taking an unstable machine flying straight and level and putting it into an even more unstable situation.

"The current situation is irresponsible.

The authorities know full well that it cannot be done successfully. We should be teaching students one thing – lose sight of the ground, and lose your life."

It's not the case that only the smallest helicopters are virtually impossible to fly in IMC, or that only inexperienced pilots can be caught out. The 2004 accident that killed Max Radford and his passenger Stephen Curtis when their Agusta 109 crashed near Bournemouth was a classic example of continued VFR into IMC. The Twin Squirrel crash that killed Chelsea vice chairman Matthew Harding happened when pilot Mick Goss – qualified Master Green on instruments in the Army – believed he had gone IMC at night and became spatially disorientated. But the accident that perhaps best exemplifies the problem was the 2003 crash of G-OUEL, an R44 flown by motorcycle champion Steve Hislop.

Hislop had 96 hours total time when he died after flying into IMC in a narrow valley in the Scottish Borders. The weather in the area was bad enough for two RAF jets to cancel a low-flying detail in the area and for a Chinook to route to the west to avoid it. Data from EL's GPS showed it flying at 1,500 feet when it



Left: caption for Steve Hislop wreckage in here in here in here in here in here

probably encountered IMC. Over the next 30 seconds it climbed to 2,400 feet, turned right through 32 degrees and decelerated to 50 kt. In the next 30 seconds the altitude increased by about 200 feet, the right turn continued through a further 83° and the ground speed increased to 86 kt. The last data recorded showed altitude had decreased about 150 feet to approximately 2,450 feet, the right turn had continued through a further 130° and the groundspeed had increased to 120 kt. The data was cut off at that point, possibly due to the main rotor removing the GPS antenna, and the aircraft crashed in a high-energy impact.

The AAIB report says: "It was likely that the helicopter had entered IMC during a turn away from an area of low cloud on its planned route. Shortly afterwards control had been lost and the aircraft descended rapidly, possibly as the result of spatial disorientation. An excessively low rotor RPM had probably resulted and led to contact of the main rotor blades with the tailboom, causing most of it to detach, stoppage of the rotors and non-survivable ground impact."

It's impossible to say what was going through the pilot's mind when he was flying up the valley, but given that he had been taught to fly on instruments and had passed an examination of his ability to do so, it's not unreasonable to believe that he thought it might be a workable alternative to landing on challenging terrain. Would he still be with us if he had been proactively taught to land?

The Helicopter Club of Great Britain believes that not only should instrument training be left until pilots have more experience, but that they should be positively taught to land out as part of the PPL syllabus.

Secretary Jeremy James says: "The great asset of a helicopter is that it can land almost anywhere, and while PPL students obviously understand that, we need to reinforce the message by making them practice landing out at the PPL stage.

"People sometimes tend to be worried about landing in a field because they think they'll get into trouble, but if they were required to do it safely and properly at the training stage, it would help to overcome that reticence.

"You'd need somewhere you had the landowner's permission, and you'd have to treat it as a confined area approach to uncertain ground. But if the instructor were to propose a scenario in which the student was finding himself hemmed in by decreasing visibility, and a safe landing was the lesson, I believe that would do a great deal to reduce IMC-related accidents."

Richard Mornington-Sanford concurs with Jeremy James. "I would like to see the helicopter training syllabus amended to encompass practice forced landings from something other than just an engine failure. Accidents are not happening because the engines are failing, they are happening because the training establishment spends the majority of its time teaching autorotations, and very little time teaching the student to cope with the other reasons that might require a precautionary landing – like bad weather." ■

Right: caption for team if needed in here in here in here in here n here in here in here in here in here

New visibility minima opposed

The Helicopter Club of Great Britain is opposing proposed new visibility minima for helicopters on the grounds that new regulations would do nothing to improve safety and may in fact make matters worse.

The CAA wants to introduce a minimum visibility of 3km for VFR flight in helicopters and to make VFR flight above cloud illegal, and has proposed to amend the ANO accordingly. In support of its case it quotes nine accidents which it says were due to poor visibility. But the Helicopter Club, an AOPA corporate member, says that in seven of the accidents the pilots had already broken existing laws, so the imposition of a new one would do nothing apart from detrimentally affect helicopter owners and pilots by restricting the use of helicopters in certain weather conditions, for no perceptible benefit. The remaining two accidents quoted by the CAA involved disorientation at night, and there was no evidence that visibility was 3km or less at the time.

Club secretary Jeremy James says: "While the HCGB is greatly concerned by avoidable accidents, it disagrees with this proposed method of reducing them. The common factor in all of the accidents was loss of visual reference, and not reduced forward visibility."

The HCGB also opposes proposal to prohibit VFR flight above a cloud layer. Jeremy James says: "Provided the climb above cloud and the subsequent descent can definitely be made in compliance with the Visual Flight Rules, there are considerable safety benefits to flight above cloud, out of sight of the surface. Flight over a fog-filled valley or above hill top cloud is much safer than the alternative of creeping along in poor visibility and at low level to remain in ground contact. Fog banks can be encountered over water, and it is generally much safer to fly over than under them. Whilst clearly only experienced pilots should fly on top, rules intended for less experienced pilots should not remove this safety-enhancing capability. We do not know of any helicopter accident that has been caused by such 'on top' flight, and it should most definitely not be prevented.

"The current rule of '...a speed, which having regard to the visibility is reasonable...' is a good one, as it takes into account the helicopter's unique ability to slow down and stop. Pilots use this ability to allow themselves a 'comfortable' flying time that they can see ahead. Indeed some countries (e.g. France) express a forward visibility rule in terms of flying time, for example, stating that pilots must have 30 seconds flight time forward visibility. Such a rule would acknowledge the unique capabilities of the helicopter, is flexible, and achieves the aim of preventing flight into cloud, without an arbitrary distance limit which could well be inappropriate most of the time. It is no less enforceable than the proposed rule." ■

Moral victory for helicopter Brits

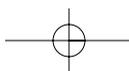
The British team put up its best-ever performance in the World Helicopter Championships in August, but dubious behaviour by some of the opposition and a lack of action by the authorities has cast a shadow over the event.

Six British teams came in the top 15 – a better in-depth performance than any other country – but Britain finished fourth overall, just a whisker behind the Germans. Members of the German team said later they believed

they had won the competition, but for the fact that warranted disqualifications had not been made.

Britain's Caroline Gough-Cooper, with navigator Imogen Asker, won the World Ladies Championship and was first-placed British team, coming in sixth out of 42.

The teams that should have been disqualified were largely Russian and French. After the navigation exercise, some Russian teams were found to have two maps in the





cockpit – one the official navex map, the other a more detailed local map that had been marked up in French and Russian.

After the navex, teams were required to enter a quarantine area so they could not brief teams who had yet to fly, but a number of French competitors were photographed using mobile phones in the area – and no fewer than ten mobile phones were confiscated from pilots and navigators, before and after the navex. The fact that mobile phones were banned was stressed at every briefing.

Because little or no enforcement action was taken by the organisers, some competitors became emboldened as the week-long competition went on, and behaviour became ever more suspect. During the precision flying and slalom events, there were clearly close

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relationships between some judges and some competitors, and there was widespread inaccuracy in scoring.

Ed Sturmer, chairman of the Helicopter Club of Great Britain, which organises the British entries into the competition, said the Club would be raising its concerns with the Federation Aeronautique Internationale, which was responsible for enforcing penalties. "The local organisers seemed completely overwhelmed by the task they had taken on," he said. "We need to be assured that this situation will not recur."

British team manager John Matchett said he was proud of his team for having played it absolutely straight. "There is no doubt that some breathtaking liberties were taken," he said, "but the question we must ask ourselves is whether we allowed frustration to affect our performances. With exceptions like Caroline and Imogen and some others, one could see that it did strike a moral blow at some members of our team."

The event was won by the Russian team, mostly flying Mil Mi-2s. Of the last 11 World Helicopter Championships, the Russians have won seven. — Pat Malone ■



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