
AAIB Bulletin

10/2026

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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.

Accident

Aircraft Type and Registration:	ATR 72-212 A, G-OASB	
No & Type of Engines:	2 Pratt & Whitney Canada PW127M turboprop engines	
Year of Manufacture:	2001 (Serial no: 679)	
Date & Time (UTC):	14 November 2025 at 2055 hrs	
Location:	East Midlands 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 nose and main landing gear	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	58 years	
Commander's Flying Experience:	5,554 hours (of which 5,152 were on type) Last 90 days - 80 hours Last 28 days - 33 hours	
Information Source:	AAIB Field Investigation	

Synopsis

The aircraft was operating a scheduled cargo service from Guernsey Airport (GCI) to East Midlands Airport (EMA). The flight was uneventful until the late stages of final approach. As the commander retarded the thrust levers to prepare for touchdown, the aircraft floated and then rapidly pitched down. The aircraft touched down on the nose landing gear and then bounced twice before finally landing. The nose landing gear was extensively damaged. The two pilots were the only occupants and neither was injured.

History of the flight

The aircraft was loaded with 3,300 kg of fuel and 3,858 kg of freight for a scheduled cargo flight from GCI to EMA. All loading was carried out in accordance with standard procedures and the aircraft mass and balance was within limits. Start up, departure, climb, cruise and the descent to final approach were all uneventful.

The crew obtained the EMA ATIS report in the cruise and the commander, who was PF, carried out the approach brief. The commander described the conditions as "far from ideal, but well within safe operating limits", and stated that he had operated in much worse conditions. The ATIS was updated as the aircraft approached EMA and the weather for the approach was reported as broken cloud with a base at 700 ft aal, rain, and with the wind from 050° at 11 kt gusting 23 kt. From these figures and the aircraft mass the crew calculated and set an approach speed (V_{APP}) of 123 kt. The approach was normal and all the routine checklists were completed.

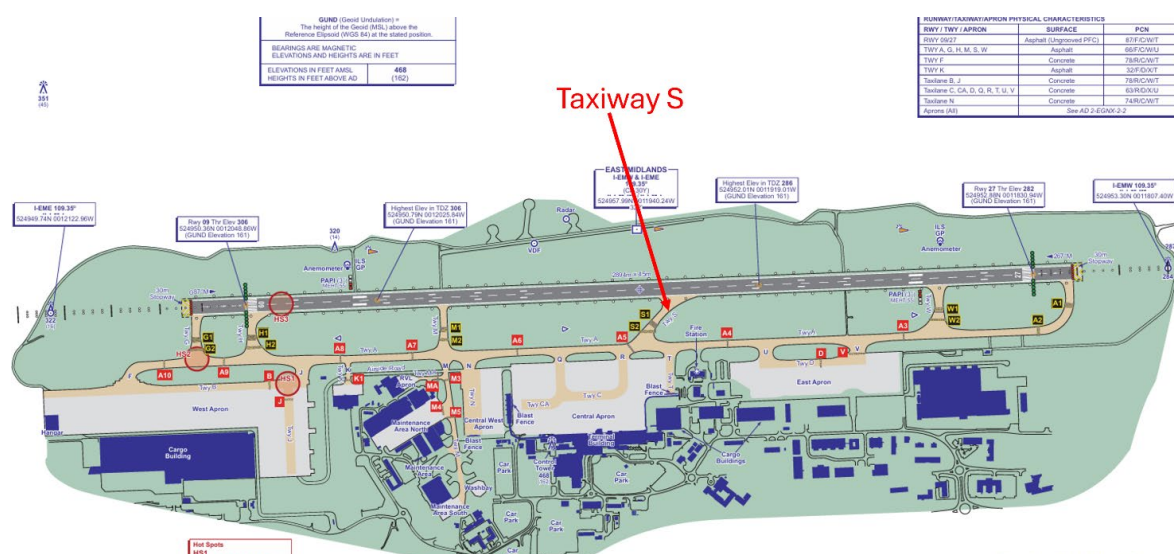
On approach, EMA ATC advised the crew that the wind was 060° at 20 kt with no gust. The crew decided to reduce the V_{APP} to 120 kt. The co-pilot, who was PM, called “STABLE” in accordance with company procedures at 1,000 ft aal. Then, as the aircraft neared the ground, the co-pilot gave radio altitude callouts at 80, 50, 20 and 10 ft agl. The 10 ft call from the PM is a cue for the PF to retard the power levers to flight idle. The commander did so and initiated the flare.

Both pilots subsequently described the aircraft as “floating in the ground effect”. The commander recalled the aircraft then dropping suddenly onto the runway although the IAS was still above V_{APP} . He recalled this event as lasting only one or two seconds and that he was taken completely by surprise and was unable to execute a go-around to prevent a touchdown. The aircraft landed heavily and then bounced back into the air. The commander recalled raising the nose, but the aircraft bounced again. Again, the commander felt taken by surprise. After the second bounce he did not want to apply power as he considered that, with the nose-down attitude, power would accelerate the aircraft into the ground.

As the aircraft touched down a third time, the commander stated it was apparent that the nose landing gear had been damaged. The PM took control of the yoke while the commander focused on keeping the aircraft on the centreline using the nosewheel tiller. The commander exited the runway at Taxiway S (Figure 1). Once clear of the runway, EMA ATC asked if the commander could continue to taxi to Parking Stand 71. Due to the difficulties in manoeuvring the aircraft, the commander informed ATC that he would have to shut down on the taxiway. An airfield operations vehicle approached and confirmed that both nose landing gear tyres were deflated. Neither pilot was injured.

Airfield information

EMA has one primary runway, designated Runway 09/27, which is 2,893 m long and 45 m wide. The airport layout is shown in Figure 1.



Meteorology

The briefing pack given to the crew before flight contained a TAF for EMA which forecast the weather as:

For the period 1200 hrs on 14 November until 1200 hrs on 15 November 2025.

- Wind: 060° at 15 kt, gusting to 25 kt.
- Visibility: 10 km or more.
- Cloud: broken cloud at 1,500 ft agl.

Temporary Conditions from 1200 hrs until 0000 hrs on 15 November 2025.

- Visibility: 6 km.
- Weather: light rain and drizzle.
- Cloud: broken at 600 ft agl.

Another temporary period from 1200 hrs on 14 November until 0300 hrs on 15 November 2025.

- Wind: from 060° at 20 kt, gusting to 36 kt.

40% probability between 1200 hrs on 14 November and 0000 hrs on 15 November 2025.

- Visibility: 4 km.
- Weather: heavy rain and heavy drizzle.

The METAR at 2050 hrs was wind from 050° at 13 kt, visibility 6,000 m in rain, cloud broken at 700 ft aal, temperature and dewpoint both 8°C and QNH 1005 hPa.

Recorded information

The aircraft was fitted with an FDR and CVR, both of which recorded the approach and landing at EMA. In addition, the airport provided CCTV recordings that captured the event.

The FDR recorded a number of parameters including pitch attitude, engine data and the position of the left elevator. Control column position and force was not recorded. A 'pitch effort discrete' parameter was available which was triggered whenever the control column pitch force exceeded 10 daN in either the pitch-up or pitch-down axis. This was recorded for both control columns independently.

Prior to the flight, a 'full and free' control check was performed which showed the left elevator range of +12.7° to -21.8°, where positive elevator deflection would be a control input in the aircraft nose-down sense.

As the aircraft descended through a radio altitude of 50 ft, the recorded power lever position was 50°¹, engine torque was 37% on both engines and indicated airspeed was 120 kt. Over the next five seconds, the recorded power lever position began to reduce to 44°, engine torque gradually reduced to 30% and the aircraft began to pitch up (Figure 2, Point A).

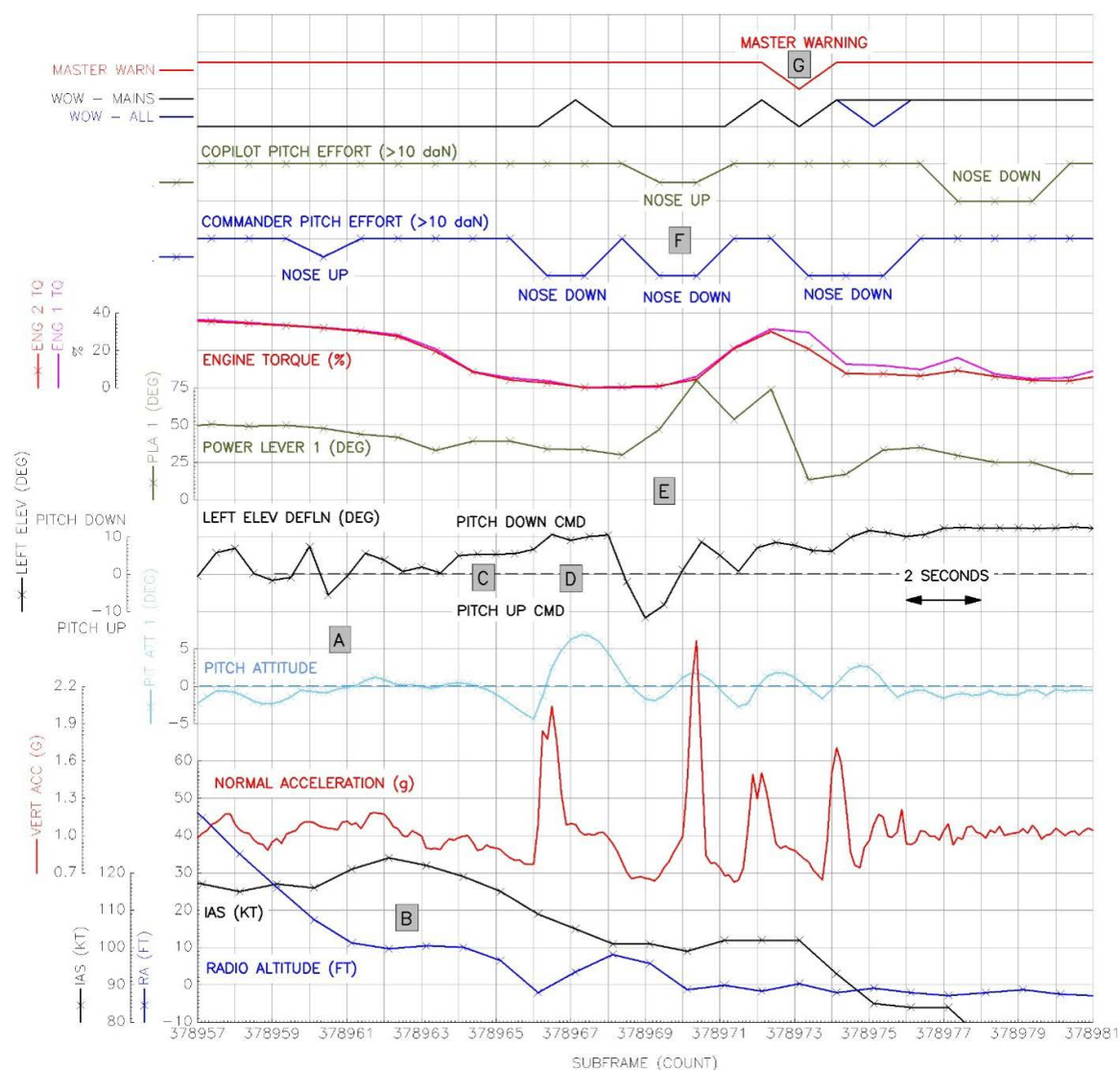


Figure 2
G-OASB flight data parameters

The power levers were reduced further and engine torque reduced but the aircraft floated at approximately 10 ft radio altitude for the next three seconds (Point B). After this, nose-down elevator was recorded (Point C) and the aircraft pitched down from +0.4°² to -4.4°, consistent with that elevator deflection, over the next two seconds.

Footnote

- ¹ During takeoff when full power was demanded, the power levers reached 75°. When idling, power lever position was 19°.
- ² Positive pitch is pitch up, negative pitch is pitch down.

The first touchdown was at a pitch attitude of -4.4° and a vertical acceleration of 2.04 g. The aircraft bounced and pitched up during which the main landing gear was momentarily recorded as being on ground (Point D). During this time, continued pitch-down elevator was applied, before reversing to pitch-up. At the same time, the power levers were advanced and the engine torque increased (Point E). The recorded 'pitch force discrete' indicated that just prior to the second bounce, the commander was applying a pitch-down effort and the co-pilot pitch-up (Point F).

The aircraft bounced a second time at 2.6 g, a third at 1.5 g before settling on the runway with a 1.7 g touchdown. Just after the third bounce, the master warning was heard on the CVR (and also recorded on the FDR (Point G)). The manufacturer commented that this was likely to have been a takeoff configuration warning, with the weight-on-wheels system briefly sensing that the aircraft was on the ground while the flaps were not in the takeoff position.

Aircraft information

The ATR 72-212A is a twin turboprop airliner with a retractable tricycle landing gear. G-OASB was converted from passenger to freighter configuration in 2022.

Aircraft examination

Both nose landing gear wheels were fractured during the landing, causing the tyres to deflate and difficulty for the flight crew in steering the aircraft from the runway. Figure 3 shows the damage to the nose landing gear after the aircraft stopped on Taxiway S.



Figure 3
Damage to nose landing gear after landing

The wheel hub fractures were visually examined and the failures were determined to be due to mechanical overload (Figure 4).



Figure 4

Overload fracture of right nose wheel (left nosewheel similarly damaged)

The damaged nosewheels were removed and serviceable wheels installed to permit the aircraft to be towed to a parking apron. Subsequent examination of the nose landing gear axle revealed that it had been bent upwards during the landing (Figure 5).



Figure 5

Upward bend evident in right nosewheel axle (left axle similarly damaged)

The aircraft manufacturer assessed the loading sustained during the heavy landing and determined that the nose landing gear leg, drag brace, right main landing gear leg and shock absorber required replacement due to exceeding their design load capacities. The manufacturer also required the left main landing gear shock absorber to be removed and inspected to determine whether it remained in a serviceable condition.

Weight and balance

The aircraft has a basic weight of 12,315 kg and it was loaded with 3,858 kg of cargo and 3,300 kg of fuel. Allowing 50 kg of fuel for taxi out the aircraft's takeoff weight was 19,432 kg against a MTOW of 22,800 kg. The CG position for takeoff was 31.3% of the Mean Aerodynamic Chord (MAC)³, which was within limits. The calculated fuel burn for the sector was 839 kg so the planned landing weight was 18,854 kg against a maximum landing weight of 22,350 kg. The CG for landing was 31.1% MAC, also within limits.

Footnote

³ The Mean Aerodynamic Chord (MAC) is a single, representative chord length used to describe the aerodynamic properties of a wing whose chord varies from root to tip. Most wings are tapered, swept, or otherwise nonrectangular, so the chord length isn't constant and for stability calculations the MAC is used as reference.

Startle effect

The startle effect is an immediate, involuntary physiological and cognitive response to a sudden, unexpected stimulus (such as a loud noise, abrupt aircraft motion, or unexpected warning). In aviation, startle can temporarily impair higher-order cognitive functions, particularly situation assessment and decision-making.⁴

When startled, pilots may experience attentional narrowing, delayed comprehension, and a tendency to revert to automatic or inappropriate actions, rather than deliberate, analytical decision-making. Research shows that startle interferes with a pilot's ability to update ('reframe') their mental model of the situation, increasing the likelihood of incorrect or delayed decisions during time-critical phases of flight.

Although the cognitive disruption is usually less than 30 seconds, it can be decisive. Startle, especially when combined with surprise, has been identified as a contributory factor in loss-of-control accidents where pilots made ineffective initial decisions despite adequate technical skill.

Organisational information

The operator's manual contains the following guidance on 'bounced landings':

'BOUNCE ON LANDING

Bouncing at landing usually is the result of high energy approach. In-service experience shows that most of the events involving bounces at landing resulted from the following factors:

- *Excessive airspeed during approach*
- *Engine power on touchdown*
- *Late flare initiation*
- *Incorrect flare technique*

Some environmental factors could also contribute to experience bounce at landing, such as windshear and thermal activity.

BOUNCE LANDING – HOW TO PREVENT

1. Stabilized Approach

The most efficient prevention is to ensure the approach is stabilized with a focus on the airspeed and the rate of descent. Stabilization means:

- *Aircraft configured for landing*
- *All briefing and checklists done*

Footnote

⁴ Martin et al. (2015), 'International Journal of Aviation Psychology'.

- *Lateral flight path management*
- *Energy management (Pitch, Power, Speed and Vertical flight path)*

In case of un-stabilized approach, at any point during the approach, a go-around should be performed. For indication, when the aircraft is stabilized in approach at VAPP on a 3° descent path, the pitch attitude should be in the range -2.5° to +1°. A pitch attitude lower than -2.5° during the approach may indicate an excess of aircraft energy.

2. Correct Landing Technique

Power reduction should be initiated passing 20 ft. The touchdown should occur with power levers at Flight Idle. In coordination with power reduction, the pilot flying progressively adjusts aircraft pitch to flare the aircraft. Airspeed reduction during flare is normal. Touchdown should occur at an airspeed below VAPP. For indication, a pitch attitude below -1.5° at touchdown would result in contact with the runway on the nose.

3. Bounce Recovery - Rejected Landing

In case of significant bounce at touchdown, the following rejected landing technique must be applied:

- *Maintain a normal landing pitch attitude.*
- *Initiate a rejected landing by advancing power levers to the ramp.*
- *Maintain the landing gear and Flaps configuration.*
- *Be ready for a possible second touchdown. Should a second touchdown happen, as landing pitch attitude is maintained and power is increased, it would be soft enough to prevent damage to the aircraft.*
- *When steady positive climb is established, follow normal go-around procedures.*

Note: when a rejected landing is initiated, the flight crew must be committed to proceed with the intended maneuver’.

Analysis

The aircraft was conducting a scheduled cargo flight from GCI to EMA. The aircraft was within its mass and balance limitations for the flight and there were no extant technical defects. The forecast weather for the arrival time at EMA indicated strong winds with gusts of up to 36 kt for the time of arrival. The commander had initially set a V_{APP} of 123 kt but reduced this to 120 kt when ATC gave a windspeed of 20 kt with no gust.

In the latter stages of the approach the aircraft attitude was in the expected range for a stabilised approach. Conditions were somewhat turbulent so the commander as PF was making frequent control inputs to maintain attitude and track the approach path.

The approach was normal and the commander recalled the 10 ft radio altitude call from the co-pilot at which point he retarded the power levers to idle. The aircraft briefly floated in the ground effect. The crew recalled the aircraft suddenly dropping to the runway, which may have been a result of a change of airflow over the aircraft due to the turbulent conditions. The recorded data showed a nose-down elevator deflection and the aircraft attitude pitched from approximately level to 5° nose-down in one second. The aircraft landed nosewheel first and then bounced. The commander, taken by surprise, did not initiate a go-around.

After the first bounce, the commander, possibly still inhibited by a startle effect and feeling the aircraft was again nose-down, did not apply power to avoid driving the aircraft into the ground. The aircraft bounced a second time and then landed.

It was only nine seconds from the start of the initial pitch-down to the aircraft finally landing. The commander's decision-making capacity throughout the landing could have been affected as a result of a physiological and psychological response to the unexpected pitch down and bounce after the initial runway contact.

Conclusion

The aircraft pitched down rapidly in the final stages of an approach following a nose-down elevator deflection and touched down heavily on the nosewheel. The aircraft nose landing gear and right main landing gear were damaged and had to be replaced.

Published: 17 September 2026.

Serious Incident

Aircraft Type and Registration:	Boeing 737-800, 9H-QBD	
No & Type of Engines:	2 CFM56-7B turbofan engines	
Year of Manufacture:	2015	
Date & Time (UTC):	3 October 2025 at 1913 hrs	
Location:	Manchester Airport	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 6	Passengers - 171
Injuries:	Crew - None	Passengers - None
Nature of Damage:	None reported	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	33 years	
Commander's Flying Experience:	6,272 hours (of which 5,889 were on type) Last 90 days - 154 hours Last 28 days - 52 hours	
Information Source:	AAIB Field Investigation	

Synopsis

9H-QBD was on a scheduled flight from Pisa International Airport to Glasgow Prestwick Airport on a day when significant winds had been forecast. The crew took extra fuel to allow for possible delays and diversions due to the weather. Following two windshear escape manoeuvres that transitioned into go-arounds at Prestwick, the crew requested a diversion to Manchester Airport, but the request was not accepted and the aircraft diverted to Edinburgh Airport. Following a further windshear escape manoeuvre at Edinburgh, the crew declared an emergency and diverted to Manchester where they landed with a fuel quantity significantly below the final reserve fuel.

Following this serious incident, Manchester Airport reiterated to stakeholders its policy of accepting diversion requests if the airport has the capacity to receive the aircraft and that the decision on accepting the diversion does not rest with the handling agent.

History of the flight

9H-QBD was scheduled for a flight from Pisa International Airport in Italy, to Prestwick Airport near Glasgow in the United Kingdom. Over the scheduled arrival time, Storm Amy was due to pass through Scotland and Northern England, bringing strong to gale force winds, several weather fronts and prolonged rainfall. The previous day the operator had issued a storm pack including four safety bulletins to remind pilots about the potential impact of the forecast weather. This was followed up on the day with an additional email reminder of guidance on weather disruption and conservative fuel planning including uplifting fuel for the furthest alternate and adding commander's discretionary fuel.

The crew reported 45 minutes before departure and were aware of the potential for weather disruption in Scotland and Northern England. They conducted their own flight planning at home individually, prior to reporting for duty. On arrival at Pisa, both pilots compared their individual planning and they broadly agreed. The amount of additional fuel taken was influenced by the anticipated need to use the shorter of the two runways at Prestwick because the crosswind forecast for the longer runway was outside the aircraft's limits. The pilots stated that they agreed on using Manchester Airport as their alternate because it had more favourable weather conditions than the operator-planned alternate of Glasgow Airport.

The flight was due to depart at 1415 hrs but was delayed until 1528 hrs, with the commander as the pilot flying for this outbound sector, and the flight to Prestwick was initially uneventful. Weather data for Manchester, Prestwick, Glasgow and Edinburgh airports were collected in ample time, and the pilots discussed the weather conditions and the windshear escape procedure as part of their arrival briefing.

There were no delays at Prestwick, and the aircraft was vectored for the approach to Runway 20. The surface wind conditions were passed as 240° at 29 kt gusting 45 kt with both pilots commenting on the turbulence as they began the approach. At 1,200 ft aal the autopilot and autothrottle were disconnected due to the fluctuating airspeed. On passing 300 ft aal the airspeed was beginning to decay and the commander increased thrust to compensate. The rate of airspeed decay continued and on approaching 264 ft aal a windshear warning was triggered with two-tone siren and a "WINDSHEAR, WINDSHEAR, WINDSHEAR" voice message. The windshear escape manoeuvre¹ was executed and, on passing between 600 and 700 ft aal, the aircraft exited the conditions. The commander transitioned to a standard go-around, followed the missed approach procedure, and joined the hold at Turnberry (TRN) VOR at 6,000 ft.

The pilots reviewed their fuel situation and decided to wait in the hold to see if an aircraft of the same type currently on approach experienced any windshear. The pilots discussed the windshear event, obtained the updated weather for Manchester and noted that another windshear escape manoeuvre would necessitate a diversion in accordance with company policy. The other aircraft landed and reported a loss in airspeed on short finals of 25 kt at 500 ft. Another approach to Prestwick was requested and ATC were informed that "IN CASE OF MISSED APPROACH AGAIN, WE GO STRAIGHTFORWARD TO MANCHESTER".

During the second approach, the pilots reported that the conditions felt less turbulent than before. The autopilot and autothrottle were again disconnected at approximately 1,200 ft aal, and airspeed fluctuations were reported as being less than the previous approach. The instant wind at this time was passed as 230° at 34 kt gusting 46 kt. Around 50 ft aal, another windshear warning was triggered, and the commander executed the windshear escape manoeuvre. When out of windshear conditions they transitioned to a standard go-around, completed the 'After Take-off' checklist, climbed to 6,000 ft and were instructed to go back to TRN to hold.

Footnote

¹ See section, *Windshear escape manoeuvre*.

During the routing to the hold, ATC stated that Manchester was unable to accept their diversion request, but no explanation was given as to why the request had been refused. The pilots obtained the weather for Edinburgh Airport via ATC which reported strong winds but no windshear, although there had been some aircraft go-arounds earlier. The nearest alternative airport was Glasgow Airport, which was reporting in the ATIS that aircraft had experienced windshear on finals. Based on this information the pilots requested a diversion to Edinburgh, this request was made six minutes after they were told by ATC that Manchester had refused to accept the diversion.

It took a further five minutes for their request to divert to Edinburgh to be accepted. During that time the pilots discussed declaring a “FUEL MINIMUM” or a “MAYDAY” to go to Manchester. However, they agreed that their current fuel state did not meet the criteria written in the company operations manual to declare an emergency². They discussed their concern that they might receive a windshear warning at Edinburgh, and they also discussed the windshear warnings, wondering whether they had been spurious.

They departed the hold, climbed to FL150 and routed toward Edinburgh. During this transit the pilots were becoming more concerned about the fuel, but there was no discussion of a plan should they have to go around at Edinburgh, and they did not inform ATC of their fuel situation (there was no requirement to do so). They reported that due to the high workload they decided not to tell the company about the diversion until they were on the ground.

The Edinburgh ATIS gave a surface wind of 240° at 34 kt gusting 46 kt and the aircraft was set-up for an approach to Runway 24. On transfer to Edinburgh Approach, they asked if any landing aircraft had experienced windshear and were told that nothing had been reported. The pilots commenced their third approach. Again, the autopilot and autothrottle were disconnected at approximately 1,200 ft aal and on passing 745 ft aal another windshear warning was triggered. The crew performed the windshear escape manoeuvre, transitioned into a go-around, after which ATC vectored the aircraft to the north in anticipation of a second approach.

The pilots were increasingly concerned about the decreasing fuel situation and seemed convinced that they would get another windshear warning at Edinburgh. They noted they had 2,100 kg of fuel remaining and that the diversion fuel required for Manchester was 2,800 kg (to land with the final reserve fuel of 1,101 kg)³. The commander decided to divert to Manchester and the Flight Management Computer (FMC) predicted that this would result in the aircraft arriving in the airport overhead with between 500 and 700 kg of fuel. The co-pilot programmed the approach at Manchester Airport into the FMC, after which the FMC predicted the landing fuel would be 300 kg, significantly below the final reserve fuel. This was noted by the crew and prompted the declaration of a “MAYDAY MAYDAY MAYDAY FUEL” to ATC and a request for an immediate diversion to Manchester.

Footnote

² See section, *In-flight fuel management*, Figure 5.

³ Final reserve fuel is discussed in the later section, *Fuel planning*.

ATC cleared the aircraft to route direct to point ROSUN and to climb to FL230. The commander reported that the predicted fuel on arrival was between 900 and 1,000 kg once the routing and flight level had been entered into the FMC. He also commented that the predicted arrival fuel decreased during the climb and cruise en route to Manchester.

There was no further discussion by the pilots about the expected fuel remaining on arrival at Manchester except that they realised they would not have enough fuel for another go-around. There was no consideration of using a closer alternative such as Newcastle Airport. In the cruise, the left main fuel tank amber LOW FUEL QUANTITY TANK ¹⁴ alert illuminated. Although noted by the pilots, they did not action the 'Low - Fuel Quantity' checklist. The commander commented that this was because the reason for the low fuel quantity was clear. They noted a fuel imbalance of 100 kg, with the left main fuel tank lower, and completed the fuel balancing procedure. This was then followed by an amber LOW FUEL QUANTITY TANK 2 alert for the right main fuel tank.

Manchester ATC cleared the aircraft direct to a 10 nm final for Runway 23R. The aircraft landed at 1952 hrs with 363 kg total fuel remaining and taxied to stand. The total flight time from the first go-around at Prestwick to landing at Manchester was 1 hour 45 minutes.

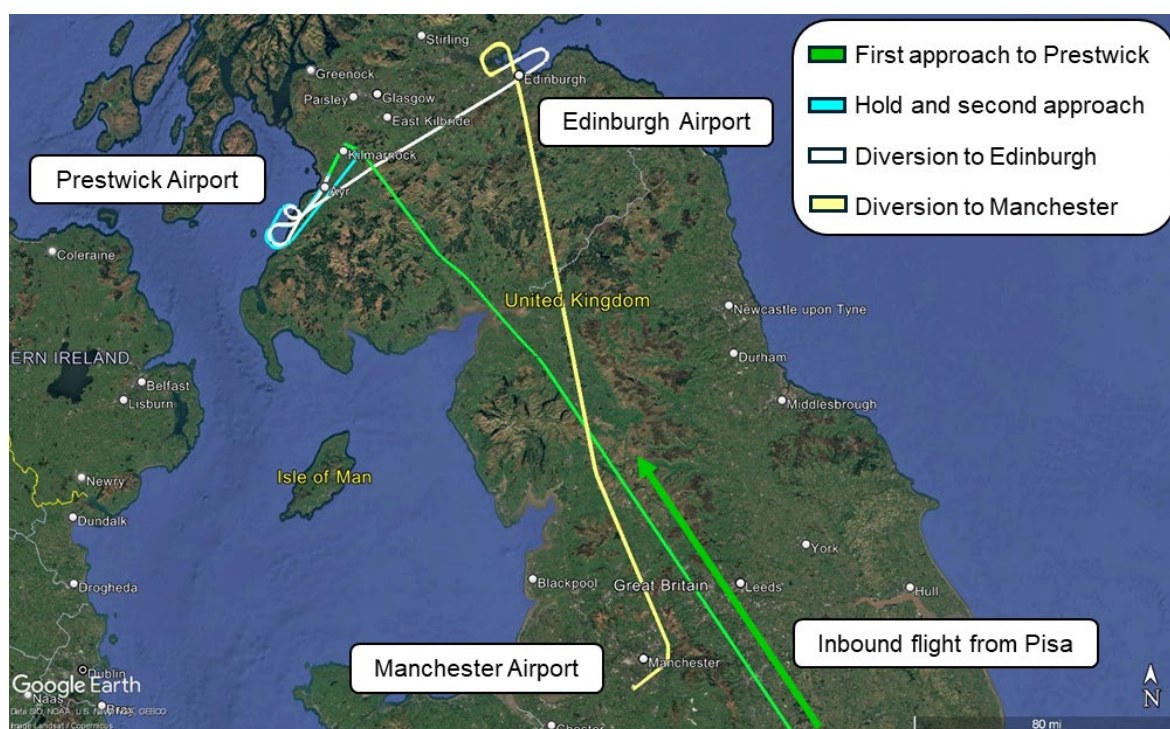


Figure 1

Diversion routing – total time 1 hour 45 minutes

Footnote

⁴ Low fuel quantity is triggered when the tank reaches 1,000 lb (454 kg).

Meteorology

A deep area of low pressure was sitting to the west of Scotland, named by the Met Office as Storm Amy. It was the first named storm of the season and was forecast to bring destructive winds. By 1800 hrs the low pressure had deepened to 952 hPa and was centred near Cape Wrath (Figure 2).

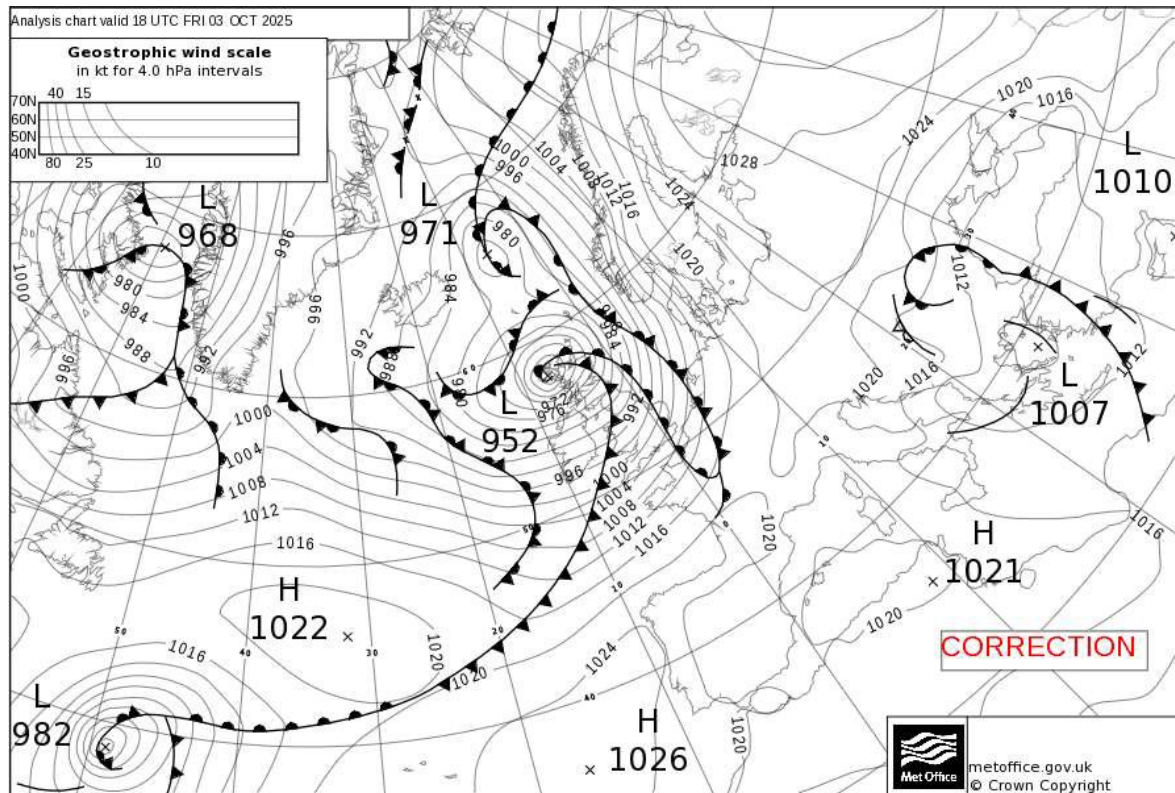


Figure 2

Surface analysis chart valid 1800 UTC on 3 October 2025

The forecast weather for Prestwick at the expected time of arrival showed a strong south-westerly wind of 25 kt and gusts of 40 kt, with a 30% probability of an increase to 30 kt with gusts of 50 kt. A maximum gust of 56 kt was recorded at 1620 hrs and 1950 hrs.

The forecast wind at Glasgow over the period was the same as Prestwick, with a maximum gust of 55 kt reported at 1750 hrs. Edinburgh, which is further east, also forecast strong south-westerly winds, 28 kt and gusts of 48 kt. Edinburgh experienced a maximum gust of 54 kt at 1820 hrs.

Further south, the forecast winds were better, with Manchester giving a southerly wind of 25 kt gusting to 38 kt, reducing in strength as it veered south-westerly of 18 kt gusting 28 kt. Manchester experienced a maximum gust of 37 kt at 1920 hrs.

Newcastle Airport was one of the alternate airports included in the pilot's briefing pack. Forecast weather for the airport was not available in the pack, but at the time the aircraft diverted to Manchester, the wind at Newcastle was from 290° at 22 kt.

Flight Preparation

The operator uses a flight planning system that generates a routing based on a variety of criteria to ensure the most efficient Operational Flight Plan (OFP) is generated. The routing is then sent to Eurocontrol for validation prior to a full briefing pack being released to the pilots' Electronic Flight Bags (EFBs) in advance of the flight. The briefing pack contains the OFP, ATC Flight Plan, dispatch information, weather and NOTAMs. The briefing pack was released to the crew at 0724 hrs on the day of the flight and consisted of 57 pages, which the pilots reviewed at their respective homes before reporting for duty.

Fuel planning and management

The operator uses an approved standard fuel scheme for fuel planning and in-flight re-planning. The pre-flight requirement for departure fuel is the sum of taxi fuel, trip fuel, an additional 5% contingency for unforeseen factors, diversion fuel to a destination alternate airport and 30 minutes of final reserve fuel (Figure 3). Extra fuel can be included to account for operational constraints or delays, such as ATC. In addition, the commander has the discretion to upload additional fuel, and crews were encouraged to do so in the email sent by the operator the day before.

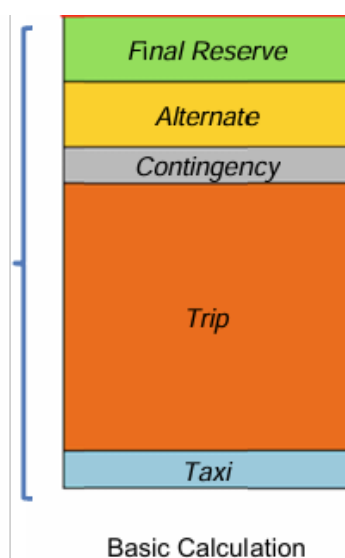


Figure 3
Pre-flight fuel requirement

The flight planning system selects a destination alternate airport from a company-approved list taking into consideration the forecast weather minima, available approach aids and relevant aerodrome NOTAMs. Having passed the flight planning suitability check, up to four alternates are displayed for crew information. Each alternative is numbered in order of company preference but crews may select any of these alternates. This allows the commander to select a different alternate without having to ask for a revised OFP.

At the initial planning stage, Glasgow was the destination alternate (ALTN) with a fuel requirement of 991 kg, giving an OFP Block Fuel of 9,563 kg (Figure 4). Having reviewed

the weather, the pilots agreed to use Manchester as the ALTN with a fuel requirement of 1,606 kg (an additional 615 kg of fuel). The commander decided to load another 1,322 kg of fuel to give a total of 1,937 kg of discretionary fuel (PIC DISCR) and a total fuel of 11,500 kg. 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).

FUEL (BIAS P01.0)	ARPT	FUEL (KGS)	TIME (HHMM)
TRIP FUEL		6896	0250
CONT 5%		345	0009
ALTN	GLA	991	0022
FINRES		1101	0030
PLANNED T/OFF FUEL		9333	0351
ATC		35	0001
T/OFF FUEL		9368	0351
TAXI		195	0015
BLOCK		9563	0351
PIC DISCR		1937	
TOTAL FUEL		11500	

Figure 4
OFP fuel plan

ATC Flight Plan

The operator's Operations Manual did not require the pilots to inform the operations centre that they were changing the commercial alternate to Manchester. Consequently, the destination alternate on the flight plan remained as Glasgow. The pilots reported that changing a destination alternate would require a telephone call to the operations centre and the OFP to be re-issued, which could take up to 15 minutes. However, as they had the required fuel, routing and level information this was not necessary.

All flight plan information is available to ATC, but during a flight any abnormal events are driven by the pilot's intentions. This requires clear communication between the pilot and ATC, who will coordinate any requests. Alternate airfields are not sent a copy of the flight plan and so any diversion request must be coordinated through ATC; nominating an airfield as an alternate on a flight plan does not ensure acceptance.

In-flight fuel management

In-flight fuel management procedures ensure fuel consumption is monitored at regular intervals and compared to planned fuel consumption to maintain safety margins. The aim is to ensure that the aircraft lands at an aerodrome with at least final reserve fuel.

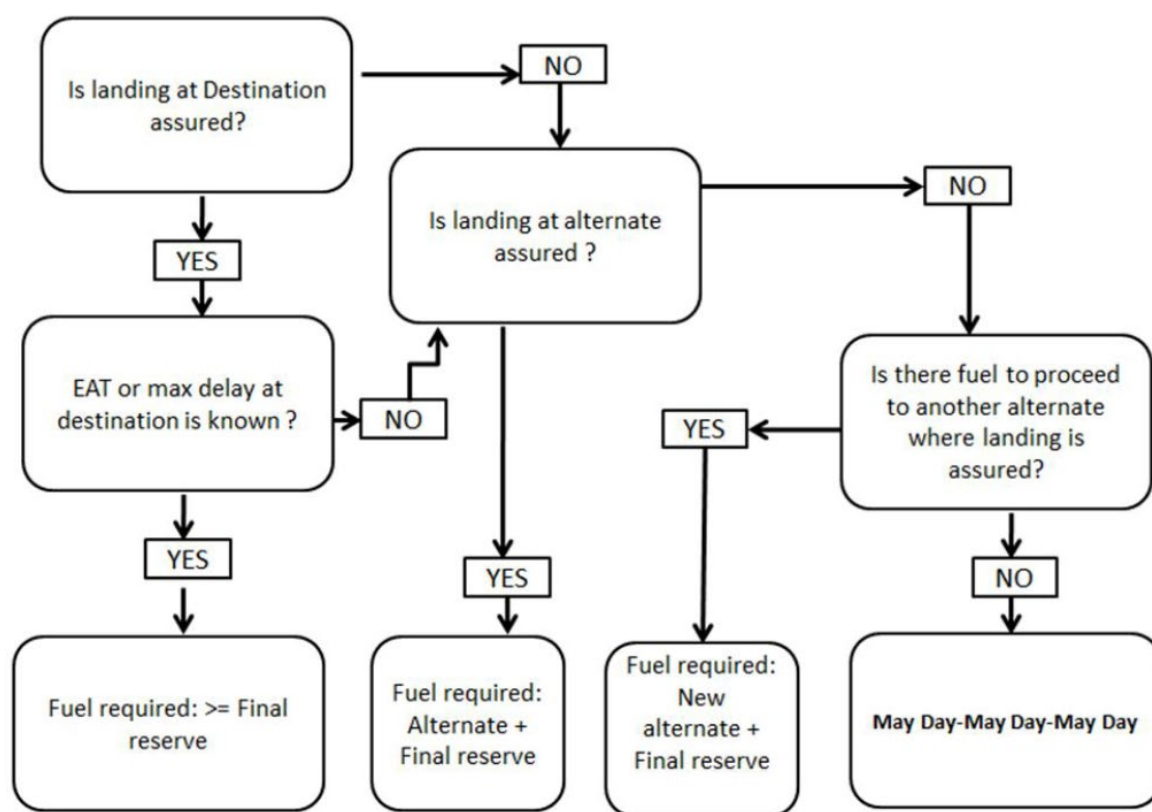
The operator's Operations Manual states:

'The objective of the Final Reserve Fuel (FRF) protection is to ensure that a safe landing is made at any aerodrome when unforeseen circumstances may not allow [the crew] to safely complete the flight as originally planned. The

commander should always consider first planning a safe landing option and estimating whether this landing can be performed with more than the FRF. When this estimation indicates that the FRF can no longer be protected, then a fuel emergency should be declared and any landing option explored ... including deviating from rules, operational procedures, and methods in the interest of safety'.

The term MINIMUM FUEL is used to inform ATC that all planned aerodrome options have been reduced to a specific aerodrome of intended landing. Any change to the existing clearance may result in landing with less than planned final reserve fuel. It is not an emergency but an indication to ATC that one is possible should there be any delays.

The operator produced a flow chart to assist pilots with their in-flight decision making (Figure 5).



Note: To consider a landing to be “assured”, the Commander shall take account of all operational considerations including any forecast deterioration in the weather and plausible single failures of ground and/or airborne facilities e.g. CAT II/III to CAT I.

Figure 5
Operator’s fuel decision flow chart

Table 1 shows the fuel remaining on 9H-QBD at key points of the flight, along with the minimum fuel required at those points.

Stage of Flight	Fuel Remaining	Minimum Required	Difference
Approaches at Prestwick			
Start of first approach	4,725 kg	Manchester (1,606 kg) + Final Reserve Fuel (1,101 kg) Minimum 2,707 kg	2,018 kg
First go-around	4,608 kg		1,901 kg
Depart TRN Hold for second approach	3,800 kg		1,093 kg
Second go-around	3,515 kg		808 kg
Diversion to Edinburgh			
Depart TRN on diversion	2,900 kg	Edinburgh (1,067 kg) + Final Reserve Fuel (1,101 kg) Minimum 2,168 kg	732 kg
Commence third approach	2,253 kg	Final Reserve Fuel	1,152 kg
Third go-around	2,164 kg	Minimum 1,101 kg	1,063 kg
Diversion to Manchester			
Departing Edinburgh “MAYDAY MAYDAY MAYDAY FUEL”	2,036 kg	Manchester (1,700 kg estimated by crew) + Final Reserve Fuel (1,101 kg) Minimum 2,800 kg estimated by crew	-764 kg Estimated landing fuel 336 kg

Table 1

Fuel on board and fuel required during the flight

After entering the TRN Hold following the first windshear escape manoeuvre, the pilots reviewed the fuel and re-iterated that their minimum fuel required for Manchester was 2,800 kg. They agreed that they had sufficient fuel for another approach but would wait for feedback from the aircraft on approach, and that another go-around would result in a diversion.

On entering the TRN Hold following the second go-around, the pilots amended the minimum fuel to 2,200 kg for a diversion to Edinburgh. In the five minutes between making the decision to divert and the diversion being accepted, the crew discussed a diversion to Manchester and expressed concern about what they would do following a further go-around due to windshear at Edinburgh. They knew that Manchester would accept a new request if they declared a MAYDAY for low fuel but believed their fuel state did not justify such a declaration. They agreed, however, that they would declare a fuel emergency should they be forced to go around at Edinburgh.

When they were en route to Edinburgh, the commander stated that the minimum fuel was now the final reserve fuel of 1,101 kg. He stated that 1,400 kg would be used to declare minimum fuel.

Following the third windshear escape manoeuvre, the pilots estimated the fuel required to divert to Manchester was 2,800 kg, which would have resulted in the aircraft landing with the final reserve fuel. The fuel remaining at the time was 2,100 kg, which suggested that a diversion to Manchester would lead to the aircraft landing with 400 kg (although the crew estimated it would be between 500 and 700 kg).

Information from the crew

Following the windshear escape manoeuvre at Edinburgh, the pilots were concerned that they might encounter windshear for a second time if they made another approach and they would either have to land despite the windshear warning to remain above final reserve fuel or go around again. If they went around, they would be committed to making a third approach because low fuel would prevent them from diverting anywhere else. They considered that diverting to Manchester, even landing below final reserve fuel, was preferable because it was the safest option, given the favourable wind conditions meant they were highly unlikely to have to go around yet again. The crew found the transit to Manchester stressful, given the low fuel situation, and considered they had a high workload. They were focused on preparing for the approach and monitoring the wind conditions and, once en route, did not consider returning to Edinburgh or diverting to a closer alternate airport such as Newcastle Airport.

Information from the operator

The operator commented that there was a period of time after the crew had asked to divert to Edinburgh but before they received clearance to do so. During this time, the crew's concern that they may have to go around at Edinburgh could have been interpreted as meaning a landing at Edinburgh might not be assured due to a risk of windshear. If so, this would have allowed an emergency to be declared under the operator's procedures.

Weather related missed approaches

The operator's Operations Manual Part A, *Weather Related Missed Approaches*, states:

'If a missed approach has been executed for meteorological reasons, another approach shall only be commenced if the Commander has reason to believe that a second approach will lead to a successful landing'; and

'It is not permitted to conduct a third approach following two abandoned approaches due to windshear'.

Diversion request

In the UK AIP, Manchester Airport regulations state, *'All operators are advised that before planning Manchester as an alternate, they are required to have ground handling available at the airport'*. Manchester is a regular destination of the operator of 9H-QBD and so ground handling was available.

Manchester's diversion policy states:

'Aircraft diverts will be accepted if there is capacity on the ground, including the spaces available through the Manchester Airport Excess Parking Plan. Declared emergencies & medical diversions will always be accepted'.

At 1822 hrs, the pilot notified Prestwick ATC that their intention was to divert to Manchester in the event of a go-around from the second approach. At 1829 hrs Manchester ATC received the request and called Airfield Control for a decision.

The diversion policy states:

'Upon receipt of a divert request from ATC, Airfield Control will assess the stand capacity. If parking space is available, the request should be accepted. Airfield Control will notify:

*Airport Operations Duty Manager
Manchester Airport Control Hub (MACH)
Nominated Ground Handling Agent*

Whilst MAN/EGCC will notify Ground Handling Agents of any expected diversions, the decision to accept a request for an inbound diversion will always be made by MAN Airfield Operations on grounds of flight safety and aerodrome ground capacity.'

At 1834 hrs, Airfield Control called ATC stating the handling agent was unable to accept the diversion. Prestwick were told the diversion could not be accepted, but the reason of a lack of handling capacity was not passed. The refusal was subsequently relayed to the pilots at 1837 hrs, after the second missed approach.

The Manchester Airport Excess Parking Plan was not in force on the day, although they had accepted 19 diversions due to Storm Amy. The handling agent for the operator stated it was their policy to accept diverting aircraft from this operator, but there was no record of the communications between Airfield Control and the handling agent. Therefore, it was not established how the decision was made to refuse the diversion.

Following this incident Manchester Airport reviewed its procedures and restated that diversions will be accepted by Airfield Control if there is parking space available. Handling agents would be notified but would not be involved in the decision-making process. Manchester reiterated that to use Manchester as an alternative airport an operator must have a handling agent.

Enhanced Ground Proximity Warning Systems (EGPWS)

The aircraft was fitted with an EGPWS that incorporated several detection modes including windshear alerting (Mode7). This function was designed to provide detection of windshear by monitoring aircraft parameters for indications of energy-loss conditions.

Mode 7 windshear alerting is active during flight phases where windshear is known to present the greatest hazard:

- Takeoff: From rotation until the aircraft passes 1,500 ft agl.
- Approach: From 1,500 ft down to 10 ft agl.
- Missed approach: Until climbing through 1,500 ft agl.

A Windshear Warning is generated when the system detects severe performance-degrading shear, including decreasing headwind, increasing tailwind, or a strong downdraft. When detected, a red WINDSHEAR message is displayed on the Primary Flight Displays and there is an aural WINDSHEAR warning. The warning envelope is dynamically adjusted based on aircraft climb performance, flightpath angle, variations from normal approach speeds, and fluctuations in static air temperature, which are characteristic of microburst encounters.

Windshear escape manoeuvre

If a windshear warning is received, pilots must execute a manually flown windshear escape manoeuvre, which is designed to transition the aircraft into a maximum rate climb to clear the windshear conditions. It differs from a normal go-around in that it requires maximum thrust, not go-around thrust, landing gear and flap configurations are not changed, and the aircraft pitch attitude is controlled for maximum climb performance rather than go-around performance. Once the aircraft is clear of windshear, the aircraft is recovered to a normal climb configuration.

Recorded information

The aircraft was fitted with an FDR and CVR, both of which were successfully downloaded at the AAIB. The EGPWS was also recovered, which recorded parameters associated with the windshear warnings. In addition, RTF recordings were provided by Prestwick, Edinburgh and Manchester Airports. All data sources were combined to create a timeline of events.

Just before taxiing to the runway in Pisa, the combined fuel from the left, centre and right fuel tanks was 11,671 kg. Takeoff commenced at 1528 hrs with the centre tank fuel being used first on an uneventful flight to Prestwick.

The CVR recorded the last 2 hours 11 minutes of operation and commenced recording at 1752 hrs, during the descent to Prestwick at FL161. Some of the crew discussions were in Italian which was translated with the assistance of an Accredited Representative from the Agenzia Nazionale per la Sicurezza del Volo (ANSV) of Italy.

ATC cleared the aircraft to land at Prestwick Airport Runway 20, passing the wind conditions of 250° at 29 kt. The controller continued to pass the instant wind conditions as the aircraft continued the approach, the last of which was 250° at 40 kt. At 1806:27 hrs when 0.7 nm from the runway threshold at 215 ft agl, a windshear warning was recorded on the CVR and FDR and the flight crew performed a go-around. At the time, recorded fuel quantity was approximately 4,608 kg⁵ (Figure 6).

Footnote

⁵ Fuel quantity is recorded every 64 seconds.

The aircraft carried out the windshear escape manoeuvre that transitioned into a go-around, during which flight crew discussions included fuel, the possibility of a diversion to Manchester, and that another of the operator's aircraft was on the approach to Prestwick.

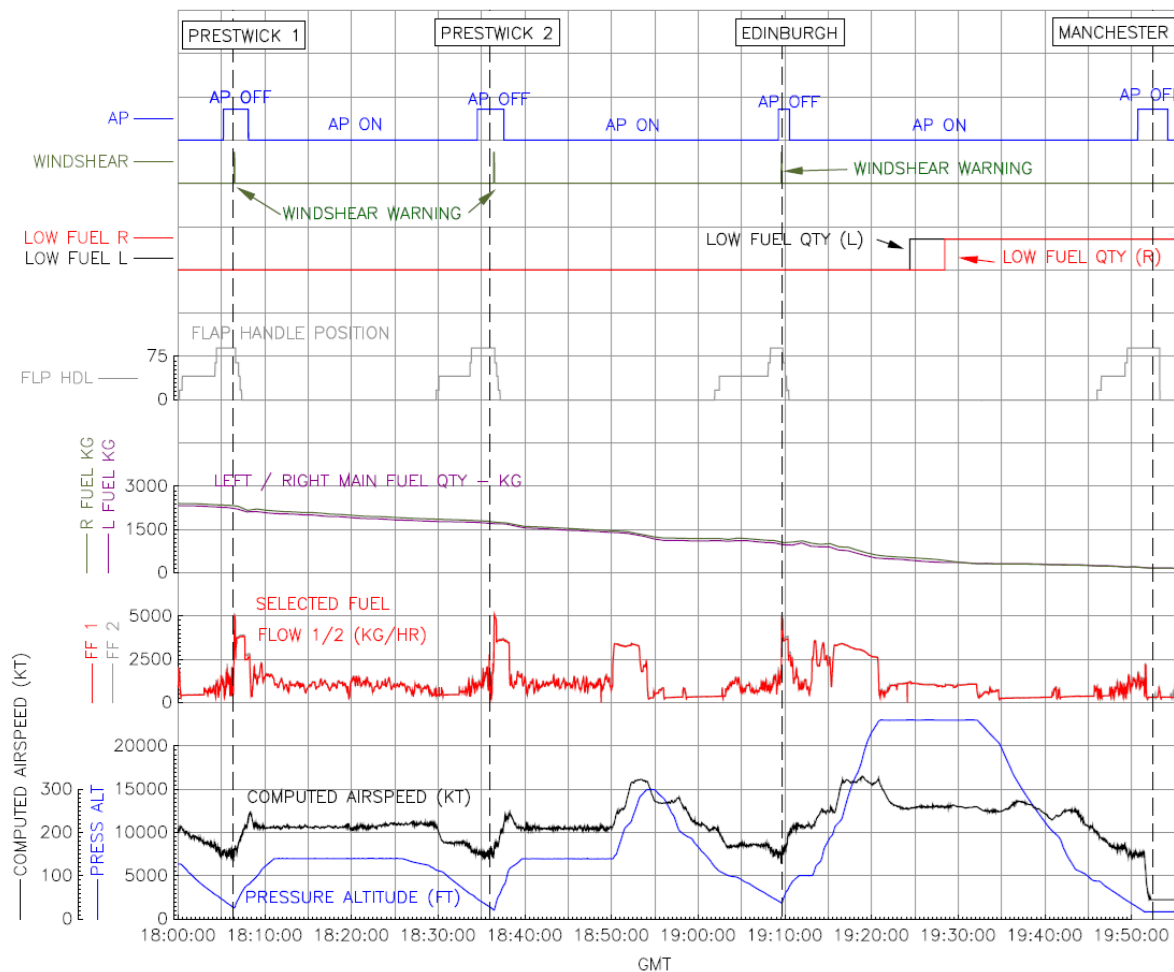


Figure 6

9H-QBD Flight Data for the four approaches

While in the hold, at 1817:28 hrs, the crew requested the Manchester weather report from ATC. After the operator's other aircraft successfully landed, at 1821:58 hrs, a second approach to Prestwick was requested and with the crew stating to ATC that "IN CASE OF MISSED APPROACH AGAIN, WE GO STRAIGHTFORWARD TO MANCHESTER".

During the second approach to Prestwick, at 1836:25 and 50 ft agl, a second Windshear Warning was triggered and a go-around was performed. At the time, recorded total fuel quantity was 3,515 kg. During the climb, ATC advised that "...MANCHESTER IS UNABLE TO ACCEPT YOU..." and asked for their intentions. The aircraft entered the hold again, during which the flight crew asked for the Glasgow and Edinburgh weather report and whether aircraft were landing at these destinations. The ATIS received from Glasgow included reports of windshear, and at 1843:26 hrs, the crew stated "REQUEST IMMEDIATELY TO DIVERT TO EDINBURGH". This was approved at 1848:53 hrs and the aircraft began tracking towards Edinburgh.

The flight continued and, at 1908:26 hrs, the aircraft was cleared to land on Runway 24 at Edinburgh Airport. At 1909:36 hrs, the FDR and CVR recorded a third Windshear Warning at 2.43 nm from the runway, at 745 ft agl. A windshear escape manoeuvre was performed, and Edinburgh ATC instructed the crew to turn onto 320° and to climb to 4,000 ft. At the time, recorded fuel quantity was 2,164 kg.

During the climb, the crew discussed fuel again and that another approach may lead to another Windshear Warning. They discussed the remaining fuel, which was 2,100 kg, and estimates of landing with between 500 and 700 kg of fuel if they diverted to Manchester Airport.

As the aircraft reached 4,000 ft, ATC instructed them to change frequency to Edinburgh Radar, who instructed them to turn right for vectors for an ILS approach back to Runway 24. The crew then discussed an ILS approach to Manchester Airport during which likely remaining fuel was discussed. The co-pilot commented that the predicted fuel on arrival at Manchester was “0.3” (i.e. 300 kg) and it was decided that they should declare a MAYDAY.

At 1912:34, the commander stated to ATC:

“WE HAD ANOTHER WINDSHEAR ALSO HERE, SO WE HAVE ER MAYDAY MAYDAY MAYDAY FUEL [CALLSIGN]”.

Edinburgh ATC acknowledged the MAYDAY and instructed the crew to descend to 3,000 ft. The commander replied stating that:

“AH BUT WE ARE AFRAID THAT WE GET ANOTHER WINDSHEAR HERE WE WE WOULD LIKE TO DIVERT IMMEDIATELY TO MANCHESTER, IT WAS DENIED BEFORE”.

ATC acknowledged this and instructed them to climb to 6,000 ft on a heading of 180°.

The flight then continued towards Manchester Airport, climbing to FL230. During the flight, at 1924:26 hrs, the FDR recorded the LOW FUEL QUANTITY TANK 1 alert. The crew acknowledged this and also discussed that the fuel estimate continued to decrease (although it is unknown from what amount). They also acknowledged a fuel imbalance of 100 kg, with the FDR data recording 523 kg of fuel in the right tank and 404 kg in the left tank. Over approximately three minutes, the recorded fuel became balanced and the crew acknowledged that the fuel balancing was completed⁶.

At 1928:28 hrs a LOW FUEL QUANTITY TANK 2 alert was recorded and the flight then continued, landing at Manchester at 1951:30 hrs. At the point of touchdown there was 363 kg total fuel remaining. The aircraft taxied to stand and, just prior to engine shutdown, the final fuel quantity recorded on the FDR was 240 kg.

Footnote

⁶ Fuel quantity is recorded every 64 seconds.

During the previous go-arounds at Prestwick and Edinburgh, with the engines at go-around power, recorded fuel flow reached approximately 3,600 kg/hr per engine (120 kg/min for both engines).

EGPWS data

When the EGPWS generates a windshear warning, it stores several parameters once per second for 50 seconds prior to and 50 seconds after the warning. Download of the EGPWS revealed three windshear detections for this flight.

The data was shared with the system manufacturer for comment, and the data included a 'total shear' parameter, which is a calculated measure of the overall windshear. Once this total shear reaches a threshold, a windshear warning is triggered. The manufacturer confirmed that the system was functioning as per design and there were no system failures recorded. The 'total shear' parameter reached the threshold required to trigger the windshear warnings on each occasion.

Aircraft performance

The landing at the destination of Prestwick was expected to be onto Runway 20 rather than the longer Runway 30 due to the crosswind being too great for Runway 30. This limited the landing weight of the aircraft and, therefore, the take-off weight at Pisa. This, in turn, limited the amount of extra contingency fuel that could be carried to allow for the weather.

Analysis

Summary

9H-QBD departed Pisa for Prestwick but diverted to Edinburgh following two windshear escape manoeuvres at Prestwick. A further windshear escape manoeuvre was performed at Edinburgh after which the crew declared a MAYDAY and diverted to Manchester, where they landed with 363 kg, less than the final reserve fuel of 1,100 kg.

Pre-flight planning

Pre-flight preparations and planning were conducted by each pilot at home prior to the flight. The crew had been informed of the potential disruption due to storm Amy through two communications sent the day before and on the morning of the flight. Extra contingency fuel was carried due to the forecast wind at the destination but the amount of additional fuel was limited by the expectation that an approach to the shorter runway at Prestwick would be required. The additional fuel allowed for about one hour of extra endurance at cruise speed.

Decision-making and emergency handling

Following the first windshear escape manoeuvre at Prestwick, the crew elected to enter the hold and wait to see if another aircraft of the same type landed. They held for about 20 minutes and, when the landing was confirmed, began a second approach. This was in accordance with the operator's policy that a second approach should only be flown if a commander has reason to believe it will lead to a successful landing.

After the second go-around at Prestwick, the crew asked to divert to Manchester because of the operator's policy that a third approach is not permitted following two windshear escape manoeuvres, but the request was refused. Although the reason for the refusal was not established, it appeared to have resulted from a breakdown in communication between units within Manchester Airport. According to the airport and handling agent's policies, the diversion request should have been accepted. The pilots believed that their fuel state did not permit them to declare a fuel emergency, which would have allowed them to go to Manchester. The operator commented that an emergency could have been declared if the crew was concerned that landing at Edinburgh would not have been assured because of windshear. However, the crew based their decision to divert to Edinburgh on a weather report that did not include windshear (although it did report some previous go-arounds) and because Glasgow Airport, although nearer, was experiencing similar weather conditions to Prestwick.

Following the windshear escape manoeuvre at Edinburgh, ATC turned the aircraft north, expecting it to make another approach. The pilots were concerned about the fuel situation but also the possibility of another windshear escape manoeuvre and go-around should they remain at Edinburgh. The Operations Manual states that commanders should only make a second approach following a weather-related go-around if they assess that the second approach will be successful, but the crew appeared concerned that the conditions at Edinburgh did not support such an assessment. Another approach at Edinburgh would have protected final reserve fuel – if it had resulted in a safe landing – but the crew was concerned that if it resulted in another missed approach, they would then be committed to making a third approach in windshear conditions with no option other than to fly through a windshear warning to land.

Prior to declaring the fuel emergency, the pilots had calculated and agreed that they would arrive at Manchester with between 500 and 700 kg of fuel. When they programmed the FMS, however, it predicted arriving at Manchester with 300 kg. Both calculations were below the final reserve fuel of 1,100 kg. The operator's final reserve fuel policy aims to ensure a safe landing when unforeseen circumstances do not permit the flight to be conducted safely as originally planned, and it is likely that three windshear escape manoeuvres and a diversion would be captured by this definition. The policy also requires commanders to consider '*a safe landing option*' that preserves final reserve fuel before exploring '*any landing option*'. The commander considered that if they remained at Edinburgh it could lead to them making an approach with no option other than to fly through any windshear warning to land. In the circumstances, the commander considered a diversion to Manchester to be the safest option even though it would inevitably lead to landing below final reserve fuel.

When the LOW FUEL QUANTITY TANK 1 message was displayed, there was an opportunity to review the decision to divert because Edinburgh, although behind them, was closer than Manchester. In the event, the aircraft continued to Manchester where it landed safely, but it is unlikely that there would have been sufficient fuel available for another go-around. The crew had considered Manchester to be their preferred alternate airport from the outset and it is possible that this influenced their decision-making.

Manchester Airport Actions

Following this serious incident, Manchester Airport reiterated to stakeholders its policy of accepting diversion requests if the airport has the capacity to receive the aircraft and that the decision on accepting the diversion does not rest with the handling agent.

Conclusion

Following two windshear escape manoeuvres at Prestwick caused by the presence of Storm Amy, the crew of 9H-QBD asked ATC if they could divert to Manchester. Although the airport and handling agent policies at Manchester meant that the diversion should have been accepted, a breakdown of communication within the airport led to it being refused. The aircraft diverted instead to Edinburgh where the crew was required to perform another windshear escape manoeuvre.

The pilots were concerned that if they remained at Edinburgh there was a possibility that their low fuel state and the wind conditions could mean they had no option other than to fly through a windshear warning while on approach. They calculated that if they diverted to Manchester, they would land with between 500 and 700 kg of fuel, and, subsequently, the FMS calculated the expected arrival fuel to be 300 kg. Both calculations meant that the aircraft would land below the final reserve fuel of 1,100 kg, but the commander considered the safest option was to divert to Manchester where the aircraft landed with 363 kg.

Following this serious incident, Manchester reiterated to stakeholders its policy for accepting diverting aircraft.

Published: 24 September 2026.

Accident

Aircraft Type and Registration:	Beagle B121 Series 2, G-AZDG	
No & Type of Engines:	1 Lycoming O-320-A2B piston engine	
Year of Manufacture:	1970 (Serial no: B121-145)	
Date & Time (UTC):	28 December 2025 at 1402 hrs	
Location:	Hanningfield Reservoir, Essex	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - 1 (Fatal)	Passengers - N/A
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	66 years	
Commander's Flying Experience:	20,000 hours (of which 'unknown' were on type) ¹ Last 90 days – 1.5 hours ² Last 28 days – 0.5 hours	
Information Source:	AAIB Field Investigation	

Synopsis

The pilot took off in G-AZDG from North Weald Airport, Essex for a local flight. About 1 hour and 20 minutes later the aircraft was observed to enter a steep descent before it struck the water in Hanningfield Reservoir, Essex. The pilot did not survive.

The pilot had been experiencing mental health issues and sleep difficulties for a few weeks before the accident. Based on this information, a handwritten card by the pilot, and the aircraft's flight profile, it is likely that the pilot deliberately flew into the reservoir.

History of the flight

Background information

On 24 December 2025, the pilot flew the accident aircraft solo, on a local flight from North Weald Airfield (Figure 1). This flight lasted about 35 minutes, during which the aircraft flew an orbit over, and another near, Hanningfield Reservoir, Essex; the location of the accident. The aircraft subsequently landed at North Weald without event.

Footnote

¹ The pilot's most recent logbook was not recovered. His total flying hours were stated on a pilot's medical application in June 2023.

² The pilot's recent flying hours were taken from the aircraft's logbook.

Accident flight

On 28 December 2025 the pilot notified ATC that he intended to perform a local flight from North Weald Airfield. At the time Runway 02 was in use. Soon after the aircraft commenced taxiing, one of the airfield's operations vehicles noticed a tie-down weight was still attached to the aircraft's right wing and was being dragged along the taxiway. The vehicle driver informed the ATCO, who in turn advised the pilot to stop so the driver could remove it. The driver subsequently spoke to the pilot before he removed the weight and stated that, while their interaction was short and the aircraft's engine was running, he noted that the pilot's demeanour appeared normal. The aircraft then continued to taxi to the runway and, after completing the engine power checks, took off at 1239 hrs without incident and departed to the east.

The aircraft flew towards Hanningfield Reservoir³, 13.5 nm east-south-east of North Weald where it remained in the vicinity for about 70 minutes (Figure 1). During this time the aircraft's flight path involved many turns centred on the reservoir, with some excursions to the south-west and north-east, before returning to the reservoir⁴. It also included, at about 1253 hrs, one descent in excess of 6,000 ft/min, down to about 600 ft above the reservoir, before entering a climb. At 1401 hrs the aircraft turned south-east flying towards the north-east corner of the reservoir, at an altitude of approximately 1,800 ft above the reservoir, with a ground speed averaging about 90 kt. The ground speed started increasing in conjunction with a slight climb. A right turn was initiated just prior to reaching the reservoir, the turn tightened and the aircraft descended rapidly with an increasing groundspeed⁵. The last recorded point, at 1402 hrs, was approximately 500 ft above the reservoir with a descent rate greater than 5,000 ft/min. At this time the aircraft was seen by some eyewitnesses that were about 450 m south-east of the impact point. They stated that they saw the aircraft, in a level attitude, "nose diving" from height at an angle of approximately 60° nose-down, before it struck the water making "a big splash and a loud bang". The aircraft then disappeared under the water. They added that during the descent the engine sounded normal and there was no "spluttering engine" noise. After it had disappeared, they observed oil and small pieces of wreckage on the surface of the water. They immediately called the emergency services, who arrived about 15 minutes later. This subsequently included an air ambulance helicopter and a police helicopter. At the time there was an easterly wind.

Footnote

³ Hanningfield Reservoir is about 177 ft amsl.

⁴ The aircraft's transponder provided the flight path information recorded by aircraft tracking services.

⁵ The accuracy of the onboard GNSS position fixes and the ability for the aircraft tracking networks to receive the transmitted position were likely compromised during the final part of the descent.

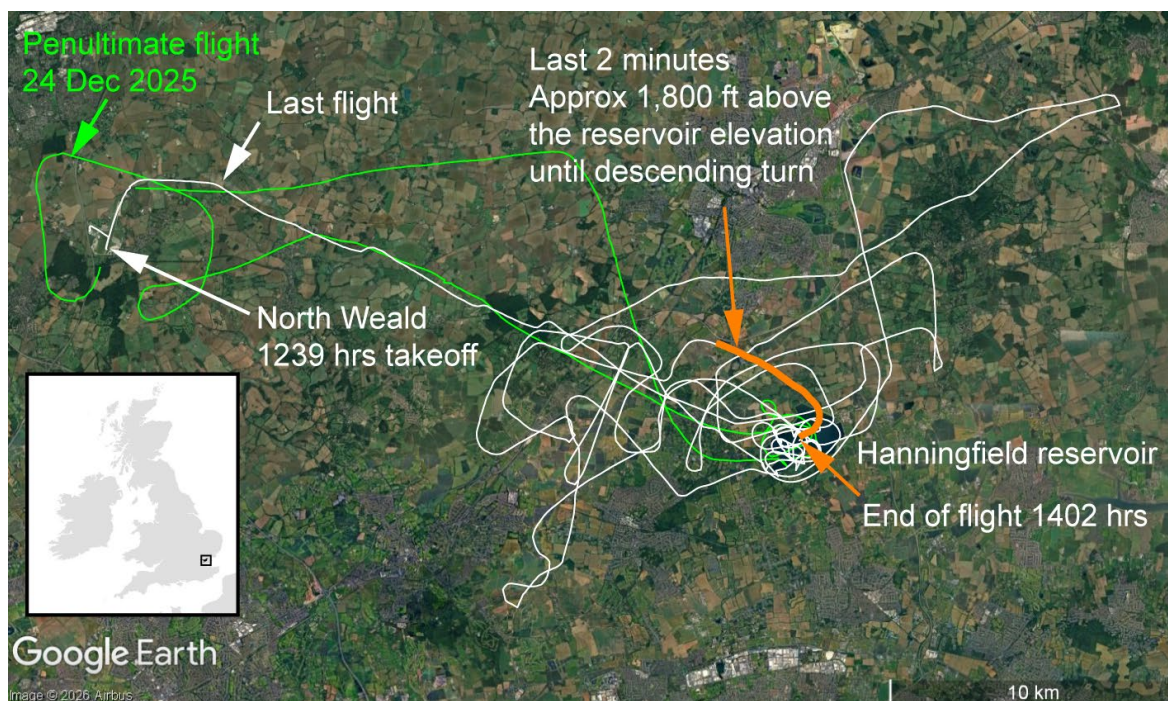


Figure 1

Aircraft's flight path on 24 and 28 December 2025

© Google Earth, Image © Airbus

Meteorology

During the period of the flight the weather at London Southend Airport, 8.7 nm from the accident site, had a surface wind from between 030° and 050° at 8 to 9 kt, with variations between 010° and 070° and visibility in excess of 10 km. There was broken cloud between 2,300 and 2,400 ft aal (2,350 ft and 2,450 ft amsl), the temperature was 7°C and the QNH was 1031 hPa.

Pilot information

The pilot had owned the aircraft for about nine years. A close friend stated that it was extremely rare for the pilot to fly the aircraft solo. When he did, it would usually be a visual circuit to remain current.

Whilst the pilot flew the aircraft solo on 24 December 2025, when he met his friend on 25 December 2025, he did not mention that he had been flying. At that meeting the pilot seemed quiet, and vacant, which was unlike him. He said he had been “feeling rubbish and unhappy” and that recently prescribed medication was making him feel a bit strange, and not very well mentally.

The day before the accident the friend spoke to the pilot after which the pilot messaged his friend to say he was lonely and unhappy. As such the friend invited the pilot to lunch at around 1200 hrs, which he accepted. At 1300 hrs on the day of the accident the friend tried to contact the pilot several times to no avail. Later that afternoon, he became aware of the accident involving his friend.

After the accident a card addressed to the friend was found at the pilot's house which expressed that his '*desolation and loneliness*' had become too much.

Medical

Medical history

The pilot contacted his doctor on 10 December 2025 as he was having problems with his mental health and difficulties sleeping. He was subsequently referred to a consultant psychiatrist who prescribed him medication, including antidepressants. His last contact with mental health professionals was at his home on 23 December 2025. They noted that the pilot '*engaged well in the review and reported no concerns. He explained that he was quite satisfied with the progress he was making.*'

The pilot held a UK Private Pilot's Licence and was flying on a Pilot Medical Declaration, which is made by pilots on the CAA's website. His last declaration was made on 11 June 2023 and was valid until 10 April 2029. Given his condition and the prescribed medication, he was obliged to withdraw his declaration. He should have also consulted with an Aeromedical Examiner (AME) to discuss his condition, the medicine and his fitness to continue flying. There were no records of any contact with an AME and he had not withdrawn his declaration.

Post-mortem examination

There was no evidence of any underlying pathology that could have led to incapacitation or death prior to impact. The cause of death was given as multiple injuries consistent with a high-speed impact. As such the accident was deemed unsurvivable.

Accident site

The aircraft wreckage was found on 30 December 2025 using side-scan sonar and police divers. It was submerged at a depth of about 6 m near the centre of Hanningfield Reservoir (Figure 2).



Figure 2

Wreckage and eyewitnesses' location with final flight path from recorded tracking services
© Google Earth, Image © Airbus

The pilot's body was found near the wreckage and was recovered on the same day by police divers. The wreckage, which was severely broken up, was recovered on 10 January 2026.

Aircraft information

The Beagle B121 aircraft, known as the Pup, was designed as a single-engined all-metal two-seat aerobatic aircraft and as a four-seat touring aircraft. The first delivery of the Series 1 variant was in 1968. G-AZDG was a Series 2 aircraft with a 150 hp Lycoming O-320-A2B piston engine, and configured with three seats. It was fitted with the optional extended range fuel tanks which provided a total usable fuel capacity of 159 litres.

The aircraft's last annual inspection was completed in February 2025 when the airframe had accumulated 7,978 flight hours. The aircraft had flown about 10 hours between then and the accident. The aircraft's last maintenance was a nosewheel inner tube change on 5 December 2025. The maintenance organisation stated that the parking brake was inoperative and was going to be repaired at the next annual inspection. They were not aware of any other defects.

Aircraft examination

The aircraft wreckage was severely broken up (Figure 3) indicating a high-speed impact. The wreckage was found in a relatively small compact area which was consistent with a steep impact. One of the propeller blades was curled backwards which often occurs in steep impacts and makes it difficult to determine if the propeller was being driven by engine power at the time. The left horizontal tail and left elevator were attached, while the right horizontal tail and right elevator had partially detached in a manner consistent with impact forces. The elevator control cables were attached to the elevator bellcrank, but the cables had failed due to overload consistent with the airframe break-up. The elevator was in a neutral position and could be actuated via the cables. Due to the circumstances leading up to the accident no further wreckage examinations were carried out.



Figure 3
G-AZDG aircraft wreckage

Analysis

On 24 December 2025, the pilot flew solo over Hanningfield Reservoir. This was unusual as a close friend of the pilot stated the pilot rarely flew the aircraft solo and when he did it was usually only for some circuits. While it could not be determined what the pilot's intentions were that day, the flight profile was similar to the accident flight.

During the accident flight, the aircraft flew over, or in the vicinity of, the reservoir for most of the flight prior to the accident. At 1253 hrs there appeared to be a possible attempt to fly into the reservoir before the aircraft was recovered into a climb.

During the final moments of the flight the aircraft was descending at about 5,000 ft/min, in a nose-down attitude of about 60°, before it struck the water. The impact was not survivable.

The aircraft damage was consistent with a steep high-speed impact. There was no evidence of a pre-impact failure of the horizontal tail or elevators which could have caused a steep uncontrolled nosedive. According to eyewitnesses the aircraft hit the reservoir in a wings level attitude indicating that the aircraft was likely under control.

The pilot had been under the medical care of a consultant psychiatrist who had diagnosed mental health issues and sleeping difficulties. However, the pilot had not withdrawn his medical declaration or consulted with an AME.

This evidence, combined with the pilot's medical history and the card found at the pilot's house, indicated that it was likely that the pilot deliberately flew into the reservoir.

Conclusion

The aircraft flew in a steep wings-level dive into the reservoir. There was no evidence of a pre-impact failure of the horizontal tail or elevators which could have caused a steep uncontrolled nosedive. In addition, the pilot's medical history and other evidence indicate that it is likely that the pilot deliberately flew into the reservoir.

Published: 1 October 2026.

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.

Serious Incident

Aircraft Type and Registration:	Airbus A319-131, G-EUPS	
No & Type of Engines:	2 International Aero Engine V2522-A5 turbofan engines	
Year of Manufacture:	2000 (Serial no: 1338)	
Date & Time (UTC):	30 October 2025 at 1918 hrs	
Location:	In the climb after takeoff from Edinburgh Airport	
Type of Flight:	Commercial Air Transport	
Persons on Board:	Crew - 6	Passengers - 132
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Air Data Inertial Reference Unit temporary shock loading	
Commander's Licence:	Airline Transport Pilot's Licence	
Commander's Age:	47 years	
Commander's Flying Experience:	12,127 hours (of which 6,623 were on type) Last 90 days - 161 hours Last 28 days - 53 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries	

Synopsis

Shortly after takeoff from Edinburgh Airport, the Autopilot (AP) and Autothrust (A/THR) systems disconnected during the climb, followed by a loss of positional information from the Global Positioning Inertial Reference System (GPIRS). The flight crew initially declared a PAN and the flight continued to London Heathrow Airport using radar vectors. The flight crew were able to re-engage the AP and A/THR systems, but they disconnected again during the approach and a further rudder travel limiter system error immediately prior to landing necessitated a go-around. The aircraft subsequently landed safely.

The AP and A/THR disconnects and the loss of the GPIRS and rudder travel limiter systems were caused by severe drift of the aircraft's Inertial Reference System (IRS) due to vertical shock loads encountered during the takeoff roll at Edinburgh. The exact source of the shock loading was not determined but two larger sound impulses from the nose landing gear were captured by the Cockpit Voice Recorder (CVR). No damage or irregularity was found with the Air Data Inertial Reference Units (ADIRU) or the Nose Landing Gear (NLG).

Sensitivity of the ADIRUs to shock loading outside of their certification requirements is a known issue to the aircraft manufacturer. The runway at Edinburgh has since been fully resurfaced.

History of the flight

The aircraft was on a scheduled flight from Edinburgh Airport to London Heathrow Airport. Immediately prior to V_R during the takeoff roll on Runway 06 at Edinburgh, the Commander (PM) and co-pilot (PF) heard a “bang” from the nosewheel. About nine minutes after takeoff, and as the aircraft was climbing through FL220, the crew observed a GPS PRIMARY annunciation on the left Navigation Display (ND), followed shortly afterwards by a status message CAT 3 SINGLE ONLY, with CAT 3 DUAL listed as inoperative.

The crew checked the Multipurpose Control and Display Unit (MCDU)¹ position monitor page, where the Inertial Reference System (IRS) IRS 2 deviation value² displayed dashes, instead of a number. IRS 1 and IRS 3 both displayed a deviation value of 5.0 nm, increasing by approximately 0.1 per second, reaching a value of 28.0 nm. AP2, which was engaged after takeoff, then disengaged, so the PF engaged AP1 but this also disengaged after a few seconds, along with the A/THR system. There were no ECAM alerts, or any fault lights on the overhead panel.

The flight crew declared a PAN with ATC and levelled off the aircraft at FL320. They requested a radar heading and ATC informed that the flight was now non-RVSM³. Scottish Control requested the flight crew to squawk 7700 (later cancelled upon transfer to London Control) and to descend to FL290.

The System Display (SD) STATUS page displayed AP 1+2, A/THR and CAT 2⁴ as inoperative systems. The crew attempted to troubleshoot using the Flight Crew Operating Manual (FCOM) and Quick Reference Handbook (QRH), but none of the checklists exactly matched the information presented. The ‘NAV FM/GPS POS DISAGREE’ QRH checklist was consulted and the parameter for estimated accuracy was below the required accuracy, while the Flight Management Guidance Computer (FMGC) positions matched the GPIRS position. The flight crew attempted to confirm the aircraft’s position using a GPS waypoint, but ATC informed them that it was incorrect. They were able to confirm the aircraft’s position using VOR but there was a 5 nm discrepancy between the positions shown on the left and right NDs. The flight crew changed the ND to ROSE VOR and continued the flight to Heathrow on radar vectors.

During the descent, the STATUS page returned to normal and AP and A/THR became available, so the flight crew re-engaged AP2 and the A/THR. They briefed the intent to use available automation for as long as possible but planned to disengage the AP and A/THR when on the final approach, to avoid a workload increase if they disengaged again. They also briefed a go-around procedure.

Footnote

- ¹ The MCDU is the keyboard and screen used by the flight crew to interact with the flight management and guidance system.
 - ² The values show the difference in nautical miles of each IRS position from that computed by the flight management systems.
 - ³ RVSM (Reduced Vertical Separation Minima) allows aircraft to operate with reduced vertical separation. Among other requirements, the rules require a functional autopilot capable of holding altitude.
 - ⁴ Indicating a degraded landing category due to loss of AP and A/THR systems.
-

When the aircraft reached 4,200 ft and was cleared to intercept the localiser, the AP and A/THR once again disengaged, so the flight crew continued the approach manually. At approximately 1,500 ft amsl an AUTO FLT RUD TRV LIM 1⁵ ECAM alert triggered. The flight crew were unable to complete the required ECAM actions by 1,000 ft and initiated a go-around as briefed. After levelling off, the ECAM alert self-cleared and the aircraft landed after a second uneventful approach. After landing, whilst parking on stand, a NAV IR 1 FAULT ECAM alert triggered, followed by a NAV IR 1 + 3 FAULT alert after parking.

Recorded information

Introduction

The aircraft's FDR and CVR were removed from the aircraft shortly after landing at Heathrow and subsequently replayed by the AAIB. The entire incident flight was available, with the CVR recording commencing as the flight crew prepared the aircraft for the flight to Heathrow.

Takeoff roll

The taxi out to the runway and initial takeoff roll appeared normal. As the aircraft accelerated along the runway, rhythmic sound pulses were recorded on the CVR cockpit area microphone (CAM), which were consistent with one of the NLG tyres contacting the runway centreline lights. As the aircraft reached a ground speed of about 118 kt (an airspeed of 128 KCAS), the amplitude of one of the sound impulses increased (Figure 1 and Figure 2 - Point A). This coincided with the aircraft's NLG squat switch (recorded at an update rate of four samples per second) starting to oscillate quickly back and forth between its GROUND and AIR indication. One second later (Figure 1 and Figure 2 - Point B), there was a further short duration sound impulse, which was of sufficient intensity to be captured by the CAM and the pilot's headset hot-microphones⁶. Less than one second after this, the aircraft's airspeed reached V_R and the PF applied aft stick, rotating the aircraft into the climb.

The recorded data from the FDR system's tri-axial accelerometer appeared normal during the takeoff. However, the triaxial accelerometer is installed near the aircraft's CG and accordingly accelerations occurring near the forward fuselage, such as those due to nosewheel contact with surface irregularities or centre line lights, may not be apparent.

Footnote

⁵ This alert is triggered when one rudder travel limitation actuator has failed.

⁶ Sounds from the headset microphones are recorded permanently by the CVR system, irrespective of audio settings such as use of the interphone or radios.

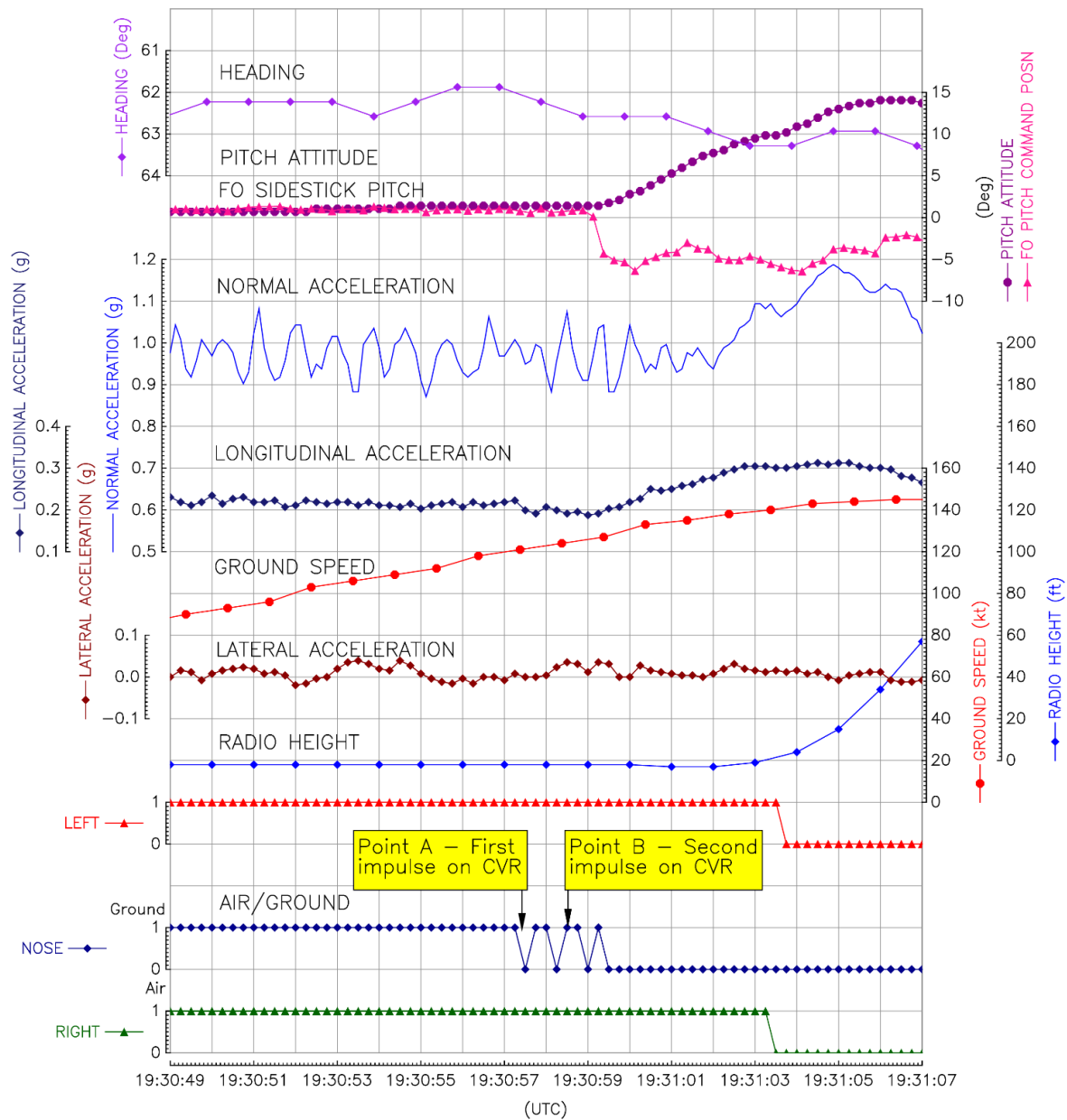
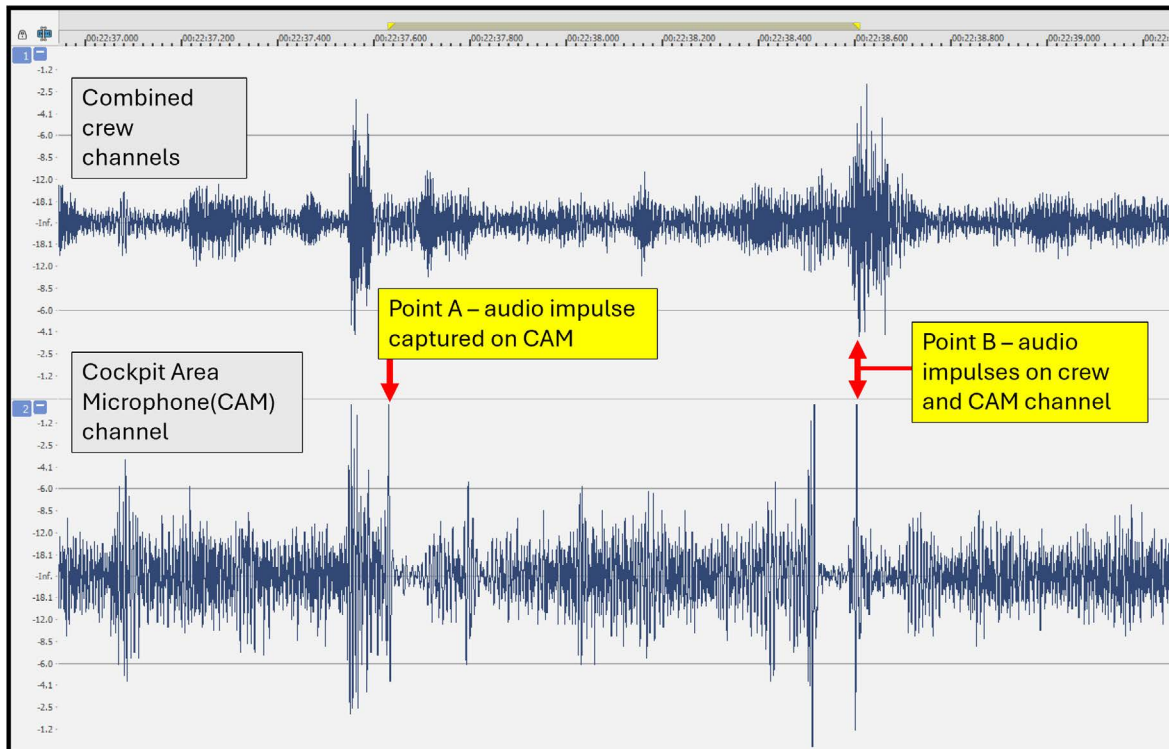


Figure 1
Relative timing of CVR sounds during takeoff roll

**Figure 2**

High amplitude sounds recorded on the CVR during takeoff

NLG air/ground indication

When uncompressed, the NLG shock absorber can extend to 44.9 cm (Figure 3 - dimension H). If the shock absorber extension is less than 44.1 cm, a proximity sensor indicates that the NLG is on the ground, and when the shock absorber extension is beyond 44.46 cm, the NLG is in the air position. Between 44.1 and 44.46 cm, the shock absorber is referred to as being within a transition zone, whereby it is possible that the indication could be either air or ground.

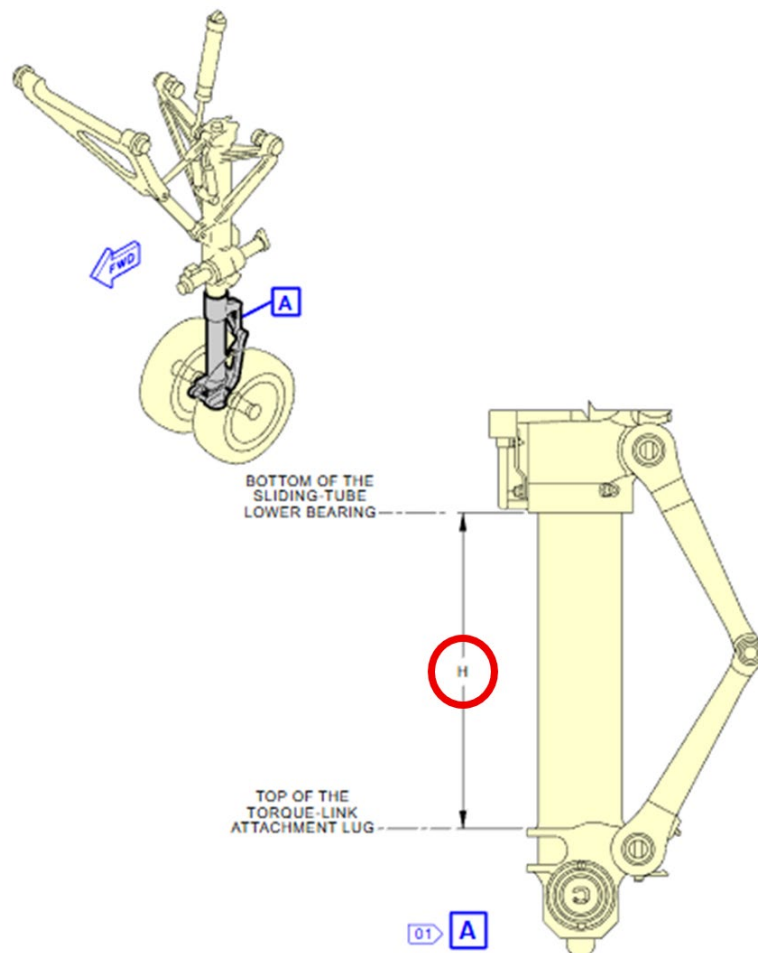


Figure 3
NLG shock absorber

Approximate runway position of sound impulse

Figure 4 shows the approximate area of the runway where the second sound impulse was recorded by the CVR.

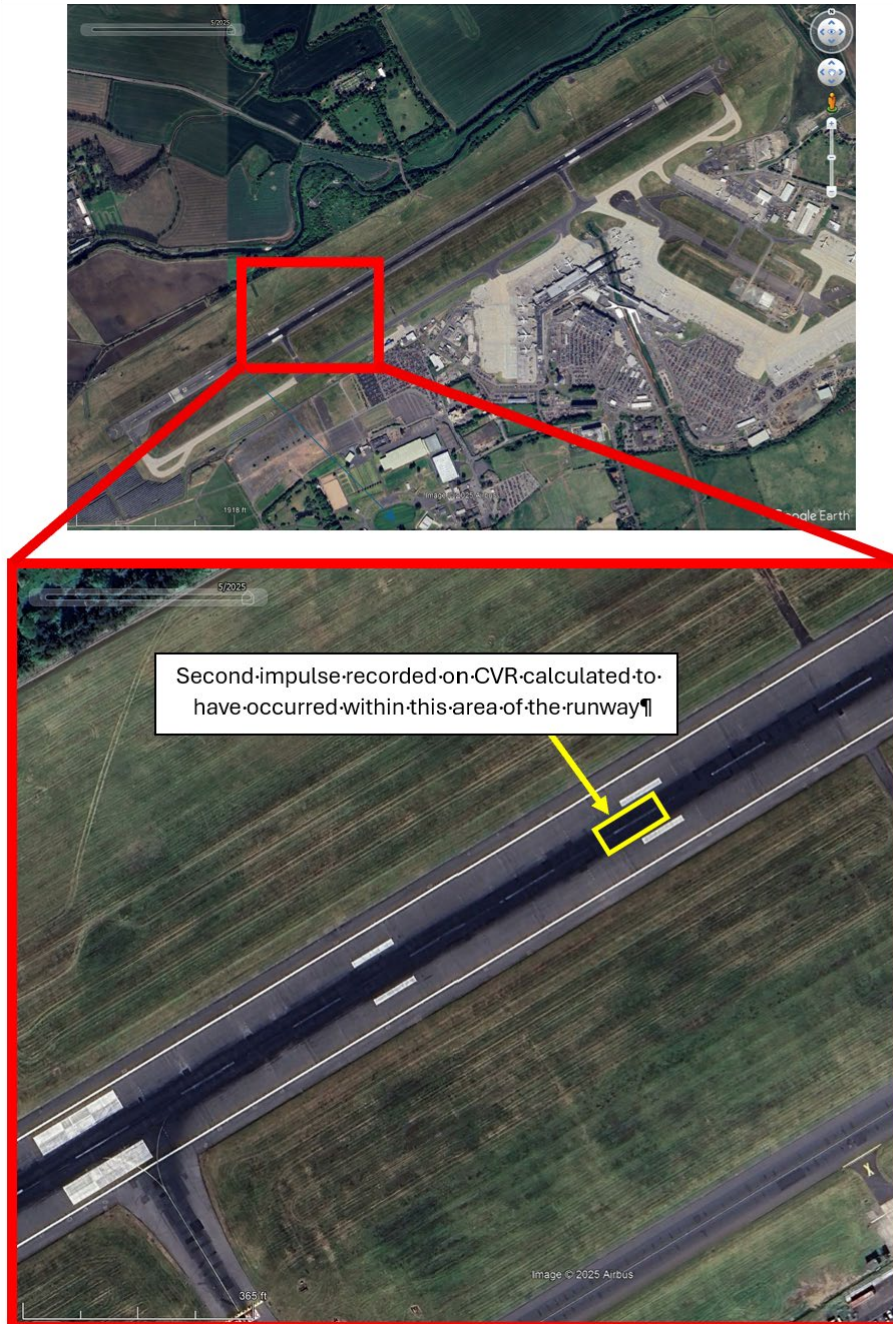


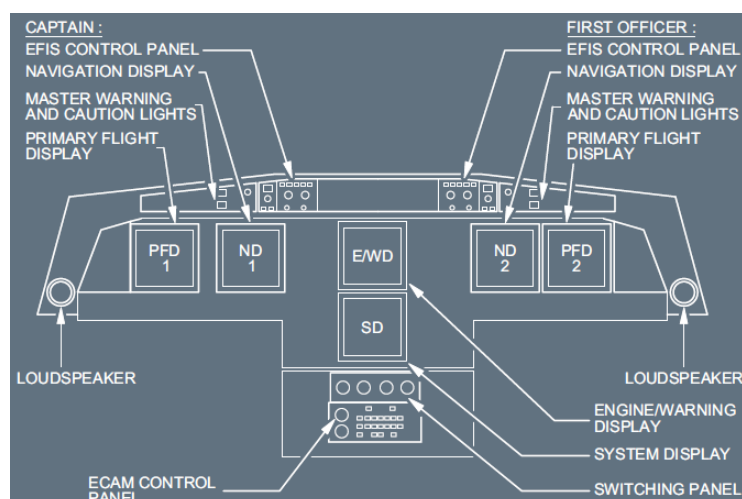
Figure 4

Approximate area of runway when second CVR sound impulse occurred

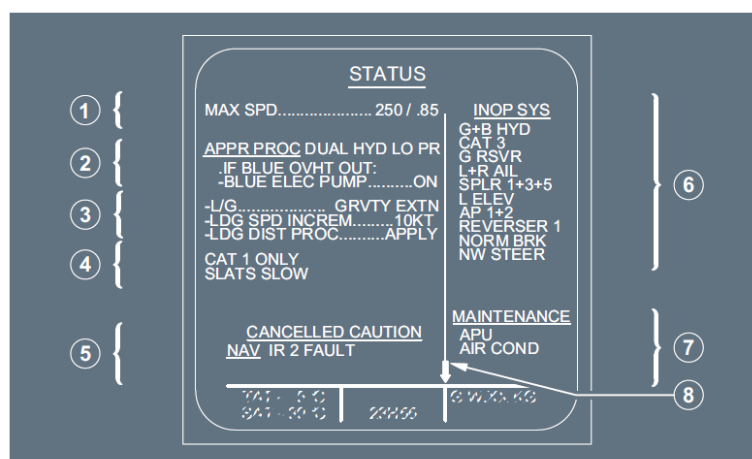
Aircraft information

Flight deck panel arrangement

Figure 5 shows the arrangement and naming of A319 flight deck panels, and Figure 6 shows an example of information shown on the Status Display (SD) panel. The STATUS page displays an operational summary of the state of the aircraft.

**Figure 5**

Flight deck panel arrangement (from FCOM)



- (1) Limitations (speed, flight level): Blue
- (2) Approach procedures: White (Red) (Amber)
- (3) Procedures (corrections to apply for landing): Blue
- (4) Information: Green
- (5) Cancelled caution: White
- (6) Inoperative system: Amber
- (7) Maintenance status: White
- (8) The arrow appears if the data on the STATUS page overflows the left or right area of the page.
The flight crew can press the CLR pb, in order to scroll the display to view the overflow.

Figure 6

SD panel example display (from FCOM)

Air Data and Inertial Reference System (ADIRS)

The ADIRS comprises three identical ADIRUs which supply data parameters for central aircraft control systems. The ADIRU units fitted to G-EUPS are manufactured by Northrop Grumman Company (NGC) and are within the part number (PN) series PN 465020-030x-0316/318.

The units are fitted to an avionics rack located immediately aft and above the NLG bay. Each ADIRU is divided into Air Data Reference (ADR) and Inertial Reference (IR) sections that can work independently of each other. The data parameters provided by each section are:

- **ADR:** Barometric altitude, airspeed, Mach, angle of attack, temperature and overspeed warnings.
- **IR:** Attitude, flight path vector, track, heading, accelerations, angular rates, ground speed and aircraft position.

Data from the ADIRUs is supplied to the FMGC and the Flight Augmentation Computer (FAC) for further processing and subsequent use by the Flight Management (FM) and Flight Guidance (FG) systems. The FM uses ADIRU data to control navigation, and the FG uses ADIRU data to control AP, flight director, and A/THR. Data from the FAC is used to control the rudder, rudder trim and yaw damper functions.

The ADIRS control panel located on the overhead panel allows for selection of modes (NAV, ATT, OFF) and indications of failures. System messages and warnings are displayed on the SD panel, and system status can be found via the MCDU system information pages.

IRS Faults

The FMGC and FAC compare and monitor the output from all three IRs to identify any discrepancies. If the parameter from one IR exceeds the allowable error threshold, it is disregarded. The rudder travel limiter system becomes unavailable when only one IR remains valid, or when all three IRs are rejected.

Aircraft examination

The operator's maintenance team conducted troubleshooting activities following the flight. The post-flight report contained the following fault messages:

- ADIRU 1/2/3 DISAGREE.
- ADIRU 1+2+3 (1FP1+2FP2+3FP3)/BSCU(10GG).
- FAC1/RTL ACTR 4CC.

Aircraft manufacturer maintenance action Troubleshooting Manual (TSM) 32-42-00-810-963-A '*Loss of the ADIRU Buses that Supply the BSCU*'⁷ was actioned to address the fault messages, including a BITE⁸ test of IR1, IR2 and IR3. This was completed, with no fault found.

Footnote

⁷ BSCU refers to the aircraft's Braking and Steering Control Unit.

⁸ BITE (Built-in Test Equipment) facilitates interrogation of aircraft system integrity.

The NLG was inspected using the following procedures which were completed satisfactorily, with no findings:

- TSM 32-20-00-810-802-A '*Vibrations Felt on the NLG during Take-Off and Lift-Off Phases*'.
- General Visual Inspection of NLG in accordance with Aircraft Maintenance Manual (AMM) 32-21-00-200-002-A.
- NLG Shock Absorber Charge Pressure Check IAW AMM 12-14-32-614-004-A.

The instructions in aircraft manufacturer Technical Follow-Up Notice '*In-flight severe IR drift with ADIRU NGC PN 465020-030x-0316/318 inducing possible loss of AP/FD and ATHR*' were followed.

Aircraft performance

Each FMGC computes its own landing category⁹: CAT1, CAT2, CAT3 single, and CAT3 DUAL, and displays the corresponding landing category on the FMAs. Each category depends upon the availability of aircraft systems and functions, for example the number of AP systems available and A/THR system. When the landing capability downgrades, a triple click aural warning is activated.

Aerodrome information

The runway was inspected the same day by the Edinburgh airport operations team in the area where it was calculated the aircraft experienced the shock load. Details of the surface condition and previous repairs were provided to the investigation. The runway surface had multiple repair patches along its length, with several on or near the centreline, in the area just before where the aircraft was calculated to have rotated. One repair patch was identified by the operations team to have developed an abnormal surface condition in comparison with its previous inspection and was subsequently replaced. However, its location was offset from the centreline and it is unlikely the nosewheels travelled over the degraded area. Planned resurfacing of the entire runway commenced in November 2025 and was completed during April 2026.

Previous occurrences

The AAIB investigated a previous similar occurrence on an A319 from the same operator in 2021¹⁰, also at Edinburgh, where an uneven runway patch repair was thought to be causal. The patch was subsequently replaced.

Footnote

⁹ Landing categories specify the parameters within which suitably-approved aircraft can make low visibility landings following a precision approach, in accordance with specified decision heights and runway visual ranges. <https://www.caa.co.uk/commercial-industry/aircraft/operations/types-of-operation/all-weather-operations/> [accessed 5 May 2026].

¹⁰ AAIB Report AAIB-27579 Airbus A319-131 G-DBCF https://assets.publishing.service.gov.uk/media/629f518c8fa8f5039a1bd719/Airbus_A319-131_G-DBCF_07-22.pdf [accessed 9 January 2026].

That investigation discovered there had been five other similar incidents occurring on aircraft fitted with NGC ADIRUs of part number series PN 465020-030x-0316/318. All were determined to have resulted from the ADIRUs suffering vertical shock loads which were outside of the qualification standard requirements.

Safety actions resulting from the previous occurrence investigated by the AAIB, focused on servicing of the NLG, including design and introduction of a Liquid and Nitrogen Charge Equipment (LANCE) servicing tool, and an amendment to the AMM regarding the maintenance check of the NLG shock absorber. At the time of publication, the LANCE tool has not yet completed qualification for operator use but is expected to be in service during 2026. An aircraft manufacturer's Technical Follow-Up notice was also issued¹¹ to inform operators maintenance teams of IR drift issues and how to investigate occurrences. This was followed on G-EUPS, as part of the troubleshooting activity by the operator.

Information from the aircraft manufacturer indicated that there had been seven further similar incidents across the worldwide fleet since 2021.

Analysis

The aircraft suffered a severe IR drift event in flight, which provided erroneous data parameters to the FAC, the FM and FG systems. This caused the AP and A/THR systems to disengage on multiple occasions, a loss of positional information, and unavailability of the rudder travel limiter system. The events were successfully managed by the flight crew, and the aircraft continued to its planned destination.

Post-flight troubleshooting and inspection showed that the NLG extension and condition was found to be satisfactory, and the ADIRUs were serviceable.

The aircraft's NLG ran over several runway centreline lights plus another larger irregularity on the runway surface, immediately prior to rotation. The NLG squat switch fluctuated between the AIR/GROUND positions several times during this period, indicating that vertical loads transferred into the NLG were sufficiently high for the NLG leg to decompress past the 44.1 cm extension required for GROUND indication, and up to, or in excess of, the 44.9 cm extension required for air indication.

Resulting vertical shock loading was transmitted from the NLG into the airframe and avionics rack housing the ADIRUs. It could not be established from the data available whether a single load or a series of loads in quick succession, resulted in a force that was likely outside of the ADIRU's operating qualification standard requirements.

Similar previous occurrences have shown this ADIRU to be sensitive to large vertical acceleration forces; units within the part number series PN 465020-030x-0316/318 have not been fitted to new aircraft since 2015 and the issue is known to the aircraft manufacturer. Since the shock loads encountered are considered to be outside of the certification standards

Footnote

¹¹ 'In-flight severe IR drift with ADIRU NGC PN 465020-030x-0316/318 inducing possible loss of AP/FD and ATHR' issued April 2020.

required of the ADIRU, and the NLG had been serviced in accordance with the AMM, no further manufacturer action has been taken.

The runway surface was inspected, with no singular irregularity appearing capable of causing the shock load. Full runway resurfacing at Edinburgh will minimise the probability of surface irregularities affecting other aircraft.

Conclusion

A shock load was transferred from the nose landing gear to the Air Data Inertial Reference Units, when the aircraft ran over several runway centreline lights and a runway surface irregularity. This resulted in an inertial reference drift causing loss of positional information, autothrust, autopilot and rudder travel limiter systems. Inertial reference drift is a known issue with the model of Air Data Inertial Reference Unit fitted to G-EUPS, when experiencing shock loading outside of its certification requirements. The runway has since been resurfaced.

Accident

Aircraft Type and Registration:	Zenair CH 601HDS, G-CHZS	
No & Type of Engines:	1 Rotax 912ULS piston engine	
Year of Manufacture:	2022 (Serial no: LAA 162-15011)	
Date & Time (UTC):	22 April 2025 at 1545 hrs	
Location:	Tatenhill Airfield, Staffordshire	
Type of Flight:	Private	
Persons on Board:	Crew - 2	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Extensive fuselage damage, prop strike, and landing gear damaged beyond economical repair	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	Unknown	
Commander's Flying Experience:	299 hours (of which 3 were on type) Last 90 days – 10 hours Last 28 days – 7 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot and further investigation by the AAIB	

Synopsis

On 22 April 2025, G-CHZS suffered an engine failure while returning to Tatenhill Airfield, Staffordshire. The pilot declared a MAYDAY and attempted to glide to the airfield but, unable to reach the intended runway, carried out a forced landing on a closer runway. The aircraft landed heavily and was damaged beyond economical repair. Neither occupant was injured.

The investigation found significant contamination within the fuel system, including debris in the fuel tank and filters, and the absence of a gascolator filter screen. Faults with the left carburettor would have further degraded engine performance. The engine failure was probably caused by restricted fuel flow due to contamination, combined with carburettor inefficiency. Pre-flight fuel drain checks were not conducted, and the contamination was not detected prior to flight.

History of the flight

The accident flight was the second flight of the day, returning to Tatenhill from Sleaf Airfield. The takeoff and the initial stage of the flight were reported as uneventful. After 25 minutes, the engine started to run rough, so the pilot turned the fuel selector from MAIN to EMERG - WINGS ONLY and switched the auxiliary pump to ON as detailed on the fuel

system guide clipped to the right side of the cockpit instrument panel. The engine appeared to run normally for a brief time just before reaching Tatenhill when the rough running problem returned. The pilot switched to EMERG - ALL TANKS, but to no avail and the engine stopped.

The pilot declared a MAYDAY and attempted to glide to Tatenhill Airfield. Although the intention was to reach in-use Runway 26, the pilot realised the aircraft would not glide that far and decided to attempt to land on the closest landing strip, Runway 03 instead. Even then, the aircraft struggled to reach the runway threshold. The pilot reported that she was unable to flare fully before touchdown which resulted in a hard landing. Although the aircraft was damaged beyond economical repair, both occupants exited without injury.

Aircraft information

The aircraft was a Zenair Zodiac CH601 HDS, two seat monoplane fitted with a Rotax 912 ULS engine and a Woodcomp Klassic, three bladed propeller. It had been built by the previous owner from a partially constructed Zodiac airframe kit and had completed just over 43 flying hours before the accident. The LAA issued its Permit to Fly on 13 March 2025.

The aircraft had been purchased as a kit in 1995 and had three previous owners before it was finally completed and given a Permit to Fly in February 2023. The first owner started construction but lost interest, storing it partially constructed in a cowshed for many years. It was subsequently purchased and shipped from Dublin to Exeter where more work was undertaken to progress the build of the airframe. The incomplete aircraft was sold once again in 2010 and was transported to Brittany in France where it was stored in a cowshed converted to a workshop while the owner worked to progress construction. The owner moved to Hampshire in 2013 and transported the unfinished airframe to a workshop close to his new home. He moved once again in December 2013, this time to Lincolnshire and moved the aircraft to a farm grain store in Wispington. On the advice of an LAA inspector, who was concerned about working on the aircraft in the dusty and grimy environment in the grain store, the aircraft was moved to Wickenby in October 2022. The engine had been purchased after overhaul, having been originally fitted to a CZAW Sport Cruiser X320. It was installed into G-CHZS in June 2022.

The completed and permitted aircraft was sold to the current owner on 22 March 2025. The flight on the 22 April 2025 was the second flight on the day of the accident.

Aircraft examination

Aircraft fuel system

Examination of the main fuel tank revealed buckling of the tank structure, beach marks from sediment and the presence of larger granules of debris deposited throughout the tank's internal lower surfaces (Figure 1).

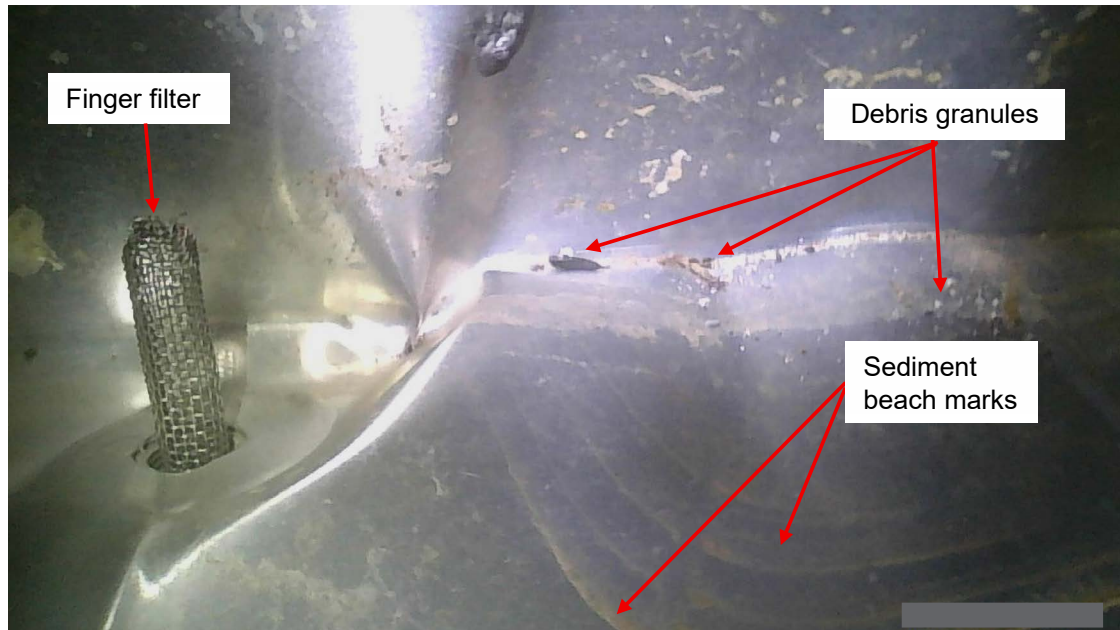


Figure 1

View inside the buckled main fuel tank showing sediment marks, debris, and finger filter

When the gascolator bowl was removed, the fine debris filter screen and rubber gasket were missing (Figure 2, left). The screen removes particles from the fuel whilst the gasket seals the bowl to the lid of the gascolator.

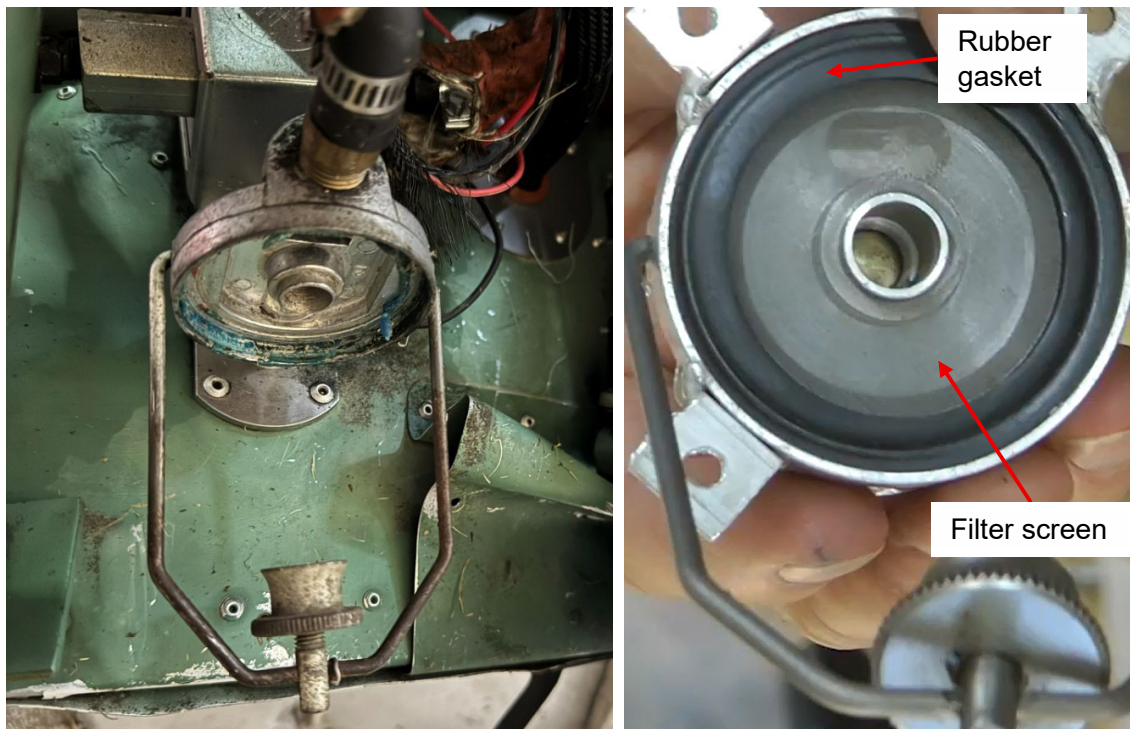


Figure 2

Gascolator lid showing filter and rubber gasket missing (left) and an example with the filter screen and rubber gasket fitted (right)

Inside the bowl, there was evidence of debris like that found in the main fuel tank, and blue gasket jointing sealant was found around the edge of the lid, the edge of the bowl and inside the bowl. The blue sealant appeared to have been used to seal between the bowl and the lid of the gascolator in place of the rubber gasket (Figure 3).

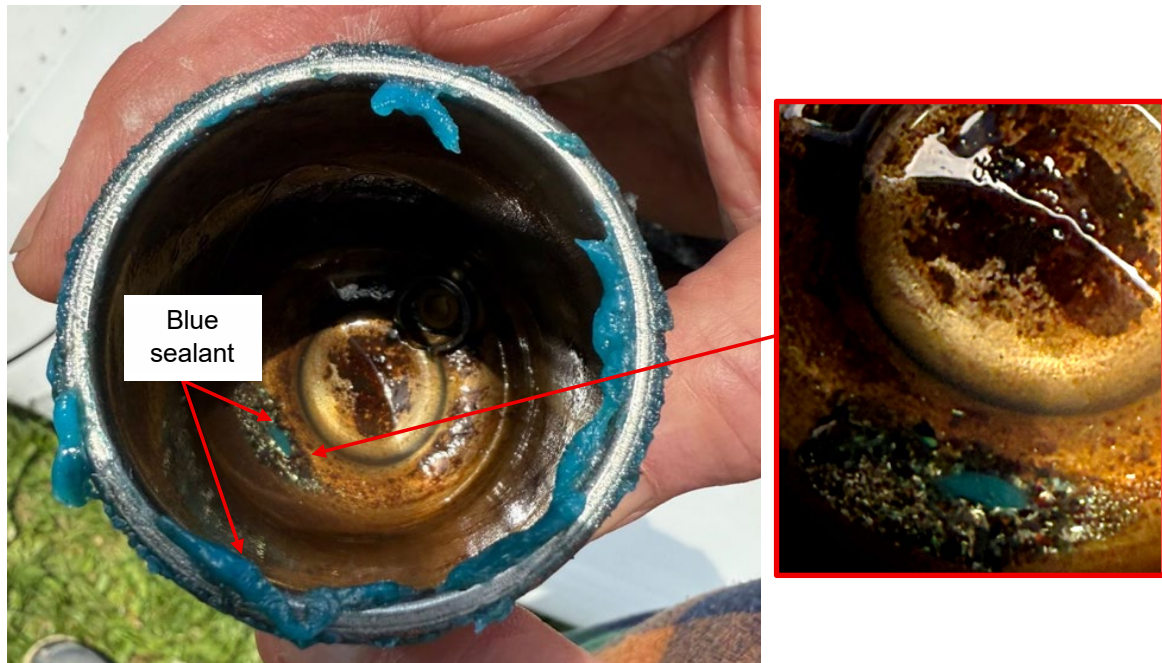


Figure 3

Gascolator bowl showing blue sealant and debris in the bowl

Engine fuel system

Examination of the in-line fuel filter revealed significant debris was present (Figure 4) which included clusters of granules (Figure 5).



Figure 4

Debris present within the in-line fuel filter

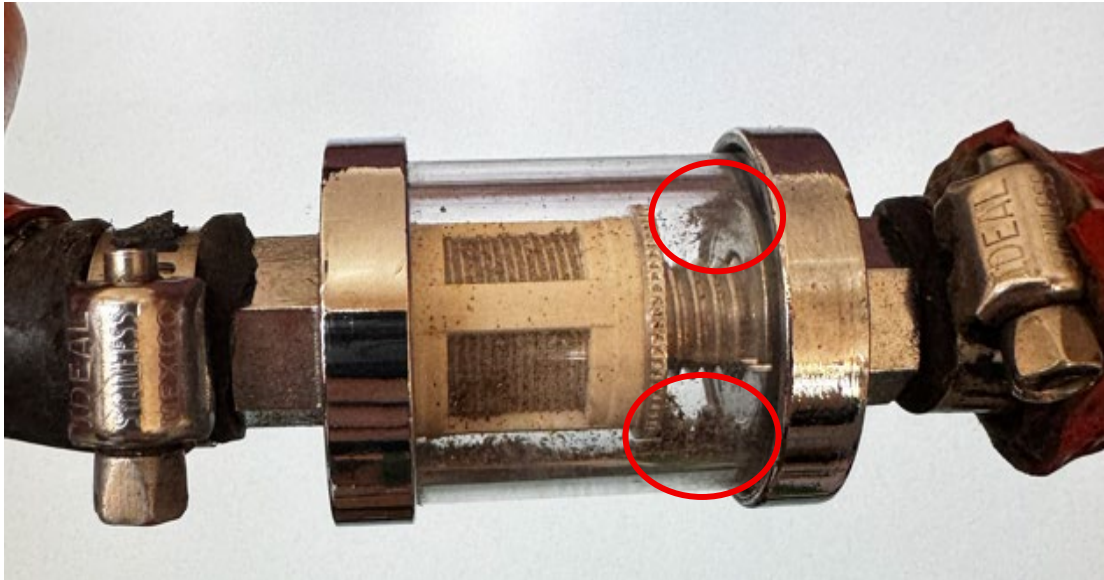


Figure 5

In-line fuel filter showing clusters of debris

Carburettors

Constant Depression Carburettors

The Rotax 912ULS engine fitted to this aircraft employed twin Constant Depression (CD) Carburettors to supply the appropriate fuel-air ratio, pressure and flow rate needed for combustion.

A carburettor piston which is suspended from a rubber diaphragm, is seated inside a venturi in the body of the carburettor, (Figure 6). During engine operation, when the pilot opens the throttle, it in turn, opens the throttle valve. The volume of fuel-air mixture drawn in by the engine is determined by the cross-sectional area of the venturi. When the throttle valve opens, the airflow in the venturi increases and causes a vacuum build up at the outlet of the jet needle. The vacuum in the venturi also acts on the top side of the diaphragm via the topside bore in the carburettor piston and lifts the piston against its own weight and the piston spring. Attached to the piston is the jet needle and as the piston rises the needle lifts out of the jet, the annular opening increases and more fuel is drawn up from the float chamber by the increased suction caused by the vacuum at the jet needle outlet. Lifting the piston also increases the area of the venturi, which in turn reduces both the vacuum pressure and the air flow restriction until a balanced fuel-air flow rate is achieved at the new throttle setting. The adjusting piston causes the pressure drop to remain almost constant (hence the term 'constant depression'). The reference pressure for the piston is created by ambient air which is applied to the underside of the diaphragm via the bottom side bore.

On its way from the float chamber to the venturi, fuel passes through the main jet, the mixing tube, and the jet needle. The fuel is pre-mixed with air, brought in via the air duct and the atomizer, in the diffuser tube creating an annular flow around the needle jet. The air flow assists the atomizing process and fuel distribution into the inlet manifold.

When fuel is drawn out of the float chamber, the fuel level in the chamber decreases. As a result, the floats open the needle valve via the float bracket allowing an increase in fuel flow to refill the chamber. When the chamber fuel level increases again, the floats rise and the needle reduces flow into the chamber. Once the fuel level is restored, fuel flowing into the chamber is shut off by the valve.

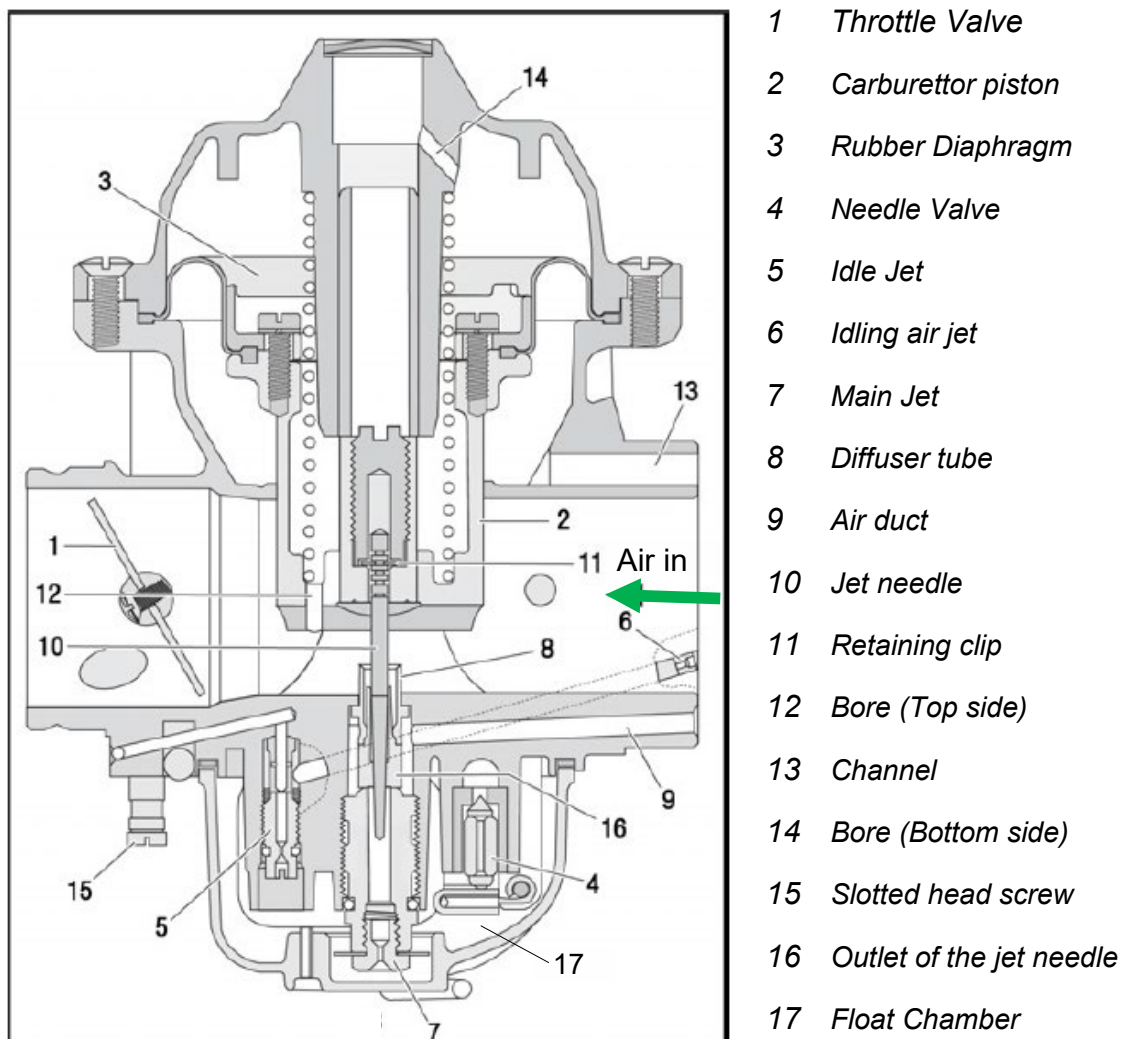


Figure 6

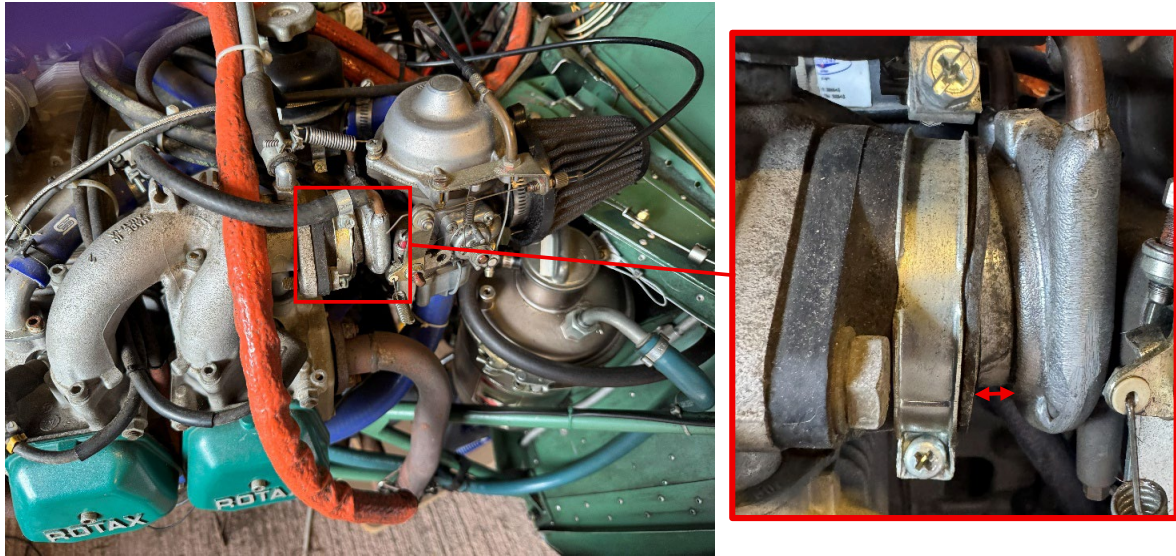
Carburettor cross-section diagram¹

Examination of the left carburettor

The left carburettor was not tightly secured to the engine inlet manifold (Figure 7) and appeared dislodged. It was not difficult to pull the carburettor away from the manifold because the securing buckle was loose. The right carburettor by comparison, was tightly secured. Air leaking at the inlet manifold can cause the engine to run with a lean fuel/air mixture.

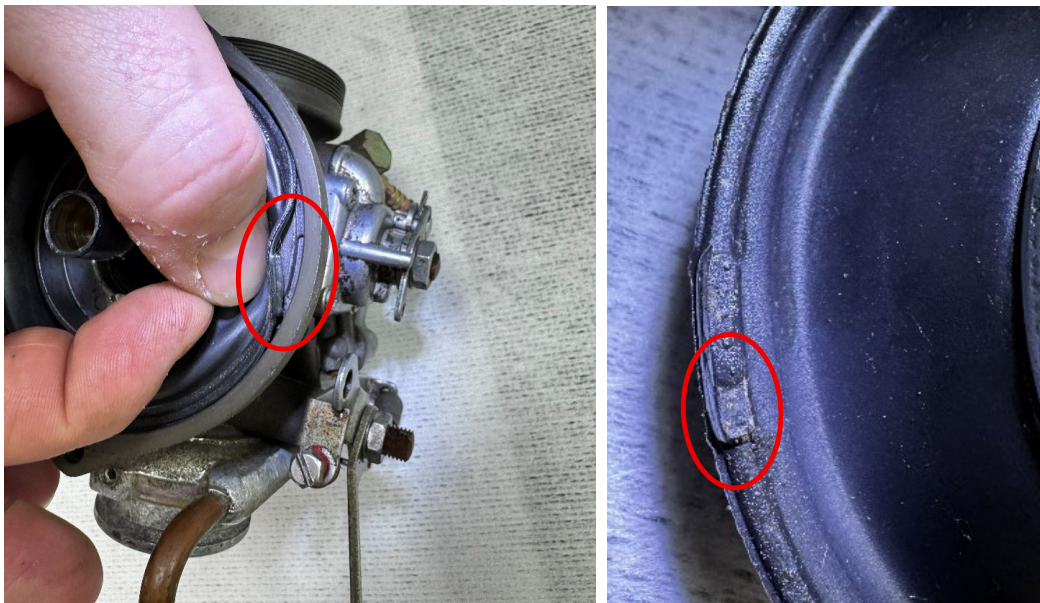
Footnote

¹ Rotax Maintenance Manual for Rotax Engine Type 912 and 914 Series Edition 2/September 2022 Chapter 73-00-10 page 5, Figure 13.4 'Carburettor overview'.

**Figure 7**

Left carburettor dislodged from inlet manifold

Both carburettors were removed from the engine and sent to a Rotax specialist workshop for examination. The results revealed that the left carburettor diaphragm was not correctly positioned because the locator tab, which fits into the recess in the rim of the carburettor housing, was displaced (Figure 8). The tab was partially compressed indicating that it had been damaged when the chamber top was refitted. As a result, it was possible there was a small gap between the top and bottom of the diaphragm. This may have affected the pressure differential across the top of the piston which can result in the piston not lifting correctly, restricting the cross-sectional area of the venturi. The amount of mixture drawn in by the engine and, therefore, its performance is determined by this cross-sectional area.

**Figure 8**

Misplaced diaphragm (Left) and damaged locator tab (right)

The carburettor piston was found slightly rotated (Figure 9) which would also have affected the cross-sectional area of the venturi.

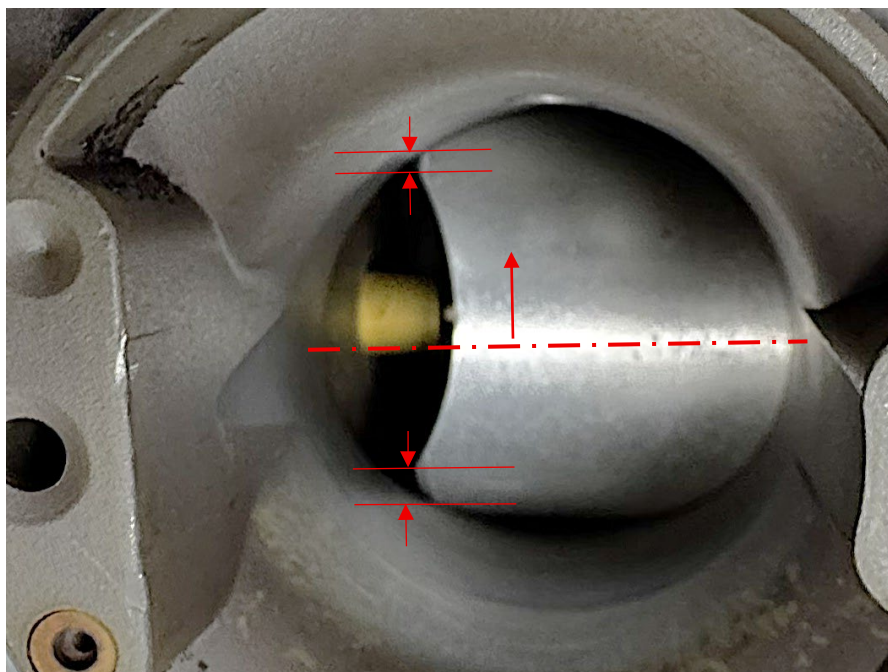


Figure 9

Carburettor piston rotated

The carburettor float needle valve was leak tested in accordance with the BRP Rotax Maintenance Manual Heavy (MMH)-912². The pressure reading did not hold for the required 5 seconds and started to dissipate immediately when pressure was applied, (Figure 10). This fault causes an increase in the fuel ratio resulting in a rich running engine. According to the maintenance manual, *'the pressure drop indicates leakage which may cause fuel overflow and in consequence engine damage due to hydraulic shock.'* Often this fault is caused by wear on the surface of the needle valve. It can also be caused by debris caught between the needle valve and the valve wall if the fuel is contaminated.

Footnote

² BRP Rotax MMH-912 / MMH-914 Edition 2/September 2022 Chapter 73-00-10 page 12.



Figure 10

Pressure test of the left carburettor float chamber needle valve (Figure 11)



Figure 11

Left carburettor float bowl needle valve

Other information

The walk around list provided with the aircraft paperwork (Figure 12) was the previous owner's mind-map of the pre-flight checks he needed to conduct. It did not reflect the Zenair CH 601 Pilot's Operating Handbook pre-flight inspection 'walk around' (Figure 13) and omitted the requirement to check the fuel drains and gascolator for the presence of water.

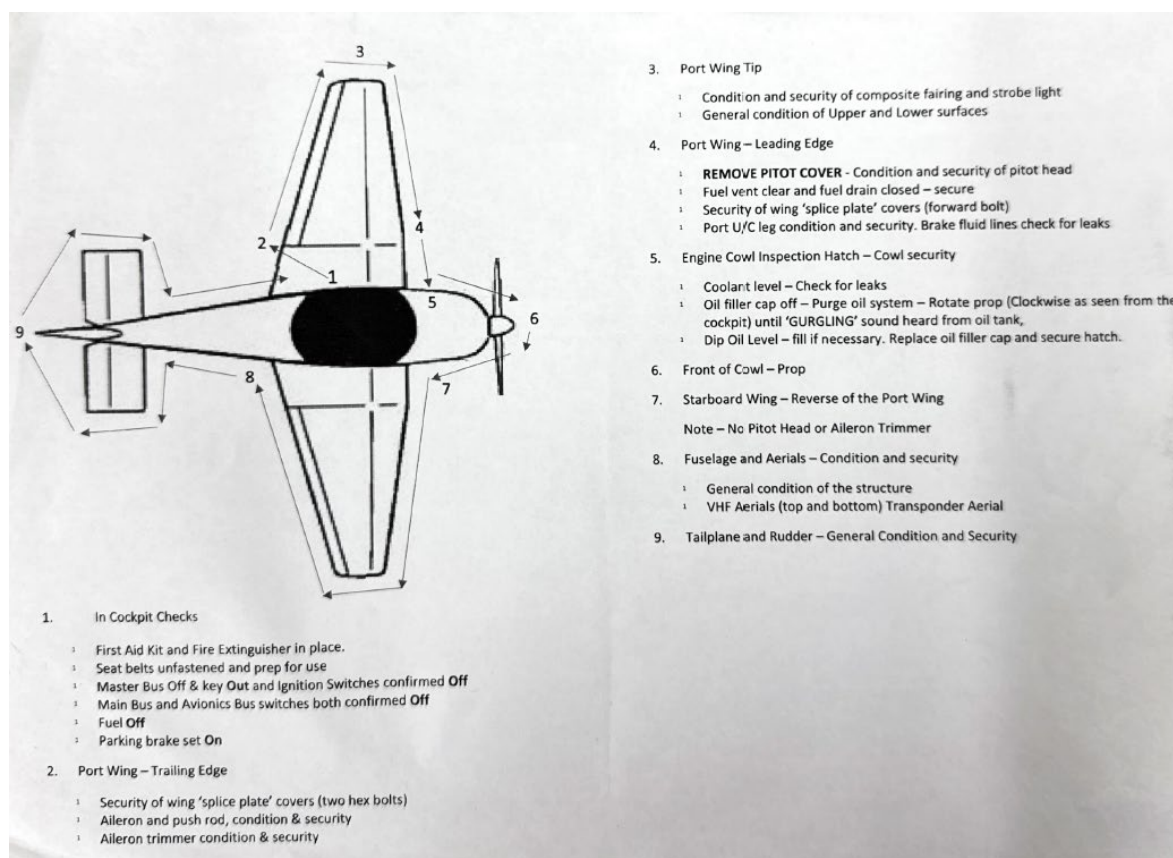


Figure 12

Bespoke pre-flight checklist intended for personal use only

The new owner was unaware of the gascolator, its function, its location in the engine bay and the requirement for one of the pre-flight checks to include looking for fuel contamination via this device.

PRE-FLIGHT INSPECTION: "walk around" before each flight

1. Ignition switch off, fuel open, elevator free.
2. Drain gascolator and all drain valves to ensure that no water is in the fuel lines, check cowl fasteners for looseness, check spinner and prop. You may want to remove the cowl to check the exhaust and general engine condition for safety. Check fuel quantity as well as coolant level and oil
3. Check pitot tube. Clean bugs and check full length of wing leading edge. Inspect wing tip, wing cover strip and make sure baggage locker doors are secure (remove tie-down).
4. Check general condition of ailerons; inspect hinge area over its entire length, aileron control attachment.
5. Landing gear condition, wheel and tires, brake s, bottom of wings and fuselage
6. Stabilator attachments, elevator and rudder hinges, cables and attachments, control stops (remove rear tie down).

Continue walk around in reverse order.

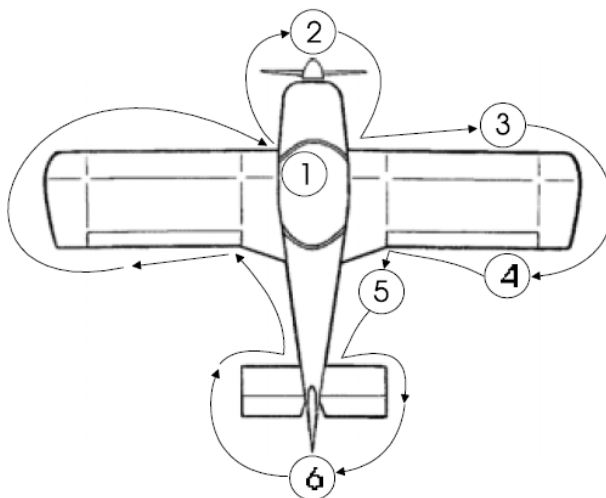


Figure 13

Zenair CH 601 Pilots Operating Handbook walk round guide

The Permit to Fly generic maintenance schedule for the aircraft (Figure 14) details the fuel system checks that should be carried out and there were signatures present on the aircraft documentation to confirm that the checks had been completed on 9 March 2025 prior to the sale of the aircraft.

 Light Aircraft Association	PERMIT TO FLY GENERIC MAINTENANCE SCHEDULE 12 MONTH/150 HOUR INSPECTION		FORM LAA/GMS/12/150
			Issue 2 April 2022

Fuel System		
Check filters for cleanliness and tank vents unobstructed. Drain samples from all drain points and check for presence of water, foreign matter and correct colour.		
Inspect tanks, filler caps, selector valves, pumps, pipelines, hoses, carburettor, injector systems, throttle, mixture control, fuel selector control, filler point placard.		

Figure 14

LAA generic maintenance schedule – completed 9 Mar 25 for G-CHZS

Analysis

Fuel contamination

The presence of sediment and debris in the main fuel tank and gascolator, showed that the aircraft side of the fuel system was contaminated. The first opportunity to screen out these particles would have been the finger filter located in the fuel tank; however, this filter may not have been fine enough to prevent some of the debris from migrating to filters downstream. A filter screen in the gascolator should have provided a second barrier but it was missing, allowing debris to continue travelling through the fuel system. The presence of blue sealant around the rim of the bowl which had also migrated inside the bowl, may also have resulted in some of the material flowing into the fuel pipes, increasing the potential of a fuel blockage.

Downstream, the substantial number of granules found in the in-line filter could have caused a fuel blockage before fuel could even reach the carburettors. The considerable number of granules attached to the filter element could have reduced fuel flow below the amount the engine needed to keep running, particularly during high fuel flow demand.

It is probable that the debris was introduced into the fuel system during transport, storage, and construction of the aircraft within multiple dusty and grimy environments over the 28 years it took to build it.

Carburettor issues

If ambient air was able to leak through the loose seal between the carburettor and the manifold during engine vibrations, this could have affected the pressure in the manifold and resulted in a lean fuel mixture. This could have contributed to the engine failure.

The rotated carburettor piston would have adversely affected the venturi cross-sectional area, reducing the efficiency of the carburettor. The potential compromise of the seal between the upper and lower surfaces of the diaphragm could have also affected the piston operation and only increased the carburettor's inefficiency. The leaking float bowl needle valve would have increased fuel flowing into the venturi causing a rich fuel mixture thereby reducing the engine performance even more.

The difference between the efficiency of the right carburettor, which was operating correctly, and the left may have mechanically unbalanced the engine, caused vibration, and reduced engine power. Whilst not immediately catastrophic, the imbalance can become safety critical when combined with carburettor internal faults, induction leaks, and high power settings.

Fuel drain checks

The new owner stated that fuel drain checks had not been conducted before both flights on the day of the accident. Even if the owner had used the walk-round guide provided with the aircraft when it was purchased, there was no entry requiring fuel drain checks. Had the pilot located the Zenair CH 601 operating handbook and found the walkaround guide, the checklist may have prompted her to ask where the gascolator and its fuel drain were located to allow the check to be undertaken.

The necessity for fuel drain checks prior to flight cannot be overstated. They are required before the first flight of the day, which is not only stated in the owners' manual but paragraph 18 of CAA Safety Sense Leaflet '1e, *Good Airmanship*³, which refers to the need to check the fuel drains for water and other contaminants. This necessity is also featured in the sample and testing section of CAA Safety Sense Leaflet 28⁴, '*Fuel Handling and Storage*', which states that sampling fuel for water and other contaminants is a '*vital part of any aircraft pre-flight.*'

Potential cause of the engine failure

Whilst the precise cause of the engine failure could not be positively determined, the migration of debris throughout the fuel system, exacerbated by the lack of one of the key filters, may have resulted in a fuel blockage causing the engine to stop. Even if a complete fuel blockage did not occur, the debris may have significantly reduced fuel flow to the carburettor which, when combined with the inefficiency of the left carburettor, could have been a significant factor in the engine failure.

Basic engine and aircraft checks

Whenever purchasing an aircraft, it would be prudent to have an appropriate aviation experienced engineer who is familiar with the aircraft type to check its basic condition, including such things as fuel samples. These additional checks may provide early warnings of latent issues that could adversely affect the correct functioning of the aircraft and the engine.

Conclusion

The engine failure was probably caused by restricted fuel flow due to contamination within the aircraft's fuel system, combined with the degraded performance of the left carburettor. The contamination, consisting of sediment and debris present throughout the fuel system, was able to migrate downstream due to the absence of a gascolator filter screen. Granules of debris accumulated within the in-line filter, which may have restricted fuel flow to the engine.

The left carburettor was found to have multiple faults, including a loose inlet manifold mounting, a misaligned diaphragm and a leaking float needle valve, which would have adversely affected fuel metering and engine efficiency. These faults likely contributed to reduced engine performance and increased susceptibility to fuel flow restrictions.

The aircraft had been constructed over a prolonged period in varied storage conditions, which undoubtedly contributed to the introduction of debris into the fuel system. In addition, pre-flight fuel drain checks were not carried out on the day of the accident, and the pilot was unaware of the gascolator and its function. Consequently, an opportunity to detect the contamination prior to flight was missed.

Footnote

³ <https://www.caa.co.uk/media/do4h50i0/20130121ssl01.pdf>.

⁴ <https://www.caa.co.uk/data-and-publications/publications/documents/content/safety-sense-leaflet-28/>.

This accident highlights the importance of effective fuel system filtration, thorough pre-flight inspection - particularly fuel drain checks - and the value of independent technical oversight when bringing newly acquired aircraft into use.

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 investigations reviewed: July - August 2026

- 3 Mar 2026 Vans RV-6 G-ORVI Near Godshill, Isle of Wight**
 The aircraft was landing on wet grass. During the flare, it experienced a tailwind gust estimated to be approximately 10 kt. Due to the wet grass, the pilot opted to run on to the end of the runway to avoid heavy braking but encountered standing water which caused a slip. The aircraft wingtip was caught in a hedge resulting in a broken landing light and wingtip, as well as damage to some of the wing ribs and skin.
- 11 May 2026 Aero L-159E G-DKNA Military North Sea Danger Area**
 The pilot was conducting simulated air combat training with other aircraft, within a designated offshore danger area. During a rolling vertical manoeuvre, the aircraft experienced a low airspeed engine surge. The pilot conducted post surge drills and, after an unsuccessful windmill relight attempt, an APU assisted relight of the engine was successful. The aircraft returned to Teesside International Airport for an uneventful landing. The manufacturer confirmed the surge was likely caused by the manoeuvre flown, which although permitted by the Flight Manual, had never been tested in flight. The engine was subsequently assessed as serviceable and the associated fuselage and intake damage was all consequential, resulting from the power of the surge.
- 12 May 2026 DH82A Tiger Moth G-ANRN Headcorn Aerodrome, Kent**
 The pilot reported that the aircraft ground looped after encountering a strong gust during the takeoff roll. The pilot was uninjured and was able to taxi the aircraft back to its parking area.
- 14 May 2026 Reims Cessna G-BCKV Retford Gamston Airport,
 FRA150L Nottinghamshire**
 Shortly after levelling off from a climb to 6,500 ft the airframe started to vibrate violently. The pilot elected to return to the departure airfield. During the descent, he attempted to diagnose the issue with the rough running engine checks, however these did not stop the vibration or isolate the problem. A PAN was declared and the aircraft positioned for an overhead join. Once confident a landing could be made, the engine was shut down for a glide approach. Upon landing it was apparent that a seven inch section of one of the blades of the two-bladed propeller was missing. A chip adjacent to the fracture surface may have introduced an increase in stress resulting in a crack initiating and propagating.
- 14 Jun 2026 Piper PA-24-250 N673SA Oxford Airport**
 The pilot reported completing a normal approach but, as the aircraft touched down, the landing gear collapsed, and the propeller struck the runway.

Record-only investigations reviewed: July - August 2026 cont

- 20 Jun 2026** **Piper L21B** G-BMKB Farway Common Airfield, Devon
During a go-around following a late touchdown, the landing gear struck a hedge in the overshoot. The aircraft then struck the ground, sustaining substantial damage to the wing, fuselage and propeller. The pilot assessed the absence of headwind and unfamiliarity with the airfield topography as contributory factors. Additionally, difficulties with directional control after landing might have been caused by an underinflated left mainwheel tyre.
- 26 Jun 2026** **EV-97** G-CGSH Bagby Airfield, North Yorkshire
TeamEurostar UK
During the final stages of the approach to land, the aircraft stalled. The left wing dropped and the aircraft struck the ground which resulted in damage to the nose and right wing of the aircraft.
- 1 Jul 2026** **Quik Lite** G-CIKA Great Bardfield, Essex
The pilot reported encountering turbulence during landing. The aircraft bounced several times before rolling over resulting in structural damage to the wing and damage to the trike landing gear.
- 2 Jul 2026** **Ikarus C42 FB80** G-CMMY Damyns Hall Aerodrome, Upminster, Essex,
Charlie
The aircraft was making an approach to Runway 21, avoiding power lines. There was a crosswind from the right. Just before touchdown, the aircraft experienced a gust of wind causing lateral movement. The lateral movement caused the left landing gear to shear off and the aircraft departed the runway.
- 3 Jul 2026** **Cirrus SR22** N151CG Goodwood Aerodrome, West Sussex
The aircraft's nose landing gear collapsed on landing. The pilot reported a possible tailwind.
- 7 Jul 2026** **YAK-52** G-CCJK White Waltham Airfield, Berkshire
The aircraft experienced loss of engine power just after takeoff. The pilot closed the throttle, established a glide and landed safely within remaining runway length. After landing, the amber CHIPS IN OIL caption began to flash and shortly thereafter illuminated continuously.
- 9 Jul 2026** **Boeing A75N1** G-OBEE Fife Airport
During the approach to the asphalt Runway 24, the pilot decided to change the approach to the grass. On landing, the aircraft bounced and then ground looped. It crossed the asphalt runway before colliding with a parked aircraft.

Record-only investigations reviewed: July - August 2026

- 9 Jul 2026** **Mission M108** G-CJJW Land's End Airport, Cornwall
On landing on Runway 25, the aircraft touched down approximately one-third of the way along the runway and bounced several times causing damage to the propeller and nose gear. The aircraft then came to rest off the side of the runway in a nose-down attitude.
- 10 Jul 2026** **Gould-Taylorcraft plus D special** G-AHCR Middlezoy Aerodrome, Somerset
A pilot was completing their biannual revalidation flight with a flying instructor. During an approach, the low sun made it difficult to judge the flightpath and the aircraft experienced a hard landing. The crosswind caused the aircraft to turn towards aircraft parked on the taxiway. The instructor attempted a ground loop to avoid them but the left wingtip struck a parked aircraft.
- 18 Jul 2026** **Cessna 305C** G-JDOG Hawarden Airport, Flintshire
As the aircraft touched down during a crosswind landing, it veered sharply to the left. Despite the pilot's attempts to correct the aircraft's path including applying right brake, the aircraft nosed over, becoming inverted.
- 20 Jul 2026** **Reims Cessna F152** G-BHAI Elstree Aerodrome, Hertfordshire
A solo student pilot was performing a touch and go when the aircraft bounced. The aircraft touched down hard and the nose landing gear collapsed, with the aircraft coming to rest at the side of the runway.
- 21 Jul 2026** **Robinson R44** G-ICET New Model Farm Helipad, Hertfordshire
The student pilot and instructor were performing takeoff and landing practice. In a low hover, with the student handling the controls, the helicopter drifted forward and left whilst descending. The front of the left skid struck the ground, and the helicopter rolled over.
- 22 Jul 2026** **Cessna 180K Skywagon** N2530K St Mary's Airport, Isles of Scilly
The aircraft bounced during landing after which it left the runway. During the accident sequence, damage was sustained to the outer section of the right wing and to the right tailplane.

Record-only investigations reviewed: July - August 2026 cont

- 25 Jul 2026** **Skyranger Swift 912S(1)** G-CERB North Coates Aerodrome, Lincolnshire
- The aircraft bounced three times on landing and the nose landing gear collapsed, causing the propeller to strike the ground.
- 28 Jul 2026** **Exodus Deltajet 500 Stingray** G-CMVL Old Hay Airfield, Kent
- After what the pilot considered to be a normal landing, the aircraft began to rotate to the left and then tipped over.
- 28 Jul 2026** **Cessna F152** G-CDTX Elstree Aerodrome, Hertfordshire
- After touchdown control of the aircraft was lost and it veered off the runway to the left. As it slowed down, the nose landing gear collapsed and the propeller detached.
- 2 Aug 2026** **Exodus Deltajet 500 Stingray** G-CMMW Near Blencarn, Cumbria
- The aircraft experienced severe vibration from the powerplant. The pilot conducted a forced landing in a field and struck a fence resulting in the aircraft rotating and tipping onto its side. The wing and fuselage were substantially damaged.
- 5 Aug 2026** **Magni M24C** G-IROX Bembridge Airport, Isle of Wight
- The gyroplane was affected by turbulence after landing resulting in it tipping on to its side. The source of the turbulence was likely to be curlover from a hangar that affects the threshold landing area on Runway 30 in certain wind conditions. The tail, propeller and rotor were substantially damaged.
- 5 Aug 2026** **Cessna 172R** G-BXSD Wellesbourne Airfield, Warwickshire
- The aircraft bounced during landing in a crosswind. The pilot attempted to initiate a go-around and the aircraft briefly became airborne again before the wing struck the ground and the aircraft nosed over. The propeller, right landing gear and nosewheel were damaged.
- 7 Aug 2026** **Cessna 152** G-CEYH Stapleford Aerodrome, Essex
- While the aircraft was being taxied to the parking area at slow speed, the nosewheel struck a ridge in the grass causing the tail to strike the ground. The impact caused the tail tie down hook to partially detach from the lower fuselage and this was forced upwards into the rudder assembly, causing a crack at the base of the rudder.

Record-only investigations reviewed: July - August 2026

- 9 Aug 2026** **Replica Fokker DVII** G-FKKR Duxford Aerodrome, Cambridgeshire
- Following an in-flight low oil pressure indication, the pilot requested a straight-in approach and landed safely on the runway, opposite to the direction that had been in use. When the aircraft was at a speed of approximately 10 mph, it entered a ground loop and the lower right wingtip struck the ground.
- 9 Aug 2026** **Virus SW 121A** G-ORAT RAF Lossiemouth, Moray
- During the final approach the aircraft encountered a gust, increasing its rate of descent. The aircraft bounced and the pilot continued to hold the aircraft in the flare. A second larger bounce occurred. The nose landing gear made firm contact with the runway and collapsed and the propeller struck the ground.
- 9 Aug 2026** **Cessna 177RG** G-CIMB Fowlmere Airfield, Cambridgeshire
- Prior to landing, indications showed the landing gear were not down and locked. A visual inspection while in the air suggested that the landing gear appeared down and locked but both main landing gear collapsed on landing.
- 15 Aug 2026** **Bulldog Series 120 Model 121** G-BZDP Lydeway Field Airstrip, Wiltshire
- The aircraft experienced a high rate of descent during the approach, resulting in a hard landing and damage to the landing gear.
- 15 Aug 2026** **DH88 Comet** G-ACSS Old Warden Aerodrome, Bedfordshire
- At the end of a display flight, the aircraft's first approach to Runway 02 resulted in a go-around due to varying wind and a higher than desired approach speed. The second approach was flown at a lower airspeed and the aircraft touched down on the mainwheels before decelerating along the grass runway. During the latter part of the landing roll, the aircraft encountered uneven ground, experienced significant pitching and bouncing and exited the runway to the left. The aircraft is not fitted with toe brakes, so the pilot used the ratcheted handbrake lever. As he increased the brake application, the aircraft started to pitch forwards. To reduce the brake force, the lever first had to be pulled, momentarily increasing braking, before a push button could be pressed to release the ratchet. The pilot was unable to reduce the braking as intended and the aircraft tipped forward and overturned, coming to rest inverted off the runway. The pilot sustained minor injuries and the aircraft was substantially damaged.

Record-only investigations reviewed: July - August 2026 cont

- 16 Aug 2026 Zenair CH 601UL G-LEDE Compton Abbas Airfield, Dorset**
After touchdown, during the landing rollout after the nose landing gear (NLG) had lowered onto the grass runway, the NLG bounced several times due to the undulating surface and collapsed. The pilot reported that subsequent inspection suggested that deterioration of the NLG bungee, combined with the rough runway surface led to the collapse and the consequent propeller damage.
- 22 Aug 2026 P&M Aviation Quik G-CIMH Near Sherburn-in-Elmet Airfield,
GT450 Lite North Yorkshire**
The aircraft turned over on the ground following a forced landing caused by a loss of power.
- 22 Aug 2026 Starlet SA500 G-CLNP Sandown Airport, Isle of Wight**
Following a normal approach to Sandown Airfield, the aircraft bounced, perhaps because the ground was undulating, which left it in the air but at low speed. The aircraft returned to the ground, veered to the right and then to the left, departing the grass runway onto rough ground alongside. The right wing contacted the ground, which swung the aircraft around, causing it to tip onto its back.
- 25 Aug 2026 Druine D.62B G-AXGS Henstridge Airfield, Somerset
Condor**
Having completed a crosswind landing, control of the aircraft was lost at the end of the landing run. The aircraft departed the asphalt runway causing damage to the landing gear.
- 26 Aug 2026 Grob G115E G-BYUR RAF Cosford, Shropshire**
Shortly after lift off, the aircraft lost power and descended, landing on the grass within the airfield boundary. During the landing, the propeller was damaged and the nose landing gear collapsed.
- 28 Aug 2026 Curtiss P-40C G-CIIO Near Royston, Hertfordshire**
The aircraft experienced engine failure and the pilot conducted an off airfield forced landing. The aircraft suffered substantial damage.
- 31 Aug 2026 Cessna 172P G-NWFS North Weald Airfield, Essex**
The aircraft exited the runway during the takeoff roll and struck an embankment. There was damage to the nose of the aircraft and the nose landing gear broke off.

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.	2/2018	Boeing 737-86J, C-FWGH Belfast International Airport on 21 July 2017. Published November 2018.
1/2016	AS332 L2 Super Puma, G-WNSB on approach to Sumburgh Airport on 23 August 2013. Published March 2016.	1/2020	Piper PA-46-310P Malibu, N264DB 22 nm north-north-west of Guernsey on 21 January 2019. Published March 2020.
2/2016	Saab 2000, G-LGNO approximately 7 nm east of Sumburgh Airport, Shetland on 15 December 2014. Published September 2016.	1/2021	Airbus A321-211, G-POWN London Gatwick Airport on 26 February 2020. Published May 2021.
1/2017	Hawker Hunter T7, G-BXFI near Shoreham Airport on 22 August 2015. Published March 2017.	1/2023	Leonardo AW169, G-VSKP King Power Stadium, Leicester on 27 October 2018. Published September 2023.
1/2018	Sikorsky S-92A, G-WNSR West Franklin wellhead platform, North Sea on 28 December 2016. Published March 2018.	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	kt	knot(s)
ACAS	Airborne Collision Avoidance System	lb	pound(s)
ACARS	Automatic Communications And Reporting System	LP	low pressure
ADF	Automatic Direction Finding equipment	LAA	Light Aircraft Association
AFIS(O)	Aerodrome Flight Information Service (Officer)	LDA	Landing Distance Available
agl	above ground level	LPC	Licence Proficiency Check
AIC	Aeronautical Information Circular	m	metre(s)
amsl	above mean sea level	mb	millibar(s)
AOM	Aerodrome Operating Minima	MDA	Minimum Descent Altitude
APU	Auxiliary Power Unit	METAR	a timed aerodrome meteorological report
ASI	airspeed indicator	min	minutes
ATC(C)(O)	Air Traffic Control (Centre)(Officer)	mm	millimetre(s)
ATIS	Automatic Terminal Information Service	mph	miles per hour
ATPL	Airline Transport Pilot's Licence	MTWA	Maximum Total Weight Authorised
BMAA	British Microlight Aircraft Association	N	Newtons
BGA	British Gliding Association	N _R	Main rotor rotation speed (rotorcraft)
BBAC	British Balloon and Airship Club	N _g	Gas generator rotation speed (rotorcraft)
BHPA	British Hang Gliding & Paragliding Association	N _i	engine fan or LP compressor speed
CAA	Civil Aviation Authority	NDB	Non-Directional radio Beacon
CAVOK	Ceiling And Visibility OK (for VFR flight)	nm	nautical mile(s)
CAS	calibrated airspeed	NOTAM	Notice to Airmen
cc	cubic centimetres	OAT	Outside Air Temperature
CG	Centre of Gravity	OPC	Operator Proficiency Check
cm	centimetre(s)	PAPI	Precision Approach Path Indicator
CPL	Commercial Pilot's Licence	PF	Pilot Flying
°C,F,M,T	Celsius, Fahrenheit, magnetic, true	PIC	Pilot in Command
CVR	Cockpit Voice Recorder	PM	Pilot Monitoring
DME	Distance Measuring Equipment	POH	Pilot's Operating Handbook
EAS	equivalent airspeed	PPL	Private Pilot's Licence
EASA	European Union Aviation Safety Agency	psi	pounds per square inch
ECAM	Electronic Centralised Aircraft Monitoring	QFE	altimeter pressure setting to indicate height above aerodrome
EGPWS	Enhanced GPWS	QNH	altimeter pressure setting to indicate elevation amsl
EGT	Exhaust Gas Temperature	RA	Resolution Advisory
EICAS	Engine Indication and Crew Alerting System	RFFS	Rescue and Fire Fighting Service
EPR	Engine Pressure Ratio	rpm	revolutions per minute
ETA	Estimated Time of Arrival	RTF	radiotelephony
ETD	Estimated Time of Departure	RVR	Runway Visual Range
FAA	Federal Aviation Administration (USA)	SAR	Search and Rescue
FDR	Flight Data Recorder	SB	Service Bulletin
FIR	Flight Information Region	SSR	Secondary Surveillance Radar
FL	Flight Level	TA	Traffic Advisory
ft	feet	TAF	Terminal Aerodrome Forecast
ft/min	feet per minute	TAS	true airspeed
g	acceleration due to Earth's gravity	TAWS	Terrain Awareness and Warning System
GNSS	Global Navigation Satellite System	TCAS	Traffic Collision Avoidance System
GPS	Global Positioning System	TODA	Takeoff Distance Available
GPWS	Ground Proximity Warning System	UA	Unmanned Aircraft
hrs	hours (clock time as in 1200 hrs)	UAS	Unmanned Aircraft System
HP	high pressure	USG	US gallons
hPa	hectopascal (equivalent unit to mb)	UTC	Co-ordinated Universal Time (GMT)
IAS	indicated airspeed	V	Volt(s)
IFR	Instrument Flight Rules	V ₁	Takeoff decision speed
ILS	Instrument Landing System	V ₂	Takeoff safety speed
IMC	Instrument Meteorological Conditions	V _R	Rotation speed
IP	Intermediate Pressure	V _{REF}	Reference airspeed (approach)
IR	Instrument Rating	V _{NE}	Never Exceed airspeed
ISA	International Standard Atmosphere	VASI	Visual Approach Slope Indicator
kg	kilogram(s)	VFR	Visual Flight Rules
KCAS	knots calibrated airspeed	VHF	Very High Frequency
KIAS	knots indicated airspeed	VMC	Visual Meteorological Conditions
KTAS	knots true airspeed	VOR	VHF Omnidirectional radio Range
km	kilometre(s)		



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