AAIB
Air Accidents Investigation Branch

AAIB Bulletin 3/2025

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

01252 512299

Air Accidents Investigation Branch
Farnborough House
Berkshire Copse Road
Aldershot
Hampshire
GU11 2HH
United Kingdom

Tel: 01252 510300
Media enquiries: 01932 440015 (office hours) / 0300 777 7878 (out of hours)
www.aaib.gov.uk

AAIB investigations are conducted in accordance with Annex 13 to the ICAO Convention on International Civil Aviation, assimilated EU Regulation No 996/2010 (as amended) and The Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2018.

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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(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.

Incident

Aircraft Type and Registration:	Boeing 737-8200, EI-HGG	
No & Type of Engines:	2 CFM LEAP-1B27 turbofan engines	
Year of Manufacture:	2019 (Serial no: 62316)	
Date & Time (UTC):	8 March 2024 at 1345 hrs	
Location:	London Stansted Airport	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 6	Passengers - 172
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None	
Commander's Licence:	Air Transport Pilot's Licence	
Commander's Age:	43 years	
Commander's Flying Experience:	3,270 hours (of which 1,945 were on type) Last 90 days - 160 hours Last 28 days - 54 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further enquiries by the AAIB	

Synopsis

After a manually flown go-around and missed approach procedure, the co-pilot handed control to the commander to allow the co-pilot to set up the Flight Management Computer for the next approach. However, the commander did not realise that the autopilot and autothrust were not engaged. The aircraft subsequently started a descent which was not noticed by either member of the crew. The aircraft descended about 550 ft before this was noticed and action taken to correct it. As this was more than 200 ft from the aircraft's cleared altitude, this was classified as a level bust. This was a result of an incorrect procedure being used during the handover of control and the commander monitoring the co-pilot's actions, rather than the aircraft.

The circumstances surrounding the occurrence did not fall within the definitions of an accident or serious incident as defined in ICAO Annex 13, however, the Chief Inspector, in exercise of his powers under the Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2018, initiated an investigation, treating the occurrence as an incident to highlight the safety benefits from the safety actions taken by the operator by amending its handover procedure in its operating manual.

History of the flight

The aircraft was on a scheduled flight from Szczecin Airport, Poland to London Stansted Airport. The flight was uneventful until the ILS approach into Stansted, which was flown by the co-pilot. At the time Runway 04 was in use, the weather was fine, and the wind was from 080° at 15 kt.

With the aircraft stable at 500 ft radio altitude, the PF disconnected the autopilot (A/P) and autothrottle (A/T). At about 240 ft the approach became unstable; the IAS was just below V_{REF} and the aircraft was drifting above the glideslope (GS). Despite the PF positively trying to correct the IAS and the GS, the commander felt the aircraft would land deep. As a result, he called "GO-AROUND", which the PF initiated at about 15 ft agl. The go-around (GA) was then manually flown to 3,000 ft amsl, in accordance with the published missed approach procedure (MAP).

Once the aircraft had levelled at 3,000 ft, and before a left turn that was part of the MAP had been initiated, ATC asked the crew the reason for the GA, and if they were happy to make a second approach. At this time the flaps were still extended at Flaps 1. The PM replied that they had "GOT A BIT UNSTABLE" and that they were happy to make a second approach. ATC responded by instructing the aircraft to turn left on to a downwind heading. The commander then asked the co-pilot if he wanted to fly the second approach, which he agreed to do. Having discussed who would set up the Flight Management Computer (FMC) for the second approach, the co-pilot said he would.

The commander then declared "I HAVE CONTROL" and the co-pilot responded, "YOU HAVE CONTROL". However, the co-pilot did not state that the A/P and A/T were not engaged. Shortly thereafter, while the aircraft was still in the left turn, the commander noticed that the aircraft was descending and had descended about 550 ft. He promptly took control and climbed the aircraft back to 3,000 ft; the aircraft had descended 600 ft in total during the descent. The A/P and A/T were then engaged, and the commander then elected to fly the approach and landing, which was uneventful. At the time of the level bust the ATCO was co-ordinating the next departure with a colleague and did not notice it.

When the level bust occurred, there was a helicopter that was operating VFR outside controlled airspace at 2,000 ft amsl, that was inbound to Stansted. The helicopter was subsequently cleared to enter the Stansted Controlled Traffic Region (CTR) "NOT ABOVE 2,000 FT AMSL"

Pilots' comments

Commander's comments

The commander commented that ATC did not put any pressure on them, despite a quick decision being made to conduct another approach. He added that in hindsight they should have asked for more time to ensure the GA and MAP had been fully completed, which would probably have ensured that the A/P and A/T were engaged, as they should have been by the PF at the time.

He was familiar with the correct handover procedure and realised that the handover of control should have been completed in line with the Flight Crew Operations Manual (FCOM) procedure to ensure the state of the aircraft was clear at handover. He added that he should have checked the Flight Mode Annunciations (FMA).

Co-pilot's comments

The co-pilot said that this was the first time he had handed over control during manual flight and that he did not know the precise call outs that were stated in the FCOM. Whilst he did not highlight the fact that he was manually flying he assumed the commander realised this.

Organisational information

The operator's FCOM stated the following with how control of the aircraft is handed over in manual flight and automatic flight:

> *'**Handover of Control***
>
> *The PF must clearly state the AFDS and A/T status by reading the FMA from left to right before handing over controls. Example, manual flight; "You have control, autopilot and autothrottle disengaged, LNAV, VNAV, descending FL 100". Example, autopilot and autothrottle engaged; "You have control, Command A, N1, LNAV, VNAV, maintaining FL 370." '*

There was no formal reply stated in the FCOM for the PM. However, it is common practice in all areas of aviation to reply "I have control", once control has been taken. As a result of this incident the operator has amended this *Handover of Control* procedure to add a PM response, "I have control", to positively confirm the transfer of aircraft control and PF responsibilities.

The FCOM also stated that after a GA, the A/P and A/T can be engaged after the flaps have been retracted and the aircraft has levelled off at the Missed Approach Altitude.

ATC

The event was notified to NATS by the AAIB. NATS confirmed it was a level bust event given the aircraft had deviated by more than 200 ft from its ATC clearance.

The short duration of the level bust was not noticed by the ATCO. However, NATS commented that whilst ATCOs can be alerted to level busts by a *Vertical Displacement Advisory Tool* (VDAT) this is only applicable above 6,500 ft amsl to prevent spurious alerts, primarily against step climb in Standard Instrument Departures and ILS arrivals.

As the inbound helicopter was operating VFR outside the Stansted CTR at the time of the level bust, no separation minima was applicable between the aircraft. This would have also applied when it was subsequently operating within the Stansted CTR, as it would have been under a VFR clearance.

NATS commented that there was also a Short Term Conflict Alert (STCA) available to the ATCO. STCA is designed as a collision avoidance safety net, not a separation assurance tool. The objective of STCA is to provide ATCOs with sufficient advance warning of a potentially hazardous confliction to enable timely action to be taken and thereby safely resolve the situation. STCA detects potential conflict only between tracks that are displaying SSR data associated with level information. On receipt of an STCA alert, controllers are to assess whether the alert is valid and are to initiate an appropriate resolution action.

On this occasion the defined parameters for an STCA between the respective aircraft profiles were not met and therefore an STCA did not activate between EI-HGG and the helicopter. NATS measured the closest point of approach between the two aircraft as 1.7 nm and 300 ft. This geometry can still give appropriate safety margins, for example for a VFR aircraft versus an IFR aircraft in Class D airspace.

Recorded data

The CVR was downloaded at the AAIB's laboratory and provided information for the history of the flight.

Data from the operator's Flight Data Monitoring program was provided for the flight. There was nothing abnormal during the approach, and the parameters recorded during the GA appeared to reflect normal operation of the aircraft.

Analysis

The decision to initiate a GA at a low height was appropriate given the aircraft became unstable, and the commander believed the aircraft would land deep.

After the GA and the first part of the MAP had been completed, with the aircraft being flown manually, the PF handed over control without using the correct procedure laid down in the FCOM as he did not know what the precise calls should have been, and assumed the PM was aware the A/P and A/T were not engaged. However, the full GA procedure, including retracting the flaps, and potentially re-engaging the A/P and A/T, was not completed prior to this. The event highlights the importance of knowing the procedures that are in an operator's manual and to check that both pilots share a common mental model.

A PF is responsible for the safe conduct of the flight, especially if the PM is 'heads down' loading an approach procedure in the FMC. This can only realistically be done by monitoring the aircraft's flight instruments and not while trying to monitor the PM's actions at the same time, especially when the A/P is not engaged. Had he done so, he may have been better placed to notice the descent before the aircraft lost a significant amount of height. The PM is also responsible for monitoring the conduct of the flight, and whilst it is accepted that he may be heads down while completing some cockpit tasks, they should always allow themselves time to review the flight instruments from time to time. If the PM's actions needed to be checked or carried out on his behalf, control of the aircraft should have been handed back over. Additionally, if an incorrect procedure is used the pilot should challenge the other pilot to clarify what their intentions are to avoid any possible misunderstanding.

This incident also shows that distractions and quick decisions can lead to a loss of control of an aircraft, even for a small period of time. In this case 600 ft of height was lost and it came within 300 ft and 1.7 nm of VFR helicopter traffic that was routing to Stansted, with both aircraft maintaining the correct safety margins. The short-duration level bust was not noticed by the ATCO at the time as they had their attention focused on co-ordinating the next departure with a colleague.

Conclusion

Having levelled off after a GA, the aircraft descended 600 ft from its cleared altitude. This was a result of an incorrect procedure being used during the handover of control and the commander monitoring the co-pilot's actions, rather than the aircraft.

Safety actions

As a result of this incident the operator took the following safety action in September 2024:

> Expanded the '*Handover of Control'* guidance in their Boeing 737-NG and Boeing 737-8200 Flight Crew Operations Manual with a PM response, "I have control", to positively confirm the transfer of aircraft control and PF responsibilities during manual flight and in automatic flight.

Accident

Aircraft Type and Registration:	EMB-145EP, G-SAJE
No & Type of Engines:	2 Allison Ae 3007/A1/1 turbofan engines
Year of Manufacture:	2001 (Serial no: 145442)
Date & Time (UTC):	10 December 2024 at 0930 hrs
Location:	During initial climb out from Edinburgh Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 3 Passengers - 20
Injuries:	Crew - 1 (Serious) Passengers - None 2 (None)
Nature of Damage:	None
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	26 years
Commander's Flying Experience:	3,045 hours (of which 1,903 were on type) Last 90 days - 193 hours Last 28 days - 47 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

After departure from Edinburgh, the cabin crew member was released to commence duties but hurt an ankle after slipping on what is believed to be de-icing fluid on the floor near the front of the aircraft.

Following a discussion with the commander, the cabin crew member was relieved from performing the in-flight drinks service but was still able to perform safety duties, albeit with some discomfort. Upon later examination at hospital, the ankle was found to be fractured.

Accident

Aircraft Type and Registration:	Flight Design CTSW, G-CFFJ	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2008 (Serial no: 8391)	
Date & Time (UTC):	10 October 2024 at 0740 hrs	
Location:	Carlisle Airport, Cumbria	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Serious)	Passengers - N/A
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	66 years	
Commander's Flying Experience:	628 hours (of which 85 were on type) Last 90 days - 14 hours Last 28 days - 8 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The aircraft's left cabin door came open in flight shortly after the aircraft became airborne, leading to a loss of control and impact with the ground in which the pilot was seriously injured.

History of the flight

The pilot intended to make an early local flight in fine weather. He completed the pre-flight checks, including latching the left cabin door closed as it had been open when he entered the cockpit. He started the engine and taxied to holding point A for Runway 19, where he completed pre-departure checks. As the flight was being made before the airport's normal opening time, the pilot made blind radio transmissions on the A/G frequency. He called stating that he was entering Runway 19 for a southerly departure and this call was acknowledged by the driver of an airport vehicle that was being used for runway checks.

The pilot applied full power, released the brakes and the aircraft accelerated normally. During the takeoff ground roll, the aircraft ran across a joint in the paved runway surface and the pilot described hearing a rattle from the left cabin door. He glanced down to his left and thought that he may have seen a gap between the bottom of the door and the door aperture, however the aircraft was now at flying speed and he rotated into a climbing attitude. The pilot estimated that the left cabin door suddenly opened whilst the aircraft was passing 50-100 ft in the climbout. He stated "I was hit with tremendous turbulence in the cockpit,

with maps and papers swirling around". He was also concerned about visible flexing to the large cabin door, and the possibility that it might detach and strike the tailplane. He tried to close the cabin door with both hands, whilst holding the control column between his knees, but was unsuccessful and decided to reduce engine power and try again.

During the second attempt to close the door he managed to move the door to its closed position but was unable to move the door locking lever fully forward and during this attempt the aircraft stalled, with the right wing dropping.

The pilot pitched the aircraft nose down and applied full power, however there was insufficient height for a recovery and the aircraft struck an open area of soft ground outside the airport perimeter fence (Figure 1). The pilot received serious facial injuries and fractures to his right foot. No fire occurred and a combination of airport staff and local emergency response vehicles quickly attended the accident site.

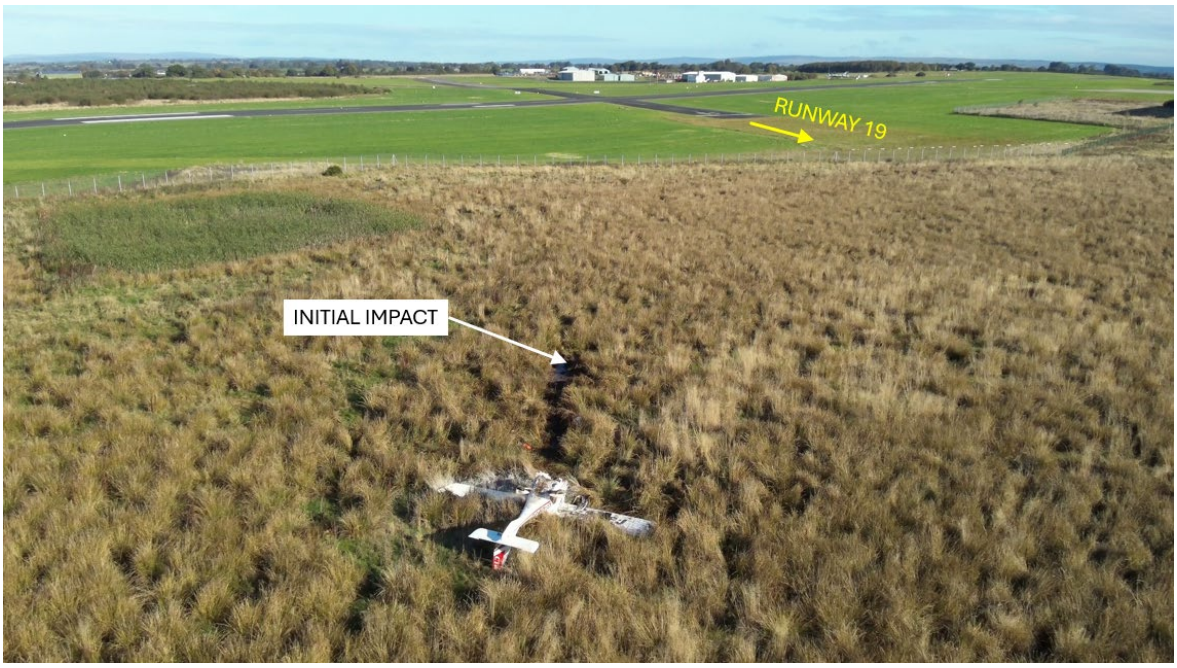

Figure 1

G-CFFJ accident site (image courtesy of Cumbria Police)

Aircraft information

The CTSW is a high-wing, three-axis microlight aircraft with a relatively large cabin door on either side of the fuselage. The cabin doors are of the 'gull-wing' type, hinged along their upper edge and assisted in opening with a gas spring. The door latching mechanism consists of three locking pins actuated by a lever at the lower inside edge of the door. The lever is moved forward to lock the door, and aft to unlock. When moved fully forwards, the lever engages into a detent and a light spring pressure biases the lever to remain in the detent position (Figure 2).

Figure 2

CTSW cabin door features (file photographs)

Aircraft examination

The aircraft wreckage was examined by the AAIB following the accident, and significant wear was observed to the door latching pins at the point where the pin bears against the door aperture's composite frame when the door is in the closed position. This prompted a survey of three other similar CTSW and CTLS[1] aircraft, which were found to also exhibit similar wear of the door latch pins. The force required to move the door latch lever, from a closed (but with the lever out of the detent) to open position, was measured and found to be in the range 20-30 N. This represented a positive effort to unlatch the door, and the owners of the three aircraft examined stated that none had suffered from uncommanded door opening when the door was latched closed with the lever in the detent position.

Analysis

The cause of the left cabin door opening during the flight was likely due to it being not fully latched closed, with the latch handle in the closed detent, prior to takeoff. Airframe vibration during the takeoff roll, including that experienced when rolling over joints in the runway's paved surface, probably caused the unlatched lever to migrate sufficiently to allow the door latching pins to disengage from their mating holes in the door aperture frame, allowing the door to open. Once unlatched, opening of the cabin door was assisted by the door gas spring and air loads, causing the rapid door opening experienced by the pilot. The wear observed to the door latching pins was found to be common to other similar aircraft in the fleet and is not considered contributory to the uncommanded door opening.

The unexpected opening of the cabin door created a hazardous situation for the pilot whilst the aircraft was close to the ground, shortly after becoming airborne. His efforts to control the aircraft whilst attempting to close the door were unsuccessful, leading to the aircraft stalling at a height that was insufficient for him to recover.

Footnote

[1] The CTLS is a modernised variant of the CTSW that shares a common design of cabin door.

Conclusion

The aircraft's left cabin door came open in-flight shortly after the aircraft became airborne, leading to a loss of control and impact with the ground in which the pilot was seriously injured. This accident highlights the importance of ensuring that all aircraft hatches and doors are securely closed prior to flight. CAA Safety Sense leaflet 31, *'Distraction and Interruption in General Aviation Operations'*[2], provides guidance for pilots on the dangers of distraction whilst flying and suggestions for mitigation strategies within a threat and error management (TEM) approach.

Footnote

[2] Civil Aviation Authority Safety Sense Leaflet 31 Distraction and Interruption in General Aviation Operations May 2023 https://www.caa.co.uk/media/apcbiav3/caa8230_safetysense_31_distraction_aw9.pdf [Accessed 11 February 2025].

Accident

Aircraft Type and Registration:	Piper PA-28-140, G-BAXZ
No & Type of Engines:	1 Lycoming O-320-E2A piston engine
Year of Manufacture:	1970 (Serial no: 28-26760)
Date & Time (UTC):	19 June 2024 at 1158 hrs
Location:	Skegness Airfield, Lincolnshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - 1 (Serious) Passengers - 1 (Minor)
Nature of Damage:	Distorted passenger compartment, collapsed nose and right main landing gear
Commander's Licence:	Private Pilot's Licence
Commander's Age:	70 years
Commander's Flying Experience:	352 hours (of which 130 were on type) Last 90 days - 14 hours Last 28 days - 7 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and subsequent enquiries by AAIB

Synopsis

Having landed normally at Skegness Airfield, the aircraft veered off the grass runway, before entering a drainage ditch and striking its far side. The pilot was found unconscious after the accident and cannot recall anything after final approach. The passenger who was also knocked out, does not know why the aircraft departed the runway. The passenger restraints were examined and it was found that the passenger seatbelt functioned normally but required more force than normal to engage the clasp and may not have been fully done up before the accident.

History of the flight

The pilot was flying his second flight of the day, having flown from Turweston to Little Gransden during the first. The pilot was accompanied by a friend, who was also a PPL holder. The weather for the flight from Little Gransden was benign, with forecast wind from 050° at 10 kt. The flight was uneventful and, as an aircraft was landing at Skegness before G-BAXZ, the pilot was able to ascertain the runway in use and prepared for a straight in approach to Runway 03.

The aircraft touched down just before the runway intersection and after approximately 100 m it started to veer to the left. It left the mown grass runway into some long grass and continued towards a drainage ditch that ran perpendicular to the runway (Figure 1).

The aircraft entered the ditch and then struck the far side of it at approximately 45°, causing deformation of the fuselage and the right main landing gear and nose landing gear to collapse, before coming to rest next to the ditch (Figure 2).

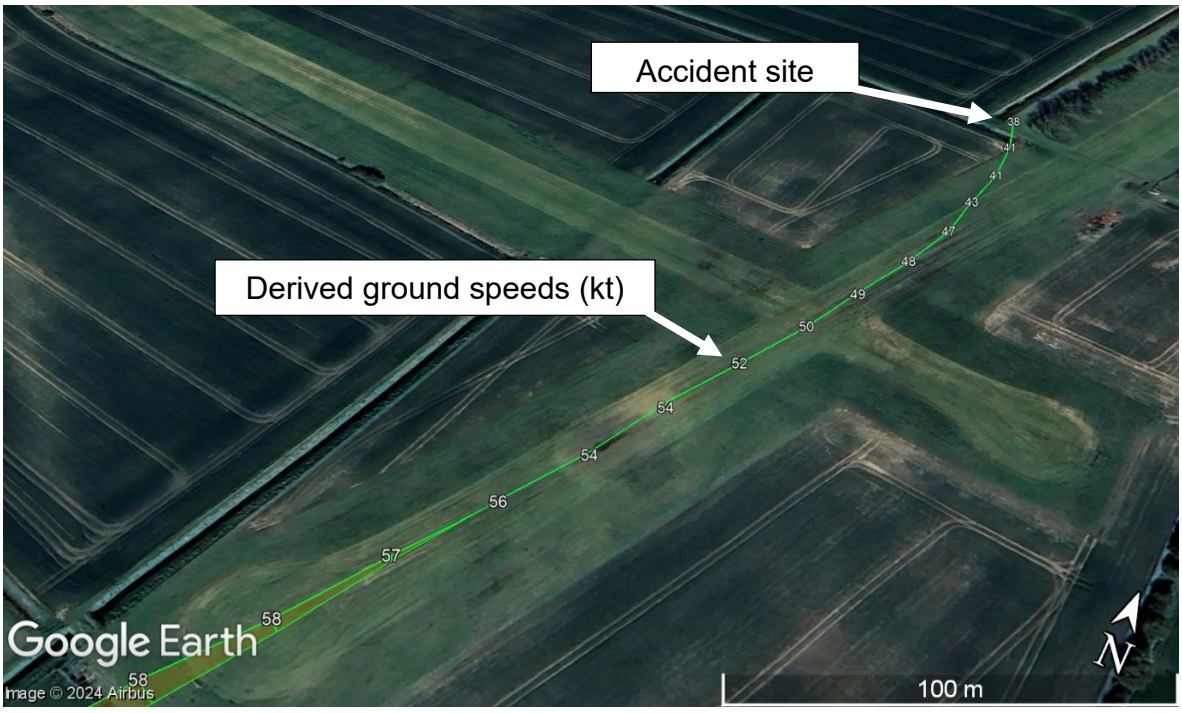

Figure 1

G-BAXZ path data extracted from an aviation app running on pilot's tablet showing landing and subsequent runway excursion

Figure 2

G-BAXZ final location (note: portable barriers erected after the accident)

Both the pilot and passenger were unconscious after the accident. The passenger came-to with his torso on the upper surface of the wing and his head on the grass with the aircraft door open. Soon after, the passenger found the pilot in his seat with his head resting on the passenger side instrument panel. The pilot was later airlifted to hospital where he was treated for head injuries, bruising and fractured vertebrae. Both occupants had been wearing three-point seatbelts during the flight. The pilot's seatbelt was still done up after the accident. The passenger does not know whether his seatbelt was done up after the accident.

The pilot was able to recall the flight up to final approach to land but does not recall the landing and subsequent runway departure. He does not know whether he lost consciousness because of the accident, or during the landing roll. There were no recording devices on the aircraft.

The passenger recollected that the landing was smooth and initially the aircraft rolled out centrally on the runway, but then noticed that it was veering to the left. He called to the pilot to make him aware of some trees that they were rapidly approaching to the left of the runway. He then remembers that the aircraft turned violently left as it entered the ditch but does not remember anything else until he came-to after the accident. He does not recall the pilot verbalising anything during the accident sequence, and did not look at the pilot during this time either.

Aircraft information

The PA-28-140 is a four-seat light aircraft with a fixed tricycle landing gear. The cabin is accessed by a single overwing door. The door is hinged at the front and secured by a sprung latch below window level and pin and hook mechanism at the top of the door.

The pilot and front passenger seats are fitted with an adjustable lap belt with a buckle located on the inboard side of the seat. Inertia real shoulder straps, which run from the fuselage walls behind the forward seats, are designed to pass over the outboard shoulder of the occupant and connect to the lap belt latch plate.

Aircraft examination

An assessment of the aircraft by the AAIB found that the aircraft fuselage had been deformed by the accident such that the door would not fit the frame. The sprung latch functioned normally, but the pin mounted in the top of the door frame onto which the hook engages had been pulled out. The door stay had also broken so that the door could open beyond its normal range.

Both the pilots and passenger seatbelt inertia reel mechanisms activated normally. The pilot and passenger seatbelt buckles also functioned normally, but it was noticed that the passenger latch plate had to be pushed slightly more forcefully into its buckle to be correctly seated.

Subsequent assessment of the aircraft by a salvage organisation did not find any obvious technical issue with the aircraft that could account for the loss of directional control.

Analysis

With the pilot not being able to recall the end of the flight, no recording devices on the aircraft able to capture what happened during the event and with no findings from the examination of the aircraft by the salvage organisation, it is not possible to determine why the aircraft veered off the runway.

Both occupants had been wearing three-point seatbelts during the flight, but the seatbelts would not have restrained them during the accident sequence when the aircraft moved laterally, initially during the left turn as it entered the ditch and then when it stopped abruptly as it struck the far side of the ditch. This explains how the pilot struck the instrument panel in front of the passenger seat with his head and the movement of the passenger forcing the door open, pulling out of the upper door locking pin and damage to the door stay.

It is not possible to determine how the passenger found himself partially outside of the aircraft. It may be that the seatbelt clasp had not been fully engaged and parted under the load during the accident sequence, or it may be that the impact dazed him such that he undid his seatbelt after the accident before passing out as he attempted to exit the aircraft.

AAIB comment

Although it is not possible to confirm whether the passenger's seatbelt was fastened correctly or not, this event acts as a reminder for pilots to ensure seatbelts are properly fastened during pre-flight and pre-landing checks, ensuring that their passengers are also correctly secured. CAA Safety Sense Leaflet SS02 – *'Care of Passengers in General Aviation Aircraft'*[1] provides guidance and advice on looking after passengers, including the requirement to provide emergency briefings which should include the operation of seatbelts.

Footnote

[1] Civil Aviation Authority Safety Sense Leaflet 02 Care of Passengers in General Aviation Aircraft https://www.caa.co.uk/media/ovwcto24/safety-sense-ss002-care-of-passengers-version-8.pdf [Accessed 10 February 2025].

Accident

Aircraft Type and Registration:	Piper PA-28-181, G-EPYW	
No & Type of Engines:	1 Lycoming O-360-A4M piston engine	
Year of Manufacture:	1977 (Serial no: 28-7790557)	
Date & Time (UTC):	14 August 2024 at 1128 hrs	
Location:	Rochester Airport, Kent	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Damaged beyond economic repair	
Commander's Licence:	Other	
Commander's Age:	79 years	
Commander's Flying Experience:	155 hours (of which 155 were on type) Last 90 days - 7 hours Last 28 days - 3 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot, R/T transcription provided by the Flight Information Services Officer, plus further enquiries	

Synopsis

The pilot experienced a period of high workload following a go-around and change of runway-in-use. The aircraft overran the runway due to landing long at a higher than recommended speed. It cleared the airport boundary fence, crossed a road, and came to rest within a wooded embankment. The pilot was uninjured.

History of the flight

The pilot was conducting a cross-country flight from Lydd to Rochester Airport. He contacted Rochester AFIS when 10 nm from the airfield, where he was informed that the runway in use was to be confirmed when he was nearer, as the wind was variable.

The pilot was later informed by the Flight Information Services Officer (FISO) at Rochester that the wind direction had settled for Runway 02. The pilot did not feel comfortable with the final approach and chose to go around. At the same time, the FISO informed "G-YW LAND AT YOUR DISCRETION 02 SURFACE WIND 290 AT 5 KT, BUT AT THAT SPEED YOU MIGHT WANT TO GO AROUND."

The pilot executed a go-around, and entered into a left-hand circuit. While on the downwind leg the FISO advised "G-YW YOU MIGHT WANT TO DO A 180 AND COME IN ON 20. THE WIND HAS CHANGED DIRECTION AND FAVOURING 20. 180 THERE AND COME IN FOR 20." The pilot acknowledged the change of runway, and flew a climbing right-hand orbit to reposition.

The pilot selected two stages of flap, felt the approach was stable, reduced the throttle to idle, flared, and G-EPYW touched down on Runway 20. The aircraft bounced several times, and the pilot applied both brakes hard, but felt the aircraft was "skidding" and not slowing. The aircraft approached the airfield boundary, and the pilot recalled pulling back hard on the yoke in an attempt to aerodynamically stall and slow the aircraft. It subsequently became airborne, cleared the airfield boundary fence and a local road before coming to rest partway down a wooded embankment. The pilot was able to exit the aircraft and was uninjured.

Accident site

The wooded embankment was located to the south of the airfield boundary, and sloped steeply downwards towards a motorway, see Figure 1 for an image showing the final location of the aircraft

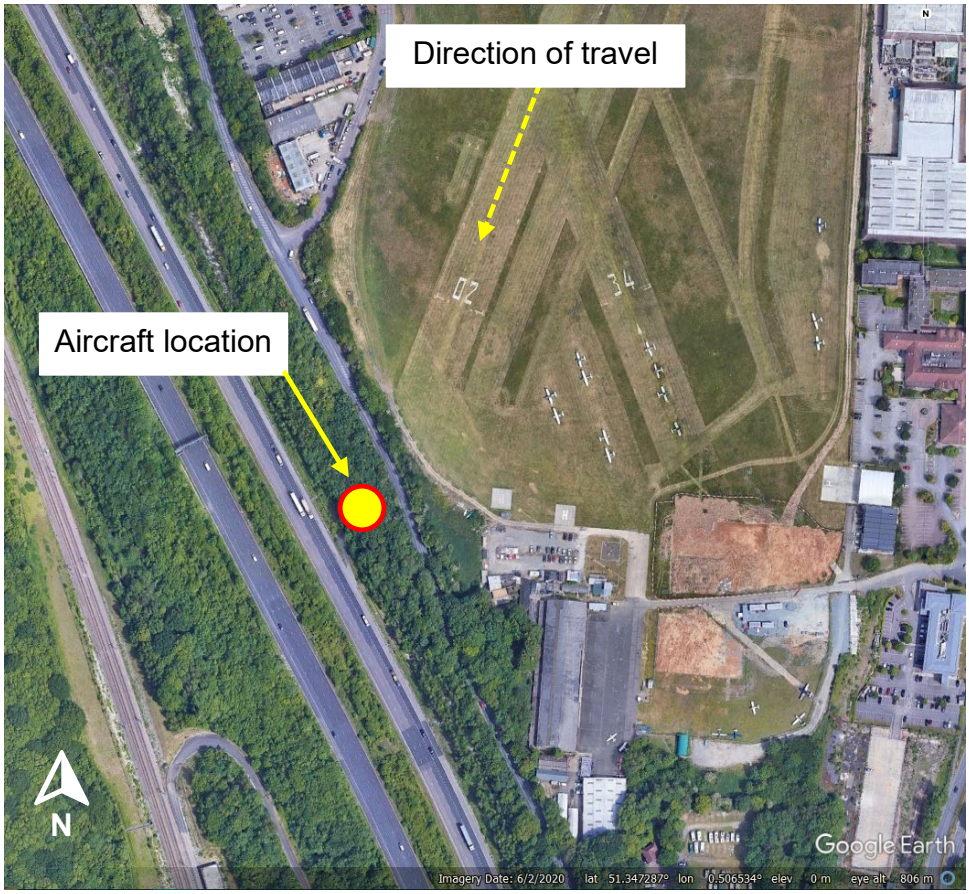

Figure 1

Final location of the aircraft

Both of the aircraft's wings had struck trees, and had detached from the fuselage which resulted in a fuel leak (Figure 2).

Figure 2

G-EPYW accident site

Recorded information

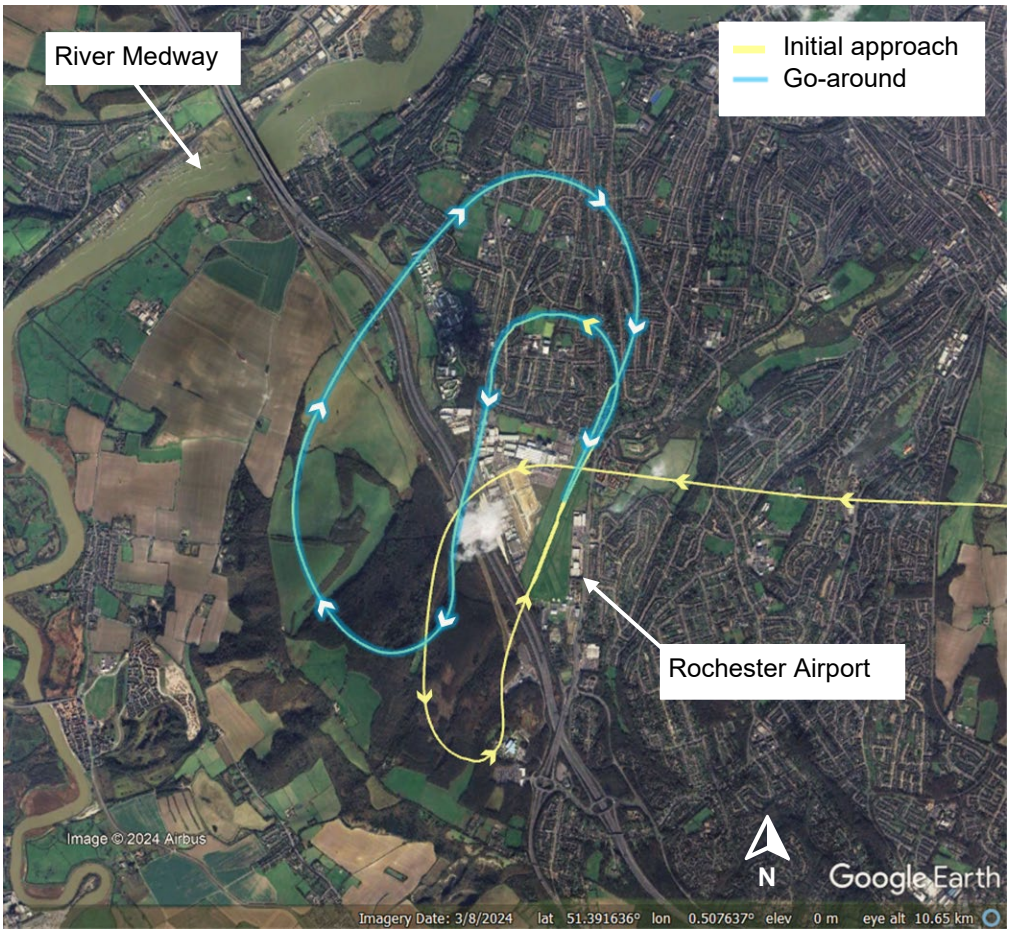

Figure 3

G-EPYW flight path

The pilot was using a flight-planning and navigation application, from which position data, altitude and ground speed were downloaded. Due to the low wind speed, the ground speed data is a good approximation of the aircraft's airspeed. After the go-around, the pilot repositioned by turning through 180º for Runway 20, climbing to a maximum height of 1,978 ft amsl over higher ground to the south-west of the airport (Figure 3).

The aircraft's ground speed at the landing flare was 91 kt, touching down approximately 190 m from the runway's threshold. CCTV captured the latter part of the landing roll on Runway 20, where the ground speed was decreasing from 75 to 60 kt. G-EPYW's ground speed was 45 kt at the airfield boundary.

Aircraft landing performance

The aircraft's POH states an approach speed of 75 kt, with a final approach speed of 66 kt using 40º of flap. This configuration with the aircraft's estimated mass of 934 kg gives a calculated landing distance of 381 m. Use of flap is at the pilot's discretion depending upon the landing conditions, and on the PA-28-181 can be safely operated within the airspeed range of between 49 kt and 102 kt.

Landing performance guidance

CAA Safety Sense Leaflet 09: Weight, Balance and Performance[1] includes takeoff and landing safety factors for different surface types and conditions when they are not accounted for in the aircraft's POH (Figure 4). The general safety factor covers for variations in pilot technique or aircraft performance from the manufacturer's figures, which assume ideal conditions and optimal technique. Use of the factors is not mandatory, but encouraged.

Applying the dry grass and general safety factors to the calculated landing distance of 381 m, gives a landing distance of 627 m.

Safety factors		
Condition	**Take-off**	**Landing**
Dry grass (up to 20cm)	x1.2	x1.15
Wet grass (up to 20cm)	x1.3	x1.35
Wet paved surface	-	x1.15
Soft ground or snow	x1.25	x1.25
General safety factors	x1.33	1.43

Note: You should apply this after the application of the other factors.

Figure 4

CAA Safety Sense Leaflet 09: Safety Factors

Footnote

1 Civil Aviation Authority Safety Sense Leaflet 09 Weight, Balance and Performance August 2024 https://www.caa.co.uk/media/wcebqozv/ssl09-caa-safety-sense-weight-balance-and-performance.pdf [Accessed January 2025].

Meteorology

Visibility was in excess of 10,000 m with broken cloud at 2,500 ft and QFE 999 hPa. The wind was variable, from 290º at 2 kt. The wind's variability during the morning changed the runway in use from Runway 20 to Runway 02 at 1110 hrs, and back to Runway 20 at 1128 hrs.

Aerodrome information

Rochester Airport's main grass runway 02/20 has 830 m landing distance available (Figure 5). The standard circuit pattern is bounded by the River Medway to the West and North. The airport offers an AFIS provided by licensed FISOs for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

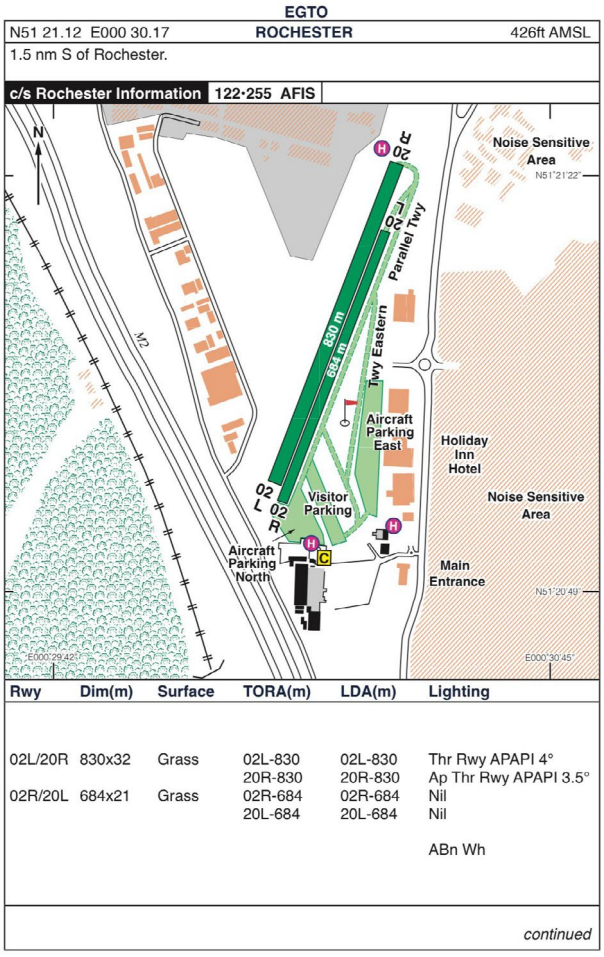

Figure 5

Rochester Airport plate (courtesy Pooley's)

Analysis

Managing a go-around can result in a high workload; the pilot's attention may already have been close to capacity when receiving runway change information, which would have further increased workload. This likely resulted in the FISO's suggestion being followed without

considering further implications. The resulting circuit with a shorter base and final legs and little headwind, lessened the time available to decrease the aircraft's speed which was not sufficiently reduced, resulting in landing long and an overrun. The pilot felt the approach was stable and chose to continue rather than go around. In hindsight, he recognised he had landed faster than normal.

The landing distance available at Rochester was sufficient for G-EPYW to land, using the CAA factors for grass and general safety, if the aircraft was configured at 66 kt and with 40º of flap. However, with a ground speed at the flare of 91 kt and touchdown point of 190 m, it is unlikely the aircraft could have stopped in the distance available.

If a pilot requires time to reduce their workload following receipt of information from a FISO, alternative actions can be taken as the information is not an instruction. Actions can include requesting the FISO to 'standby' before responding, not accepting the runway suggested and receiving alternative information to assist with landing, or requesting to leave the airfield area and then returning to re-approach. Safety Sense Leaflet 31 *'Distraction and Interruption in General Aviation Operations'*[2] provides strategies to help a pilot manage the impact of air traffic calls.

Conclusion

The pilot experienced a period of high workload following a go-around and change of runway-in-use. The aircraft overran the runway due to landing long at a higher than recommended speed. CAA Safety Sense leaflets 09 and 31 contain information to help pilots with assessing the impact of different surfaces on landing performance and managing interruptions during flight.

Footnote

[2] Civil Aviation Authority Safety Sense Leaflet 31 Distraction and Interruption in General Aviation Operations May 2023 https://www.caa.co.uk/media/apcbiav3/caa8230_safetysense_31_distraction_aw9.pdf [Accessed 11 February 2025].

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: December 2024 - January 2025

26 Nov 2024 **DJI Mavic 3 Enterprise** Elmbridge, Surrey

The UA was engaged on an automated mapping flight when it began to behave erratically. The UA did not respond to the remote pilot's return home command and it was guided over a field where it came down.

26 Nov 2024 **UAS AgEagle Ebee X** Near Earystane, Isle of Man

Whilst the remote pilot's attention was drawn to the UAS controller to disable a proximity alert, the data link to the aircraft was lost and the UA flew out of sight of both the pilot and a safety spotter. The UAS's return-to-home feature had been set, but it did not return. The remote pilot considered a nearby telecommunication tower may have caused signal interference resulting in the loss of the UAS data link.

28 Nov 2024 **DJI Mavic 3T** Rural location in Shropshire

During a UA flight in a rural area, the UAS controller displayed several electronic speed control warnings in quick succession, accompanied by the instruction LAND IMMEDIATELY. The remote pilot tried to manually fly the UA back to the takeoff point to land. But the UA descended rapidly, not in response to the remote pilot's inputs and made firm contact with the ground, resulting in some damage. It immediately became airborne again, at which point, the remote pilot was able to regain manual control and land the UA normally at low speed.

28 Nov 2024 **DJI Phantom 4 RT** Horton-In-Ribblesdale, North Yorkshire

During a survey flight over a quarry, when the UA was at a distance of 150 m from the remote pilot, the UAS controller indicated that a loss of communication link had occurred. The return-to-home function was activated but was not successful. The remote pilot lost sight of the UA and at the time of reporting, it had not been located.

9 Dec 2024 **DJI Inspire 3** Chertsey, Surrey

Whilst filming in a controlled area, the UA struck with a tree.

10 Dec 2024 **DJI M30T** Stourbridge, Worcestershire

During a demonstration flight at a school playing field, the UA struck a tree and fell to the ground. The UA was at a horizontal distance of 100-150 m from the remote pilot and the assembled persons, and 7- 8 m above the ground when it struck the tree.

Record-only UAS investigations reviewed: December 2024 - January 2025 cont

27 Jan 2025 **DJI M30T** Huddersfield, West Yorkshire

The UA was being operated in a wooded area. Shortly after takeoff the remote pilot inadvertently operated the wrong control and instead of climbing the UA flew forwards into trees. The propellers of the UA struck tree branches and the UA fell about 50 m to the ground.

29 Jan 2025 **Skylane 250 VTOL** Aylesbury, Buckinghamshire

The UA was being recovered from horizontal to vertical flight under manual control during a test flight. As it touched down, an automated return to land occurred as a result of an incorrect parameter being configured. The UA lifted and then struck the ground causing structural damage to the wings and fuselage.

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

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