ACCIDENT

Aircraft Type and Registration:	Pterodactyl Ptraveller Microlight, G-MBLN
No & Type of Engines:	1 Fuji-Robin EC-34-PM piston engine
Category:	1.4
Year of Manufacture:	1981
Date & Time (UTC):	11 December 2004 at 1310 hrs
Location:	Prospect Farm, Wollaston, Northants
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Serious) Passengers - N/A
Nature of Damage:	Aircraft destroyed
Commander's Licence:	Private Pilot's Licence
Commander's Age:	61 years
Commander's Flying Experience:	700 hours (of which at least 45 minutes were on type[1]) Last 90 days - 1 hour Last 28 days - 1 hour
Information Source:	AAIB Field Investigation

Synopsis

During a Check Flight for revalidation of a Permit to Fly the aircraft entered a left turn at about 150 ft agl, the angle of bank increased and the nose pitched down; the aircraft then impacted the ground. The manner in which the flight was conducted had caused concern to witnesses before the accident. Investigations revealed that the pilot had made claims of experience to the British Microlight Aircraft Association (BMAA) in order to obtain ongoing qualification as a Check Pilot, that were not substantiated by evidence in his log book.

History of the Flight

The aircraft owner, an experienced microlight pilot, had acquired the aircraft in the summer of 2004 and had re-built it. An Inspector from the British Microlight Aircraft Association (BMAA) had inspected the aircraft and assessed it as fit for revalidation of its Permit to Fly, as the previous Certificate of Validity had expired in 1994. The BMAA's procedures required that the aircraft pass a Check Flight, and a BMAA Check Pilot, known to the aircraft owner, had agreed to conduct this flight.

The owner had provided regular information to other members of the local flying club on the rebuilding process since he was aware of interest in this project to restore

Footnotes

[1] The pilot's logbooks prior to 1998 were not available. Between 1998 and the accident date, 45 minutes flying on type are recorded.

a 'vintage' microlight aircraft. He had informed other members of the proposed Check Flight and a number of them arrived by air and road to observe the flight.

The owner arrived at the airfield some time before the pilot and carried out a pre-flight check before running the engine and completing some taxi tests; these were assessed as satisfactory: another pilot also taxied the aircraft. The owner then carried out a further pre-flight check in anticipation of the pilot's arrival, and later stated that both pre-flight checks were "very thorough" and revealed nothing amiss.

The pilot arrived at the airfield in his own flex-wing microlight, and made a normal approach and landing. He carried out a brief pre-flight inspection of the aircraft, strapped in and started the engine. The strip's slope and the weather conditions favoured taking off from the opposite end of the strip, towards the hangar area where the spectators were gathered, and the pilot taxied to the take-off position. However, the engine then failed and the aircraft was man-handled back to the hangar area. The owner carried out remedial work on the carburettors. The pilot and owner then agreed that the problem had been resolved, and the pilot strapped himself into the aircraft once again. He taxied the length of the strip, turned the aircraft towards the hangar end, and commenced the takeoff. The acceleration and lift off appeared to be normal.

Once airborne, the pilot flew the aircraft level with the runway for a short distance whilst accelerating, before pitching up into a climbing attitude. He flew a series of manoeuvres close to the airfield including flight at various airspeeds, turns both to the left and right at various angles of bank, and stalls and their associated recoveries. During these manoeuvres the aircraft's height did not exceed approximately 500 ft and much of the time was spent at lower heights. Witnesses described being surprised at the manner in which the aircraft was flown and its low height.

The final moments of flight were described by a number of witnesses. Although their recollections were not entirely consistent their statements suggest that the aircraft entered a left turn at about 150 ft agl, the angle of bank increased and the nose pitched down; the aircraft then impacted the ground.

The spectators ran to the aircraft, which had been destroyed, and rendered first aid to the pilot. One of the spectators called for an ambulance using his mobile telephone. The pilot was treated by the ambulance crew and then evacuated to hospital by air ambulance. He had sustained minor cuts to his head, a punctured lung, and serious injuries to both legs.

Meteorology

An aftercast provided by the Meteorological Office showed that an area of high pressure was centred over Europe, with a weak warm front north of the area of the accident. A slack west to south-westerly air flow covered central England. The weather was hazy with a surface visibility of around 5,000 m, there were a few cumulus clouds at 2,500 ft and scattered to broken stratocumulus clouds with a base of 3,000 to 3,500 ft. The mean sea level atmospheric pressure was 1028 hPa and the surface wind was assessed as 240° at less than five knots.

Witnesses, most of whom were microlight pilots, consistently reported good weather with still air, good visibility and a cloudless sky at the time of the accident.

The pilot's recollection

As a result of his injuries the pilot was not interviewed until a month after the accident. When interviewed he was able to talk clearly and coherently about the events of the day up to a short while before the accident occurred, when his memories failed. He remembered preparing for flight, carrying out a power check and taking off before carrying out a left hand circuit, left and right turns, and stalls. He reports that he did not attempt an evaluation of the aircraft's handling at V_{NE} (the aircraft's

Never Exceed speed), as he believed that achieving this speed is difficult.

He described electing to fly the Check Flight at a low altitude, because he felt confident in the aircraft's handling characteristics. He recalled that the aircraft "flew normally", although he did believe that the aircraft's rigging seemed a little more taut than he expected, and he had made a mental note to suggest to the owner that it should be slackened. He recalled that he had decided that the aircraft was fit for revalidation of its Permit to Fly, and that he had concluded his check and was preparing to land when his memories cease. His last recollection is of making a final circuit at between 150 and 200 ft agl.

The pilot

The pilot had obtained a Private Pilot's Licence for microlight aircraft in 1983. He was considered by his peers to be an expert on 'vintage' and 'interesting' microlight aircraft, such as the Ptraveller. He had been appointed as a BMAA Check Pilot in 1986, and had been re-authorised on an annual basis to continue as a Check Pilot.

The owner

The owner had known the pilot for some years prior to the accident, and knew him to have some previous experience on the Ptraveller aircraft. The owner had acted as a Safety Officer at microlight flying events and had, on occasion, reprimanded the pilot for flying in a manner which caused him concern. However, he had asked the pilot to carry out this Check Flight on the basis of his expertise.

Check flights

When a microlight aircraft, of a type already subject to Type Acceptance or Type Approval, was to be granted revalidation of its Permit to Fly the BMAA required it first to be inspected by a BMAA Inspector. He would then evaluate the aircraft's fitness for flight before it was flown by a Check Pilot. There was no requirement for this Check Flight to be reported to the BMAA, unless it was successful and would then form part of the application for the revalidated Permit.

The BMAA Check Pilot Scheme and the Pilot's Check Pilot Qualification

The BMAA Check Pilot scheme was established to ensure that when a microlight required a new or revalidated Permit to Fly the owner would be able to locate a suitably qualified pilot within a reasonable distance. Pilots involved in testing and checking were categorised into three categories, A, B and C. A Category C pilot was referred to as a Check Pilot and was responsible for flights assessing the continued eligibility of an aircraft for a Permit.

The BMAA Guide to Airworthiness procedures described a Check Pilot as:

> *'Qualified to fly aircraft on which they have sufficient experience for validation of a permit to fly, or for assessment of certain modifications, where this is approved by the Chief Technical Officer.*
>
> *'A Category C pilot is a competent microlight pilot, approved by the Chief Check Pilot… A Category C pilot would normally have 150 hours as captain of microlight aircraft or experience considered by the Chief Check Pilot to be equivalent to this and no recent record of dangerous or illegal flying.'*

The BMAA Check Pilots Handbook included extracts from the British Civil Airworthiness Requirements Section S, relevant to microlight aircraft airworthiness, as well as Guidance Notes and a Flight Test Schedule detailing the required manoeuvres. It also described the Acceptance of Pilots for Airworthiness Flight Tests stating that:

> *'Recent experience on the particular type or similar aircraft types, amounting to at least 10 hours in the last 12 months is a requirement of acceptance…'*

Check Pilots were authorised for one calendar year at a time and, in order to receive on-going authorisation, were required to detail their flying activities and experience to the Chief Check Pilot each year on a BMAA 'Check or Test Pilot Update for Annual Renewal' form. Authorisation was granted to fly one or more specific types, or specific classes, of microlight aircraft. The Chief Check Pilot evaluated the stated experience on the renewal forms and granted authorisations on that basis. The BMAA's procedures did not require any check of the accuracy of such information.

A comparison of the pilot's annual forms from 1998 until 2004 and his Log Book showed inconsistencies between his experience as logged, and that claimed on the returns. In particular, he claimed a total of seven hours experience on Pterodactyls between 2001 and 2004, whereas his log book showed none. His last logged Pterodactyl flight was in 1999, when he flew 30 minutes on an aircraft with an expired Permit to Fly: the aircraft owner reported that this was not a Check Flight. The pilot claimed to have carried out a total of 21 Check Flights in the years 1998 to 2003, whereas his log book for that period showed evidence of just one Check Flight, in 2002.

Conduct of Check Flights

Check Pilots were advised on the conduct of Check Flights by various means, including a telephone brief from the Chief Check Pilot, a letter from him and the BMAA Check Pilots Notes.

The Notes stated that before a Check Flight 'A very thorough Pre-flight inspection should be carried out', and regarding the 'Stall – wing level' that 'This check should be carried out at a minimum height of 2500 ft AGL' (Above Ground Level).

Analysis of the video recording

One spectator made a video recording on the day of the accident. It showed the accident flight from the time at which the aircraft taxied out until shortly before the accident. Unfortunately, at that moment the camera operator ceased filming.

Analysis of the video evidence indicated that the aircraft was flown close to or within the boundaries of the airfield throughout the recorded part of the flight. The flight appeared to have been conducted at a low or very low height. The aircraft appeared to be under control throughout the recording.

Significant features of the aircraft

The Pterodactyl Ptraveller was one of a family of unusual aircraft produced in the early 1980s, developed from the Pterodactyl Pfledgeling, which was designed to meet then current United States regulations requiring such aircraft to be foot launchable. The Ptraveller, which was unconventional in terms of both its configuration and methods of control, is most easily understood in the context of its progenitor, the Pfledgeling.

The Pfledgeling comprised a tubular trike with a 'hammock' type weight-shift pilot's seat, a tricycle landing gear, and a rear mounted engine directly driving a pusher propeller; the whole suspended beneath a moderate sweep, constant chord, double skinned, fabric covered wing. The wing employed conventional microlight construction techniques and comprised an articulated front and rear spar framework, which allowed the wing structure to be folded for transportation by road. When rigged for flight, the spars were braced apart by tubular compression struts, and the whole wing was further braced by a conventional system of wires and a king post. The wing profile was maintained in the conventional way by means of tubular battens inserted into pockets on the wing upper surfaces. The outboard series of battens incorporated a significant reflex profile, necessary to provide the tail-less aircraft with the required longitudinal stability. Short-term changes in the aircraft's pitch attitude were effected by means of weight shift, with the aircraft's long-term pitch attitude being controlled primarily by the secondary effect of power, due both to the offset thrust line (below the wing) and to the nose up pitching moment from the reflex profile in the outer wings. Although some variants of the Pfledgeling were equipped with spoilers for roll control, the majority had no directly acting roll control devices. Instead, roll attitude was changed as a secondary effect of yaw, induced by the outward deflection of rudder-like vertical flying surfaces (winglets) mounted at each wing-tip, controlled an via open-loop cable system linked to a side-stick control column. The longitudinal moment arm of the winglets was insufficient to generate any significant yaw in the conventional manner, ie by acting as rudders. Rather, they acted as tip-mounted drag inducing devices: movement of the side stick control column to the right resulted in deflection of the right winglet surface only - the resulting yaw to the right causing the aircraft to roll to the right in response; and vice-versa.

The Ptraveller was essentially a direct development of the Pfledgeling, incorporating an all-flying canard control surface mounted on a pair of extension tubes projecting forward of the trike, connected by a push-pull rod to the side-stick control column. The canard's sole purpose was to provide an additional means of controlling the aircraft in pitch: it was not intended to provide any contribution to lift per se, and with the aircraft in a trimmed condition was designed to fly at zero incidence. However, the hammock type seat was retained and was capable of influencing the aircraft pitch attitude via weight shift. The long-term pitching moments variations with power also remained.

It is understood that in excess of a thousand Pterodactyl aircraft kits have been sold worldwide.

History of G-MBLN

G-MBLN's log book shows that it was assembled in the United Kingdom in 1981 as a Pterodactyl Ptraveller, powered by a direct-drive Cayuna 430D engine. In May 1989, after the aircraft had changed ownership four times and accumulated some 187 hours flying time, the original engine was replaced by a Fuji Robin unit incorporating a reduction drive. Subsequent log book entries recorded (to the nearest hour): 226 hrs total time as of August 1991; 236 as of 31 October 1993; and 241 hrs as of 2 October 1994, when the exemption scheme under which G-MBLN (and other microlights unable to meet the requirements of BCAR Section S) was operated, was rescinded by the CAA. It is understood that thereafter the aircraft remained unused and un-maintained until it was purchased in June 2004 for restoration by a BMAA inspector with a special interest in 'vintage' microlights. He had also inspected G-MBLN prior to the issue of its last Permit to Fly under the 'exemption' scheme in 1993.

In the period between its purchase in June 2004 and the accident, G-MBLN was completely dismantled, inspected, and, after replacement of damaged spars, reassembled. Minor modifications were also made to improve the undercarriage suspension and the electrical system and flight instruments were revised and updated. All fabric was renewed, together with the rigging wires, cable attachment fittings and other sundry items. All type-specific hardware was purchased new from the United States, from a company which took over the provision of spares and support from the original manufacturer and has extensive experience of building, maintaining, and flying the Pterodactyl family of aircraft. The rebuild was carried out following advice contained in a comprehensive "builders manual" for the structurally identical Pterodactyl Ascender II aircraft, compiled and supplied by the same company, which also provided advice and guidance via e-mail on specific issues arising during the course of the restoration. No major problems were encountered, but several minor issues did arise due to a combination of lack of information specific to G-MBLN and minor design changes and production variations affecting the Ascender/Ptraveller types over the years. A particular issue, which could not be fully resolved prior to the Check Flight, was the rigging tension of the winglet control cables. These could not be finally adjusted until it had been determined whether, with the structure loaded and the wing flexed in flight, there was any tendency for the winglets to deploy from their neutral position. It was therefore decided that installation of the swaged backup collars onto the protruding tails of the winglet operating cables, at their attachments to the control surfaces, would be postponed until after completion of the Check Flight, when the cable tension could be set definitively and the cables locked down into their final position.

Upon completion of the restoration work on 9 December 2004, the aircraft was inspected by an independent BMAA inspector, using the appropriate approved Schedule, and an application was made by the owner to the BMAA for an annual validation of a microlight Permit to Fly for the purpose of carrying out a Check Flight. In the week preceding the accident, the aircraft was also examined independently by the pilot designated by the BMAA to conduct the Check Flight. On both occasions the aircraft was deemed to be in a fit condition.

Examination of the wreckage at the crash site

The distribution of wreckage and ground impact marks at the accident site indicated that the aircraft was in a steep, approximately 70°, nose down attitude at impact and slightly left wing low.

The impact resulted in major disruption and break-up of the trike's tubular framework, but the wing survived the crash without significant damage except for a single fracture of the inboard section of the right wing front spar, fractures of the forward and rear sections of the keel member and a failure of the bracing wire between the trike frame and the right wing at its swaged connection to the underside of the wing spar. All of these structural failures were a direct consequence of the impact.

The propeller had fragmented and the broken pieces scattered in the immediate vicinity of the impact point. The character and distribution of these fragments was consistent with rotation under significant power at the time of impact, but it was not possible to assess accurately the degree of power being developed by the engine at that time.

The canard control surface suffered direct damage in the impact which resulted in both hinge fittings been torn from their mountings, but the canard's control horn, together with the connecting rod linking it to the pilot's side stick control column, was present and its connections had survived the impact intact. The orientation of the ground witness mark produced by the leading edge of the canard, relative to witness marks produced by the leading edges of the wings, indicated that the canard's attachment to the rest of the aircraft was intact at the time of impact. Examination of the aircraft's yaw/roll control system revealed that both of the winglet operating cables had pulled away from their clamped connections to the operating horns on their respective control surfaces. The nature of the impact was such that both cables would have been subject to a heavy snatch-loading during the impact which would have tended to pull the cables from their end attachments; however, the possibility of a prior disconnection during flight could not be ruled out on the basis of the evidence available at the accident site.

Detailed examination of the wreckage

Structure

A detailed study of the structure confirmed the assessment made at the scene: that all of the structural damage was entirely consistent with the impact; nothing was found to suggest that there had been any pre-impact failure of the primary structure or of the fabric covering of the wing.

Yaw/roll controls

The clamps securing the outer ends of the winglet operating cables to the control horns on the winglet surfaces were examined in detail in an effort to establish whether any disconnection may have occurred prior to impact with the ground.

Each clamp comprised an over-length bolt which passed through a loose-fit hole in the outer end of the tubular fitting forming the control horn at the winglet. This bolt was installed with the head uppermost, leaving an extended length of the threaded section of the bolt protruding beneath the horn. The tail of the control cable passed through a hole in this threaded section of the bolt, and was clamped between a pair of hard plastic washers, each backed by steel washers and a jam-nut. Each of the jam-nuts was of the nylock stiff-nut type, which necessitated the upper nut being installed onto the bolt with its nylon lock collar on the underside of the nut acting as the clamping face, ie abutting the upper of the two steel backing-washers.

Examination of the plastic clamping washers under high magnification revealed clear evidence of deep indentation resulting from the clamping force applied to the cable on both of the washers from the left clamp, and on one of the washers from the right hand clamp. The other washer from the right hand clamp displayed less clearly defined indentation markings than was evident on the other washers, but it was noted this washer was of a slightly different type from the others. Although the cable indentation was less clearly defined, localised crushing and tearing of the surface in contact with the cable was clearly evident, consistent with the cable having been pulled through the fitting against significant resistance provided by the clamping. It was also noted that the plastic nylock collar of the top backing-nut of the clamp assembly from the right winglet was longer than that from the corresponding nut on the left clamp, and protruded slightly beyond the end of the swaged section of the nut proper and as a consequence the steel backing washer from the right clamp was bearing against the end of the plastic collar, which had crushed back slightly on one side as the lower jam-nut was tightened to clamp the cable. 'As found', the separation distance between the interfacing surfaces of each of the clamps was equal (0.6 mm), and the number of turns applied to each of the lower jam-nuts in order to secure the cable was also equal.

Based on the available evidence, it was not possible to rule out totally the possibility that post-installation creep (crushing) of the plastic lock collar in the backing nut from the right clamp assembly may have occurred, relaxing the clamping action on the right hand cable and allowing it to pull free of its fixing in flight. However, it was considered more likely that the cables had pulled out during the impact, when very large snatch forces would certainly have been applied to both cables.

Wing profile

A comparison of the batten profiles from the left and right wings showed that, post accident, the outermost batten (No 7) from the right wing exhibited approximately 30 mm greater reflex at the trailing edge than the corresponding batten from the left wing. The No 6 batten profiles were identical for all practical purposes; the No 5 batten from the right wing exhibited approximately 8 mm more reflex at the trailing edge than that from the left wing. The remaining battens exhibited minor variations only.

A check of the batten profiles against the manufacturer's drawings revealed that the apparent variations in reflex profile were in fact the result of a combination of relatively minor deviations in both the leading and trailing edge regions of the affected battens. Overall, the observed variations in batten profile would have had the effect of reducing both the camber (in the leading edge region) and also the reflex of the right wing in comparison with the left wing.

With the exception of a discrete bend in the inboard batten of the right wing, which was clearly the result of the impact, it was not possible to establish whether the more uniform deviations in batten profile were present before the accident or, alternatively, whether they were the result of induced loadings of the battens caused by abnormal tensions in the fabric as the wing flexed in the impact.

Analysis

Technical issues

The available evidence leaves little doubt that the aircraft struck the ground in a steep spiralling descent to the left from low-altitude, with the engine running.

At the time of impact the aircraft was structurally intact, and the canard and is associated control linkages intact and connected. However, although both winglet control surfaces were also securely attached, the operating cable for each had pulled out from its clamped in fixing at the control surface – consistent with the forces that would have been induced in both cables at the time of impact. Whilst it was not possible to rule out totally the possibility of a control cable disconnection in flight, microscopic examination of the clamping hardware revealed evidence to show that both yaw cables had been subject to significant clamping pressure in their fixtures, and the probability of a pre-impact disconnection was assessed as low.

Because the system controlling the winglets is open loop – each surface being deflected only outwards in response to tension applied to its associated control cable – a disconnection in-flight is unlikely to have precipitated the steepening turn to the left which developed subsequently into the spiral into the ground. Rather, its effect, as prior instances of cable disconnects on Pterodactyl series aircraft in the United States attest, would be to inhibit the pilot's efforts to restore the aircraft to level flight from an already banked condition. Not withstanding the physical evidence suggesting that both cables were effectively clamped in their fittings, the effect of a right winglet cable disconnecting in-flight is likely to have been to prevent the pilot from levelling the aircraft from the turning manoeuvre to the left that he had apparently initiated in preparation for landing.

Had the batten profile variations noted during the post accident inspection of the wreckage been present prior to impact, then their effect would probably have been to predispose the left outer wing to stall in advance of the right. Such stalling characteristics may not have been manifest with the aircraft being stalled conventionally in level flight, but could potentially be significant in the event of the aircraft stalling whilst in a turn to the left, when any tendency to drop the left wing could precipitate a spiral/incipient spin to the left.

Operational issues

The purpose of the flight was to check the 'continuing' safe flying characteristics of the aircraft.

Evidence from the pilot's log book showed that he lacked recent experience on the aircraft type and in conducting Check Flights. There was also a marked discrepancy between the pilot's claimed experience, in his applications to the BMAA for continuing status as a Check Pilot, and the hours recorded in his log book

The manner in which the flight was conducted prior to the accident caused concern to the aircraft owner and to other witnesses. Furthermore, the aircraft owner had previously expressed concerns regarding the manner in which the pilot had flown.

The witness accounts of the flight being conducted at a height of less than 500 ft were consistent with the video evidence. Good airmanship requires that the testing and checking of aircraft should be carried out at a height from which the pilot may recover from any unexpected or unplanned excursions from normal manoeuvres without hazard to the aircraft or crew. The BMAA's Check Pilots Handbook required that stalls should be carried out at a minimum height of 2,500 ft agl, and it is clear that the height at which the stalls were conducted did not satisfy this requirement.

It is appropriate to consider whether any mechanism within the BMAA's procedures could have prevented the accident. The oversight of the rebuild and the inspection of the aircraft prior to the Check Flight appeared to have been satisfactory. However, the pilot had submitted inaccurate claims of his experience, and these were not identified as such by the BMAA. Requiring pilots to submit copies of their log books to substantiate their applications would at least allow 'claimed' experience to be checked against log book details. However, introduction of such a requirement might itself be counter-productive. Experienced and able pilots might find the process onerous and be inclined to rescind their Check Pilot status, thus depriving aircraft owners of their abilities in the process. A system of occasional checks would inspire applicants to produce accurate applications but would not entirely address the problem. In any case, a pilot could falsify log book evidence, and obtain ongoing authorisation as a Check Pilot by that means (although falsifying log books carries formal penalties).

Aside from stating the requirement to conduct stalling at a minimum of 2,500 ft, the BMAA's advice to Check Pilots did not provide significant detail regarding the safe conduct of a Check Flight. However, it might be reasonable to consider that such matters as operating at a safe height should be so instilled into an experienced pilot as to make their re-iteration in such guidance superfluous.

Conclusions

The aircraft struck the ground as the result of a departure from controlled flight which occurred at a height from which recovery was impossible. The cause of the departure from controlled flight could not be determined; however, the evidence indicates that it is unlikely that structural or mechanical failure was the cause. The process by which the BMAA had accredited the pilot with Check Pilot status did not identify that he did not possess the appropriate experience to conduct the flight.

Safety Action

The BMAA has commenced a review of its Check Flying procedures and has taken action to withdraw most "all types" Check Pilot approvals, replacing them with approvals for specific handling groups where the pilot had significant (and recent) experience only. It also plans to introduce significantly more stringent requirements concerning recency on class of aircraft, increasing the minimum annual flying experience for Check Pilots from five hours to 30 hours (with some exceptions), and to introduce more formal procedures for training for new Check Pilots, including face-to-face briefing and a requirement to demonstrate appropriate skills.

The BMAA also plans to re-write the Check Pilot's Handbook, to appoint a new Chief Check Pilot and to re-write the Check Flight schedule.

Safety Recommendation 2005-067

It is recommended that the Civil Aviation Authority should conduct a thorough review of the manner in which Permit to Fly renewals are carried out by the British Microlight Aircraft Association, to ensure that persons involved in Check Flying are appropriately experienced and qualified, and receive relevant training and guidance.