AAIB
Air Accidents Investigation Branch

AAIB Bulletin 11/2026



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AAIB Field Investigation Reports

A Field Investigation is an independent investigation in which AAIB investigators collect, record and analyse evidence.

The process may include, attending the scene of the accident or serious incident; interviewing witnesses; reviewing documents, procedures and practices; examining aircraft wreckage or components; and analysing recorded data.

The investigation, which can take a number of months to complete, will conclude with a published report.

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Accident

Aircraft Type and Registration:	DG Aviation LS8-e, G-CMMG	
No & Type of Engines:	1 LZ Design D.O.O FES-LS8-M100 electric engine	
Year of Manufacture:	2022 (Serial no: 8545)	
Date & Time (UTC):	25 May 2025 at 1631 hrs	
Location:	Near Milston, Wiltshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Serious)	Passengers - N/A
Nature of Damage:	Destroyed	
Commander's Licence:	Sailplane Licence	
Commander's Age:	71 years	
Commander's Flying Experience:	1,603 hours (of which 199 were on type) Last 90 days - 47 hours Last 28 days - 26 hours	
Information Source:	AAIB Field Investigation	

Synopsis

During a flight in a UK National Gliding Competition, the pilot of G-CMMG was unable to maintain sufficient height to make it back to Lasham Airfield. The flight path at the end of the five-hour flight did not fit with the experience and normal practices of the pilot and resulted in the glider striking the ground with a high angle of bank. The pilot was seriously injured.

Due to communication issues and a lack of coordination, the emergency services were not informed of the accident for a significant period, during which time the pilot's condition deteriorated. He was subsequently airlifted to hospital where he was treated for multiple injuries, including a traumatic brain injury.

As a result of the investigation the AAIB has made three Safety Recommendations to address the coordination and operational learning between those organisations involved in providing emergency assistance to an aircraft accident. The British Gliding Association (BGA), the Distress & Diversion (D&D) Cell and the Maritime and Coastguard Agency (MCA) have taken safety action to address issues raised by the investigation.

History of the flight

The pilot and his glider were at Lasham Gliding Club to take part in a UK National Gliding Competition which was being held over nine days. The date of the accident was on day two of the competition although the weather had precluded any flying on day one. The

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day began at 0900 hrs with a competitor briefing where the day's flying task was revealed. Afterwards the competitors had time to plan their routes, programme their navigation devices and prepare themselves and their gliders before launch. The route required the competitors to head to a circular area centred on Wellington in Somerset, before routing to a second area in Oxfordshire, with the finishing line back at Lasham. The pilot of G-CMMG was not ready to launch at his allocated time so he was moved to the back of his competition class. He was airborne on an aerotow at 1127 hrs. Once G-CMMG was released from the tow at approximately 2,800 ft amsl, he thermalled to the north-west whilst he waited for the competition start gate to open approximately 30 minutes later.

His initial routing took him south-west, routing to the north of Winchester and to the south of Salisbury (Figure 1). His height along the route was between 5,600 ft amsl and 1,000 ft amsl. He reached Henstridge (within the first task area) at around 1550 hrs at a height of 2,800 ft amsl where he turned to the north-east. At around 1607 hrs, having descended to about 1,100 ft amsl, the pilot turned onto a more easterly heading following the Great Ridge towards Salisbury. He gained height by thermalling along the ridge, increasing to about 1,500 ft amsl. At about 1627 hrs, having descended to about 800 ft amsl, he gained about 100 ft in two 360° turns in a thermal before he passed over the A303. As he approached the end of the ridge at 1628 hrs, around 4 nm north-west of Salisbury, he turned to the north-east and passed between Stonehenge and Amesbury at 900 ft. Shortly afterwards as he headed north-east, he entered the Salisbury Plain Danger Areas.

He proceeded to the east of Larkhill, passing over the north side of the village of Durrington where the last data point of the flight was recorded by the navigation display unit. At 1631:28 hrs, with an altitude reading close to the terrain elevation (about 360 ft amsl) he had been flying for nearly five hours. The glider was seen by a witness walking along the road near the accident site, to be very low and with a high angle of bank.

The accident itself was not witnessed by anyone, but the pilot was discovered by a farmer between 30 and 45 minutes after the time of the last recorded data point. The farmer described the pilot as looking dazed and that he was walking around the field, collecting up broken parts of the glider and with a lot of blood around his head. Due to various communication issues, the emergency services were not called until 1748 hrs and by this time, the pilot's condition had deteriorated. An air ambulance attended, and he was airlifted to hospital where he was admitted to the intensive care unit with a serious head injury.

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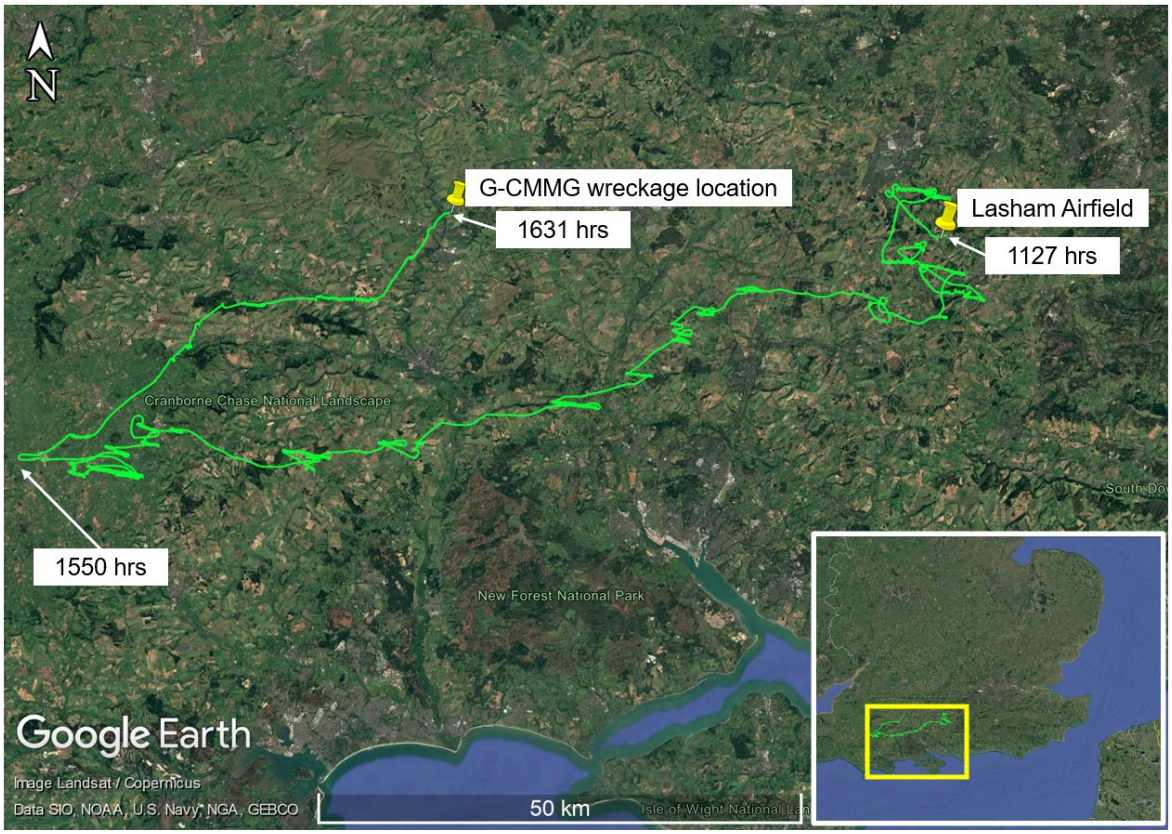


Figure 1

Track of the accident flight, recorded by the onboard avionics
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Accident site

The accident site was in a field adjacent to some farm buildings. The first ground marks were from the right wingtip striking the ground close to one building and pieces of the wingtip were caught in the vegetation. The shape and proximity of the marks to the building indicated that the glider was approaching from the north and banking steeply with the wings almost vertical (Figure 2). The next ground marks into the field indicated various impacts suggesting a cartwheeling motion with the glider coming to rest in the middle of the field. The tail had become detached; the left wing structure had fractured and there was extensive damage to the nose and cockpit area. When the AAIB arrived at the scene, some of the glider's parts had been collected by the pilot and placed in a pile near the main wreckage. Further debris was still scattered about the field.

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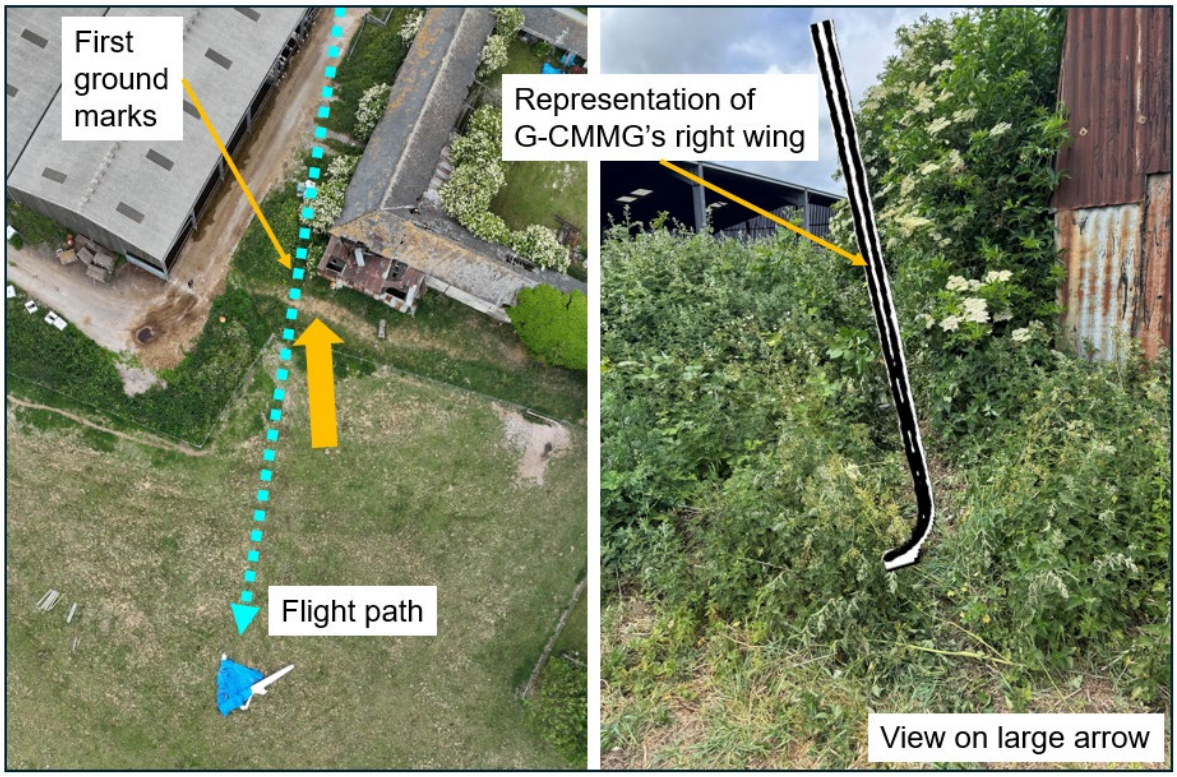


Figure 2

Accident site and the gliders attitude at first ground impact

Recorded information

Flight data was downloaded from two avionics devices recovered from the glider. An LXNAV S10 variometer recorded Global Navigation Satellite System (GNSS) position data, pressure altitude, environmental noise level (ENL), and true airspeed (TAS) once per second for the whole flight and continued recording for a short period after the accident. The data recorded to an external microSD card, which contained 85 logs for flights since February 2023.

An LXNAV LX9070 Display Unit also recorded the above parameters, and additionally the pitch attitude, roll, wind speed and direction. The LX9070 received GNSS data from a separate antenna to the S10. Data saved to the LX9070 included the accident flight, and 89 previous flights since February 2023. A logbook text file, generated by the unit, contained flight times, the calculated average speed and distance flown, amongst other parameters.

The glider was also equipped with a Front Electric Sustainer (FES) propulsion system (see *Aircraft Information* section). Although this system had no recording functionality, its use is associated with an increase in the ENL recorded by both of the glider recording devices. The LX9070 also wrote a total "engine duration" for each flight to the logbook file. This "engine duration" appeared consistent with the periods of high ENL recorded in the S10 and LX9070 recordings for the accident flight, and for previous flights which the AAIB reviewed.

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Accident flight

Figure 3 shows a composite illustration of the GNSS ground track for the last 2 minutes of the flight, with logged flight data parameters recovered from the S10 and LX9070. The terrain elevation in the altitude plot is based on data available from the Department for Environment, Food and Rural Affairs (DEFRA)[1].

Points A to H indicate the following events:

- Point A: G-CMMG flies into the EGD125 (Larkhill) Danger Area at 1628:48 hrs.
- Area B: G-CMMG was flying with tailwind of about 20 kt whilst flying due east.
- Point C: G-CMMG crossed into the EGD126 (Bulford) Danger Area at 1629:58 hrs.
- Point D: At 1630:37 hrs, at about 170 ft agl, ENL rose from around zero, reaching a maximum 2s later, indicating that the FES was running. The descent appeared to cease. The TAS was 44 kt and the groundspeed was 55 kt.
- Point E: Vertical speed increased sharply and G-CMMG gained about 100 ft, followed by a reversal into a descent and drifting to an eastward track.
- Point F: The LX9070 stopped recording at 1631:28 hrs. The last data point logged was a 48° right roll, 22° nose-up attitude, 3 m/s sink rate, and TAS of 40 kt. The S10 recorded a TAS of 34 kt and 4 m/s sink rate. The data indicated a tailwind of about 25 kt.
- Point G: The S10 continued recording. The data indicated a sharp track change towards the south, a sink rate of -16 m/s, and ENL going to zero.
- Point H: The S10 logged pressure altitude settles at 308 ft amsl and sink rate settled to zero. The accident site elevation was 351 ft amsl.

The recorded S10 and LX9070 pressure altitudes were similar throughout the flight until the final few seconds, where the values began to differ. The LX9070 data stopped at an altitude coincident with the ground elevation, whilst the S10 indicated a slightly higher altitude, before settling at a value below the accident site elevation. The reasons for this were not determined.

Footnote

[1] LIDAR Composite Digital Terrain Model data, available at https://environment.data.gov.uk/survey [accessed April 2026].

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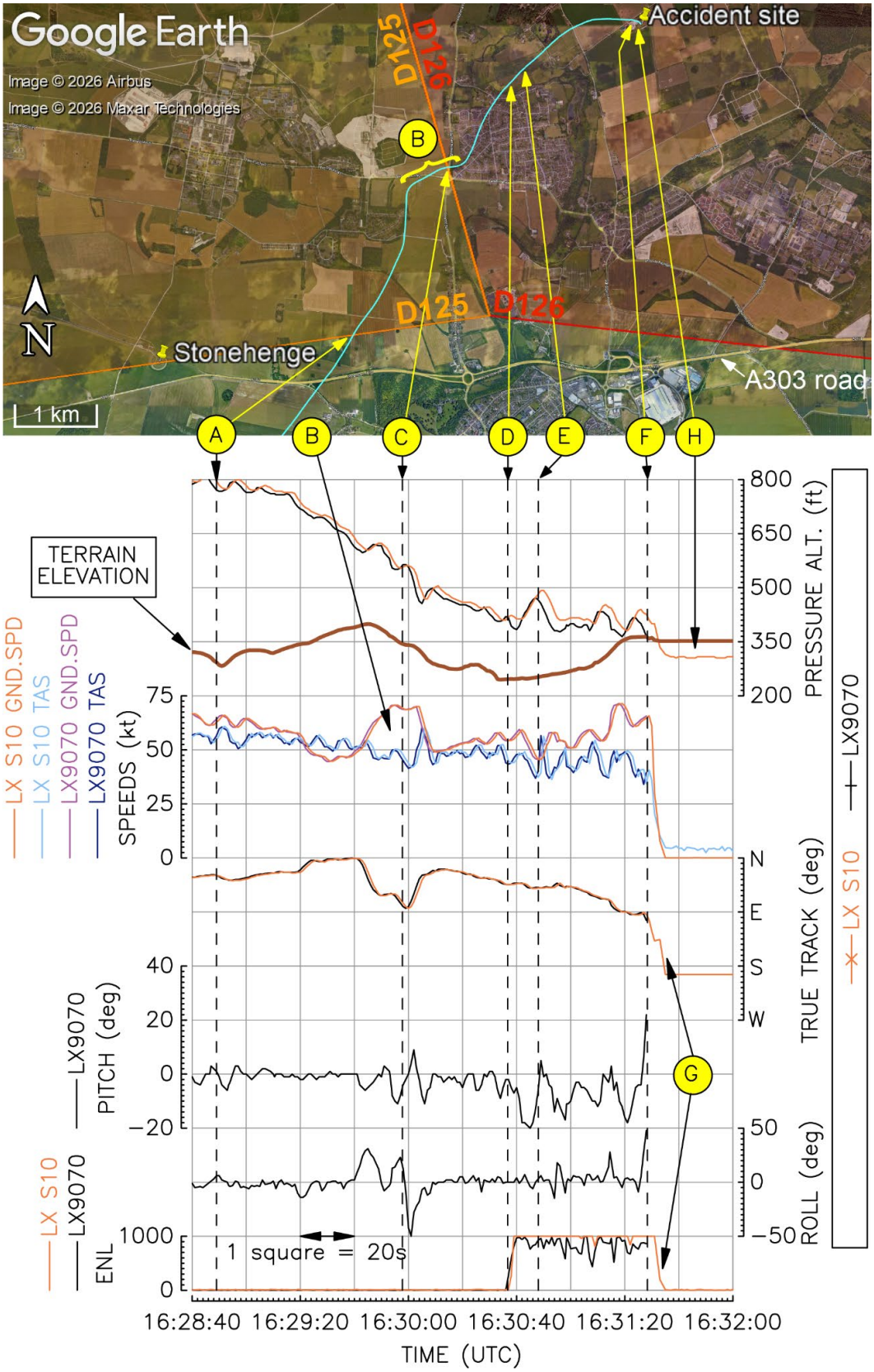


Figure 3

Composite of the gliders track and Danger Areas overlaid on satellite imagery (top), and pertinent parameters recorded by the onboard avionics (bottom)

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Use of the FES for the accident flight compared to previous flights

On the accident flight, the recorded ENL parameter rose from a low level to its maximum at about 1630:39 hrs (Point D in Figure 3) as the glider descended below about 410 ft amsl, which corresponded with a height of about 180 ft agl.

The ENL parameter was reviewed for previous flights to understand if the pilot had a pattern for using the FES. In previous flights where the FES was used, the data indicated that the pilot normally activated it when he was descending away from the airfield, usually in the range between 700 ft amsl and 1,000 ft amsl. Accounting for terrain elevation at the respective locations, this corresponded to a range of between 600 ft agl and 850 ft agl.

Distress & Diversion (D&D) Cell communication system

The Distress and Diversion Cell, based at the London Air Traffic Control Centre, uses a Voice Communications & Control System (VCCS) which records all air-ground radio and ground-ground telephone exchanges made using this system. For air-ground radio communication the D&D Cell personnel select the frequency or ground unit they wish to contact using the VCCS electronic touchscreen. In the case of telephone communication, the user selects the organisation they wish to call from a pre-defined list, and the associated telephone number, configured into the VCCS, is dialled automatically. The VCCS does not allow the user to manually enter a telephone number. Should the D&D Cell personnel need to use a telephone number not configured into the VCCS, a separate wall-mounted telephone, located behind the D&D Cell controller consoles, was available for this purpose.

Impound process & absence of wall-mounted telephone recordings

Due to the complex nature of the UK airspace and its technology evolution over time, some Air Traffic Service Units within NATS use different technology platforms. Hence, the communications systems and their recording systems may also differ between one unit and another. When the AAIB requests an impound of all the audio recordings from the various communication systems, it relies on the expertise within NATS to identify all the appropriate recording sources, since the AAIB (or the CAA) do not have the knowledge to make this determination.

Therefore, when the AAIB requires recordings from NATS to support an investigation, the AAIB submits an impound request to the Civil Aviation Authority's Transcription Unit (TU), who in turn instruct NATS to impound recordings on behalf of the AAIB. NATS then assesses the request from the TU, identifies the appropriate recorded communication channels relevant to the request, and impounds them from the respective recording system(s) accordingly. NATS then provides a copy of the impounds to the TU, who have dedicated equipment to convert them into a digital format for the AAIB. The AAIB obtained recordings of radio and ground telephone communications to and from the D&D Cell for this event, which are referred to throughout this report.

It came to light during the investigation that recordings from the wall-mounted telephone in the D&D Cell were not included in the impound that was provided to the TU. By the time

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this finding was made, the retention period for which NATS is required to store recorded communications had expired[2]. Therefore, some pertinent recordings were not available to the investigation. An internal investigation by the NATS safety investigations department found that, although the wall-mounted telephone was recorded, it is recorded to a different system to the VCCS system. This was not identified by the NATS personnel handling the impound request at the time, and hence recordings from the wall-mounted phone were not impounded and supplied to the TU.

As a result of this finding, NATS is reviewing the impound process to ensure it captures all the recording requirements and identification of the relevant recording sources. The team responsible for impounding recordings have also been made aware of this finding, which has subsequently been used as a training exercise.

Aircraft information and performance

The DG Aviation LS8-e neo is a single-seat, high-performance composite motor-glider designed for competition flying. The glider was equipped with an electrically powered sustainer system and water ballast tanks along with various navigation and monitoring avionic devices. The pilot was wearing a parachute on the day of the accident.

Front Electric Sustainer

G-CMMG was fitted with a FES system which consisted of a foldable, two-bladed propeller driven by a brushless electric motor installed in the nose of the glider. The motor was powered by two Superior Lithium Polymer GEN2 battery packs with a combined capacity of 4.2 kilowatt-hours and fitted with an internal battery monitoring system. The manufacturer states that with fully charged batteries, it will enable the motor to run for around one hour in level flight.

The performance figures in the Flight Manual (FM) indicate that with the batteries fully charged, the best rate of climb available at the weight of 435 kg is approximately 350 ft/min, reducing as the battery voltage decreases to around 235 ft/min as the batteries approach empty. The FM suggests that to gain the maximum altitude, the power should be maintained at around 15 kW rather than full power as a better overall efficiency can be achieved at a lower power setting. Using the best climb speed of 51 kt, the glider with 15 m wings and 435 kg should be able to climb a total of around 4,100 ft. It is probable that G-CMMG was heavier than the 435 kg, so the actual climb rate and maximum altitude gain would be less than those quoted. The rate of climb provided by the FES can also be limited by the atmospheric conditions during operation. If turbulent conditions are encountered this can reduce or even eliminate any positive rate of climb generated.

Footnote

[2] CAP 670 Air Traffic Services Safety Requirements, Part C, Requirement COM01.13 requires that '*recordings shall be retained for a minimum of 30 days.*' https://www.caa.co.uk/publication/download/17362 [accessed February 2026].

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Water ballast

The LS8-e glider is equipped with a water ballast system to increase the weight of the glider and thereby change the speed at which the best lift to drag ratio occurs. The increase in weight will affect climb performance but the increase in speed may give an overall advantage in competition flying. The amount of water added would depend on factors such as the pilot's experience and the weather. It is probable that given the conditions on the day of the accident, some water ballast was added to G-CMMG, but the investigation could not determine how much.

The water ballast system consists of five separate tanks: an inboard and outboard integral wing tank of 79 litres and 16 litres respectively and a fuselage tank in the tail section of 7.5 litres. This allows the weight of the glider to be increased by up to 197 kg using water and is included in the overall takeoff weight of the glider. A single cockpit mounted lever simultaneously operates a dump valve in each tank to allow in-flight dumping of the water ballast. It takes approximately three minutes to drain the tanks from full and the manufacturer states that water ballast should be dumped before an airfield or gliding site landing and must be dumped before an off-site landing. The FES performance data in the FM is valid without water ballast, and it is recommended to dump the water before using the FES.

Stall speeds and characteristics

The LS8-e FM describes the glider as having a slight tail shudder prior to a stall. Should the angle of attack be increased further, a symmetrical or asymmetrical stall may result. The glider recovers quickly from a stall with little loss of altitude by pushing the stick forward and using rudder to stop a wing from dropping further. The FM states that the FES system does not have a noticeable effect on the stall warning buffer. Other pilots who had flown the glider type suggested that with the FES running, the stall warning may be less noticeable due to the airflow from the propeller.

The FM gives a stalling speed with the 15 m wingspan at the estimated weight, without water ballast, of 435 kg, as between 42 and 43 kt. This would increase by 4 kt with the airbrakes extended. If the glider had water ballast onboard up to the maximum takeoff weight of 525 kg, then the stall speed without airbrakes would be 47 kt.

Aircraft examination

The preliminary examination of the glider at the accident site identified that the tail and left wing had suffered major structural failure from striking the ground (Figure 4). There was further damage to the horizontal stabiliser, and both wingtips had detached. The cockpit was extensively damaged, and the canopy had detached with the transparency shattered. Control surface continuity checks verified that all the surfaces were still connected.

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Figure 4
G-CMMG at the accident site

The glider was recovered to the AAIB where a more detailed examination was performed. A search of the cockpit area revealed a parachute and hydration backpack with an intact 1.5 litre reservoir and containing approximately 1.35 litres of water.

A detailed inspection of the structure revealed that the cockpit had sustained a heavy impact on the front right side which had detached the FES motor. The motor had been retained by the large diameter electrical cables. The remaining cockpit structure was predominately intact with evidence at the top of the rear left side that a significant injury had been sustained by the pilot. The tail section had detached approximately 30 cm behind the trailing edge of the wing, with the fracture showing tension overload on the left side and crushing with buckling on the right side. The horizontal stabiliser was damaged on both ends with significant sections detached. The fuselage water ballast tank was empty. The left wing had failed inboard of the airbrake, and the outer section was retained by the control surface cables. The evidence suggested that it failed by downward bending. Both wingtips were damaged with the right side showing abrasion in the direction of flight. The left had been predominantly removed. All wing water ballast tanks were empty with their integrity compromised by the damage sustained. The blades of the FES system were examined and there was evidence of dirt and staining on the leading edge of the blades that suggested that the FES was operational when it struck the field (Figure 5). The investigation did not establish the remaining power of the battery packs.

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Figure 5
FES Propeller blades

Survivability

The competition staff were able to watch the gliders by tracking them using their FLARM[3] signals. They observed that the accident pilot was still a significant distance from returning to the airfield when he was at a low altitude and considered it likely that he was going to land in a suitable field. When they noted that he was no longer tracked, they felt he would need around 30 minutes to complete the landing, sort out the glider and make contact with the landowner. Once those tasks were complete, they expected the pilot to contact the gliding club, and a retrieval team could then be arranged.

After the 30 minutes had passed with no contact from the pilot, the gliding club initiated their emergency plan for an overdue aircraft. The steps of this procedure required them to contact the D&D Cell. The procedure stated that the contact was needed to *'Explain the situation, ask if they have had any reports, seek and follow their advice.'* Contact with the D&D Cell was made at 1702 hrs where details of the glider, pilot and last known position were passed, as well as the mobile telephone number of the competition staff reporter so that the D&D Cell could contact him directly. The gliding club also dispatched one of the aerotow aircraft to the vicinity of the glider's last known position.

The competition staff had continued to call the pilot's mobile telephone, which was ringing but remained unanswered. Around 1721 hrs the pilot answered his phone, who was described as sounding disorientated and shaken. The phone was passed to the farmer who was with the pilot. The farmer had discovered the pilot sometime between 1705 hrs and 1720 hrs. He reported that the glider was damaged, and the pilot seemed dazed and had a head injury that was bleeding. The farmer provided the postcode of the site and his

Footnote

[3] FLARM is an electronic conspicuity and data transmission system. Developed as a collision avoidance system for gliders, every second it broadcasts a prediction of its own three-dimensional position over the next 30 seconds.

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mobile telephone number stating he would meet and direct the emergency services when they arrived. The gliding club informed him that they would call the ambulance service and pass on the details.

At 1726 hrs the competition staff contacted the D&D Cell again to notify them that the aircraft had crashed. The gliding club asked the D&D Cell personnel whether they needed to call the emergency services since that was the next item on their emergency plan, but they were assured by the D&D Cell that they would coordinate that. Information passed to the D&D Cell included the mobile number of the farmer who was with the pilot, and that the pilot required an ambulance as he had a cut on his head which was not thought to be life-threatening. The call ended at 1729 hrs. It was understood by the competition staff that the D&D Cell would be calling the emergency services and, therefore, that they did not need to do so as well.

During the period between the first call from the gliding club at 1702 hrs and the second call at 1726 hrs, the D&D Cell had tried to contact several local airfields in an attempt to locate the glider but had been unsuccessful as they were all closed. Once the D&D Cell were aware of the accident, they contacted the Joint Rescue Coordination Centre (JRCC) at 1728 hrs, passing details of the location of the accident as well as the injuries to the pilot. However, the injuries were now described as "THE PILOT'S UP AND WALKING AROUND WITH A SMALL CUT TO THEIR HEAD." The role of the JRCC amongst other things is to manage the tasking of the network of Search and Rescue (SAR) helicopters. The JRCC asked the D&D Cell if such a response was needed, to which they replied that SAR was not required but that the emergency services were. The JRCC asked if the emergency services had been called, which they had not been, and the D&D Cell stated that they were expecting to do that through the JRCC. The JRCC stated that it would be much better if the farmer who was with the pilot called, as that would allow the ambulance service to triage the call more effectively. The D&D Cell replied that they would call the farmer and ask him to call 999. Evidence from the D&D Cell indicated that they did attempt to call the farmer without success on the wall-mounted telephone, but it is not possible to know what number they called or how many times they tried, as the recordings from this telephone were not made available to the investigation.

At 1731 hrs the D&D Cell used the VCCS to call the gliding club to provide an update. In using the VCCS panel, they did not call the competition staff reporter directly, despite having his mobile telephone number, but instead used the pre-programmed telephone number for the airfield. This put them through to the airfield reception telephone, which was not located in the same place as the gliding club competition staff dealing with the accident. The person who answered was unaware of any of the details of the event that had occurred. The D&D personnel stated that the pilot was "FINE, THEY'RE UP AND WALKING" despite having no further information on the condition of the pilot than that which the competition staff had supplied to them in the call at 1726 hrs. The gliding club receptionist asked if there was anything further they needed to do and the D&D Cell replied that there was not.

Sometime after 1730 hrs, the farmer was becoming increasingly concerned for the welfare of the pilot. By chance another local resident arrived at the farm who was medically trained,

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and she immediately made the pilot sit down. On examining him, she determined that urgent medical assistance was required. She rang 999 and was connected to the ambulance service at 1748 hrs. This was the first call that any of the emergency services had received regarding the accident and the ambulance service then proceeded to notify the police and fire service with the air ambulance tasked at 1753 hrs. The police were first to arrive on scene at 1758 hrs, with the first ambulance on scene at 1812 hrs and the air ambulance arriving at 1826 hrs. The pilot had significantly deteriorated since the accident, and he was airlifted to Southampton General Hospital. He had suffered a life-threatening head injury as well other serious injuries and was admitted to intensive care.

The National Institute for Health and Care Excellence (NICE) recommends that immediate medical advice is sought if there is concern for a person who has suffered a head injury[4] regardless of the severity. The pilot was variously described as confused, dazed, disorientated as well as having a cut which was bleeding which could indicate a forceful strike to the head. All those indicators would meet the NICE requirements for a referral to a hospital emergency department, using an ambulance if necessary. Untreated head injuries can cause irreversible brain damage. Rapid specialist treatment can reduce the risk of serious long-term damage or death.

Weight and balance

It was not possible to exactly calculate the weight of G-CMMG either at takeoff or for when the accident occurred. An estimate of the weight of the glider, pilot and kit gave a takeoff weight of 435 kg, but it is probable that the pilot also loaded some water ballast for the flight which may have increased the takeoff weight up to the maximum permitted of 525 kg.

Meteorology

There were generally settled conditions over most of England on the day of the accident with a moderate to fresh westerly wind. There was some convective activity across the area during the day which resulted in varying cloud amounts and heights. There was forecast thermal activity throughout the area until 1800 hrs. The temperature in the area reached a maximum temperature of 19°C in the west with the rest of the area being 17°C or 18°C. The air temperature at 2,000 ft was forecast to be around 10°C.

The wind at RAF Odiham, which is approximately 4.5 nm from Lasham, was recorded as westerly between 16-19 kt with the occasional gust up to 23 kt. The wind at MOD Boscombe Down was similar, although the average wind speed reduced throughout the day to around 15 kt. The Met Office has an automatic weather station at Larkhill Camp which is around 2 nm from the accident site. This records synoptic observations hourly which includes cloud cover and wind speed/direction. At 1500 hrs the station recorded two oktas of cloud at 5,000 ft. By 1600 hrs this had increased to four oktas at 4,500 ft. The wind between 1500 hrs and 1700 hrs was recorded as westerly at 14 kt with the occasional gust during the period up to 28 kt.

Footnote

[4] NICE Guideline NG232, *"Head injury: assessment and early management,"* available at https://www.nice.org.uk/guidance/ng232/chapter/Recommendations#pre-hospital-assessment-advice-and-referral-to-hospital [accessed December 2025].

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Pilot

Experience

The pilot was an experienced glider pilot who had flown in other competitions as well as overseas. He had owned G-CMMG for around 18 months and had flown nearly 200 hours in the glider before the accident. He was a qualified gliding instructor and held a valid unrestricted CAA Class 2 medical certificate.

The pilot had been gliding for around 15 years, during which time he had landed out from airfields numerous times. Although glider pilots rarely plan to land out, it can be a regular part of the sport. As G-CMMG was fitted with a FES, the pilot developed a procedure whereby once the glider had descended to between 700 ft amsl and 1,000 ft amsl away from the airfield, he would turn on the FES to allow him to land back at the airfield. Evidence from the previous flight recordings showed that he consistently followed this procedure.

Status of the pilot

The pilot had no recollection of the time he spent at Lasham including the day of the accident flight. He was camping at Lasham for the competition and although he could not recall it, he felt it was likely that he did not sleep well in his tent. It was not his normal habit to take food with him on a flight, but instead to eat well before he departed. No food or wrappers were found amongst the wreckage. He did take water with him in a hydration backpack although the pack was found to be virtually full after the accident. Other pilots who knew him well and had flown with him suggested that he always kept himself well hydrated during the flight and that he was known to suggest to others that they needed to drink more.

Flight route and procedures

The latter stages of the flight contained several features which did not fit with the experience and normal practice of the pilot. Having flown to the first turning point he turned to route roughly north-east. Although he did manage to gain some height thermalling along the Great Ridge to the west of Salisbury, by the time he approached the A303 he was below his usual 1,000 ft amsl to start the FES. Both before and after crossing the A303, there were numerous large fields suitable for a landing into wind had an attempt to start the FES been unsuccessful. As the pilot crossed the A303 he entered the Salisbury Plain Danger Areas EGD125 & EGD126, both of which extend upwards from the ground surface and are operational 24 hours a day. The pilot was aware of the danger areas as he had asked an instructor based at Lasham to explain them to him and they would also have been clearly marked on the cockpit navigation display. As the glider descended, the flight continued downwind at relatively high speed over numerous fields suitable for landing out. Even in the last few seconds of the flight, as the glider descended towards the ground, there was no evidence that the pilot was deliberately manoeuvring the glider into wind for a specific field in which to land.

Incapacitation

Incapacitation can be partial or complete. With partial incapacitation a pilot may be able to operate the aircraft, but their decision making may be impaired. The cause of such a partial

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incapacitation may be medical, or it may be related to human performance factors such as hydration, nutrition or fatigue. The impairment of decision making may lead a pilot to make inappropriate decisions or to make no timely decisions at all. The pilot may act in a way that does not reflect the situation or their experience.

Pilot health and performance

The CAA has published Safety Sense Leaflet 24 *'Pilot Health and Performance'*[5] to provide guidance on health risks associated with GA flying and how to stay healthy as a pilot. The BGA also has medical information guidance material on their website member area[6]. Both organisations promote the use of the mnemonic *'I AM SAFE'* to be used by pilots to self-assess if they are fit to fly.

I – Illness
A – Attitude
M – Medication
S – Stress
A – Alcohol
F – Fatigue
E – Eating

Organisational information

Airfield emergency plan

The gliding club had an emergency plan which covered overdue aircraft, accidents on and off the airfield as well as injuries to persons. The plan was printed and easily available to all those who might require it. The club followed the appropriate plans as the situation with G-CMMG developed which included the requirement for the club to call the local police but, after talking to the D&D Cell, this step was omitted. As a result of this accident, the BGA took safety action to:

> Remind gliding clubs that if their emergency plans require them to call the emergency services, then they should do so, even if they believe that another person or organisation is going to do so.

D&D Cell

The D&D Cell is a military air traffic control unit based at the London Area Control Centre at Swanwick and is a collaboration between the military and civil providers. The unit is exclusively staffed by military personnel who use equipment owned by the civil air navigation service provider. In common with most military units, there is a continual movement of personnel between roles and units, resulting in a higher staff turnover than might be expected at a similar civilian organisation. It is also possible that, as a military unit, the

Footnote

[5] https://www.caa.co.uk/media/dvfk0ogj/safetysense_pilot_health.pdf [accessed August 2026].
[6] https://members.gliding.co.uk/medical-2/ [accessed August 2026].

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culture and ethos of the D&D Cell may differ from the civilian partners they work with. The service provided is described in CAP 413 *'Radiotelephony Manual'* as unique to the UK[7].

The D&D Cell orders include instructions for the actions to be taken when an aircraft is reported as overdue and there is a suggested list of methods to trace an aircraft which includes requesting the assistance of the civilian police. The personnel are to record all the information related to an event on a tracing action form. The tracing action form for G-CMMG did not include all the details passed on during the recorded calls, nor were the times accurate for the actions listed. The form did record that the D&D Cell had been informed by the gliding club that the pilot had suffered a head injury.

An aircraft accident proforma received by the AAIB on the day of the accident stated that:

> *'At 1721Z [sic], D&D received a second phone call from Lasham stating that the pilot had been in contact with them and had crashed in a field near the village of Milston, and had sustained a head injury, however, the pilot was up and walking and had received assistance from a local farmer. The emergency services were informed of this immediately and the police and ambulance services attended soon after. No further action was taken.'*

Subsequent AAIB inquiries confirmed that no call to any of the emergency services had been made by the D&D Cell. Information from the D&D Cell personnel suggested that they believed that the responsibility for that call (or to any of the emergency services) was held by JRCC rather than themselves. As a result of this accident the D&D Cell revised their procedures taking safety action to:

> Update the Serious Incident Proforma to include - '*If Medical/ Fire services required, advise caller, someone at the scene should call 999 for emergency services immediately.*'

In 2023 the AAIB made three Safety Recommendations regarding the D&D Cell after an accident involving G-BXBU[8]. As a result of one of these Safety Recommendations (2023-015), the CAA published a Supplementary Instruction to CAP 493 *'Manual of Air Traffic Services (MATS) Part 1'*[9] and CAP 797 *'Flight Information Service Officer's Manual'*[10] to clarify the role of the D&D Cell. The amendment details the services that the D&D Cell will provide in addition to their military role. One of these roles is:

> *'[to] coordinate and facilitate the exchange of information between agencies involved in the handling of emergency aircraft: these may include other ATS units, the emergency services and the Joint Rescue Coordination Centre (JRCC).'*

Footnote

7 https://www.caa.co.uk/our-work/publications/documents/content/cap-413/ Section 8.7 [accessed August 2025].
8 https://www.gov.uk/aaib-reports/aaib-investigation-to-mudry-cap-10b-g-bxbu [accessed August 2025].
9 https://www.caa.co.uk/data-and-publications/publications/documents/content/cap-493/ [accessed March 2026].
10 https://www.caa.co.uk/our-work/publications/documents/content/cap-797-si-202401/ [accessed August 2025].

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Further information is provided in the *'UK Aeronautical Information Publication'* which states that:

> *'When D&D has reason to believe that an aircraft is in a state of emergency, it will alert the JRCC who will, in turn, alert SAR units and the Police (D&D may alert the Police directly in extremis if appropriate to do so); the police will notify civilian MRT, fire, ambulance and hospital services'*[11].

As a military unit, the D&D Cell is not subject to oversight from the CAA, despite providing a service to the civil aviation community in the UK. The responsibility to ensure the D&D Cell is providing the required level of service, detailed in ICAO Standards and Recommended Practices, is delegated by the Department for Transport (DfT) to the Ministry of Defence. The D&D Cell is therefore subject to operational oversight by the Military Aviation Authority (MAA).

The investigation found no evidence that the occurrence was reported through the D&D Cell's internal safety reporting processes, nor that it was escalated to the MAA or the Defence Safety Authority (DSA). As a result, no formal post-event review was conducted, and the organisation was unaware that lessons could be learnt from the handling of the incident until contacted by the AAIB.

Technologies to assist the D&D Cell tracing actions

Tracing actions undertaken by the D&D Cell may involve requesting a radar replay from NATS for the timescale and approximate area of interest (if known). A NATS specialist then provides the D&D Cell with the replay available on a laptop to assist with tracing the aircraft's last known position.

There are several publicly available online aircraft tracking sources which can assist with determining an aircraft's last known location for the purposes of expediting a SAR or police search response. Most of these sources rely on Mode-S transponders, ADS-B transmissions from the aircraft and using satellite and/or ground-based receivers. Examples include Flight Radar 24, FlightAware, or ADS-B Exchange, amongst others. Some of these services offer subscription packages costing a few hundred pounds per year, which provide enhanced functionality such as the ability to view and download data; replay historic flights; and customise filters or views. The D&D Cell informed the AAIB that some of these tracking services are routinely used on a non-subscription basis via applications installed on a tablet available in the D&D Cell.

Since gliders are often not ADS-B or transponder equipped, they may not be visible to ADS-B tracking platforms. However, there are other online tracking sources which utilise other technologies, such as FLARM, which is widely fitted to gliders. Some examples include Glide and Seek or Glider Net Live. When the AAIB asked the D&D Cell about these other sources, they responded that it did not use them and were not aware that the

Footnote

[11] https://www.aurora.nats.co.uk/htmlAIP/Publications/2025-08-07-AIRAC/html/index-en-GB.html Section 3.6.6.1 [accessed August 2025].

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technology differences consequently mean that any single web tracking source will not track all aircraft. As a result of these enquiries, the D&D Cell has taken safety action to:

> Install a glider tracking application onto its tablet hosting public aircraft tracking sources and update its procedures to reflect this addition.

JRCC

The JRCC is responsible for tasking SAR resources such as the coastguard and coastguard aviation assets, as well as coordinating the response for locating or rescuing persons in distress. The response can be considered as a two-phase process with locating the scene as the first part followed by the rescue phase.

In the case of a maritime emergency, the JRCC has the capability to locate a vessel using a variety of systems as well as to coordinate the response required. They are therefore the sole organisation responsible for the UK maritime SAR system. In the case of an aeronautical emergency, it is the D&D Cell who have responsibility for locating the aircraft with distress monitoring on VHF/UHF frequencies and from primary and secondary radar feeds. The JRCC remain responsible for the rescue phase if a SAR asset is required, but should the aircraft accident occur on land and the accident does not require the use of a SAR asset (as was the case with G-CMMG) then responsibility for coordinating the response rests with the police. Therefore, the responsibility of the UK aviation response can be split between two organisations: the D&D Cell and the JRCC.

The JRCC aeronautical operating procedures for an aircraft accident in a confirmed location, which were in force at the time of the G-CMMG accident, required JRCC to:

> *'Inform relevant emergency services of incident, and JRCC-AR response (if crash site on-land, inform the relevant police service and Fire and Rescue service. If crash site at sea, inform HM Coastguard maritime operations).'*

The JRCC has direct links to the control rooms of most UK police forces so that this step can be completed as expediently as possible without having to utilise the 999 telephone system. Once the JRCC had been informed by the D&D Cell at 1728 hrs of the location of the accident, then by following their procedures, they should have contacted the local police force directly. The JRCC does not have a direct link to any of the UK ambulance control rooms and therefore would have to use the 999 emergency number to access this service like a member of the public.

The JRCC also had not conducted any review of the event as they considered their involvement to be of minimal and peripheral in nature. They were not aware of the length of time before the emergency services were called, nor that the D&D Cell had not managed to contact the farmer. JRCC was not updated by the D&D Cell of the final outcome of the event, nor were they required to be. Therefore, there was no opportunity to review the communications or coordination after the event.

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Other information

In 2017, the AAIB investigated an accident involving G-CEOF and published its report in 2018[12]. The report contains safety action taken by the D&D Cell which included a broad review of their procedures and the production of a standard checklist. The safety actions were intended primarily to improve record keeping and reduce duplication among the organisations involved.

The DfT also took safety action to review the process and procedures of the D&D Cell and the JRCC. This review was completed in 2019, and an internal DfT report highlighted that there was evidence of challenges in communication and coordination between the two organisations. A recommendation was proposed that the D&D Cell and the JRCC undertake regular, joint training exercises. The AAIB investigation found no evidence that such training exercises have taken place.

Analysis

Final manoeuvre

During the final part of the flight the airspeed began to reduce to around that at which the glider would stall. Had the glider also still contained any water ballast, this stall speed would have been higher due to the increase in weight. Whilst the glider type recovers quickly from a stall, at low altitude, perhaps with the glider in a turn, an asymmetric stall could result in the high angle of bank evidenced by the first ground marks made by the glider. Whilst the FM states that the FES running has no noticeable effect on stall warning, other pilots reported they felt that there was less warning due to the airflow from the propeller. It was not possible to determine if the water ballast was deliberately dumped prior to the accident or if the tanks had emptied as a result of structural damage sustained in the accident.

Pilot status

Given the experience and normal practice of the pilot, the last section of the flight when the glider descended below 1,000 ft amsl was seemingly out of character. Those who knew the pilot, as well as data from previous flights, indicated that it would have been normal practice for the FES to be started and the glider either climbed to return to the airfield or to position for a landing out, neither of which happened on this flight. Allowing the speed to decay so close to the ground would also seem to be at odds with his experience on type and his extensive previous flying. The glider also entered two Salisbury Plain Danger Areas despite them being clearly shown on the display in the cockpit and the pilot having been briefed on them by an instructor at Lasham. This evidence suggests that it is possible that the pilot was suffering from some kind of incapacitation.

The pilot held a valid Class 2 medical, and there was nothing in his medical records from either before or after the accident to suggest any likely medical cause of such an incapacitation. Although he had no recollection of his time at Lasham, he felt that he would

Footnote

[12] https://www.gov.uk/aaib-reports/aaib-investigation-to-piper-pa-28r-201-cherokee-arrow-iii-g-ceof [accessed March 2026].

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not have been sleeping well in a tent. He had also likely not eaten anything since takeoff, nor had he drunk much, if anything, from the hydration backpack. Given the pilot had been airborne for almost five hours, probably concentrating on his flight, it is possible that either the lack of sleep, and/or the lack of hydration and nutrition caused him to become partially incapacitated in some way. This may have manifested itself in impaired decision making and led to the glider being flown at very low altitude, downwind with few options left to the pilot.

Response to the accident

The pilot suffered a life-threatening head injury in the accident as well as other serious injuries. NICE recommends that immediate medical advice is sought if there is concern for a person who has suffered a head injury. In this case the pilot was variously described as confused, dazed, disorientated as well as having a cut which was bleeding which could indicate a forceful strike to the head. All those indicators meant that immediate medical advice should have been sought. The risk of a serious head injury resulting in death or a serious long-term damage can be reduced with rapid specialist treatment.

There were several parties who could have alerted the emergency services once the pilot had been found, but confused communications meant that these parties all believed someone else was going to take responsibility. The farmer, who found the pilot, believed that the gliding club was going to call the police. The gliding club were reassured by the D&D Cell that they would coordinate the response. The D&D Cell believed that it was the responsibility of JRCC to notify the emergency services and not for them to do so. The JRCC did not notify the police, even though it was a required step in their operating procedures. The Maritime and Coastguard Agency (MCA) have taken the following safety action:

> The Maritime and Coastguard Agency have amended the Joint Rescue Coordination Centre procedures to require positive confirmation and recording of the completion of critical actions, including notification of emergency services.

It is believed the D&D Cell tried unsuccessfully to contact the farmer after the call with the JRCC, to request that he contact the ambulance service, but this could not be verified as the call recordings were not made available to the investigation.

As a result of the confusion of responsibilities, emergency medical assistance did not reach the pilot until approximately one hour and 30 minutes after the accident. Had any party called the emergency services when they were first aware of the accident and its location, this may have resulted in emergency assistance arriving around 25 minutes earlier than occurred. It is not possible to know if this delay meant the pilot's injuries were more serious than if that assistance had arrived more promptly. Both the BGA and the D&D Cell have taken safety action to address the issues identified in this investigation.

Despite safety actions taken as a result of previous investigations and Safety Recommendations made by the AAIB, confusion remains between the D&D Cell and the JRCC as to their responsibilities after an aircraft accident is reported. In the UK, when

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an aircraft accident occurs on land, rescue coordination is the responsibility of the police. However, for the police to fulfil this role, they must first be notified of the accident. In the case of G-CMMG, this notification was missed by all the parties including the JRCC, for whom it was a required procedure. The division of responsibilities between the two organisations with their different operating procedures contrasts with the maritime side where the JRCC hold sole responsibility. In the case of an aircraft accident, particularly on land, whilst both organisations have roles to play there is not a single organisation accountable for the overall outcome.

This investigation, and the previous AAIB investigations into G-BXBU and G-CEOF, indicate that there are continued challenges regarding the core purpose of the D&D Cell in acting as a communications point between various agencies. This is likely compounded by differences in culture and ethos, working practises, frequent personnel rotation in military units and a lack of shared technology. The communication between the D&D Cell and the JRCC, and from the D&D Cell with Lasham, showed evidence that information was altered over the duration of the accident response due to a lack of standardised communication protocols and robust record keeping. The lack of accurate record keeping meant that the communications were often based on assumptions as demonstrated by the call from the D&D Cell to Lasham Airfield using the pre-configured phone number for Lasham in VCCS, rather than calling back the original reporter in the competition staff. The use of standardised language for the exchange of important information minimises the risk of miscommunication, the change of information over time, and makes record keeping more straightforward as a standard proforma or record sheet can be used. Such a standardised communication protocol could include, but is not limited to location accuracy, injury status, aircraft type, notification of the emergency services and source reliability. Therefore:

Safety Recommendation 2026-017:

It is recommended that the Officer Commanding 78 Squadron Royal Air Force establish a protocol to standardise the language for the exchange of operational information between the Distress and Diversion Cell and other organisations, to facilitate a shared situational awareness by all involved parties.

The investigation found no evidence that this occurrence was reported through the D&D Cell's internal safety reporting processes, nor was it escalated to the MAA or the DSA. This indicates that the existing reporting arrangements did not identify an event involving a breakdown in inter-agency coordination and a delayed emergency response. No formal post-event analysis was conducted by the D&D Cell until they were contacted about the event by the AAIB. Consequently, the organisation did not identify any systemic weaknesses in communication, coordination and role clarity until a significant period after the accident. The JRCC also did not conduct any post incident review, nor was there any regular way of engaging with the D&D Cell to discuss the accident, communications between the parties and the eventual outcome.

Effective safety management relies on the systematic reporting, review and analysis of operational events to identify hazards and implement corrective action. In this case, those

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processes did not capture or address the issues arising from the occurrence. These factors reduced the opportunity for organisational learning and may contribute to the persistence of systemic issues identified in previous occurrences. Therefore:

Safety Recommendation 2026-018:

It is recommended that the Officer Commanding 78 Squadron Royal Air Force ensure that the Distress and Diversion Cell implement effective arrangements for the accurate recording of operational events, the mandatory reporting and escalation of safety-related occurrences, and the conduct of formal post-event analysis, to inform appropriate oversight and organisational learning.

The Maritime and Coastguard Agency (MCA) have taken the following safety action:

The Maritime and Coastguard Agency have updated the operating procedures for the Joint Rescue Coordination Centre to ensure that effective arrangements are provisioned for the accurate recording of operational events, the mandatory reporting and escalation of safety-related occurrences, and the conduct of formal post-event analysis, to inform appropriate oversight and organisational learning.

As the D&D Cell are providing a service to civil aviation in the UK, particularly to General Aviation, it is important that information is gathered to assist in any review of service provision. Both the equipment fitted to aircraft, and mobile technology available to pilots, has significantly changed over the last ten years, and this continues to do so at a rapid pace. However, there appears to be no formalised mechanism by which these evolutions are evaluated in context of the service provided by the D&D Cell, nor have they been captured in any of the reviews which had taken place following previous AAIB investigations. For these reasons, the AAIB makes the following Safety Recommendation:

Safety Recommendation 2026-019:

It is recommended that the Civil Aviation Authority engage with the General Aviation community to review their requirements for the service provided by the Distress & Diversion Cell, given the significant technology changes since its inception, in order to inform stakeholder decisions regarding future emergency service provisions.

Conclusion

After nearly five hours of flying during a gliding competition, the glider struck the ground near the village of Milston in Wiltshire, and the pilot sustained a serious head injury. The last phase of the flight was not in keeping with the experience or normal practice of the pilot and therefore it was possible that the pilot was in some way partially incapacitated. The pilot was not discovered by the farmer for 30 to 45 minutes after the accident, and the subsequent delays in contacting the emergency services were due to confused communications between the parties involved in the response. Medical assistance did not arrive until nearly

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one hour and 30 minutes after the accident. It is not possible to know if this delay had any effect on the pilot's medical condition.

Safety actions/Recommendations

The AAIB has made the following Safety Recommendations as a result of this investigation:

Safety Recommendation 2026-017:

It is recommended that the Officer Commanding 78 Squadron Royal Air Force establish a protocol to standardise the language for the exchange of operational information between the Distress and Diversion Cell and other organisations, to facilitate a shared situational awareness by all involved parties.

Safety Recommendation 2026-018:

It is recommended that the Officer Commanding 78 Squadron Royal Air Force ensure that the Distress and Diversion Cell implement effective arrangements for the accurate recording of operational events, the mandatory reporting and escalation of safety-related occurrences, and the conduct of formal post-event analysis, to inform appropriate oversight and organisational learning.

Safety Recommendation 2026-019:

It is recommended that the Civil Aviation Authority engage with the General Aviation community to review their requirements for the service provided by the Distress & Diversion Cell, given the significant technology changes since its inception, in order to inform stakeholder decisions regarding future emergency service provisions.

The following organisations took safety action to address issues identified in the investigation:

BGA

The BGA took action to remind gliding clubs that if their emergency plans require them to call the emergency services, then they should do so regardless even if they believe that another person or organisation is going to do it.

D&D Cell

The D&D Cell updated the Serious Incident Proforma to include - "If Medical/ Fire services required, advise caller, someone at the scene should call 999 for emergency services immediately"

The D&D Cell has installed a glider tracking application onto its tablet hosting public aircraft tracking sources and has started updating its procedures to reflect this addition.

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MCA

The Maritime and Coastguard Agency have amended the Joint Rescue Coordination Centre procedures to require positive confirmation and recording of the completion of critical actions, including notification of emergency services.

The Maritime and Coastguard Agency have updated the operating procedures for the Joint Rescue Coordination Centre to ensure that effective arrangements are provisioned for the accurate recording of operational events, the mandatory reporting and escalation of safety-related occurrences, and the conduct of formal post-event analysis, to enable appropriate oversight and organisational learning.

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AAIB Correspondence Reports

These are reports on accidents and incidents which were not subject to a Field Investigation.

They are wholly, or largely, based on information provided by the aircraft commander in an Aircraft Accident Report Form (AARF) and in some cases additional information from other sources.

The accuracy of the information provided cannot be assured.

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Accident

Aircraft Type and Registration:	Airbus A300-622F, D-AEAG	
No & Type of Engines:	2x Pratt & Whitney PW4158 turbofan engines	
Year of Manufacture:	1992 (Serial no: 0621)	
Date & Time (UTC):	12 October 2025 at 1625 hrs	
Location:	London Heathrow Airport	
Type of Flight:	Commercial Air Transport (Cargo)	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to underside and internal structure, beyond economical repair	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	47 years	
Commander's Flying Experience:	3,600 hours (of which 2,572 were on type) Last 90 days - 28 hours Last 28 days - 11 hours	
Information Source:	Aircraft Accident Report Form submitted by the operator	

Synopsis

During touchdown onto Runway 09L at London Heathrow Airport (Heathrow), the aircraft experienced a tailstrike as a result of a commanded increase in pitch, compounded by the associated pitch-up effect of the ground spoiler extension sequence. The commander, concerned that the aircraft may have experienced a high bounce and was becoming unstable, initiated a go-around without conscious acknowledgement of having already selected reverse thrust. The flight crew subsequently conducted a second approach and landed on Runway 09R at Heathrow.

History of the flight

On the day of the accident, the flight crew were scheduled to operate from Leipzig-Schkeuditz Airport (Germany) to London Heathrow. The co-pilot commenced his duty from London Luton Airport (Luton) that morning, operating to Leipzig where he rested for several hours before meeting the commander when reporting for their upcoming sector to Heathrow. This flight would be the first and only sector of the commander's duty day.

The flight crew flew a stable ILS approach for Runway 09L, with the commander operating as PF. At 1612 hrs, ATC issued a landing clearance, reporting the wind as 030° at 4 kt. During the latter stages of the approach, the commander disconnected the autopilot and autothrust in line with the company's standard operating procedures and continued to fly

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the approach manually. The flare was initiated at approximately 30 ft radio altitude, with the aircraft's pitch stabilising at +5.5° nose-up, and the rate of descent decreasing to 650 ft/min. At 15 ft radio altitude the commander started to retard the throttle levers to idle. The aircraft's left main landing gear contacted the runway first, followed by the right main landing gear and the aircraft experienced a bounce. With the throttle levers now at idle, ground spoiler deployment commenced and the commander selected the reverse thrust control levers to idle. The left main landing gear decompressed momentarily and, following a pitch-down response during the bounce, a second touchdown was recorded. Subsequently, the commander increased the aircraft's pitch which, combined with the continued extension of the ground spoilers and their associated pitch-up effect, resulted in a tailstrike. Around this time the commander called "GO AROUND", and flight data revealed he then advanced the throttle levers to Takeoff Go-around thrust (TOGA) and, approximately four seconds later, pressed the GO-LEVERS[1]. Initially, engine thrust was limited until the thrust reverse translating sleeves were back in their stowed position and the system was latched. The flight crew then flew a standard go-around and received radar vectors from ATC for a subsequent approach and landing on Runway 09R at Heathrow.

Accident damage

The aircraft was grounded at Heathrow Airport for several months following the event. An initial damage assessment conducted by the operator's maintenance organisation identified damage to the lower tail section at frame 77. Damage included buckling of the skin inwards at the frame, the rivets joining the skin to the frame having separated from the skin, and the tailskid having sustained abrasion damage.

Footnote

[1] Go-levers are located under and between the throttle levers. They are used to engage the autothrottle system into SRS or GO AROUND mode depending on the stage of flight, aircraft configuration and current level of automation.

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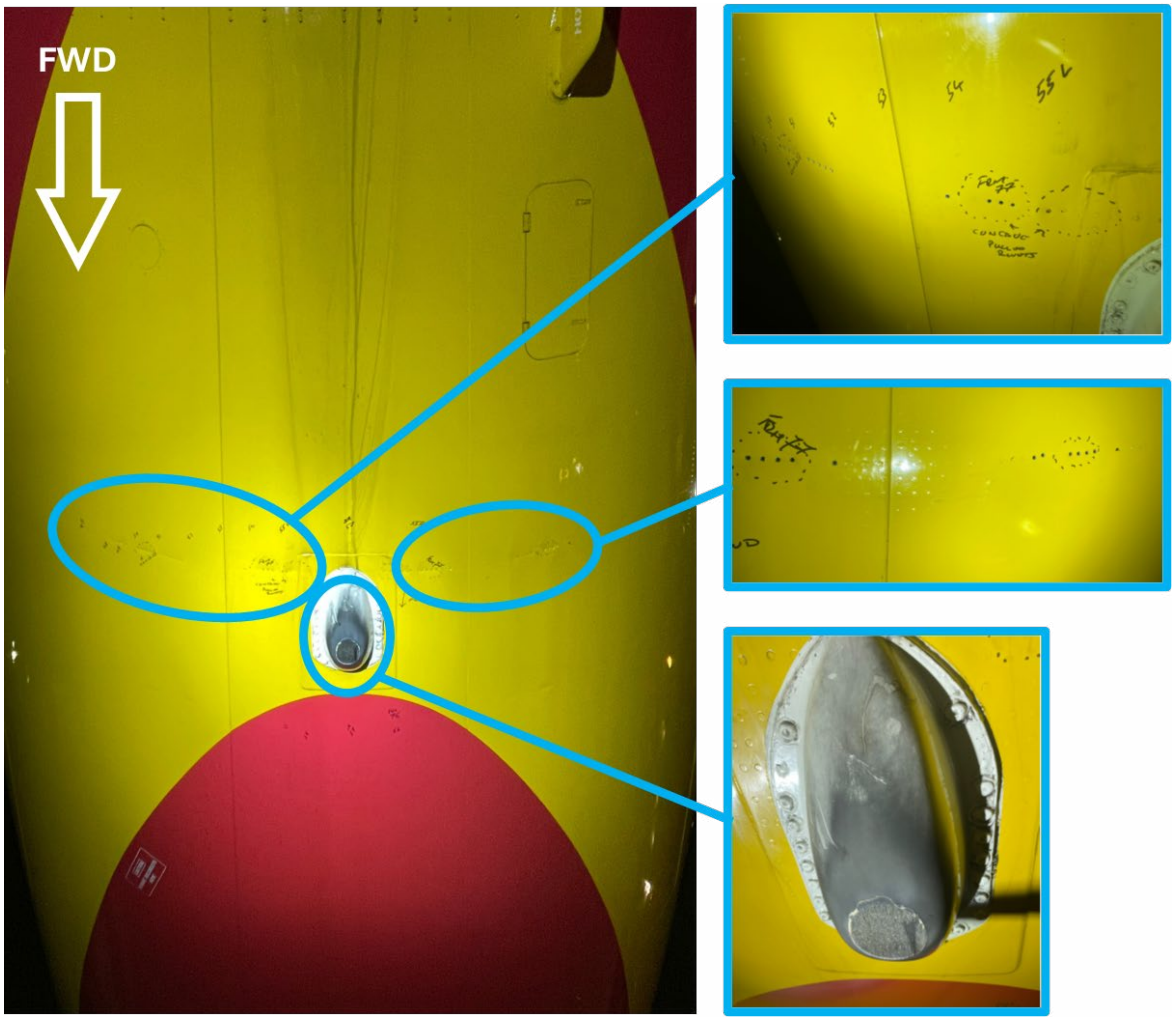


Figure 1

Rear fuselage damage at frame rivet joints and rear-mounted tail skid
(images used with permission)

Aircraft examination

A detailed structural evaluation was undertaken by the operator's maintenance team, which identified damage categorised as *'severe'* in the engineer's maintenance report. Inspection found that the non-structural bulkhead internal frame had deformed inwards, and the cleats riveted between it and fuselage skin had sheared at their rivet holes (Figure 2). Other damage to weld joints and non-structural components was observed.

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Figure 2

Example of damage to internal structure
(image used with permission)

The operator requested on-site support from the aircraft manufacturer to assess the damage for potential repair. The aircraft was subsequently retired from service.

Recorded information

The FDR and CVR were downloaded by the AAIB. The operator also provided data recorded by the Digital ACMS[2] Recorder (DAR) used for their Flight Data Monitoring Program. ATC recordings were provided by Heathrow Airport, and were used to verify the time-synchronisation of CVR audio with FDR and DAR data.

Figure 3 illustrates the variation of pertinent parameters during the final approach, flare, touchdown, tailstrike and go-around and is referred to in the subsequent sections of this report. The DAR recorded some parameters at a higher sample rate than the FDR, as well as some additional parameters, which were not recorded to the FDR[3]. Hence, the data source with the best sampling rate was used for each parameter, and this is indicated accordingly in Figure 3 by “DAR” or “FDR”.

The landing was also captured on video by a member of the public who was live streaming to a social media site. Image frames extracted from a copy of the video are included in Figure 4.

Footnote

[2] Aircraft Condition Monitoring System.
[3] D-AEAG’s flight data acquisition system implemented a 64 words per second (wps) ARINC717 stream to the FDR. This means fewer parameters, recorded at lower sample rates, than on newer generation aircraft.

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The aircraft manufacturer used the FDR and DAR data to conduct a detailed analysis of the incident. This included wind condition calculations from Air Data Inertial Reference Unit parameters (see *Meteorology* section).

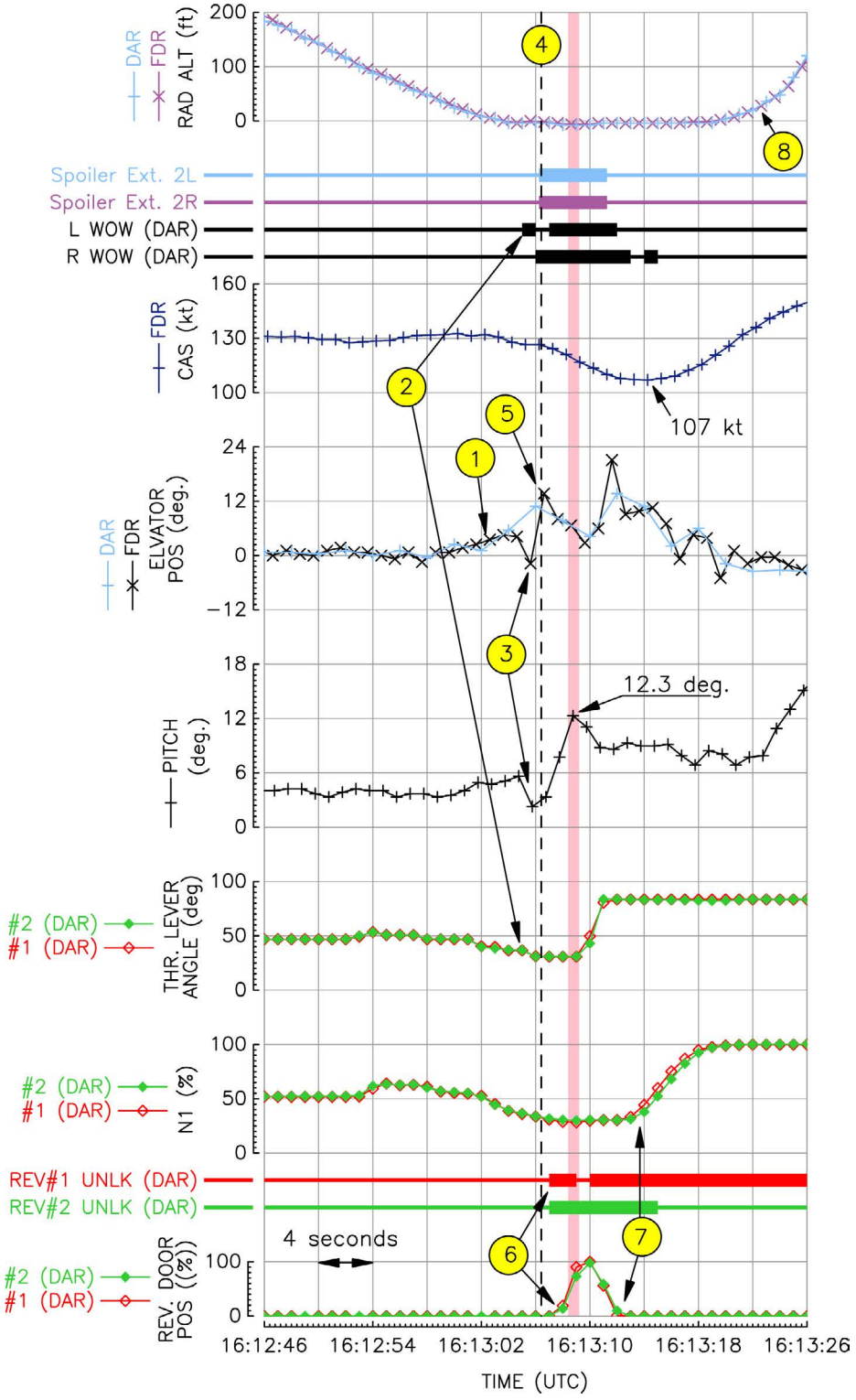


Figure 3

Pertinent FDR and DAR parameters from 200 ft radio altitude, until climbing away from the runway

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Approach

The data indicated that the aircraft was fully configured for landing with all approach criteria met as it descended through 1,000 ft aal. From 600 ft aal, the aircraft was flown manually and remained stable in accordance with the A300 Flight Crew Operating Manual (FCOM[4]) stable approach criteria.

Flare and initial touchdown

FDR data indicated the flare commenced from about 30 ft. The elevator gradually moved aft to +5.5° deflection (Figure 3, point 1), and the throttle levers were slowly moved to idle as the left main landing gear momentarily contacted the runway (point 2) with 1.4g of vertical acceleration.

D-AEAG then rolled slightly right and landed on the right main landing gear before bouncing briefly. The spoilers were extending during the bounce. The second touchdown, with both main gear wheels on the runway, was about 1.7g. The elevator briefly moved to a slight nose-down deflection, as the aircraft initially de-rotated (point 3).

The CVR's Cockpit Area Microphone (CAM) recorded sound of the landing gear initially contacting the runway, followed about a second later by the co-pilot announcing "SPOILERS" (point 4), and the elevator moved to about +14° nose-up deflection (point 5). FDR data indicated the spoilers had deployed (not shown in Figure 3). The thrust reverser doors became unlocked and began to open (point 6). Elevator inputs decreased towards a neutral position as the thrust reverser translating sleeves opened, but the pitch attitude was now increasing.

Tailstrike and application of go-around thrust

The CVR recorded the commander calling "GO AROUND" about three seconds after the left landing gear first contacted the runway, which was also heard on the CAM recording. This appeared to have occurred just before FDR data indicated the pitch attitude reaching 12.3° nose-up. The region of the tailstrike is estimated by the pink band in Figure 3, based on the CCTV video and the pitch attitude recorded to the FDR.

About 1.5 seconds after the commander's "GO AROUND" call, the co-pilot called "PITCH, PITCH". This corresponded with approximately when FDR data indicated the throttle levers advancing to go-around power, and the pitch attitude reducing to about 9° nose-up. Other than the co-pilot's "PITCH, PITCH" callout, there was no audible sound on the CVR when the tailstrike occurred, nor any comment by either pilot to indicate that they were aware it had occurred.

Footnote

[4] A300 FCOM PRO-NOR-SOP-180A STABILIZATION CRITERIA

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1613:07 hrs
1s before tailstrike
Figure 2, point 6
Pitch +7.7°
Spoilers deployed
Reverser doors opening



1613:08 hrs
Time of tailstrike
Pitch +12.3°
Spoilers deployed
Reverser doors nearly fully open



1613:09 hrs
1s after tailstrike
Pitch +11.1°
Spoilers deployed
Reverser doors nearly fully open



1613:10 hrs
2s after tailstrike
Pitch +8.8°
Spoilers nearly retracted
Reverser doors nearly closed

Figure 4

Still images taken once per second from the video capturing the landing
(images used with permission)

Despite the throttle levers advancing after the call to go around, the engines remained at idle N_1, whilst the thrust reverser translating sleeves were still recorded to be in motion. The N_1 started increasing after the thrust reverser translating sleeves had returned to their fully closed position (point 7). By the time the N_1 began to increase, the airspeed had reduced to 107 kt.

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With the engines spooling up to go-around power, the aircraft initially lifted off from the runway with an airspeed of about 110 kt but did not achieve a rate of climb for a further eight seconds (point 8), at which point the landing gear was then retracted.

Reverser 1 unlock during climb

As D-AEAG climbed above a radio altitude of 850 ft aal, the CVR recorded one of the flight crew announce, "ONE REVERSER UNLOCK." FDR data indicated that the thrust reverser translating sleeves on engine 1 were still in an unlocked state (REV#1 UNLK) until about 1,200 ft aal.

ATC communications after the go-around

The Heathrow tower controller notified the flight crew that ATC had received a report from somebody on the ground that D-AEAG had experienced a tailstrike, to which one of the crew acknowledged that it was "A POSSIBILITY."

Aircraft information

D-AEAG was an Airbus A300-622F, which was delivered to its first operator in 1992 as a passenger aircraft, and was subsequently converted to freighter configuration in 2011. It had operated with its current operator as D-AEAG since its freighter conversion.

The A300 is not equipped with a tailstrike detection system, and instead relies on observation or feedback from ATC, cabin crew or other sources.

Ground spoilers

The aircraft is fitted with seven spoilers on each wing. Flight crew must arm the ground spoilers prior to taking off and landing. In flight these spoilers function as speedbrakes and roll spoilers.

On the ground, all seven spoilers on each wing extend automatically as ground spoilers, when the following conditions are met:

- *'Ground spoilers are armed (SPEEDBRAKE lever in RET [fully retracted] position and pulled upward into the arming detent) and main landing gear compressed,*

or

- *At least one thrust reverser selected, and*
- *Both throttle levers are at idle, and*
- *Wheel speed of main landing gear aft wheels is more than 85 kt.*

Note: In the case of aircraft bouncing, the ground spoilers will remain extended provided both throttle levers are maintained at idle, and the other arming conditions are still met'.

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Tailstrike

With a body roll angle of 0°, the tail skid would contact the runway at +11.2° with the shock absorbers fully compressed, and at +12.8° with them fully extended. Flight data showed the aircraft's pitch attitude reached a maximum of 12.3°.

Weight and balance

The load sheet for the flight calculated that the centre of gravity (CG) would be 26.0% on landing. At 1,000 ft aal during the approach, the FDR recorded a calculated CG of 25.6% MAC, which was in the middle of the allowable balance conditions for the phase of flight.

Meteorology

The manufacturer calculated wind conditions using recorded FDR and DAR parameters. This indicated the average wind to be 047° at 8 kt, from 200 ft up to 1,000 ft radio altitude. The mean headwind decreased from 8 kt to 4 kt, with a mean left crosswind of about 5 kt.

At the time of the event, weather conditions were relatively calm. The METAR published a few minutes after the event reported wind as 030° at 5 kt varying between 350° and 060°, visibility greater than 10 km, no cloud detected, temperature 15°C, dewpoint 8°C and a QNH of 1031 hPa.

In the flight crew's post incident report, the co-pilot described minor turbulence on short final.

Personnel

Commander

The commander recalled feeling a bounce but stated the landing then "felt normal for a brief period of time". As the nose de-rotated, he applied back pressure on the yoke to prevent the aircraft from coming down hard on the nosewheel, which he said could sometimes be the case on this aircraft. The commander, feeling a second bounce and believing they could be in a high bounce situation, initiated a go-around. Having previously experienced a high bounce when flying as PM, he described how this touchdown began to feel similar, with everything happening very quickly. At the time of his decision to go around, the commander had not realised that due to "muscle memory" he had already selected reverse idle.

Co-Pilot

The co-pilot described feeling the left main landing gear touch down first, followed by the right main gear, but was unaware of a bounce. Whilst monitoring the aircraft systems during touchdown the co-pilot called "SPOILERS", to signify the start of ground spoiler extension. The commander then called "GO AROUND" and the co-pilot remembered thinking, "why am I seeing sky all of a sudden?". Scanning the primary flight display, he saw the aircraft's pitch was at +10° nose-up and called "PITCH, PITCH", which he believed was probably around the time the tailstrike occurred.

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During the go-around the co-pilot recalled seeing a master caution light illuminate and ENG 1 REVERSE UNLK appear on the ECAM display. Before the flight crew could commence the ECAM procedure, the caution had cleared requiring no further action from the flight crew.

Organisational information

The operator and manufacturer identify two categories of bounce that may be encountered by flight crews during touchdown, a light bounce and a high bounce.

The operator's Part B manual provides the following two recovery techniques, which state that '*The bounce recovery technique depends on the height reached during the bounce*.'

'Recovery from a light bounce (5ft or less):

In case of a light bounce, the following recovery technique can be applied:

- *Maintain a normal landing pitch attitude:*
  - *Do not increase pitch attitude as this could cause a tailstrike; and,*
  - *Do not allow the pitch attitude to increase, particularly following a firm touchdown with a high pitch rate.*

Note: Spoiler extension may induce pitch up effect.

The ground spoilers remain extended during the bounce, provided both throttles are kept at idle.

- *Continue the landing;*
- *Keep thrust at idle; and,*
- *Be aware of the increased landing distance'*

'Recovery from a high bounce (by more than 5ft)

In case of a high bounce, do not attempt to land, as the remaining runway length might not be sufficient to stop the aircraft.

> ***Note:*** *In any case, if reverse thrust has been selected, a full stop landing must be completed.*

The following go-around technique can be applied:

- *Maintain a normal landing pitch attitude;*
- *Initiate a go around by advancing throttles while triggering go-levers;*
- *Ignore the takeoff configuration warning, if any;*
- *Maintain the landing gear and flaps configuration;*

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- *Be ready for a possible second touchdown;*
    - *Do not try to avoid a second touchdown during the go-around. Should this happen, the second touchdown would be soft enough to prevent damage to the aircraft, if pitch attitude is maintained;*
- *When safely established in the go-around and no risk of further touchdown exists (i.e., with a steady positive climb), follow normal go-around procedures; and,*
- *Re-engage automation, as desired, to reduce workload'.*

Both the operator and manufacturer guidance stipulates that once flight crew have selected thrust reversers, a full-stop landing must be completed. The Flight Crew Techniques Manual gives the following guidance regarding the selection of reverse thrust on landing:

> *'Reverse thrust should be selected immediately on main wheel touchdown, there is no need to wait until the nosewheel is down'.*

The manufacturer stated, *'For the training, no guidelines exist to recognise a light or high bounce at landing*'. However, recommendations are made in the manufacturer's Flight Crew Training Standards manual, to assist operators implementing specific simulator training modules for bounce recovery.

The operator provided simulator training programmes for 'landing incident avoidance', which included high and light bounce recovery techniques.

Reverse thrust system behaviour

Activation

Reverse thrust on the A300 is controlled by operation of the reverse thrust control levers, which are mounted on the forward face of each main throttle lever. The levers are mechanically locked in the stowed position when the throttles are not at idle.

With reverse thrust selected, the Full Authority Digital Engine Control (FADEC) system commands the opening of the translating sleeves and increases engine power accordingly, if the landing gear squat switches are compressed to signal weight-on-wheels (WOW) to the FADEC computer. Without WOW, FADEC logic is designed to inhibit the unlocking and opening of the reverser. Should the aircraft become airborne after the reversers have opened, the FADEC should command them to close, and will prevent engine thrust from increasing until the translating sleeves are once again closed.

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ECAM Logic

If an engine thrust reverser translating sleeve unlocks in-flight, an ENG 1 REVERSE UNLK or ENG 2 REVERSE UNLK annunciation will be displayed to the flight crew on the ECAM System Display. The A300-600 Flight Crew Operating Manual states:

> *'Triggering Conditions:*
>
> - *The engine 1(2) thrust reverser system is unlatched.*
> - *The translating sleeves travel between the stowed position and 90% of their travel or vice versa.'*

The activation is indicated by an audible sound, MASTER CAUTION light, annunciation on a REV UNLK light, and on the ECAM System Display page. The annunciation is inhibited during landing and the high-speed phase of takeoff, until a radio altitude of 400 ft agl is reached.

Analysis

During the final phase of touchdown onto Runway 09L at Heathrow, the aircraft experienced a bounce. Following the subsequent touchdown, the commander applied back-pressure on the control column to prevent the nosewheel from landing heavily. When combined with the pitch-up effect of ground spoiler extension, this resulted in the aircraft's pitch attitude reaching 12.3°, causing a tailstrike.

The commander, believing the aircraft had entered a high bounce situation, commenced the recovery technique by initiating a go-around. Both the manufacturer's and operator's manuals provide two recovery techniques for what are described as a '*light*' or '*high*' bounce during touchdown. The manufacturer considered the bounce preceding the tailstrike in this accident to be a '*light bounce'* but stated that '*there are no predefined parameters to categorise or recognise a high versus a light bounce'*. Although simulator training was provided by the operator, which included the recovery techniques for a light or high bounce, the determination of which of these is occurring is down to the judgement of the flight crew based on their experience.

During the touchdown sequence, the commander selected reverse idle in accordance with the manufacturer's standard operating procedures. Given the routine nature of this action, it was likely performed as an automatic, habitual response. Manufacturer and company guidance stated that once flight crew have selected reverse idle, a full-stop landing must be completed. When the commander made the decision to go around, it is reasonable to conclude that he had not realised the thrust reversers had already deployed, having made the selection by automatic muscle memory, without deliberate cognitive processing, and as a result of long-term operational practice.

The investigation considered that the selection of reverse idle did not directly cause the aerodynamic pitch-up leading to the tailstrike. Nonetheless, initiating a go-around after selecting reverse thrust is contrary to standard procedures and delays engine spool-up,

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requiring the flight crew to maintain pitch until speed increases. The tailstrike was likely due to a culmination of a commanded increase in pitch, combined with the associated pitch-up effect of the ground spoiler extension sequence, resulting in a maximum pitch angle of 12.3°. Both company and manufacturer manuals highlight the known pitch-up effect of the ground spoilers and caution pilots to '*be ready to counteract any pitch-up effect.'*

Any bounce event on touchdown places significant demand on flight crews to process numerous inputs from the aircraft's systems, visual cues and physical sensations. This rapid assimilation of information needs to be followed by an immediate assessment of the appropriate recovery technique to be flown. During this incident, a total of four seconds passed from the time the left main landing gear initially touched down, until the point the throttle levers were advanced to full forward by the commander, representing limited time for the flight crew to act accordingly during a critical phase of flight.

The manufacturer's calculations of the wind conditions from FDR data were consistent with forecast conditions indicating calm winds, suggesting that turbulence or wind gusts were unlikely to have been a factor.

The reason for the Engine 1 thrust reverser translating sleeves being sensed as unlocked for an extended time after it returned to the closed position was not determined. The CVR suggested the crew were not aware of this situation until sometime during the climb, consistent with the ECAM logic inhibiting the annunciation during the go-around until passing 400 ft aal. Despite this, the video footage and FDR indicated that the reversers had closed and did not subsequently reopen during the go-around. Had they done so, this could have adversely affected the aircraft's handling and led to a significantly worse outcome.

Conclusion

Following touchdown on Runway 09L, the aircraft suffered a tailstrike as a result of a command for increased pitch, exacerbated by the associated pitch-up effect of ground spoiler deployment. Reverse idle was selected during this event, which required the flight crew to complete a full-stop landing. It is not thought that the selection of reverse thrust prior to the initiation of the go-around, contributed to the tailstrike.

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Serious Incident

Aircraft Type and Registration:	Sikorsky S-92A, G-CIJC
No & Type of Engines:	2 General Electric Co CT7-8A turboshaft engines
Year of Manufacture:	2014 (Serial no: 920240)
Date & Time (UTC):	5 March 2026 at 1030 hrs
Location:	Aberdeen Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 2 Passengers - 16
Injuries:	Crew - None Passengers - None
Nature of Damage:	Component missing from Main Rotor Damper
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	64 years
Commander's Flying Experience:	10,560 hours (of which 7,625 were on type) Last 90 days - 122 hours Last 28 days - 44 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The pilot detected higher than normal vibration during a scheduled flight and following a Health and Usage Monitoring Systems (HUMS) analysis, the helicopter was removed from service. The main rotor hub was inspected and part of the barrel nut which retained the outboard bearing of the main rotor damper to the piston was found to be missing. As the missing item, known as the cradle, was not available, no assessment could be made to determine why the part had failed. The helicopter manufacturer was aware of four other similar events in which part of the barrel nut was missing, but had previously determined, through its assessment of a more extreme failure case, that this had no effect on the continued safe flight and landing of the helicopter.

History of the flight

G-CIJC was scheduled for a routine flight from Aberdeen to the Andrew Platform in the North Sea and return on the day of the incident flight. The pilot noticed a slight abnormal vibration during main rotor engagement and ground taxi, but elected to continue the flight, and the vibration lessened in the cruise. The landing and subsequent departure from the platform was uneventful but the vibration noticeably increased on the helideck and during the cruise back to Aberdeen. The intention was for a rotors running turnaround at Aberdeen and depart for the next flight of the day. During the turnaround the HUMS card was passed to engineering to assess as per standard practice. This was accompanied with a verbal briefing from the pilot stating that the helicopter "feels very rough, especially on the ground."

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Analysis of the HUMS data highlighted elevated vibrations and following a ground track and balance test, the helicopter was shut down.

An inspection of the main rotor hub revealed the blue Main Rotor Damper (MRD) was unserviceable. The damper was replaced, the main rotor hub was inspected with no further defects found, and the helicopter was returned to service.

Recorded information

The HUMS data was reviewed in the Sikorsky Ground Based Analysis (SBGA) software and although there were several parameters which were showing increasing trends with peak values above tolerance limits, warnings are only triggered when trend values exceed the tolerance limits. From the data analysed, the parameter which triggered a warning was the 1P Pilot Lateral Ground trend value which peaked at 1.01 ips (inches per second) with the service limit of 0.5 ips.

Aircraft information

G-CIJC is a Sikorsky S-92A helicopter fitted with two General Electric CO CT7-8A engines. The main rotor hub is equipped with four main rotor blades, each identified by a colour (red, yellow, green and blue). A hydraulic damper is associated with each blade. The fixed end of the damper is attached to a lug on the damper assembly bracket of the main rotor hub and the piston end is attached to the blade retention yoke (Figure 1). As the rotor increases in speed, there is a tendency for the blades to lag and conversely as the hub slows the blades will lead. The damper ensures that the lead and lag of the blades is at a controlled rate, that the blades are equally spaced and can reduce the possibility of ground resonance.

Elastomeric bearings are included in the inboard and outboard rod ends. The outboard rod end is secured to the threaded end of the piston with a barrel nut and a circlip. The barrel nut is made up of two components – the floating self-locking nut and the semi-circular cradle. The nut is retained to the cradle by two roll pins.

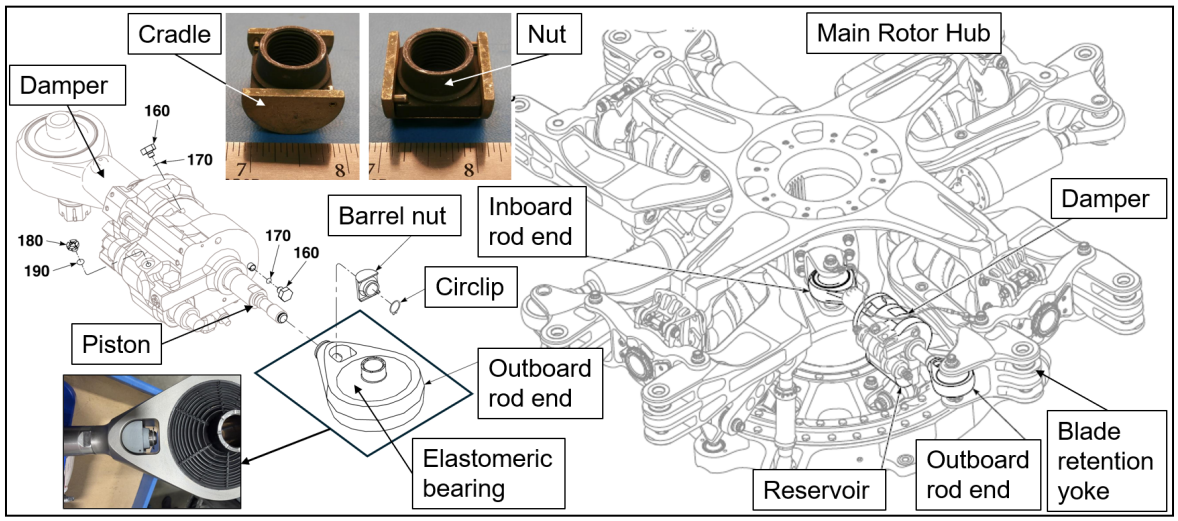


Figure 1

MRD location and component parts

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Aircraft examination

The inspection of the main rotor hub, performed following the incident flight, revealed excessive play between the piston and the outboard rod end of the blue MRD because the cradle part of the barrel nut was missing (Figure 2). However, the piston was still attached to the rod end by the self-locking nut. The MRD was sent to the manufacturer for further examination and testing.

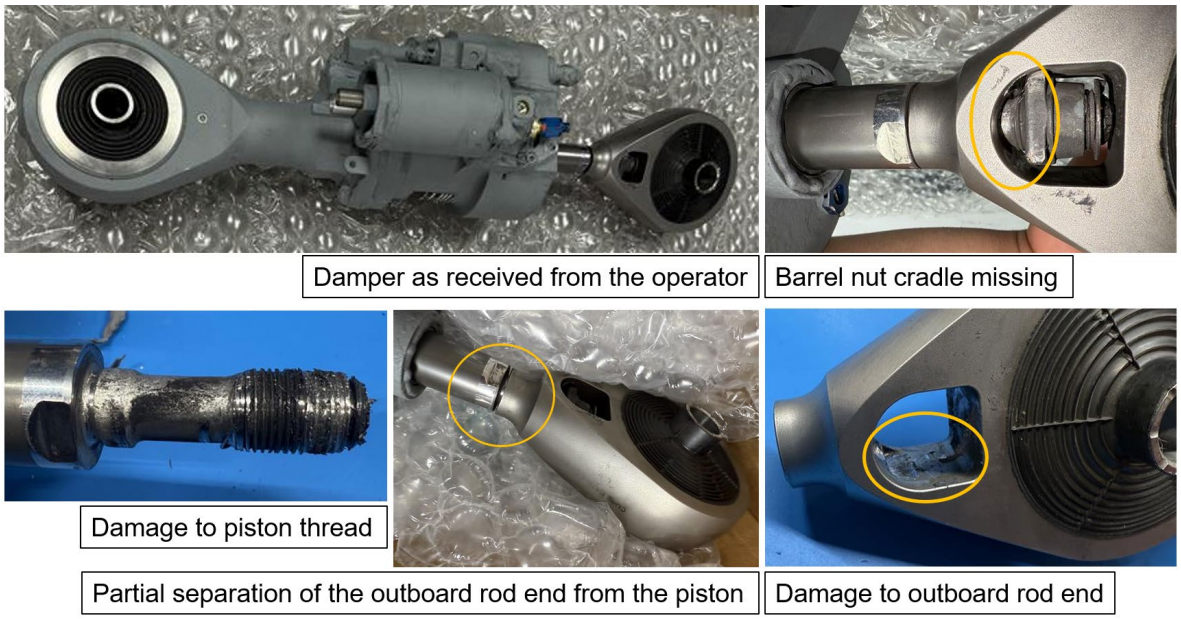


Figure 2

Details of the Main Rotor Damper inspection

Benchtop examination of the damper at the MRD manufacturer's facility confirmed that the cradle of the barrel nut was missing and had resulted in a partial separation of the outboard rod end from the piston. The circlip was in place on the end of the piston and was undamaged. A test protocol was developed based upon the production acceptance test procedure taking into account that the cradle was missing. All tests and dimensional checks were found to be within tolerance. The torque required to remove the nut from the end of the piston was considerable and once removed, it was evident that there was extensive damage to the thread on the piston. There was damage to the outboard bearing from the contact with the nut.

No analysis of the failure of the cradle was possible as it was not available to the investigation.

Other events

The helicopter manufacturer was aware of four other similar events where a part of the barrel nut was missing. They assessed the first two cases to potentially have been caused by either 'improper torque applied in assembly' or operation 'above normal flight loads' and some damage to the piston thread was noted in one of those cases. Previous assessments by the helicopter manufacturer deemed these to be the most likely causes

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but a definitive statement could not be made due to missing evidence. The third case was attributed to hydrogen embrittlement of the barrel nut. The fourth case occurred after the incident to G-CIJC and as the cradle was missing no assessment of cause could be made. The helicopter manufacturer was aware of other in-service and maintenance reports of 'looseness between the outboard rod end and piston of the MRD' but the cause(s) had not been identified.

In all cases the vibration was detectable by the pilot and the helicopter landed successfully. Qualification testing by the helicopter manufacturer had demonstrated that the helicopter could operate safely and land with one MRD not functioning. The demonstration of this failure case encompasses the loss of the cradle and as the damper and the outboard bearing are not considered primary structural elements their failure does not result in an immediate flight safety issue.

Analysis

During a scheduled return flight between Aberdeen and the Andrew Platform, abnormal vibration was detected by the pilot and verified by analysis of the HUMS data. A visual inspection of the main rotor hub revealed an unserviceable MRD. It was removed and examination at the manufacturer's facility confirmed the cradle part of a barrel nut was missing. It could not be determined why the cradle had failed as it was missing. No determination was made to the cause of the damaged piston thread. It is possible that it was cross threaded, but the damper manufacturer confirmed that the assembly of the piston to the outboard bearing is straight forward and 'quite easy.'

Analysis by the helicopter manufacturer confirmed that the loss of the cradle does not affect continued safe flight and landing of the helicopter. The condition is detectable by the flight crew and by HUMS analysis.

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Serious Incident

Aircraft Type and Registration:	Aero L-159E, G-DKNA	
No & Type of Engines:	1 Honeywell F124-GA-100 turbofan engine	
Year of Manufacture:	2001 (Serial no: 156034)	
Date & Time (UTC):	27 October 2025 at 2135 hrs	
Location:	North Sea Danger Area (D323 D)	
Type of Flight:	Training	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	None	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	31 years	
Commander's Flying Experience:	1,440 hours (of which 118 were on type) Last 90 days - 45 hours Last 28 days - 21 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and operator's safety investigation report	

Synopsis

During a high-altitude sortie at night, a cracked inlet air supply pipe led to the failure of the aircraft's main oxygen system. This was compounded by a failure of the emergency oxygen system, due to a latent fault within the oxygen regulator. This resulted in the pilot being briefly exposed to a risk of hypoxia and required an emergency descent of the aircraft through controlled airspace. As a result of its internal investigation, the operator is considering a number of safety actions to address the issues identified with the aircraft oxygen supply system and its maintenance and testing.

History of the flight

The serious incident occurred on 27 October 2025 during a night exercise where the aircraft was planned to remain at 27,000 ft for the duration of the training sortie, which also involved nine other aircraft operating within the danger area. Approximately an hour and ten minutes after taking off, while in level flight, an OXY LOW – REG caption illuminated. The pilot experienced a total loss of gas flow to the mask and a feeling of suffocation. The pilot selected emergency oxygen ON, but felt no difference, so initiated an emergency descent to 10,000 ft and removed his mask. Due to the nature of the problem and a reported high level of radio transmissions at the time, the pilot could not inform military Air Traffic Control (ATC) of an emergency or obtain clearance for the rapid descent in advance of performing the manoeuvre. Though the aircraft was still within in the exercise danger area, the pilot stated that he had good situational awareness of the surrounding aircraft. The microphone for the

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radio system is located in the mask, so the pilot was unable to make radio calls while it was removed. When established at 10,000 ft, the pilot disconnected the mask's hose allowing the mask to be refitted while breathing cockpit air. The pilot then discontinued the sortie and returned to base, observing intermittent illumination of the OXY LOW – REG caption.

Problems with the oxygen system had also been experienced on this aircraft during an earlier flight on 17 October 2025. The pilot reported that 30 minutes into the flight, as the aircraft descended from 26,000 ft to 16,000 ft in an intended manoeuvre, the OXY REG warning caption illuminated. The pilot attempted to breathe in and experienced no gas flow, while also observing a NO FLOW warning. The pilot successfully operated the emergency oxygen supply and descended to 10,000 ft, before terminating the sortie and landing without further incident.

Aircraft information

The aircraft is equipped with an Onboard Oxygen Generating System (OBOGS) which supplies a 99% oxygen gas mix through the pilot's mask at altitudes above 10,000 ft. If this system fails, it results in no gas flow to the pilot's mask. The reduction in pressure allows an anti-suffocation valve in the oxygen regulator to open against spring pressure as the pilot inhales, allowing them to breathe pressurised cockpit air. It does not trigger any other response from the system. The pilot must then manually select the emergency oxygen supply, following the emergency checklist, and initiate a controlled descent to below 13,000 ft altitude.

The emergency oxygen supply is provided by a fixed volume bottle of compressed 100% oxygen. The pressure and flow rate delivered to the pilot are lower than with the OBOGS and the gas supply only lasts for approximately 10 minutes. When in use, the emergency oxygen supply is supplemented with pressurised cockpit air, drawn in through the same anti-suffocation valve on the regulator. This supply also provides oxygen in the event of an ejection above 10,000 ft.

The aircraft cockpit has a pressurisation system which reduces the altitude within the cockpit but only provides a maximum 4 psi pressure differential with the external atmosphere. This gives a cockpit altitude of 10,000 ft at an aircraft altitude of 23,000 ft. Above 10,000 ft, without supplementary oxygen, the reduction in available atmospheric oxygen can result in the pilot experiencing symptoms of hypoxia[1].

Operator's maintenance actions

Following the first flight where a problem had been experienced, the operator advised that in accordance with the maintenance manual troubleshooting, the oxygen concentrator was replaced but the fault was still present. The oxygen regulator was then replaced, with no change. The dehydrator was then replaced, which appeared to address the problem and the aircraft was released back into service.

Footnote

[1] Insufficient oxygen in body tissues and specifically the brain, can cause headaches, confusion, dizziness and drowsiness. Severe cases can lead to seizures and loss of consciousness.

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After the serious incident a more detailed disassembly and inspection of the OBOGS was carried out, which identified a pipe supplying pressurised bleed air from the engine to the OBOGS had failed around the full circumference of a weld, effectively removing the air supply into the system. The failed pipe was in a location on the engine obscured from direct line of sight and the engine had to be removed to replace the pipe. Following this maintenance activity, a post-maintenance check flight was carried out to ensure the fault had been fully rectified. A manufacturer's modification to strengthen the failed pipe was available but had not been embodied on this aircraft.

The operator stated that the regulator was changed for a serviceable spare unit as part of the troubleshooting for the original failure. This change likely inadvertently introduced an anti-suffocation valve which had seized shut during storage. The operator advised that this valve is part of the regulator assembly, but its operation was not specifically tested as part of the maintenance task covering installation of the component. The operator stated the regulator had been sent for further disassembly and investigation, but the findings were still awaited at the time of publication.

Tests and research

The operator conducted an inspection of the remaining L-159 aircraft in its fleet to check the condition of the OBOGS supply pipes and the serviceability of the regulator anti-suffocation valves. This confirmed that all the valves on the other aircraft functioned correctly, but some were harder to operate than others.

Analysis

During the first flight when a problem with the oxygen system was experienced, the OBOGS failed resulting in a loss of gas flow to the pilot's mask. However, the emergency oxygen supply and anti-suffocation valve functioned correctly allowing the pilot to safely descend and return to base. The subsequent maintenance activity appeared to address the cause but did not identify an issue with the OBOGS air inlet pipe.

This initial maintenance activity also included replacement of the oxygen regulator which housed the anti-suffocation valve. The valve on the replacement unit installed had likely seized shut during storage, but this was not identified prior to release to service of the aircraft, as the installation checks did not include a requirement to perform a function test on the valve.

When the OBOGS system failed again during the second flight due to the failed pipe, while it's likely the emergency oxygen supply provided a supply of oxygen, the seized anti-suffocation valve meant the volume of gas provided to the pilot was insufficient, resulting in a feeling of suffocation. At the altitude at which the aircraft was operating the limitations of the cockpit pressurisation system placed the pilot at risk of hypoxia, so in accordance with the emergency checklist, the pilot initiated an emergency descent to below 13,000 ft and removed his mask to be able to breathe freely. Due to other radio traffic and the urgency of the situation, the pilot did not declare an emergency or obtain clearance for the rapid descent from the military ATC controlling the danger area. While this may

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have contributed to improved situational awareness for the controller and the other aircraft operating in the vicinity, the pilot stated that he had sufficient awareness of the location of the other aircraft to be able to deconflict his descent, so in this case it made no difference to the outcome. However, he acknowledged that he would likely make a PAN or MAYDAY call, if the situation were repeated in the future.

The operator is considering a number of safety actions to address the issues identified with the OBOGS and oxygen regulator systems and the maintenance and testing of them.

Conclusion

While conducting a high-altitude, night-time sortie, a cracked inlet air supply pipe led to the failure of the aircraft's main oxygen supply system. This failure was compounded by a failure of the emergency oxygen system, due to a latent fault in the anti-suffocation valve within the oxygen regulator, resulting in the pilot being briefly exposed to a risk of hypoxia. In response, the pilot had to perform an emergency descent while still within a military danger area, where multiple other aircraft were also operating.

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Accident

Aircraft Type and Registration:	Leonardo AW169, G-HHEM	
No & Type of Engines:	2 Pratt & Whitney Canada PW210A turboshaft engines	
Year of Manufacture:	2017 (Serial no: 69049)	
Date & Time (UTC):	28 February 2026 at 1808 hrs	
Location:	Southend, Essex	
Type of Flight:	Emergency Services Operations	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Others - 1 (Serious)
Nature of Damage:	None	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	47 years	
Commander's Flying Experience:	3,796 hours (of which 425 were on type) Last 90 days - 23 hours Last 28 days - 15 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

The air ambulance helicopter was departing from a field having been on a Helicopter Emergency Medical Service (HEMS) task. Soon after the aircraft had taken off a member of the public, who was standing outside their house, was blown over by the helicopter's downwash and was seriously injured.

History of the flight

The air ambulance helicopter was dispatched from its base at North Weald Airfield, Essex, on a HEMS task in a residential area to the east of London Southend Airport. On board were two pilots and two paramedics.

Prior to departing North Weald a private green field area was selected as the landing site due to its size and surface. This was adjacent to a train line that bordered the eastern edge of Southend Airport and next to Southend Airport train station (Figure 1). It also had good access onto a public road and was as close to the patient as possible. Its suitability was also confirmed by use of satellite imagery.

Once in the vicinity of the landing site the crew conducted an airborne reconnaissance, which confirmed its suitability. The helicopter landed in the field without event at about 1746 hrs and the paramedics departed to assist with the patient.

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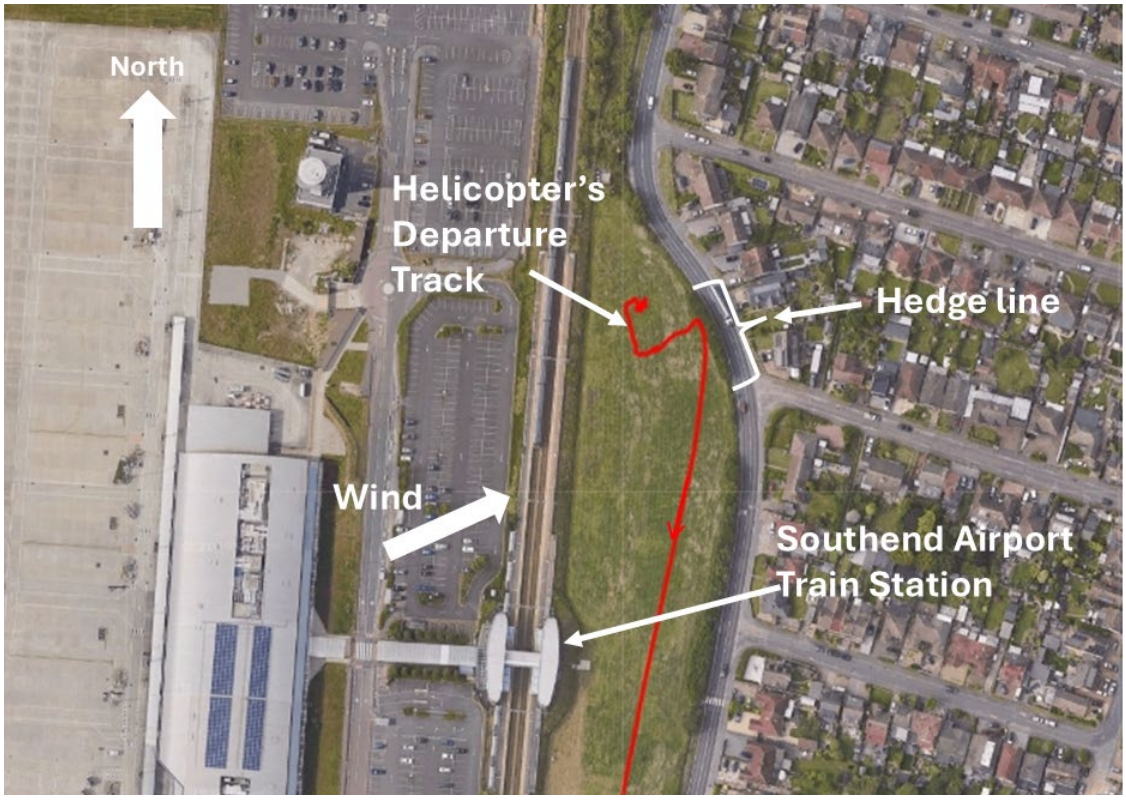


Figure 1

Overview of Accident Area
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With sunset approaching, and because the co-pilot was not night current, the helicopter could not depart the unlit green field site in the dark, they elected to conduct some night flying training at Southend Airport. They then planned to land there, to await the paramedics, before returning to North Weald. At the time the weather was CAVOK and the wind was from about 250° at 7 kt.

For the departure from the field the co-pilot was the PF. While the co-pilot prepared the helicopter for departure, the commander saw some bystanders with children, that had come to see the helicopter, standing by a fence on the western side of the road that bordered the field. He went over to them and asked them to move to the other side of the road for their own safety. He then boarded the helicopter and its engines were started. At this time a member of the public, who lived across the road from the field, behind the hedge line, heard the helicopter start. She went outside to film it depart and stood close to her house by a car that was parked on the drive. A relative of hers stood on the pavement. This was about 30 m from the helicopter as it lifted from the field.

After start, the crew delayed lifting by a few minutes as there was a train in the station which they wanted it to leave first to avoid it causing a distraction. Also, the departing passengers would no longer be on the platform. The helicopter flew a 'variable TDP' (takeoff decision point) Performance Class (PC) 2 departure from the field. This type of departure involved

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the helicopter climbing rearwards and almost vertically to 200 ft agl, before transitioning into forward flight (Figure 2). During the climb the helicopter drifted east towards the road before transitioning to forward flight.

About 50 seconds after the helicopter commenced its vertical climb, the observer that was outside her house was blown over by the helicopter's downwash and was seriously injured. Her relative quickly came to her aid and the injured person was subsequently taken to hospital.



Figure 2

Stills from the observer's film of the helicopter soon after lifting into the hover and just before the observer was blown over

The helicopter departed with no knowledge that anyone had been injured and eventually returned to North Weald without further event. The helicopter's takeoff weight was about 4,300 kg.

The operator was subsequently informed about the seriously injured observer by a relative, four days later. No other persons were believed to have been affected by the helicopter's departure.

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Commander's comments

The commander commented that the hedge on the eastern side of the field obstructed his view towards the houses where the observer was standing. Had he seen her, he would have briefed her on the potential for downwash from the helicopter. However, in his opinion, and from previous experience, the distance did not pose a high level of threat.

The commander added that they calculated and flew a variable TDP PC 2 departure because, in the event of an engine failure, this allowed the PF to reject the takeoff back onto the area of ground they had just taken off from, where they knew the surface and slope conditions for the subsequent landing. A clear area PC 1 takeoff (ie a low-level accelerating departure) could not have been flown as the field was not a prepared surface and the obstacles had not been formally measured and published, as would have been the case for an airfield runway, and therefore a safe forced landing could not be assured.

The commander commented that they didn't move south towards the middle of the field for the departure as they were at the widest part of the field. Also, access stairs to the railway station would have been closer to the departing helicopter, presenting a hazard from the downwash during the departure. The drift to the east during the climb was possibly due to no frontal markers in the long field in front of them, that would have assisted their position keeping as the helicopter climbed.

Helicopter takeoff performance

The crew calculated a TDP of 200 ft agl. This was equal to the height of the nearest obstacle (Ho), 50 ft, plus the clearance height, (H_C), 30 ft, plus 80 ft. An additional 40 ft was added to give some additional separation for the downwash over the built up area, and to reduce any potential startle effect for the users of the road, at the end of the field.

Operator's operations manual

The operator's Air Operations Manual Part A (OMA), stated in '*Assessment Procedure for Unlicensed Sites'* that pilots are to consider the potential effects of helicopter downwash on property and third parties.

After this accident the operator issued a Flying Staff Instruction on 29 May 2026 to all of its pilots reminding them of the hazards associated with downwash, highlighting that these are present on takeoff as well as landing. It also included links to other AAIB reports involving downwash.

Analysis

The air ambulance helicopter was operating from a green field site. Prior to departure the commander saw some bystanders with children, standing by the fence on the western side of the road and asked them to move across the road, as required by the operator's OMA. As the injured observer was not outside their house at this time, she was not visible to the commander. She would also have not seen him warn the bystanders who were in the vicinity. When the injured observer came out to film the helicopter the commander was already in the helicopter which was behind a hedge and so she was not visible to the crew.

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While the helicopter initially climbed to about 200 ft agl, as the wind was from about 250° at 7 kt, its downwash would have been blown towards the injured observer. It is also possible that the speed of the downwash accelerated, due to the funnel effect, as it interacted with the hedge, the observer's house and/or the parked car, thus increasing the risk to anyone affected by it. It is believed the bystanders and children that had been advised to move to the eastern side of the road were not unduly affected by the downwash.

As the helicopter climbed it drifted east towards the road, which the commander commented was due to their imperfect position keeping. The fading daylight and surface wind may also have contributed to this. This movement towards the road, and the observer, may have increased the severity of the downwash she experienced.

Conclusion

An observer of the helicopter departing from a field was blown over by its downwash as she stood outside her house. The speed of the downwash may have been greater due to the funnel effect when it was affected by nearby buildings and a car.

Safety actions

As a result of this accident the operator took the following safety action:

The operator issued a Flying Staff Instruction on 29 May 2026 to all its pilots reminding them of the hazards associated with downwash, highlighting that this can occur on takeoff as well as landing. It also included links to other AAIB reports involving downwash.

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Accident

Aircraft Type and Registration:	Pulsar XP, G-CKIS	
No & Type of Engines:	1 Rotax 912-A piston engine	
Year of Manufacture:	2019 (Serial no: PFA 202A-12702)	
Date & Time (UTC):	8 June 2025 at 1900 hrs	
Location:	Field near Stoney Lane Airfield, Worcestershire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damage to left wing, fuselage, nose leg, engine cowling, engine frame and propeller	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	163 hours (of which 1 was on type) Last 90 days - 3 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

During a private flight, a recently purchased Pulsar XP (G-CKIS) suffered loss of engine power while joining the circuit at Stoney Lane Airfield. The pilot had collected the aircraft earlier that day and, following a short familiarisation flight, had departed for his home airfield.

While manoeuvring to join the circuit, the engine began to run roughly before stopping. Although it briefly restarted, it subsequently failed again and could not be restarted. The pilot carried out a forced landing but was unable to reach the runway, touching down in a field approximately 35 m short of the runway. The aircraft sustained significant damage, but the pilot was uninjured.

Recorded engine data showed a rapid and abnormal increase in fuel flow accompanied by a reduction in fuel pressure immediately prior to the engine stoppage. Post-accident examination identified multiple leaks within the fuel hose system, particularly at push-fit joints near the carburettors, but these could have been affected by the six-month period between the accident and testing. Contamination was also found within the fuel system, including debris likely originating from jerrycans and degradation of internal tank coatings, although this was not considered causal to the power loss.

The investigation concluded that the loss of engine power was most likely due to fuel starvation caused by either a fuel leak between the fuel flow sensor and the carburettors,

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or air entering the fuel lines upstream of the fuel flow sensor. This accident highlights the importance of checking fuel hose security, inspecting fuel filters and fuel tank liners.

History of the flight

The pilot had been flown to Newton Peveril Airfield, near Bournemouth, to collect the Pulsar XP aircraft (G-CKIS) which he had already purchased. After inspecting the aircraft and checking the aircraft's documents he went for a 20-minute familiarisation flight with the previous owner. The aircraft was refuelled with E5 petrol from jerrycans until there was 20 litres in the left tank and 20 litres in the right tank. The pilot then departed in G-CKIS for Stoney Lane Airfield, Worcestershire, where he was based. During the cruise the pilot activated the fuel transfer pump on two occasions to transfer fuel from the left tank to the right tank, because the fuel system was configured in a way that the engine only drew fuel from the right tank.

Nearing Stoney Lane Airfield he positioned for a left base join. Turning out on final he realised he was not lined up correctly, so he flew a left orbit. During the orbit the engine started running rough, "shuddering and shaking", and the pilot declared a MAYDAY. The engine stopped but the pilot was able to restart it, and it appeared to operate normally. He was now too low to make the runway, so he added power and began a second orbit. After lining up with the runway the engine ran rough again and stopped. He tried to restart the engine, but it would not start. He committed to a glide approach to the runway and selected flaps. Upon realising that he would not make the runway he retracted the flaps to try and extend the glide, but the aircraft clipped the fence boundary of a field preceding the runway and touched down in the field about 35 m short of the runway. The field was soft with long grass and on touchdown the aircraft spun round causing damage to the wing, fuselage and propeller (Figure 1).



Figure 1
Accident site

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Recorded information

The aircraft was fitted with a Flybox Eclipse combined primary flight display and engine display instrument. No SD memory card had been fitted, but four months after the accident it was discovered that there was a recording of the accident flight in the unit's internal memory. It contained the aircraft's flight track up until the first time the engine stopped (Figure 2). The aircraft was at an altitude of 1,040 ft amsl (615 ft aal), an indicated airspeed of 57 kt, and 0.85 nm from the Runway 23 threshold when this occurred.

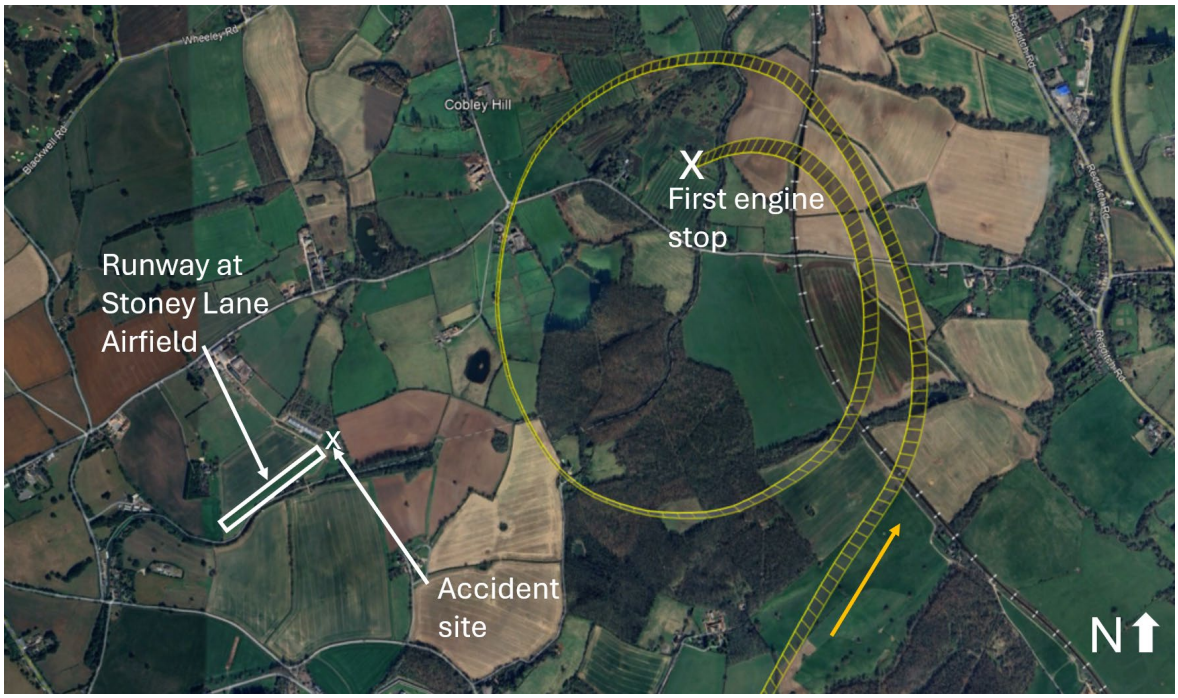


Figure 2

Final flight path until first engine stoppage
© Google Earth, Image © Airbus

The engine data showed that the drop in engine rpm was preceded by a large increase in fuel flow and decrease in fuel pressure (Figure 3). The fuel flow increased from 10 litres per hour (L/hr) to 55 L/hr in 11 seconds. This coincided with the fuel pressure reducing from 0.27 bar to 0.13 bar. The engine rpm subsequently reduced from 4,400 rpm to 640 rpm in 31 seconds before the recording stopped, while the fuel pressure remained low and reduced to zero, and the fuel flow remained high.

The maximum recorded fuel flow during the takeoff from Newton Peveril was 23.7 L/hr, and during the cruise portion of the flight it was around 12 L/hr. Prior to the incident, the minimum recorded fuel pressure was 0.22 bar which occurred during the takeoff. The fuel pressure was around 0.3 bar during the cruise. The data showed that whenever the fuel flow increased there was a corresponding reduction in fuel pressure – this indicated that the high fuel flow was unlikely due to a faulty sensor.

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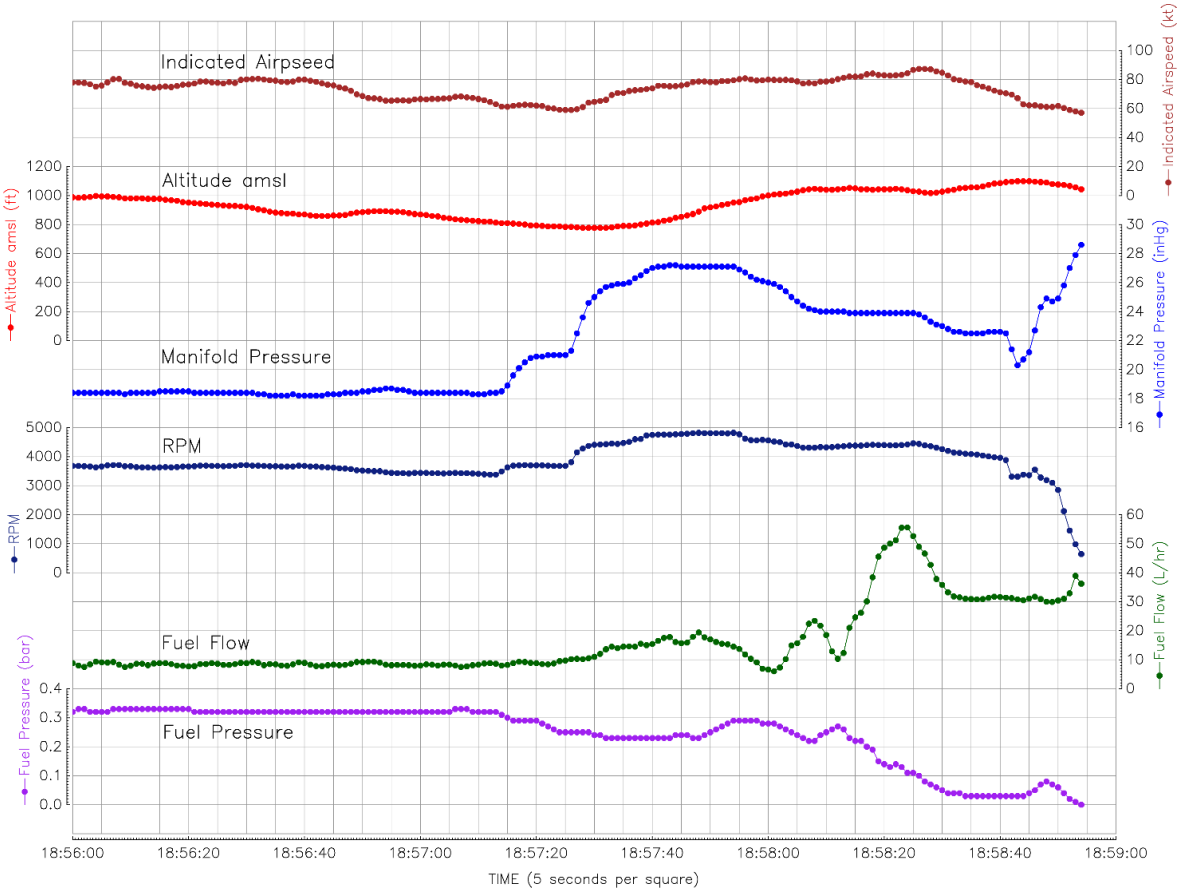


Figure 3

Recorded parameters until the first engine stoppage

Aircraft information

The Pulsar XP is a two-seat kit-built aircraft of mixed wood and composite fibreglass construction with a maximum takeoff weight of 481 kg. The kit was produced by Aero Designs which is a company that is no longer in business. G-CKIS was fitted with a Rotax 912-A piston engine and a 3-bladed propeller. The Rotax 912-A operating manual contains a performance chart which shows a fuel flow of 22.6 L/hr at the maximum engine speed of 5,800 rpm.

The aircraft had two builders. The first builder started construction in around 2003 and then sold it as a partially completed kit to the second builder in around 2013. The aircraft first flew in August 2019 and received its first Permit to Fly in February 2022. At the time of the accident, it had accumulated 62 flight hours. The aircraft's last maintenance was an annual inspection which was completed on 10 May 2025.

The first builder had constructed the integral leading edge fibreglass wing fuel tanks. He said that the fuel tank coating he had applied was Kreem fuel tank liner which came with the kit and this was the product specified in the aircraft build manual. He said that it was a "rubberised slosh coating" that was deep grey in colour. He had applied a layer before completing construction of the fuel tanks, and then once they were completed, he poured more into the tanks and sloshed it around. The product description for Kreem Fuel Tank

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Liner[1] states that it is '*designed for use as a preventive maintenance product in metal tanks new and old; containing gasoline, gasohol, or diesel. ... Not for plastic tanks. KREEM is NOT compatible with all fiberglass tanks. You must spot test before use*.' It also contains a caution which states: '*Kreem Tank Liner is not designed for use in aircraft oil tanks or tanks using a plastic component*.' The manufacturer of Kreem was contacted and they stated that using it with fibreglass is normally fine and if there were a compatibility issue it would be apparent within a week of application. They also stated that their Kreem fuel tank liner was white in colour and its colour and formulation had not been changed since they first started manufacturing it about 40 years ago. They also stated that it was compatible with petrol containing ethanol.

The standard fuel system had two wing tanks, each of which could supply the engine directly. The second builder of the aircraft decided to modify the fuel system such that the engine was fed by the right-wing tank, with an electric fuel transfer pump to transfer fuel from the left tank to the right tank. He said that having the fuel feed from one tank made the operation simpler, and it also made the fuel return line plumbing simpler. This modification was approved by the LAA and is depicted in Figure 4.

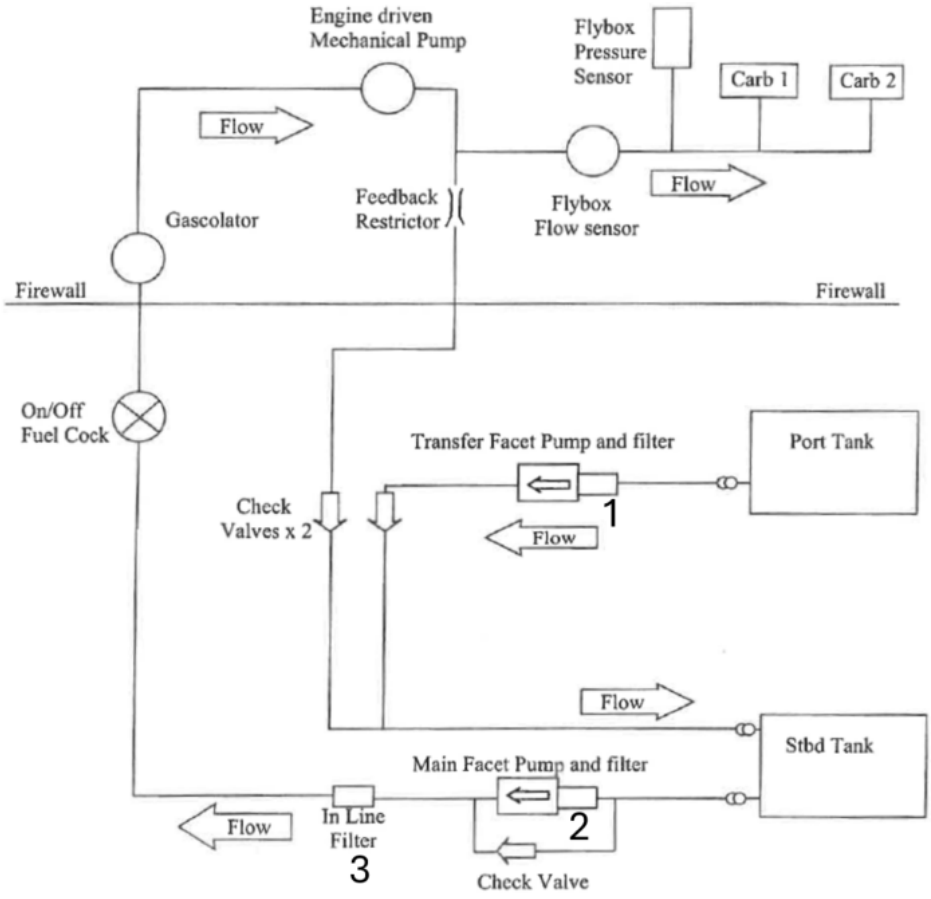


Figure 4

Fuel system diagram provided to the LAA to support the G-CKIS fuel pump modification (filter numbers added for this report)

Footnote

[1] https://www.kreem.com/fueltankliner.html [accessed 20/02/2026].

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Figure 4 shows the transfer pump and an additional electric fuel pump between the right tank and the mechanical engine-driven pump. Three fuel filters are shown, numbered 1 to 3, but according to the pilot, filter number 3 was not fitted. The fuel flow sensor was installed between the mechanical fuel pump and the fuel pressure sensor. The Rotax 912-A engine has twin carburettors which is why the diagram shows 'Carb 1' and 'Carb 2'.

The second builder of the aircraft stated that he used the left fuel tank as a reserve tank and only used it for longer trips. For most of his flights he filled the right tank and left the left tank empty. The wings were removable and he stored the aircraft between flights in a hangar with the wings removed. The engine logbook showed that the fuel and oil hoses had been replaced in September 2018, so they had been installed for 6 years and 9 months at the time of the accident.

The Rotax 912 maintenance manual[2] states: '*The following components and systems must be replaced every 5 years*:' and the list includes '*all rubber hoses of the fuel system (incl. Teflon hoses)*'. According to the LAA this is treated as a recommendation and not a requirement. It stated that life limits of items are only mandatory if they are specified in the Type Acceptance Data Sheet, an Airworthiness Directive or a Mandatory Permit Directive.

Aircraft examination

The pilot examined the aircraft after the accident and supplied the AAIB with photographs. He drained 20 litres of fuel from the right-wing tank. The left-wing tank was empty but there was damage to that tank. He did not notice a smell of fuel in the engine bay and all the fuel hoses were connected. Both carburettor float bowls contained a low level of fuel and there were a few small black rubber particles in the left carburettor bowl. The carburettor floats were weighed and were within specification. The gascolator bowl contained some fine sand-like debris, but the mesh filter was clear. He examined a sample of fuel from the right tank which contained black particles which he thought to be rubber material from a fuel hose.

The No 1 fuel filter from the left tank was clear, while the No 2 fuel filter from the right tank contained some debris (Figure 5). This filter was sent to the AAIB for examination. The debris inside it consisted of straw-like debris and red flakes that had the appearance of paint (Figure 6).

Footnote

[2] Maintenance Manual (Line Maintenance) for Rotax Engine Type 912 Series, Ref. No. MML-912, Edition 2, Rev. 1.

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Figure 5

Inline fuel filters (left image is No 1 filter from left tank; right image is No 2 filter from right tank)



Figure 6

Debris recovered from the No 2 filter from right tank

The fuel tanks were cut open, and similar red flakes and straw-like material were found inside the right tank. The fuel pick-up tube had detached from the fuel outlet, but it was possible this was the result of impact forces. The previous owner was asked to inspect the jerrycans he had used to fill the tanks. These cans had a red/brown internal coating. He filled them up and then poured the contents out through a piece of cloth. A few reddish-brown flakes were recovered. He also reported that he had not seen this filter fill up with debris before.

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While inspecting the fuel tanks it was noticed that the left-wing tank, which was infrequently used, had a thick grey coating consistent with what the first builder had described as applying (Figure 7). Whereas a large section of the right-wing tank had a mostly cream coloured appearance which had started to flake and break up. There was a portion of grey near the filler at the outboard end of the tank (Figure 8).



Figure 7
Base of left-wing tank



Figure 8
Base of right-wing tank

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Although the investigation began with the consideration that debris might have caused a fuel flow restriction and loss of power, the investigation focus changed when the recorded data revealed a very high fuel flow. The data was sent to the engine manufacturer for analysis and they stated that: '*The observed drop in fuel pressure, combined with a simultaneous increase in fuel flow, suggests a possible disconnection or leak in the fuel line between the carburettor and the fuel flow meter. This would result in unmetered fuel flow, explaining the discrepancy. Additionally, the observed rise in manifold pressure indicates that the engine ceased operation, likely due to fuel starvation*.'

The LAA were approached with this information, and they sent two engineers to examine G-CKIS. The LAA engineers confirmed that the fuel flow sensor and fuel pressure sensors were installed as per the diagram in Figure 4. There were no cuts in the fuel hoses and no disconnections, so the fuel hose assembly was removed and taken away to be tested.

The LAA tested the fuel hoses using compressed air at a pressure of 0.5 bar. The LAA engineer stated that '*while there was no single major leak source, bubble mixture revealed several joints were leaking air to some degree, and the leakage rate was affected by waggling the pipes on their barbs despite being clamped up. Several pipes could be pulled off their barbs without a great deal of effort.'* The two joints with the most leakage were the joints leading to the carburettors (Figure 9).

These tests were conducted six months after the accident, after the fuel hoses had time to dry, which could have loosened the connections and influenced the leakage findings.

The installed location of the leaking joint to the left carburettor is shown in Figure 10. The LAA engineer stated that this was one of the two 90° unions that leaked in the pressure test and *'it leaked at the connections of the union to both hoses. Disturbing the hoses made the leak rate change. This union, like another on the other side was quite unnecessary and between them introduced four extra potential sources of leakage and a pair of unnecessary fuel pressure drops.'*

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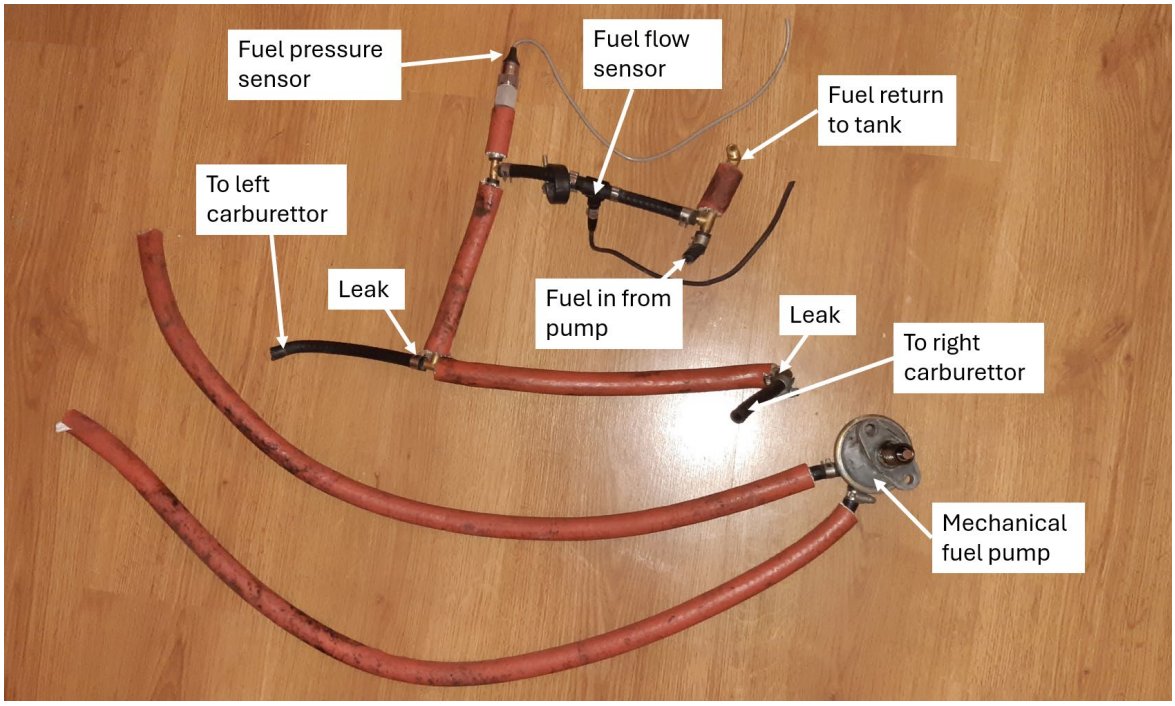


Figure 9

Removed fuel hose assemblies showing location of leaks



Figure 10

Location of one of the leaking joints at the left carburettor

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LAA safety actions

As a result of their findings the LAA published two safety articles in their 'Light Aviation' magazine. The January 2026 edition contains an article in the 'Engineering Matters' section titled '*Fuel system pipework and joints'*. The article includes the following:

> *'Going back to where the piece started off, designers usually plan for a simple fuel system, but systems do tend to get more complex over time. The builder wants to fit an electric fuel pump – introducing two extra connections; a fuel flow transducer – two more connections. Maybe a Rotax 912 engine with twin carburettors and needing a vapour return line, meaning an extra 'tee piece' in the fuel feed (three extra connections plus another to the second carb), and four more for the vapour return line and its orifice, which is embedded in another tee piece.*
>
> *Before you know where you are, the number of rubber hoses has gone up from two to seven and the number of connections, each a possible leak point, from four to 16. Not only has the potential for leakage at joints gone up four-fold, but the exercise of changing the rubber pipework every few years has escalated from a half-hour job to a project that might take a whole weekend.*
>
> *What prompted this piece was that we recently came across an aeroplane that had suffered an engine power loss in flight, where all the evidence pointed towards a fuel system issue. The design of aircraft had originated as a simple type with a two-stroke engine, but this was a late model with a more sophisticated engine and instrumentation. Its fuel system components were linked by a great many rubber pipes with push-on fittings, including 90º angle fittings where changes of direction were needed in the pipe runs.*
>
> *While it was not possible to identify any single source of leakage that might have caused the accident, there were many loose joints and the way that the system had been configured made it very susceptible to leakage from any one of a number of points.*
>
> *While no specific design requirements had not been complied with, nor inspection rules broken, our conclusion was that with a fuel system that had grown to this level of complexity, it would have been appropriate if the fuel system changes had included a switch from push-on rubber hoses to the more reliable screw-on reinforced hoses and 'solid' pipes, as befits a complex system with so many joints.*
>
> *It perhaps shouldn't need adding, but we will anyway, that a fuel system leak causes risks not only of an engine stoppage, as in this case, but also of an in-flight fire, which explains why the topic has raised particular concerns recently among our airworthiness and design teams.*

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For owners of existing aircraft with push-on fuel hoses the safety message is clear – particularly where there are multiple joints in the system, great care is needed to make sure all joints remain secure, and fuel and air-tight, and that the number of pieces of hose and joints involved does not discourage changing time-expired or visibly deteriorating flexible hoses in a timely manner.'

The February 2026 edition of 'Light Aviation' magazine contains an article in the 'Engineering Matters' section titled '*Fuel line contamination'*. The article includes the following:

'Another recent power-loss event, discussed in the previous issue of Light Aviation magazine, reinforces the importance of ensuring clean fuel lines. Post-incident inspection revealed significant contamination, with flakes similar to the red paint from the interior of a jerrycan and a straw-like material, in the right-wing fuel filter and tank. One theory suggests that the infrequent use of the right tank may have allowed chemical degradation of the inner coating, with contaminants accumulating until a switch between tanks during a long flight introduced them into the system.

Don't forget, even routine tasks like trimming fuel pipes can introduce hazards. Sawing pipes creates fine rubber or plastic particles that can cling to cut edges or fall inside the pipe itself. Once fuel flows, these particles can migrate and clog injectors or carburettor jets. When trimming hoses, make sure the cut and inside of the pipe are both clean before attaching them to fittings or equipment.'

It should be noted, however, that it was the left tank that was infrequently used. The LAA are considering publishing an article on the use of fuel tank liners given the findings from the right tank on G-CKIS.

Alternative theory for the high fuel flow indication

Subsequent to the LAA's examination of the aircraft, the AAIB was contacted with an alternative theory for the high fuel flow indication. The AAIB was sent a video of a Rotax 912ULS being run with just 1 litre of fuel remaining in the selected tank. Just before the engine starts to run rough and stop as a result of fuel starvation, the fuel flow indication rises sharply to 167 L/hr and the fuel pressure drops. Prior to engine stoppage air would have been entrained from the fuel tank as the level in the tank dropped below the outlet port.

The engine manufacturer was sent this video and they stated that erroneously high fuel flow indications can be caused by air or gas bubbles in the fuel lines spinning the rotor in the fuel flow sensor.

Analysis

The engine stoppage was preceded by a rapid rise in fuel flow that was more than double the indicated fuel flow at takeoff power. Combined with the drop in fuel pressure this could have been indicative of a fuel leak between the fuel flow sensor and the carburettors, resulting in an increased fuel flow rate through the flow sensor but insufficient fuel flow

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to the carburettors and loss of power. A test of the fuel hose assembly in the engine bay revealed several joints that were leaking to some degree with the most leakage from the two 90° joints leading to the carburettors. These hoses could also be pulled off their barbs with little effort. However, these tests were conducted six months after the accident, after the fuel hoses had time to dry, which could have loosened the connections and influenced the leakage findings.

It was also possible that the high fuel flow indication was caused by air being sucked into the fuel lines. This could occur due to a loose connection or a leak upstream of the fuel flow sensor. Alternatively, if the aircraft had skidded during the left turn due to excessive application of left rudder, then this could have unported the fuel in the right tank, allowing air to be sucked in from the tank, but the fuel level of 20 litres, as reported to be remaining after the accident, would have reduced the chance of that happening.

If the cause was related to a leak or a loose connection, then this could have possibly been prevented if the fuel hoses had been replaced after five years in accordance with the engine manual, although this was not required. The LAA stated that, although design requirements had been complied with, due to the complexity of the fuel system and the number of connections it would have been appropriate to switch from push-on rubber hoses to more reliable screw-on reinforced hoses and solid pipes. This advice was highlighted in an article in their 'Light Aviation' magazine.

The red debris found in the right tank was likely from the jerrycans used to fill the tank. The left tank did not contain this debris, possibly because it was not used as frequently. The right tank fuel filter caught the debris and did not result in a loss of fuel flow. This highlights the importance of regularly checking the fuel filters.

The left tank had a solid grey coating which matched what the first builder recalled applying to both fuel tanks and which he said was Kreem fuel tank liner, in accordance with the build manual. However, a large section of the right tank base had a cream-coloured base that had started to flake and break up. Because the right tank was more frequently used the presence of fuel might have interacted with the fuel tank liner to cause this break-up. The manufacturer of Kreem stated that their product was white, so it could not be determined what fuel tank liner material had been used. A borescope inspection of the fuel tanks could have detected the liner break-up. The LAA are considering publishing an article on the use of fuel tank liners to provide further guidance to builders and owners.

Conclusion

The loss of engine power was preceded by an excessively high indicated fuel flow rate which could have been caused by a fuel leak downstream of the fuel flow rate sensor which starved the carburettors of fuel, or it could have been caused by air being sucked past the fuel flow sensor, possibly due to a loose connection, a leak upstream of the fuel flow sensor, or fuel tank unporting. Post-accident testing identified multiple leaking fuel joints and loose push-fit hose connections, but these could have been affected by the six-month period between the accident and testing. Although debris and fuel tank coating degradation

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were identified, these were unlikely to have contributed to the loss of power. This accident highlights the importance of checking fuel hose security, inspecting fuel filters and fuel tank liners.

Safety actions

The LAA published two articles in the 'Engineering Matters' section of their 'Light Aviation' magazine, one on '*Fuel system pipework and joints'* and one on '*Fuel line contamination'.*

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Accident

Aircraft Type and Registration:	Titan T-51 Mustang, G-MUZY	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2009 (Serial no: LAA 355-14831)	
Date & Time (UTC):	10 May 2026 at 1345 hrs	
Location:	Ballynahinch, County Down	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Minor)	Passengers - N/A
Nature of Damage:	Damage to engine bay, cowling, spinner and right landing gear axle	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	45 years	
Commander's Flying Experience:	266 hours (of which 67 were on type) Last 90 days - 4 hours Last 28 days - 4 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by AAIB	

When nearing the end of the flight, the pilot noticed a puff of vapour from the forward right upper engine cowling, followed by a pulse of clear liquid which streamed back over the upper cowling and canopy. Shortly afterwards, a flame appeared through the top of the cowling which increased in intensity. The pilot instigated a forced landing in a field, having isolated the fuel and stopped the engine. The field had a steeper slope than expected, which became visible to the pilot at approximately 200 ft agl. Upon landing and coming to a stop, the aircraft tipped onto its nose and rolled backwards but the pilot was able to exit the aircraft without harm. The fire lessened and burnt out before the emergency services arrived.

Fire damage prevented identification of a definite cause of the fuel leak. A subsequent survey by a repair organisation suggested it was likely that the fuel line had failed downstream from the fuel pump, allowing fuel to run onto the hot exhaust and subsequently ignite. Once the fuel supply had been stopped, there was not enough combustible material for the fire to self-sustain and damage was confined to the engine bay.

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Serious Incident

Aircraft Type and Registration:	Cameron Z-133, G-CLZI
No & Type of Engines:	N/A
Year of Manufacture:	2021 (Serial no: 12455)
Date & Time (UTC):	29 May 2026 at 0730 hrs
Location:	Field at Langley Green, Warwickshire
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 2 Passengers - 4
Injuries:	Crew - None Passengers - None
Nature of Damage:	None to the balloon
Commander's Licence:	Commercial Pilot's Licence
Commander's Age:	54 years
Commander's Flying Experience:	1,898 hours (of which 1,898 were on the same or similar type) Last 90 days - 9 hours Last 28 days - 5 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The balloon was on the final approach to a field in Langley Green, Warwickshire when the pilot spotted a set of 'domestic' type electricity cables. Despite attempting to climb, the front lower edge of the basket struck the cables, which shorted against each other and fell to the ground. There was no damage to the balloon or basket and no injuries to its occupants. The balloon landed safely further down the field.

Pilots must identify cables visually because only the high-tension sets are marked on charts and maps. Spotting them can be challenging both due to the light conditions at the time balloons generally fly and the location of the cables, which can be obscured by trees and structures. The investigation found that there was no comprehensive database recording the locations of electricity and telecommunications cables from which an electronic map for pilots could be generated.

History of the flight

G-CLZI lifted from Ragley Hall, Warwickshire at approximately 0645 hrs with four passengers and two crew members on board. The flight was part of a mass ascent during the Midlands Air Festival. The weather was reported as excellent for a balloon flight with good visibility and light winds. The balloon flew roughly north-east climbing to a maximum height of around 900 ft agl before descending to lower levels.

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After 45 minutes the pilot began to look to locate a suitable landing site. He saw what he considered to be a suitably sized paddock and began a shallow and slow approach. He noted there were power lines visible to his right, but considered there was sufficient separation. The approach passed through a large gap between two trees, and as the balloon was passing through this gap with a very low rate of descent and a ground speed of less than 5 kt, the pilot saw further power lines directly in front at a distance of 20 m.

Realising that if he attempted to land short of the power lines this was likely to risk a full collision, he engaged the burners in order to climb. The lower front edge of the basket struck the first line of the cables, which then arced against each other before the cable broke and dropped to the ground. The pilot then opened the vent at the top of the balloon to release some of the air and allow the balloon to descend to a vertical landing in the intended field. There was no damage to the balloon and basket and no injuries to its occupants.

The fallen cables emitted a significant amount of smoke, but no fire developed. The fire service attended as a precaution.

Landing site

The balloon was approaching the field from the south-west, shown by the yellow dashed line in Figure 1. The area was crossed by three small 'domestic' type electricity cables, shown by black lines in the figure. The pilot could see the cables he passed over, which were on his right as he approached the landing field. The cables struck by the lower edge of the basket were only visible to the pilot once he had passed the trees. Figure 2 shows a street level view demonstrating how the cables are largely obscured by the trees and boundary planting.

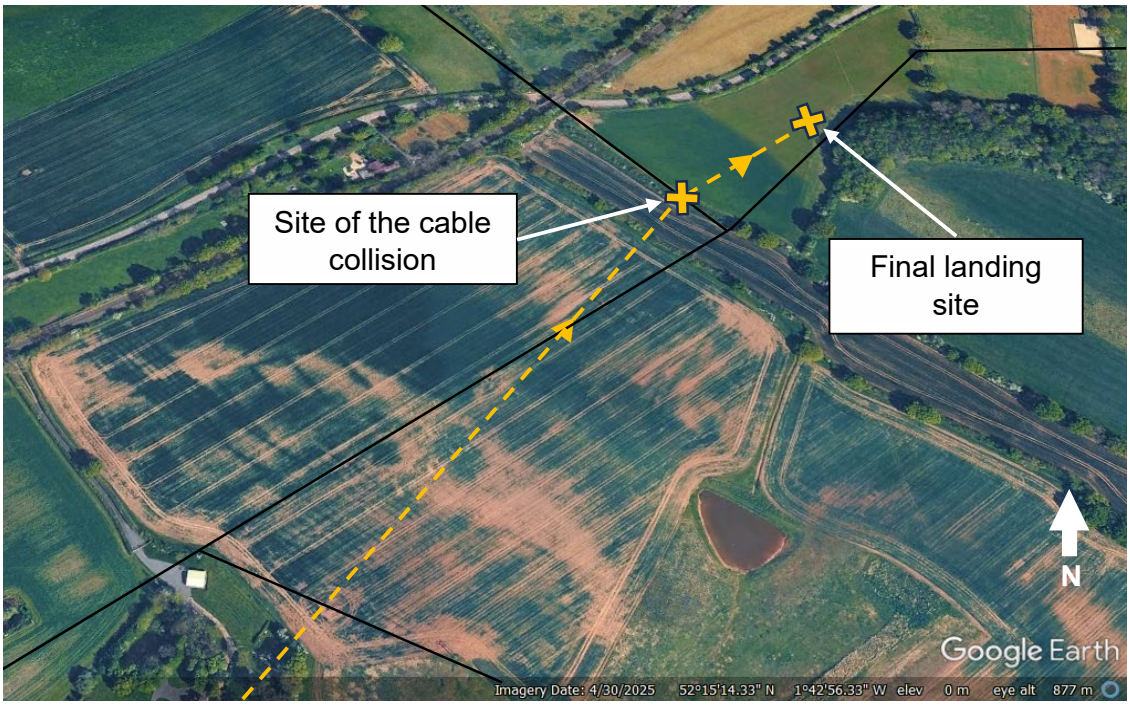


Figure 1

Landing site overview



Figure 2

Google Street view showing the cables

Other information

The pilot of G-CLZI flew with an electronic device with a GPS based navigation application installed. This application can show satellite imaging, Ordnance Survey (OS) maps of various scales and aeronautical charts. The pilot also had the 1:25,000 scale aeronautical chart as back up. The OS maps and aeronautical charts are marked with large high-tension cables, but they do not have the smaller 'domestic' cables marked, which feed villages, towns and rural areas. The pilots rely on a good lookout for cables and obstacles as well as any sensitive areas such as livestock, especially when coming into land. However, power lines can blend into the background or be obscured (as was the case here) by trees or structures. Balloons also tend to fly just after sunrise and during the hour before sunset, and this can increase the difficulty of spotting cables especially when looking into a low sun.

The responsibility for power lines lies with a number of companies across the UK. Enquiries were made by the AAIB into whether there is a database of the location of the lines. The response received was that whilst there is some detailed mapping, the local smaller lines may not be marked or located correctly due to the historical nature of the network. Much of the rural network connections were installed between the 1940s and the 1960s. With no GPS available, accurate mapping was more difficult and, as a result, the quality of data held today depends on whether the lines have had their accurate position recorded. A request for information about telecommunication lines received a very similar response.

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Analysis

The pilot of G-CLZI was bringing the balloon into land in a suitable field. On the final part of the approach, he spotted cables about 20 m in front of the balloon and, despite climbing to avoid them, the front lower edge struck the first cable. The balloon landed safely in the field beyond the cables and there was no damage to the basket, and no injuries to the crew or passengers. The cable had snapped and although there was a significant amount of smoke there was no fire.

Although both OS maps and aeronautical charts mark high-tension cables, there are no markings for the smaller 'domestic' cables on any chart and so balloon pilots must rely on spotting them early enough to avoid them. This can be challenging as the cables and poles can be obscured by trees or structures and can be difficult to spot with the sun low on the horizon. Electronic devices can be used by pilots, which could theoretically show all cables when at a suitable scale, but at the time of publication there appeared to be no complete database of power or telecommunications cables that could be used either.

Conclusion

During an approach to land in a field the front underside of the basket struck cables. The cable broke and although there was a significant amount of smoke there was no fire. There was no damage to the basket and no injuries to its occupants.

Whilst aeronautical charts, OS Maps and some electronic pilot applications show the larger high-tension cable network, there is no national accurate mapping of either electrical or telecommunications cables. Pilots are therefore reliant on spotting the cables which can be challenging as they are often obscured, and the timing of flights often means a low sun causes additional difficulties.

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Accident

Aircraft Type and Registration:	Quik GT450, G-CGTU	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2011 (Serial no: 8574)	
Date & Time (UTC):	21 August 2025 at 1300 hrs	
Location:	East Fortune Airfield, East Lothian	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	One propeller blade separated. Damage to right wing and left wheel fairing.	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	57 years	
Commander's Flying Experience:	104 hours (of which 104 were on type) Last 90 days - 5 hours Last 28 days - 2 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

A Quik GT450 flex-wing microlight (G-CGTU) was damaged during a landing accident at East Fortune Airfield after striking a plastic barrier at the threshold of Runway 11. The pilot, who had recently obtained her microlight rating and was conducting her first flight with a passenger, encountered turbulent conditions while flying a short, noise-abatement circuit with a limited final approach distance. During the final turn, airspeed decayed below the normal approach range, resulting in the aircraft becoming too low and slow on short final.

A late attempt to initiate a go-around was unsuccessful, and the aircraft clipped the barrier, causing a propeller blade to separate and damage the right wing, before landing hard and coming to rest on the runway. There were no injuries. The accident was caused by the pilot's late detection of the aircraft being too low and slow and consequent late decision to go around, with turbulence and the short final approach segment acting as likely contributory factors. After the accident, the airfield introduced a new rule requiring pilots to go around if they are at or below 200 ft during the final turn.

History of the flight

The pilot had passed her skills test and obtained her National Private Pilot's Licence with a Microlight rating one month before the accident. All her flying had been in the Quik GT450 flex-wing microlight. The accident flight was the pilot's second flight since obtaining her rating and her first flight with a passenger.

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After a local flight the pilot joined the circuit at East Fortune Airfield for an approach to Runway 11. The flex-wing circuit involved a close-in base leg and a short final leg to Runway 11 for noise abatement reasons (red circuit in Figure 1). The unlicensed runway was part grass and part concrete with a length of 450 m. There were plastic barriers at the threshold to separate the runway from a farmer's field.

The pilot noted that it was a bit bumpy at the circuit height of 500 ft aal. The wind was from 110° at 8 kt. After rolling out on final she realised that the aircraft was too low and too slow to clear the plastic barrier at the threshold. She stated that she was too late in applying power to go around and the aircraft clipped the barrier, knocking it over, and then touched down hard. A propeller blade separated and went through the fabric of the right wing. The aircraft bounced back into the air and the pilot advised her passenger to brace. The pilot was unsure if the landing gear had been damaged, so she held off for as long as possible before touching down gently on the grass part of the runway and coming to rest on the concrete part. The pilot and passenger exited the aircraft without injury.

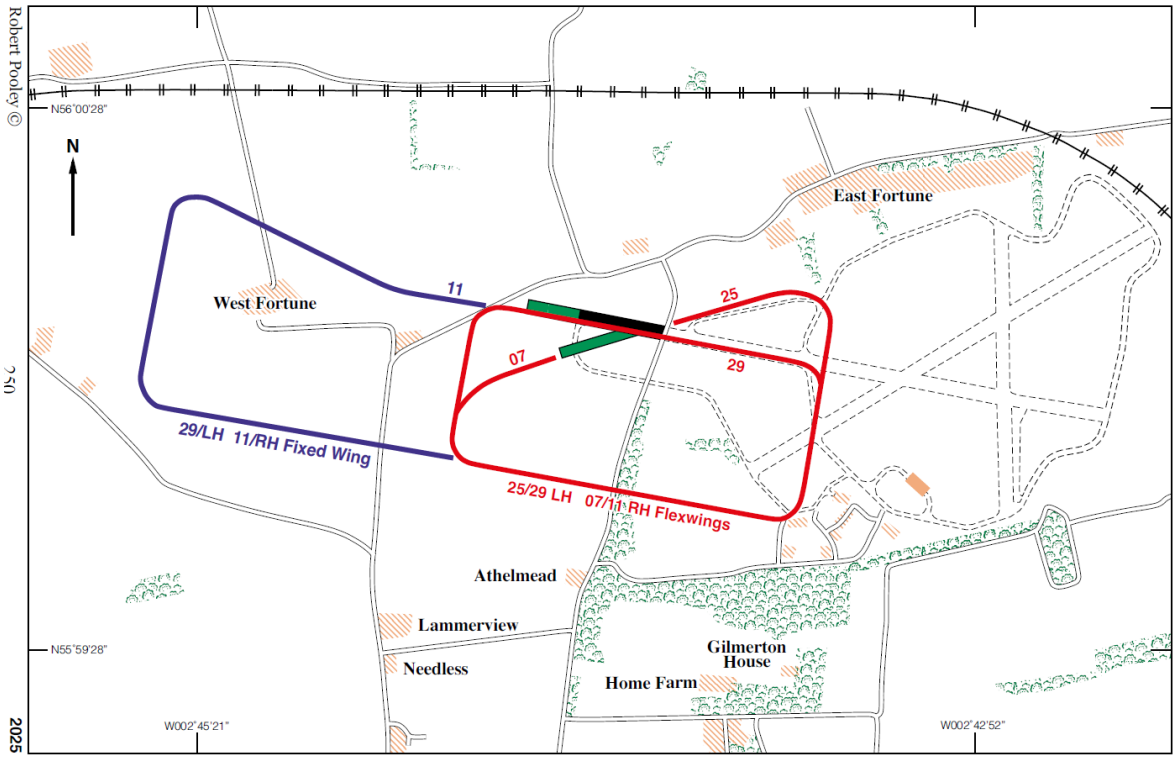


Figure 1

East Fortune Airfield circuit diagram – Pooleys Flight Guide 2025
(© Robert Pooley)

Accident site

The plastic barriers at the Runway 11 threshold were supported by plastic feet overlayed with sandbags to prevent them being blown over in strong wind. The right-most barrier (relative to the direction of travel) was knocked over by G-CGTU (Figure 2).

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Figure 2

Plastic barrier at the Runway 11 threshold that was knocked over by G-CGTU (view opposite to the direction of travel)

Aircraft information

The Quik GT450 is a flex-wing microlight with a maximum takeoff weight of 450 kg. The aircraft's best glide speed is 47 mph, but the operator's manual includes a warning which states '*Never approach at less than 55 mph*'. The extra speed is to allow for any wind gradient experienced during final approach and to increase the speed at which the aircraft responds to control inputs. The flight manual recommends a final approach speed of 55 to 60 mph.

Aircraft examination

The aircraft had some minor damage to the left wheel fairing. The propeller blade had separated near the blade root and penetrated through both layers of the right wing (Figure 3); it was not clear if it separated due to hitting the barrier or from hitting the ground during the hard landing.

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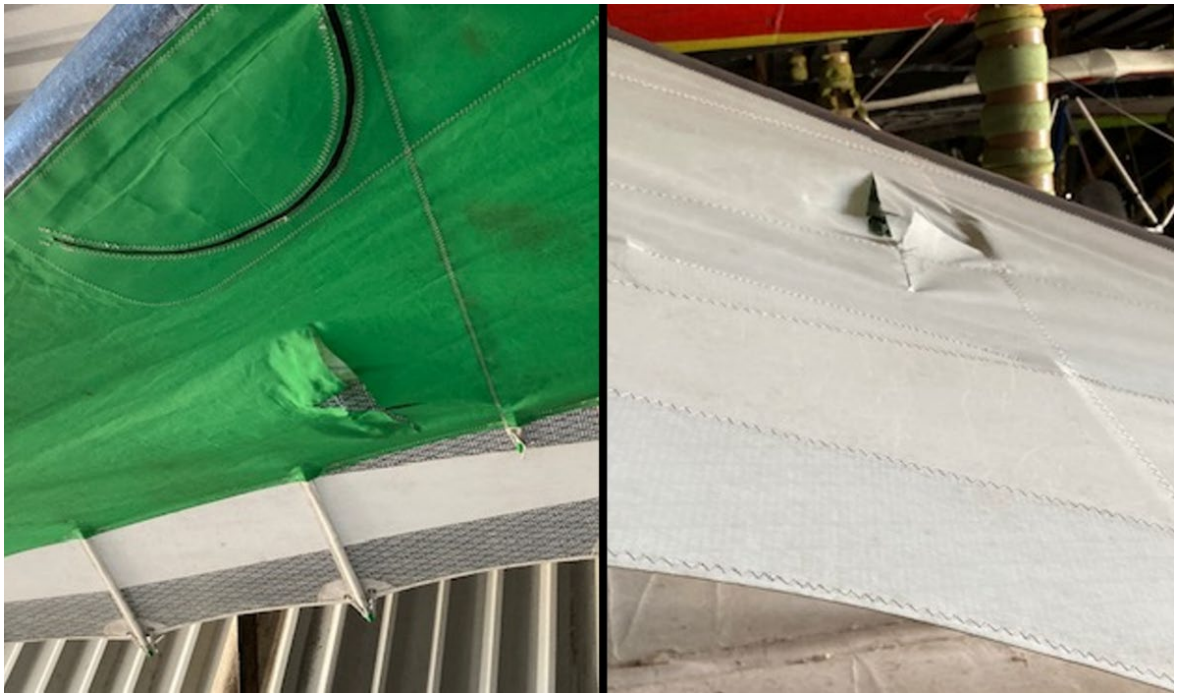


Figure 3

Damage to right wing from separated propeller blade (underside – left image, upper surface – right image)

Previous accidents at East Fortune Airfield involving fences on approach

On 8 May 2025, an Exodus Deltajet 500 Stingray flex-wing microlight (registration G-CMYY) also struck the plastic barrier at the approach end of Runway 11 during landing. At the time there was also a wire fence along the threshold, and the aircraft struck the top wire. The aircraft pitched up and rolled beyond inverted, before hitting the ground on its right side, fatally injuring the pilot and seriously injuring the rear-seat passenger. A section of the top wire of the fence was found wrapped around the propeller hub. At the time of publication of this report, the investigation into the G-CMYY event was nearing completion.

On 4 October 2021, a Pegasus Quantum 15-912 (registration G-NAPO) was on approach to Runway 25 when its landing gear clipped the fence post at the runway threshold, causing the aircraft to yaw right and roll left onto the runway. It slid to a stop on its side, having sustained damage to the wing[1].

Pilot information

The pilot stated that she was normally good at going around and that she should have initiated the go-around earlier. She only realised that the aircraft was too low once it was on final approach. She normally used an approach speed of 65 to 70 mph while turning final, but had allowed the speed to bleed off to 50 to 55 mph without initially realising it. She

Footnote

[1] https://www.gov.uk/government/publications/aaib-record-only-investigations-november-december-2021/aaib-record-only-investigations-reviewed-november-december-2021 [accessed 16 July 2026].

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stated that because she was concentrating on the turn, she was not watching the speed, and maybe the turbulent air was a factor too. She did not have a minimum height in mind for the turn to final.

All the pilot's training had been at East Fortune and she had done multiple landings to Runway 11 so was familiar with the circuit and the barrier. She would always plan to fly a glide approach but would use the throttle if necessary.

The pilot was aware of the accident three months earlier to G-CMYY. The wire fence had been removed because of that accident, and the '11' runway numbers had been moved from near the threshold to 57 m further down the runway to be at the recommended aiming point. The pilot was aware that the numbers had been moved and this was her first time landing on Runway 11 with the numbers in that location, but she did not think that was a factor. During her skills test on 21 July 2025, she had landed on Runway 11 four times. Her subsequent flight on 31 July was to Runway 29, and this was followed by the accident flight.

Aerodrome information

The length of the final leg of the flex-wing circuit to Runway 11 was about 100 m, whereas the length of the final leg to Runway 29 was about 500 m. The airfield operator had looked at lengthening the final leg to Runway 11, but this could not be done due to noise concerns from neighbours. The fixed-wing circuit to Runway 11 has a longer final leg due to the greater difficulty of those aircraft types flying a short final leg. As there were not many fixed-wing aircraft arrivals at the airfield, this circuit was acceptable to neighbours.

After the fatal accident to G-CMYY they removed the wire fence and moved the runway numbers to be at the recommended aiming point. After the accident to G-CGTU they took additional safety action and sent out an email to club members with the following new rule:

> *'We are now going to make it a RULE that if you are at 200 feet or less in that final turn, you DO NOT LAND. You go around. It does assume that you are on QFE, not QNH, so it is imperative that you check and get this right. If you got this wrong on a GST [General Skills Test] it would be a straight fail. All it takes is a quick glance at the altimeter as you start the turn, and hit the power if you're 200 feet or less. Ideally you should be 250 to 300 feet starting that turn, or higher depending on the wind.'*

The circuit diagram in the Pooleys flight guide shown in Figure 1 was also amended in the 2026 guide to include the following: '*Flexwing circuits approach to Rwy 11 final turn must not be lower than 200 ft AGL*'.

At the time of publication, other runways at East Fortune still had a wire fence across their thresholds and the landowner was reluctant to have these removed. But the airfield stated that the approaches to these runways are much longer and so did not present the issue faced with the approach to Runway 11. However, they stated that they would request that the Pooleys flight guide be amended to include information that there were wire fences at the thresholds of the other runways.

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The airport operator stated that the short approach to Runway 11 was introduced in around 1991, and apart from the accidents involving G-CMYY and G-CGTU he was not aware of any other accidents involving aircraft hitting the fence at the Runway 11 threshold, so considered the risk to be low. G-NAPO involved Runway 25, and other accidents involving the fences had involved over-runs on landing.

Analysis

The pilot stated that the reason the aircraft hit the barrier was because she allowed it to become too low and slow in the final turn, and by the time she realised this and initiated a go-around it was too late to avoid the barrier. The turbulent conditions were likely a contributory factor as it led to the pilot spending more time focussing on the final turn and not scanning the airspeed indicator. The pilot did not have a minimum height in mind for the turn to final. The short final leg of only about 100 m may have been a contributory factor. If the final leg had been longer, then when the pilot rolled out on final she would have had more time to assess the aircraft's height and speed and more time to react and increase power before reaching the runway threshold. The airfield operator acknowledged this but had been unable to increase the final leg length due to noise concerns from neighbours. They considered the risk to be low as they were only aware of two accidents involving hitting the Runway 11 fence on approach in the 35 years they had been using the short final leg. However, to reduce the risk, the airfield created a club rule that if the aircraft is at 200 ft aal or less in the final turn then you need to initiate a go-around. They had previously also removed the wire fence and moved the '11' runway marker to be at the recommended aiming point.

Conclusion

The aircraft struck the barrier at the runway threshold because the aircraft had got too low and slow during the final turn, and by the time the pilot realised this and actioned a go-around it was too late to avoid the barrier. Likely contributory factors were the turbulent conditions and the short 100 m final leg. To help reduce the chance of recurrence the airfield has introduced a new rule that you need to initiate a go-around if you are at 200 ft aal or less in the final turn to Runway 11.

Safety action

After the accident to G-CGTU the airfield sent an email to club members on 25 August 2025 with the following new rule: *'We are now going to make it a RULE that if you are at 200 feet or less in that final turn, you DO NOT LAND. You go around. It does assume that you are on QFE, not QNH, so it is imperative that you check and get this right. If you got this wrong on a GST* [General Skills Test] *it would be a straight fail. All it takes is a quick glance at the altimeter as you start the turn, and hit the power if you're 200 feet or less. Ideally you should be 250 to 300 feet starting that turn, or higher depending on the wind.'*

The circuit diagram in the Pooleys flight guide was amended in the 2026 guide to include the following*: 'Flexwing circuits approach to Rwy 11 final turn must not be lower than 200 ft AGL'.*

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Accident

Aircraft Type and Registration:	DJI M300
No & Type of Engines:	Four electric motors
Year of Manufacture:	Unknown (Serial no: 1ZNPMCG001T035)
Date & Time (UTC):	1 June 2026 at 0323 hrs
Location:	West Bridgford, Nottinghamshire
Type of Flight:	Emergency Services Operations
Persons on Board:	Crew - None Passengers - None
Injuries:	Crew - N/A Passengers - N/A
Nature of Damage:	Damaged beyond economic repair
Commander's Licence:	Other
Commander's Age:	25 years
Commander's Flying Experience:	128 hours (of which 84 were on type) Last 90 days - 27 hours Last 28 days - 15 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB

Synopsis

A DJI M300 unmanned aircraft (UA) was being operated by emergency services to search for suspects in a residential area. The motor arms had been placed in their flight positions by the remote pilot (RP) at the beginning of his shift, but there was no requirement to re-check they were secure prior to each flight. The takeoff and control checks all appeared normal, but after about four minutes, a warning occurred advising the RP to land the UA and check the security of the motor arms. Shortly after, a further series of warnings occurred, and the UA started to spin uncontrollably whilst descending rapidly from a height of about 380 ft agl before striking a residential road. No persons were injured.

Analysis by the manufacturer indicated that the rear right motor arm had folded inwards because the arm was not correctly installed. In response to this accident, the operator issued a Safety Notice (SN) that introduced mandatory pre-flight checks of the motor arm locking mechanism. The National Police Chiefs' Council (NPCC) also promulgated a SN and made two recommendations.

History of the flight

A police team were using an Autel MAX 4N and DJI M300 UA to search for suspects within a residential area in West Bridgford, Nottinghamshire. The RP reported that he had completed initial checks of both UA earlier in the day when he reported for the start of his shift. This had included placing the foldable motor arms of both UA into their flight positions. On the M300, the four arms are secured using a 'twist to lock' collar (Figure 1).

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The RP initially flew the Autel and after a 19 minute flight moved to a different takeoff and landing area (TOLA) (Figure 2) before starting to set up the Autel for a further flight. However, he then transferred to using the M300 following a request to live-stream video footage from the UA's camera system to the "top desk"; streaming video from the Autel had been less reliable. The M300 takeoff mass was 7.2 kg.

The RP stated that when he prepared the M300 he performed a visual check. A pre-flight checklist was also available, but this did not include checking that the motor arms were locked and secure.

After taking off, control checks were performed and all appeared normal, before the RP climbed the UA to a height of about 380 ft agl (115 m), where a 360° check for aerial hazards was performed. The RP also confirmed that the UAS handheld controller showed no warnings or error messages, before continuing the search for the suspects. The RP reported that there were very few vehicles being driven on the nearby roads and no pedestrians were in sight; this was attributed to the time of day.

About four minutes into the flight, a warning was briefly displayed for about 1-2 seconds on the handheld controller advising the RP to land the UA and check the security of the motor arms. At this point, the UA was 355 m from the TOLA. The RP then proceeded to fly the UA back to the TOLA but shortly after a further series of warnings were displayed, which included a fault with the "propulsion system". The RP then looked up and saw the UA "falling" before it disappeared out of sight. The wreckage of the UA was subsequently found in a residential road. There was no reported damage to property and no injuries to persons.

The operator's procedures required that pre-flight checklists were to be signed off, but the RP had omitted to do this prior to the accident flight and previous flight of the Autel. The RP's Body Worn Video (BWV) system was also to be activated prior to the pre-flight checks. However, the BWV was not turned on until after the UA had taken off.

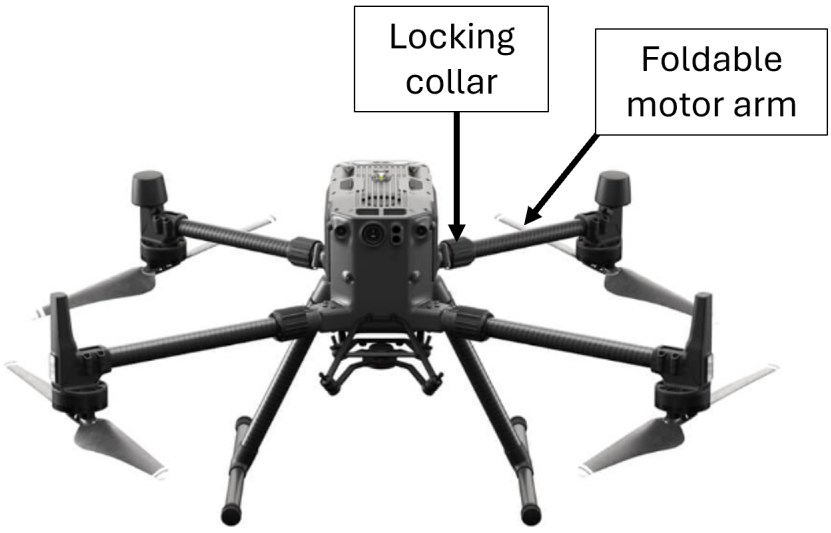


Figure 1

DJI M300
(Imagery courtesy of DJI – not the accident UA)

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Figure 2

TOLA and accident site location
(Imagery ©2025 Google Maps)

Accident site

Wreckage from the UA had spread over a distance of about 20 m from where the main fuselage body had come to rest in a residential road (Figure 3). The UA's batteries had been ejected and were located on an adjacent footpath.



Figure 3

UA wreckage site (courtesy of police)

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Recorded information

The operator downloaded the telemetry flight log from the UAS controller and provided a summary of the data to the AAIB.

At 4 minutes and 4 seconds into the flight, when the UA was at a height of about 380 ft agl (115 m) and 355 m from the RP, the following warning occurred:

- *'Land promptly and check whether frame arm sleeves are tightened securely'*[1].

The RP then started to fly the UA back towards the landing site, but 9 seconds later the following warnings and errors occurred in quick succession:

- *'Aircraft propulsion system error. Force landing. Manually control the aircraft and land in an open area'.*
- *'ESC auto-check error. Return to home and land'.*
- *'Gimbal 1 pitch axis endpoint reached'.*
- *'Aircraft antenna satellite signal searching error. Fly with caution'.*

The UA then started to spin whilst also descending uncontrollably. The telemetry data ended when the UA was at a height of about 250 ft (~75m), at which point its vertical descent rate had reached 3,740 ft/min (37 kt).

Aircraft examination

Inspection of the UA wreckage showed that three of the four motor arm locking collars were still engaged. However, the rear right arm (M4) locking collar was found disengaged from its locking thread (Figure 4); a section of the thread had also detached.

Footnote

[1] The M300 warning to check the motor arms is triggered by detecting excessive vibration. The M300 was superseded by the M350 and M400 UAs, which are equipped with an arm-lock detection system that uses dedicated sensors to monitor the position of the motor arms and prevents the aircraft from taking off if the arms are not locked.

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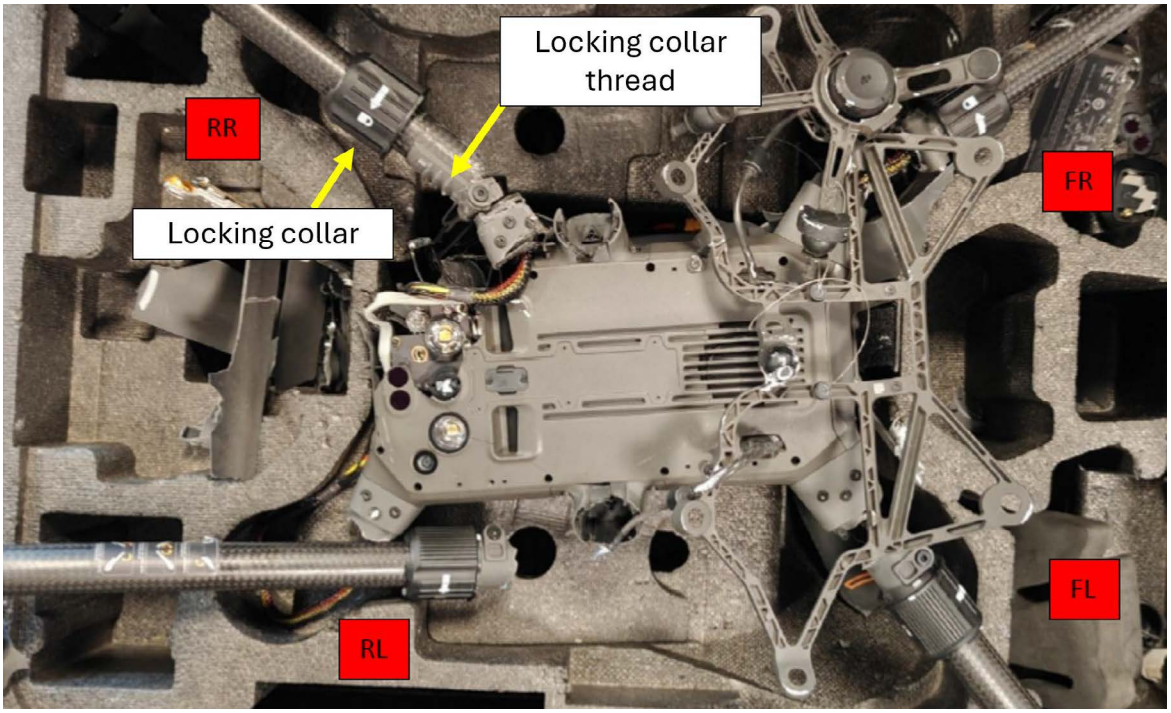


Figure 4

Rear right motor arm locking collar position
(courtesy of police)

Tests and research

The manufacturer of the UA analysed the recorded data and wreckage, from which it concluded '*The accident was caused by the M4* [rear right] *arm not being properly installed'.*

Audits

The operator found that previous audits performed on its UAS operation had not identified that BWVs were not being turned on until after UAs had taken off. The audits had focused on checking that in-flight footage was being captured and had overlooked the need for the pre- flight risk assessments and UA checks to be recorded.

Risk of injury to persons

The M300 takeoff mass was 7.2 kg and its descent rate was 3,740 ft/min at the last recorded data point, which was when the UA was at a height of about 250 ft (~75 m). It is likely that the descent rate would have further increased prior to the UA striking the ground. If it had struck a person on the ground, it is likely that fatal injuries could have occurred.

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Previous M300 accidents

The AAIB has investigated other accidents[2] involving the M300 model of UA where a loss of control has been attributed to motor arms not being fully secured; several of these have occurred whilst operated by the emergency services.

Police UAS operations

The police operate a diverse range of UAS types with more than 800 UA operated nationally by the police. Between 1 June 2025 and 31 May 2026, police forces of England and Wales completed 82,624 flights flown by 1,326 RPs. The national police fleet of M300 consisted of more than 30 UA.

The NPCC is working towards the adoption of common UAS operating procedures where practicable. At this time though, differences exist, which include the content of pre-flight checklists and the use of BWV to capture UAS operations.

Safety action

In response to this accident, the operating police force issued *'Safety Notice (SN) 1/2026-DJI M300 Arm Lock'* dated 24 June 2026. This concluded that *'critical assembly and safety checks were either missed or not verified, directly contributing to the incident'.* The SN introduced a mandatory pre-flight check of the locking collars which included:

- Visual verification that the alignment indicators on the locking collar and UA chassis are correctly aligned (Figure 5).
- An audible and tactile check, that when the locking collar reaches its fully closed position, a mechanical 'click' is heard and 'felt'.
- After each locking collar is locked, to check that there is no movement of the motor arm.

The SN also required that in addition to the RP, the security of the motor arms were to be checked by another RP or flight observer, when available. If the locking collar failed to produce an audible/tactile engagement or the locking thread showed signs of wear, the UA was to be grounded pending rectification. The SN also reminded personnel of the need to follow procedures in activating their BWVs.

In addition to its own UAS team, the SN was uploaded to the 'drones common data platform'. This is a database tool used to collate UAS operational and safety data from across national police forces, with the platform being established in 2024 and managed by the NPCC. It also supports the Drone Air Safety Occurrence Reporting (DASOR)[3] scheme and is used to disseminate safety related information.

Footnote

[2] AAIB investigation to DJI Matrice M300, (UAS registration n/a) 211121 - GOV.UK, AAIB investigation to DJI Matrice 300 RTK, (UAS registration n/a) - GOV.UK, AAIB investigation to DJI Matrice 300, (UAS registration n/a) 170821 - GOV.UK [accessed 14 October 2026].

[3] This is in addition to notifications as required to the AAIB and the UK CAA.

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An NPCC led safety board reviews safety occurrences monthly, with the focus on those classified at 'high' and 'medium' severity levels. These two levels are assigned to accidents or incidents where persons have sustained injury, or injury/and or damage to property was likely or has occurred. The accident involving the M300 was classified as 'medium'. The NPCC took the following safety action:

- Issued a SN (based on 1/2026) to all national police forces operating the M300 UA and informed other UAS state operators, which included the National Fire Chiefs Council (NFCC)[4].
- Recommended that all pre-flight checks for UA that are required to be assembled prior to flight (i.e. those using foldable motor arms) include a visible inspection of any connecting part to ensure the connection is correct and secure.
- Recommended that BWV is activated prior to commencing pre-flight risk assessments and UAS checks as it provides assurance and supports post incident review and organisational learning.

The NPCC also advised that during audits, safety notices and training, it reminds RPs and accountable managers of the need to ensure that operational pressures do not result in safety checks being omitted.

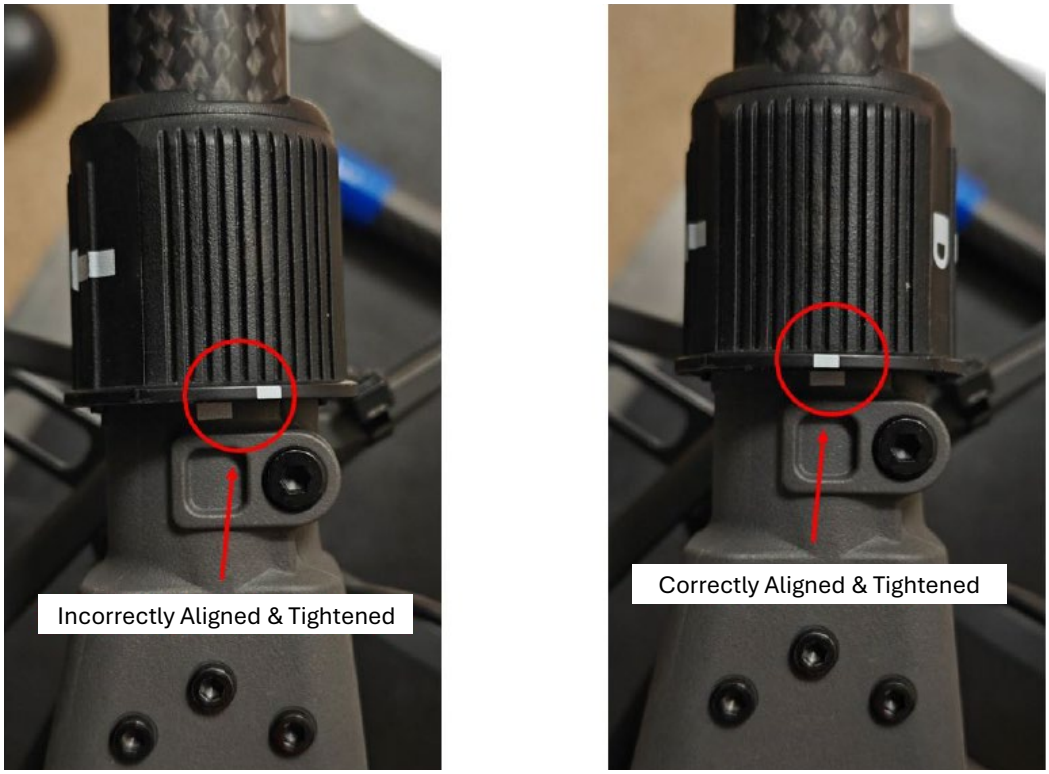


Figure 5

Incorrect and correct alignment of motor arm locking collar (courtesy of police)

Footnote

[4] Via the non-military UAS state Operators Group.

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Conclusion

The data indicated that the rear right motor arm had folded whilst the UA was in flight, which led to an asymmetry of thrust and loss of control. The UAS manufacturer concluded that this had occurred because the motor arm was not properly installed. The normal practice for the operator was for the RPs to place the motor arms into their flight position at the start of their shift duty. However, the operator's procedures thereafter omitted to check that the arms were fully secured prior to each flight. The SN issued by the operating police force is intended to address this, with mandatory checks required.

The lack of adherence to procedures, which included activating BWV prior to flight and not signing off pre-flight checklists are indicative of operational factors. It is possible that the timeliness of getting airborne in a dynamic situation, such as when searching for suspects, could inadvertently result in procedural lapses. The NPCC continues to look to address this, although as the use of UAS and number of flights flown increases, the risk of occasional lapses will likely remain. However, some mitigations may be provided through enhanced technology, such as use of different models of UAS, for which the later M350 and M400 UAS include an arm-lock detection system designed to prevent flight if the motor arms are not fully locked.

This accident again highlights the possible risk of serious injury to persons on the ground when operating UA in residential areas. Had the flight taken place later in the day, when pedestrian and vehicle movements may have been expected to be higher, persons could have been fatally injured. Again, technology may offer some further mitigations though, such as the fitment of parachute systems to UA operating in urban environments.

Safety actions

The operator has taken the following safety action:

> The operator issued Safety Notice 1/2026 that introduced mandatory instructions to ensure that prior to each flight the motor arms on DJI M300 UA are checked to ensure that they are correctly locked and secure.

The NPCC has taken the following safety action:

> Issued a Safety Notice (based on 1/2026) to all national police forces operating the M300 UA and also informed other UAS state operators, which included the NFCC.
>
> Recommended that all pre-flight checks for UA that are required to be assembled prior to flight (i.e. those using foldable motor arms) include a visible inspection of any connecting part to ensure the connection is correct and secure,
>
> Recommended that BWV is activated prior to commencing pre-flight risk assessments and UAS checks as it provides assurance and supports post incident review and organisational learning.

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AAIB Record-Only Investigations

This section provides details of accidents and incidents which were not subject to a Field or full Correspondence Investigation.

They are wholly, or largely, based on information provided by the aircraft commander at the time of reporting and in some cases additional information from other sources.

The accuracy of the information provided cannot be assured.

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Record-only UAS investigations reviewed: August - September 2026

6 Mar 2026 **DJI Mini 4 Pro** Queensferry Crossing, Edinburgh

The remote pilot was operating the UA from a site near the shoreline at North Queensferry with the intention of filming the Forth Road bridge. The pilot reported that, whilst flying the UA near the northern tower of the Queensferry Crossing, she lost communications with it before observing it falling. The UA was subsequently recovered from the bridge, where it had come to rest in the central reservation between both carriageways.

22 Apr 2026 **Tekever AR3 MK9** West Wales Airport

On transition to the vertical takeoff and landing (VTOL) mode to allow the UA to land, the aircraft slowed and VTOL rotors activated. A loss of power was observed in one of the VTOL rotors causing the aircraft to lose altitude and strike the landing area.

9 Jul 2026 **MA Pilot Edge** Prestbury, Gloucestershire

The control link to an electrically powered model aircraft was lost. The aircraft pitched down and struck the ground in a vertical dive from approximately 75 to 100 ft agl. The aircraft caught fire and ignited the crop in the field. The fire service were called but the remote pilot estimated that 60 to 70 square metres of crop was destroyed.

3 Aug 2026 **DJI Matrice 4E** Cheetham Hill, Greater Manchester

The UA was carrying out an aerial survey using a pre-selected flight path over a construction site in an urban area. Despite having the obstacle avoidance feature enabled, the UA struck the top of a crane and fell 120 m to the ground. An internal investigation by the construction company identified that the company and its remote pilots may not have fully understood the limitations of the obstacle avoidance software.

3 Aug 2026 **UAS TERN-01** Leasowe, Merseyside

During a beyond visual line of sight fixed-wing transition test flight, the red left-side navigation LED detached from the UA shortly after arming while the aircraft was crossing a promenade. The navigation light struck the ground and sustained damage. The light had been installed using the manufacturer supplied system consisting of adhesive pads and hook-and-loop fasteners. The operator concluded that the hook and loop fastening system had progressively separated due to vibration over several flights. The operator has put in place additional means to secure the lights for future flights and enhanced pre-flight checks. The operator intends to design a mechanical mounting system.

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Record-only UAS investigations reviewed: August - September 2026 cont

8 Aug 2026 **MA Aether Glider** Near Allscott, Shropshire

The 3.7 m wingspan model glider, weighing 2.5 kg, was being flown at a model aircraft flying club when it flew beyond visual line of sight and was not located.

10 Aug 2026 **DJI M30T** Carlisle, Cumbria

While operating in an urban area in support of the emergency services, the UA suffered loss of control during the landing procedure leading to a rapid uncontrolled descent.

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Miscellaneous

This section contains Addenda, Corrections and a list of the ten most recent Aircraft Accident ('Formal') Reports published by the AAIB.

The complete reports can be downloaded from the AAIB website (www.aaib.gov.uk).

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BULLETIN CORRECTION

Aircraft Type and Registration:	Boeing 737-800, 9H-QBD
Date & Time (UTC):	3 October 2025 at 1913 hrs
Location:	Manchester Airport
Information Source:	AAIB Field Investigation

AAIB Bulletin No 10/2026, page 19, refers:

In the last sentence of the first paragraph, the additional flight time for 1,322 kg of fuel is incorrect. The sentence now reads:

> The 1,322 kg of additional fuel would provide approximately 33 minutes of additional flight time (based on an average trip fuel burn of 2,433 kg/hr).

AAIB Bulletin No 10/2026, page 26, refers:

In the first paragraph, the range from the runway at which the third Windshear Warning was recorded is incorrect. The sentence now reads:

> At 1909:36 hrs, the FDR and CVR recorded a third Windshear Warning at 2.43 nm from the runway, at 745 ft agl.

The online version of this report was corrected on 23 October 2026.

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TEN MOST RECENTLY PUBLISHED FORMAL REPORTS ISSUED BY THE AIR ACCIDENTS INVESTIGATION BRANCH

3/2015 Eurocopter (Deutschland) EC135 T2+, G-SPAO
Glasgow City Centre, Scotland
on 29 November 2013.

Published October 2015.

1/2016 AS332 L2 Super Puma, G-WNSB
on approach to Sumburgh Airport
on 23 August 2013.

Published March 2016.

2/2016 Saab 2000, G-LGNO
approximately 7 nm east of Sumburgh Airport, Shetland
on 15 December 2014.

Published September 2016.

1/2017 Hawker Hunter T7, G-BXFI
near Shoreham Airport
on 22 August 2015.

Published March 2017.

1/2018 Sikorsky S-92A, G-WNSR
West Franklin wellhead platform, North Sea
on 28 December 2016.

Published March 2018.

2/2018 Boeing 737-86J, C-FWGH
Belfast International Airport
on 21 July 2017.

Published November 2018.

1/2020 Piper PA-46-310P Malibu, N264DB
22 nm north-north-west of Guernsey
on 21 January 2019.

Published March 2020.

1/2021 Airbus A321-211, G-POWN
London Gatwick Airport
on 26 February 2020.

Published May 2021.

1/2023 Leonardo AW169, G-VSKP
King Power Stadium, Leicester
on 27 October 2018.

Published September 2023.

2/2023 Sikorsky S-92A, G-MCGY
Derriford Hospital, Plymouth, Devon
on 4 March 2022.

Published November 2023.

Unabridged versions of all AAIB Formal Reports, published back to and including 1971, are available in full on the AAIB Website

http://www.aaib.gov.uk

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GLOSSARY OF ABBREVIATIONS

aal	above airfield level
ACAS	Airborne Collision Avoidance System
ACARS	Automatic Communications And Reporting System
ADF	Automatic Direction Finding equipment
AFIS(O)	Aerodrome Flight Information Service (Officer)
agl	above ground level
AIC	Aeronautical Information Circular
amsl	above mean sea level
AOM	Aerodrome Operating Minima
APU	Auxiliary Power Unit
ASI	airspeed indicator
ATC(C)(O)	Air Traffic Control (Centre)(Officer)
ATIS	Automatic Terminal Information Service
ATPL	Airline Transport Pilot's Licence
BMAA	British Microlight Aircraft Association
BGA	British Gliding Association
BBAC	British Balloon and Airship Club
BHPA	British Hang Gliding & Paragliding Association
CAA	Civil Aviation Authority
CAVOK	Ceiling And Visibility OK (for VFR flight)
CAS	calibrated airspeed
cc	cubic centimetres
CG	Centre of Gravity
cm	centimetre(s)
CPL	Commercial Pilot's Licence
°C,F,M,T	Celsius, Fahrenheit, magnetic, true
CVR	Cockpit Voice Recorder
DME	Distance Measuring Equipment
EAS	equivalent airspeed
EASA	European Union Aviation Safety Agency
ECAM	Electronic Centralised Aircraft Monitoring
EGPWS	Enhanced GPWS
EGT	Exhaust Gas Temperature
EICAS	Engine Indication and Crew Alerting System
EPR	Engine Pressure Ratio
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
FAA	Federal Aviation Administration (USA)
FDR	Flight Data Recorder
FIR	Flight Information Region
FL	Flight Level
ft	feet
ft/min	feet per minute
g	acceleration due to Earth's gravity
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
GPWS	Ground Proximity Warning System
hrs	hours (clock time as in 1200 hrs)
HP	high pressure
hPa	hectopascal (equivalent unit to mb)
IAS	indicated airspeed
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
IP	Intermediate Pressure
IR	Instrument Rating
ISA	International Standard Atmosphere
kg	kilogram(s)
KCAS	knots calibrated airspeed
KIAS	knots indicated airspeed
KTAS	knots true airspeed
km	kilometre(s)
kt	knot(s)
lb	pound(s)
LP	low pressure
LAA	Light Aircraft Association
LDA	Landing Distance Available
LPC	Licence Proficiency Check
m	metre(s)
mb	millibar(s)
MDA	Minimum Descent Altitude
METAR	a timed aerodrome meteorological report
min	minutes
mm	millimetre(s)
mph	miles per hour
MTWA	Maximum Total Weight Authorised
N	Newtons
N_R	Main rotor rotation speed (rotorcraft)
N_g	Gas generator rotation speed (rotorcraft)
N_1	engine fan or LP compressor speed
NDB	Non-Directional radio Beacon
nm	nautical mile(s)
NOTAM	Notice to Airmen
OAT	Outside Air Temperature
OPC	Operator Proficiency Check
PAPI	Precision Approach Path Indicator
PF	Pilot Flying
PIC	Pilot in Command
PM	Pilot Monitoring
POH	Pilot's Operating Handbook
PPL	Private Pilot's Licence
psi	pounds per square inch
QFE	altimeter pressure setting to indicate height above aerodrome
QNH	altimeter pressure setting to indicate elevation amsl
RA	Resolution Advisory
RFFS	Rescue and Fire Fighting Service
rpm	revolutions per minute
RTF	radiotelephony
RVR	Runway Visual Range
SAR	Search and Rescue
SB	Service Bulletin
SSR	Secondary Surveillance Radar
TA	Traffic Advisory
TAF	Terminal Aerodrome Forecast
TAS	true airspeed
TAWS	Terrain Awareness and Warning System
TCAS	Traffic Collision Avoidance System
TODA	Takeoff Distance Available
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
USG	US gallons
UTC	Co-ordinated Universal Time (GMT)
V	Volt(s)
V_1	Takeoff decision speed
V_2	Takeoff safety speed
V_R	Rotation speed
V_{REF}	Reference airspeed (approach)
V_{NE}	Never Exceed airspeed
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF Omnidirectional radio Range

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