AAIB
Air Accidents Investigation Branch

AAIB Bulletin 9/2025

TO REPORT AN ACCIDENT OR INCIDENT
PLEASE CALL OUR 24 HOUR REPORTING LINE

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The sole objective of the investigation of an accident or incident under these Regulations is the prevention of future accidents and incidents. It is not the purpose of such an investigation to apportion blame or liability.

Accordingly, it is inappropriate that AAIB reports should be used to assign fault or blame or determine liability, since neither the investigation nor the reporting process has been undertaken for that purpose.

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Published: 11 September 2025.

Cover picture courtesy of Niall Robertson

ISSN 0309-4278

Published by the Air Accidents Investigation Branch, Department for Transport

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(ALL TIMES IN THIS BULLETIN ARE UTC)

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.

Accident

Aircraft Type and Registration:	Druine D.62B Condor, G-AXGV	
No & Type of Engines:	1 Continental Motors Corp O-200-A piston engine	
Year of Manufacture:	1970 (Serial no: RAE/641)	
Date & Time (UTC):	20 March 2025 at 1148 hrs	
Location:	Croft Airfield, North Yorkshire	
Type of Flight:	Private (Training)	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - 1 (Serious)	Passengers - 1 (Serious)
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	66 years	
Commander's Flying Experience:	1,288 hours (of which 1 were on type) Last 90 days - 2 hours Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The accident occurred on the approach to land during a biennial revalidation flight for the pilot flying, who was unfamiliar with the aircraft and the farm strip. The instructor was experienced with both the aircraft type and the farm strip.

After completing some general handling, the aircraft was flown back to the strip for a touch-and-go on Runway 27 with a forecast 5-10 kt crosswind from the left. The approach was made from a right hand circuit. The pilot was used to flying a biplane, so he decided to fly a curved tailwheel approach. As the aircraft descended below the tops of trees on the left of the approach to the runway, it started to drift toward the trees. The pilot flying turned the aircraft away from the trees, but one of the wings stalled, which rolled and pitched the aircraft nose-down. The stalled wing hit the ground, followed by the nose, before the aircraft came to rest upside down. The pilot recalled hitting his head twice on the canopy during this period.

Once the aircraft was made as safe as possible, they released themselves from their full harnesses. The pilot flying crawled out of the aircraft via the rear left window and lifted the left wing sufficiently for the instructor to exit the aircraft. They then called for assistance from the emergency services.

Although an initial assessment suggested they had sustained only minor injuries, further assessment at hospital found that both had suffered a neck vertebra fracture.

Accident

Aircraft Type and Registration:	Piper PA 46-350P, N3117J	
No & Type of Engines:	1 Pratt and Whitney PT6A-35 engine	
Year of Manufacture:	2005	
Date & Time (UTC):	18 May 2025 at 1730 hrs	
Location:	Kilkeel (Greencastle) Airfield, County Down	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 3
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Substantial damage to wing and parts of fuselage	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	44 years	
Commander's Flying Experience:	2,512 hours (of which 656 were on type) Last 90 days - 33 hours Last 28 days - 20 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The pilot lost sight of the runway centreline on rotation, with the aircraft drifting to the left and the wheels entering long grass next to the mown runway strip. He was unable to recover directional control and the aircraft hit an adjacent hedge and earth bank causing considerable damage. There were no injuries.

History of the flight

The pilot, together with three passengers, had planned to fly from Kilkeel Airfield in Northern Ireland to Fairoaks Airport near London, where the aircraft was based. Kilkeel Airfield has a single grass runway, which the airfield's website states is 750 m long and 5 m wide. The pilot reported the grass on either side of the runway strip as being very long. He described a dashed line down the runway to delineate the centreline, but no markings along the edge of the strip. The mown area opened out approximately halfway along the length of the runway to allow access to aircraft for parking and refuelling.

The pilot stated he had started his take off run from Runway 19 with the aircraft performing as expected. He commenced rotation just prior to the start of the wider mown area and believes the aircraft had then yawed slightly to the left. The aircraft had just become airborne when the strip narrowed again, with the left main gear wheel entering the long grass along the edge. This caused the aircraft to decelerate and yaw rapidly to the left, with

all three wheels contacting the ground again. The aircraft continued to yaw to the left, despite the pilot applying right rudder, and decelerated as it passed through the long grass. The pilot was unable to prevent the aircraft from hitting an adjacent hedge and earth bank, which broke off part of the wing and caused substantial damage to the fuselage. The passenger compartment, however remained intact and the pilot and passengers were able to exit, unaided and uninjured, through the main exit.

The pilot commented that on rotation the long nose of the aircraft obstructed his view forwards, and this coincided with the loss of peripheral guidance caused by the strip widening out into the parking area. This made it an increasing challenge to maintain directional control in an aircraft which produced significant torque on takeoff. He stated that, in hindsight, he should have rotated later to maintain better visual awareness of his position relative to the centreline. Despite being experienced at flying to grass runways, the pilot also stated he would restrict his flying to those with wider cleared strips in the future.

Accident

Aircraft Type and Registration:	Robinson R22 Beta, G-KKRN	
No & Type of Engines:	1 Lycoming O-320-B2C piston engine	
Year of Manufacture:	1989 (Serial no: 1201)	
Date & Time (UTC):	3 February 2025 at 1700 hrs	
Location:	Near Wokingham, Berkshire	
Type of Flight:	Training	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Empennage detached, significant damage to fuselage and rotors	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	1,580 hours Last 90 days - 97 hours Last 28 days - 27 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

At approximately 800 ft agl while approaching White Waltham, the trainee pilot inadvertently moved the fuel mixture control to the LEAN position instead of selecting the carburettor heating (carb heat) ON. The selection of LEAN caused the engine to stop. After immediately taking control, the instructor established the helicopter in autorotation but did not have sufficient time and height available to initiate an engine restart. While the helicopter experienced a partial rollover on landing, neither pilot was injured in the accident.

The risk of misidentification of the mixture control when selecting carburettor heating in the Robinson R22 Beta (R22) was first formally documented by the manufacturer in January 1981. The instructor was aware of the mis-selection risk and had briefed his student on the correct operation of the controls before the accident flight.

This accident is a reminder that, while risks can be identified and mitigated, the limitations of human performance mean lapses leading to risks maturing cannot be completely eradicated.

History of flight

The accident occurred on an R22 conversion course for a pilot who was already qualified on the Guimbal Cabri G2 (G2) helicopter type[1]. On the morning of 3 February the trainee satisfactorily completed a general handling/familiarisation flight in G-KKRN.

The syllabus for the second flight included simulated emergency handling, engine out training and practice autorotations. Before flight the instructor briefed the trainee on all aspects of the exercises to be undertaken, including the risk of carburettor icing and the appropriate use of carburettor heating. On both flights, the trainee occupied the right seat and carried out the full start sequence, including checking the correct operation of the carburettor heating system.

The flight progressed as planned until the aircraft was being positioned to rejoin the circuit at White Waltham. Shortly after passing visual reporting point Sierra (M4 Junction 10) the instructor asked the trainee to descend to circuit joining height. He initially began descending without selecting carburettor heating ON so the instructor asked him to level off and reminded him of the need to select carburettor heating before entering a descent. The trainee was then instructed to continue the approach and descend. At this point, the trainee reached down and pulled what he thought was the carb heat control but was actually the mixture control. Realising his mistake, he called that he had "pulled the fuel" at which point the engine rpm was dropping rapidly. The instructor immediately took control and entered autorotation from approximately 800 ft agl.

Once autorotation had been established the instructor asked the trainee to push the mixture control back down to the fully rich position, the intent being to try an engine restart if time allowed. Having established the autorotation as his immediate priority, the instructor then focused on field selection. With the M4 motorway to his right, and trees and powerlines to his left, the only viable option was the ploughed field ahead. At this stage there was not enough height left to consider a restart, therefore the instructor concentrated on executing an engine-off landing at the slowest possible forward airspeed. He assessed that the helicopter was travelling at less than 5 kt when he levelled the skids just prior to ground contact. As the skids touched down, they dug into the soil and the helicopter tipped forward onto its nose before "gently" rolling to the right. During the period immediately after ground contact the main rotors struck the rear empennage, which detached from the helicopter and was thrown forward of the wreckage.

Neither pilot was injured in the accident, and both were able to self-evacuate through the left door (Figure 1).

Footnote

[1] He held a PPL(H) and had completed approximately 106 hours flying on the G2.

Figure 1

G-KKRN after the accident (image courtesy Thames Valley Police)

Aircraft description

G-KKRN is an R22 Beta, powered by the Lycoming O-320, a normally aspirated engine with manually operated carburettor heating[2]. The carburettor heating control is located on the centre console aft and right of the cyclic stick boot (Figure 2).

The mixture control is positioned directly forward of the carb heat control, close to the bottom of the lower instrument panel and to the right of the PULL RT TRIM control (Figure 2). It is coloured red rather than black and has a different physical shape to the carburettor heating control. On top of the mixture control is a friction release button which, when pressed, allows the control to be moved. During the before start checks the mixture control is set to the FULL RICH position (fully down) and a plastic tubular guard is placed around the stem of the control. In normal operation, the mixture remains at FULL RICH until the after-landing shutdown checks when it is pulled upwards to the OFF position to stop the engine.

Footnote

[2] The R22 Beta II variant is powered by the Lycoming O-360 engine which has an automatically operated carb heat system. The G2 is also equipped with the O-360 engine featuring automatic carb heat operation.

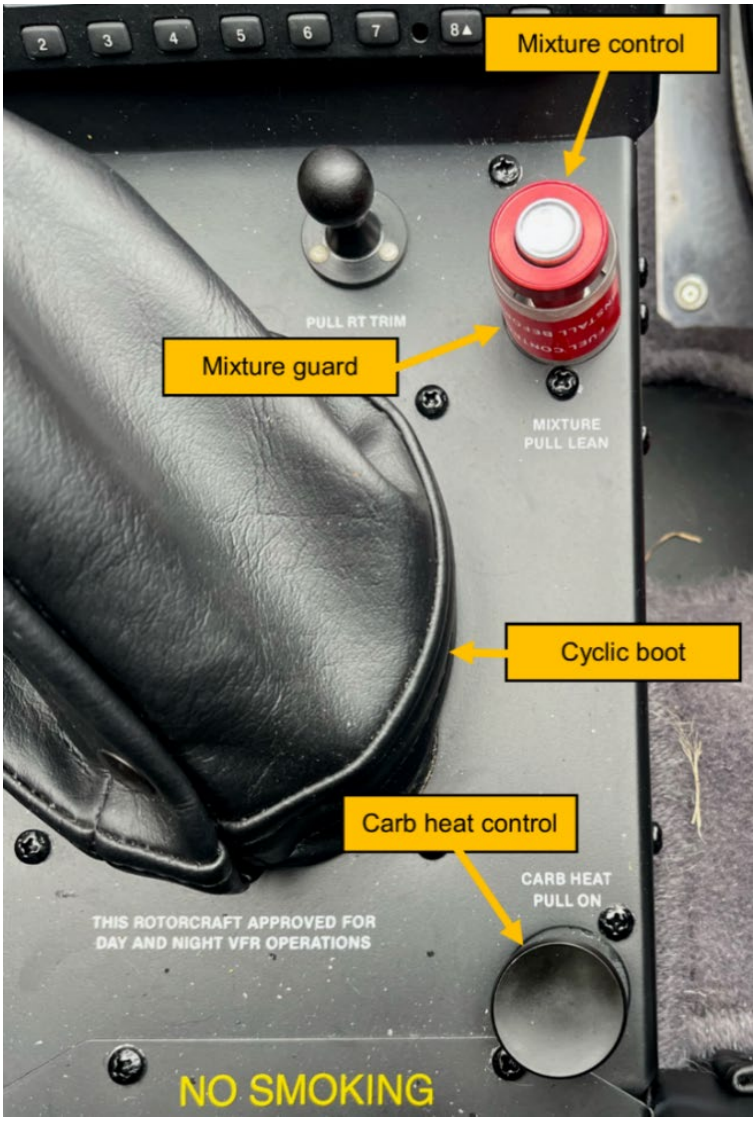


Figure 2

Centre console controls

The mixture guard is a tactile physical barrier intended to reduce the risk of inadvertent mixture operation during flight. It is common practice for pilots to remove the guard when intentionally operating the mixture control. Some pilots temporarily stow it over the adjacent trim selector (Figure 3 (left)) before returning it to the mixture control on completion of the selection. It is possible to dislodge the guard with the control in the FULL RICH position if a pilot slides their index and middle finger under the mixture control and applies upward pressure (Figure 3 (right)).

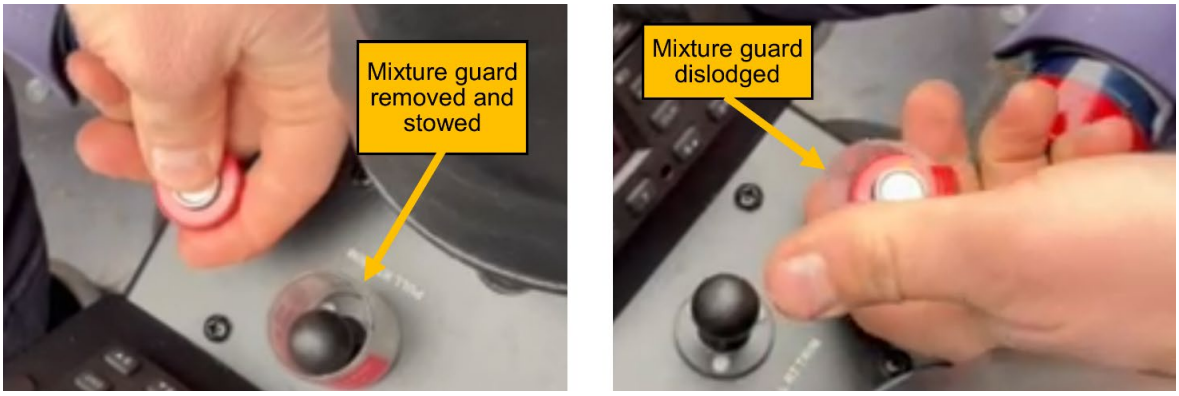


Figure 3

Mixture control guard removed and stowed (left) and dislodged (right)

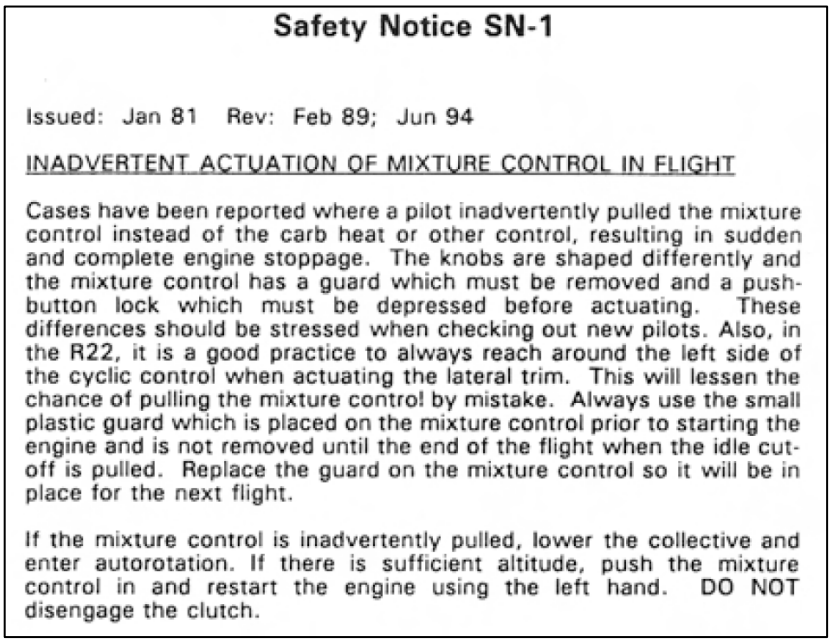
Inadvertent operation of the mixture control has been an identified risk for the R22 type for many years and was the subject of the manufacturer's Safety Notice SN-1, first published in January 1981 (Figure 4). This safety notice is further reproduced in Section 10 of the official R22 pilot's operating handbook published online[3]. The manufacturer's Operational Suitability Data document (OSD)[4] '*provides the requirements for pilot training, checking, and currency specific to the R22 type rating.*' Section 5.7 of the OSD lists '*Training Areas of special emphasis (TASE)*' which training providers are required to comply with. The manufacturer explained that including the inadvertent actuation of the mixture control in the TASE had previously been considered and rejected. After a further review following this accident, they explained that:

> *'From a review of accident reports, the frequency of occurrence of accidents caused by inadvertent actuation of the mixture control is still relatively low compared to other accident causes also addressed in the Robinson Safety Notices and not included in the TASE. Furthermore, each additional TASE item dilutes the level of emphasis for existing items. Consequently, a revision to the TASE to include inadvertent actuation of the mixture control does not appear to be justified at this time.'*

While not specifically referring to the potential for inadvertent mixture selection, the TASE states that it '*should be read in conjunction with the R22 POH, Robinson Safety Notices and the Robinson Maneuver* [sic] *Manual found with the R22/R44 Flight Training Guide.'*

Footnote

[3] Available at R22 Pilot's Operating Handbook [accessed 15 May 2025].
[4] Operational Suitability Data (OSD) Flight Crew R22 RTR 165 December 2024. Available at RTR 165 Operational Suitability Data - Flight Crew, Rev. 2 [accessed 15 May 2025].



Safety Notice SN-1

Issued: Jan 81 Rev: Feb 89; Jun 94

INADVERTENT ACTUATION OF MIXTURE CONTROL IN FLIGHT

Cases have been reported where a pilot inadvertently pulled the mixture control instead of the carb heat or other control, resulting in sudden and complete engine stoppage. The knobs are shaped differently and the mixture control has a guard which must be removed and a push-button lock which must be depressed before actuating. These differences should be stressed when checking out new pilots. Also, in the R22, it is a good practice to always reach around the left side of the cyclic control when actuating the lateral trim. This will lessen the chance of pulling the mixture control by mistake. Always use the small plastic guard which is placed on the mixture control prior to starting the engine and is not removed until the end of the flight when the idle cut-off is pulled. Replace the guard on the mixture control so it will be in place for the next flight.

If the mixture control is inadvertently pulled, lower the collective and enter autorotation. If there is sufficient altitude, push the mixture control in and restart the engine using the left hand. DO NOT disengage the clutch.

Figure 4

Manufacturer's Safety Notice SN-1

Analysis

This accident resulted from the misidentification of a critical control by a qualified pilot who was inexperienced on type. The risk of misidentification was first formally documented by the manufacturer in January 1981. The instructor was aware of the mis-selection risk and had briefed his student on the correct operation of the controls before the accident flight. Nonetheless, the student's instinctive action, to operate the carburettor heating without first visually identifying the control, managed to overcome the safety barrier of the mixture guard and resulted in an unintended engine shutdown. With little time and height available to restart the engine, the instructor focused on establishing safe autorotation parameters. The instructor considered that, had the available touchdown location been on firmer ground the landing would have been completed without damage.

AAIB observation

This accident is a reminder that, while risks can be identified and mitigated, the limitations of human performance mean lapses leading to risks maturing cannot be completely eradicated. Faced with a challenging, unexpected and time-critical situation, the instructor appropriately prioritised establishing and flying the helicopter in autorotation ahead of attempting a restart.

Accident

Aircraft Type and Registration:	Pegasus Quik, G-CDOP	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2005 (Serial no: 8129)	
Date & Time (UTC):	11 May 2025 at 0930 hrs	
Location:	Perth Airport	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - 1
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Torn section of the trailing edge of the right side of the wing	
Commander's Licence:	National Private Pilot's Licence	
Commander's Age:	67 years	
Commander's Flying Experience:	299 hours (of which 299 were on type) Last 90 days - 10 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The pilot was returning to Perth Airport after a local flight and reported the aircraft pitching and becoming difficult to control. On landing, he discovered damage to the right trailing edge of the wing. No other damage was reported to the aircraft and the pilot considered he may have collided with a UAV. It was noted that neither the pilot nor his passenger was wearing their diagonal seat harnesses.

History of the flight

The pilot was returning to Runway 09 at Perth Airport after a local flight with a passenger. He was at about 2,000 ft agl in the vicinity of Perth Racecourse, approximately 3 nm west of the airport and described how the aircraft suddenly "pitched to the right" as if he had "hit a deep pothole whilst driving". He reported the aircraft was difficult to handle and that when he tried to reduce speed it became unstable and shook. He stated it was also difficult to keep the aircraft straight whilst on the approach, although the pilot managed to carry out a successful landing. When taxiing after landing, the pilot noticed that there was damage to a section of the trailing edge on the right wing, with some tears in the material.

The aircraft was later inspected but no other damage was found, and it was reported that the damage to the wing was not considered to be due to an object coming off the aircraft or a strike by the aircraft's propeller. Without an obvious cause it was suggested that the

aircraft may have collided with a UAV. The pilot noted that the accident happened in the vicinity of a local event over which someone may have been flying a UAV, although there was no evidence that this was the case. There were black strike marks on the material adjacent to the tear on the wing, suggesting contact with a manmade object, rather than a bird. The pilot commented that he would in future avoid flying in the vicinity of outdoor events to avoid any UAVs which may be present.

Survivability

In providing information to the AAIB about the accident, it became apparent that neither the pilot nor his passenger had been wearing the diagonal restraint strap, relying instead on only the lap strap. The pilot was open in discussing this and stated that whilst he knew the passenger seat was fitted with a diagonal strap, he had not been aware that the pilot's seat was also fitted with such a strap. He stated that he had never worn a diagonal restraint strap during over 12 years of flying microlights despite having attended safety evenings where the importance of wearing such a restraint had been mentioned. In the pilot's opinion, wearing one would constrain full movement on the control bar. He had never been taught to wear one during his training and, in his experience, most microlight pilots did not wear one. He could not explain, however, why the passenger was not wearing their diagonal restraint when they did not need to operate the controls.

The importance of using upper body restraint whilst flying a microlight is explained in depth in an AAIB report concerning a fatal accident involving a Pegasus Quik registration G-CCPC on 1 June 2022[1]. It appears that despite such accidents and an effort to raise awareness amongst the pilot community, there remains the need to break an existing culture that sees their use as a restriction.

Footnote

[1] https://assets.publishing.service.gov.uk/media/656707c7d6ad75001302fc6b/Pegasus_Quik_G-CCPC_01-24.pdf [accessed July 2025].

Serious Incident

Aircraft Type and Registration:	UAS Uvify IFO multirotor	
No & Type of Engines:	4 Uvify brushless electric motors	
Year of Manufacture:	2020 (Serial no: 203382IFOD0150100085)	
Date & Time (UTC):	29 March 2025 at 1926 hrs	
Location:	Durham	
Type of Flight:	Commercial Operations (UAS)	
Persons on Board:	Crew - None	Passengers - None
Injuries:	Crew - N/A	Passengers - N/A
Nature of Damage:	None	
Commander's Licence:	Other	
Commander's Age:	38 years	
Commander's Flying Experience:	52 hours (of which 51 were on type) Last 90 days - 6 hours Last 28 days - 0 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

The unmanned aircraft (UA) was one of a swarm of 540 being flown within an area, about 50 m in diameter. A sterile flight area extended a further 60 m out in all directions.

During the flight, the UA began to climb, deviating from its intended flightpath to a height of 196 m, which was outside of the defined geofence. At this point, the motors automatically cut, and the UA fell to the ground, landing in a hedge 50 m beyond the sterile flight area boundary.

Investigations by the operator, UA control software developers and the UA manufacturer agreed that vibrations on the z-axis, possibly due a worn motor, led to incorrect GNSS and altitude estimations. The UA erroneously believed it was descending and so applied thrust to climb, resulting in it climbing out of formation with the other UAs.

Safety actions identified by the operator were to:

1. Inspect the motors on all of their UAs for signs of wear, and replace where necessary.
2. Collaborate with the hardware and software manufacturers to develop a fix that stops GNSS errors from causing the UA to go outside the geofence.
3. Increase the size of the sterile flight area until the above measures have been completed.

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.

Record-only UAS investigations reviewed: June - July 2025

22 May 2025 **MA Freewing MiG-29 Fulcrum** Swanley, Kent

A scale model of a MIG 29, powered by an electric motor and ducted fan, suffered a battery disconnect in-flight due to a faulty connector. This caused the model to descend in an uncontrolled glide. It hit the ground on the far side of the M25 motorway from the model flying club field. The model flying club has strict procedures to avoid the motorway and this was the first occurrence in its 46 year history. The club has issued advice to all members warning about the faulty connector.

10 Jun 2025 **Prototype Quad Copter** Ashbourne, Derbyshire

The custom-built quad copter UA was being operated in a rural area for testing purposes, when it experienced a loss of power. The UA fell approximately 30 to 40 m, before striking the ground and incurring substantial damage. The operator is undertaking an investigation to determine the reason for the power loss.

18 Jun 2025 **DJI Mavic 3T** Near Hackney, Middlesex

While photographing a building, the UA struck the building and fell to the ground within a cordoned area. One propeller detached and the UA body and camera housing were damaged.

1 Aug 2025 **DJI Phantom 4 RTK** North Thoresby, Grimsby

The UA took off normally under the control of a remote pilot. As it reached its starting height, it began to transition across the site and began "barrelling forward". The UA did not respond to manual inputs or to a command to return automatically to the start point. It then fell from the sky and struck a van.

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).

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

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

AAIB
Air Accidents Investigation Branch