



**AAIB**  
Air Accidents Investigation Branch

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# ***AAIB Bulletin***

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**9/2023**

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

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

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None

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## **AAIB Correspondence Reports**

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

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

The accuracy of the information provided cannot be assured.



## Accident

<b>Aircraft Type and Registration:</b>	EAA Biplane, G-BPUA	
<b>No &amp; Type of Engines:</b>	1 Lycoming O-235-C piston engine	
<b>Year of Manufacture:</b>	1986 (Serial no: SAAC-O2)	
<b>Date &amp; Time (UTC):</b>	3 June 2023 at 1125 hrs	
<b>Location:</b>	Great Oakley Airfield, Harwich, Essex	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Damage to landing gear, fuselage and wings.	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	69 years	
<b>Commander's Flying Experience:</b>	403 hours (of which 3 were on type) Last 90 days - 6 hours Last 28 days - 5 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## History of the flight

Following a stable approach, on flaring to land the aircraft bounced to a height of approximately 6 ft and the pilot decided to go around. He applied full power, but the aircraft was slow to accelerate. The aircraft bounced twice more, gradually climbing and veering to the right of the runway, before the main wheels struck a crop in a field adjacent to the runway. G-BPUA came to rest inverted (Figure 1) and the pilot exited the aircraft unharmed.

The aircraft sustained structural damage to the landing gear, wings and fuselage tubes. The engine was shock loaded and the propeller shattered.

## Pilot's observations

The pilot had low hours on type and wished to improve his landing technique so elected to go around. The pilot reported that G-BPUA was considered relatively underpowered (a maintenance organisation had estimated the engine to be producing nearer 100 hp rather than the rated 115 hp), and the aircraft was operating close to its maximum takeoff weight of 521 kg. He calculated the takeoff weight to be 511 kg and landing weight 496 kg which could have contributed to the lack of climb performance following loss of airspeed from consecutive bounces.





**Figure 1**  
G-BPUA in the crop field



## Accident

<b>Aircraft Type and Registration:</b>	Piper PA-22-150, G-AREL	
<b>No &amp; Type of Engines:</b>	1 Lycoming O-320-A2B piston engine	
<b>Year of Manufacture:</b>	1960 (Serial no: 22-7284)	
<b>Date &amp; Time (UTC):</b>	25 April 2023 at 1324 hrs	
<b>Location:</b>	Hamilton Farm Airstrip, Ashford, Kent	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 1
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Nosewheel collapsed and bent backwards. Right wingtip damaged.	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	73 years	
<b>Commander's Flying Experience:</b>	339 hours (of which 93 were on type) Last 90 days - 3 hours Last 28 days - 1 hour	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

The pilot attempted a takeoff on Runway 04 at Hamilton Farm Airstrip but, with the aircraft not yet airborne or at flying speed at the pre-planned go/no-go decision point on the runway, the pilot aborted the takeoff. As the pilot braked, he was unable to prevent the aircraft leaving the runway and the nosewheel dug in and collapsed. The aircraft was pitched onto its nose and right wing but neither occupant was injured.

## History of the flight

The aircraft arrived at Hamilton Farm Airstrip from White Waltham Airfield, landing on Runway 04. This flight was conducted by another pilot with the accident pilot flying as a 'passenger'. The intention was for the two pilots to swap seats and roles for the flight back to White Waltham.

Before departure both pilots and the airfield operator walked the length of the runway to inspect the conditions. They discussed the best direction for departure considering the obstacles, the condition of the runway as well as the wind direction, which was variable in direction but predominately from the north or north-east. The pilot decided on a departure from Runway 04 but planned a go/no-go decision point at approximately the midpoint of the runway due to the conditions and the risk of the tall trees at the departure end.

The takeoff run commenced, but the aircraft was not at takeoff speed or airborne at the decision point so, as planned, the pilot closed the throttle and began to brake. Under braking the aircraft began to veer to the left and, despite the pilot's control inputs, he was unable to prevent it leaving the runway. Although the aircraft was already significantly slowed, the nosewheel dug in abruptly and collapsed, tipping the aircraft onto its nose and right wing. Neither occupant was injured and they were able to vacate the aircraft without assistance.



**Figure 1**

G-AREL at the accident site (used with permission)

### **Aerodrome information**

Hamilton Farm Airstrip near Ashford in Kent has a single grass runway orientated 04/22. The runway is 630 m long with a Take Off Run Available<sup>1</sup> of 500 m on Runway 04, and 620 m on Runway 22. The runway is described as level from the north-east end to the midpoint, then as having a two degrees upslope to the south-west end. Takeoff runs from Runway 04 would therefore begin on a downwards slope and, conversely, from Runway 22 would end on an upslope.

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### **Footnote**

<sup>1</sup> Take Off Run Available - The length of runway declared available and suitable for the ground run of an aeroplane taking off.

The information provided for the airfield also describes trees, which are 15 m tall, at the end of Runway 04 and a 1 m hedge/wire fence at the end of Runway 22.

The Met Office summary of the weather in April 2023 describes the level of rainfall as:

*“close to average overall, but with regional variations, most parts of Scotland being drier than average, but southern and eastern parts of England being rather wet, most notably in Kent”<sup>2</sup>*

Although on the day of the accident the weather was fine with sunshine, the grass was wet and parts of the airstrip were described as waterlogged, especially parts of the beginning of Runway 22 and those lower parts of the airstrip.

### Strip flying

The CAA Safety Sense Leaflet ‘Strip Flying’<sup>3</sup> contains guidance for pilots on operating from airstrips. The guidance for takeoff includes conducting an inspection, carefully doing takeoff performance calculations using the recommended performance factors, as well as picking a point on the runway where you will abort the takeoff if a certain airspeed has not been achieved. Wet grass alone can add 30% to the takeoff distance with soft ground adding an additional 25%.

The leaflet also recommends talking to the operator of the strip before departure and, if possible, visiting by ground transport before the flight. The pilot who flew G-AREL into Hamilton Farm had visited the airstrip although he had not previously flown there. Neither pilot of G-AREL had been able to speak directly to the operator of the airfield before the flight to Hamilton Farm. Speaking with the operator might have cautioned them about using the airfield that day.

The AAIB has previously investigated a number of accidents where takeoffs have been attempted on wet and/or soft ground, often with little or no planning and preparation. Some of these accidents have resulted in fatal injuries to the occupants as a result of either trying to get airborne at too slow a speed as the end of the runway approaches, or by the aircraft running through obstacles at the end of the runway. The most recent case is G-CIIR in October 2020<sup>4</sup>.

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#### Footnote

<sup>2</sup> [https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/mwr\\_2023\\_04\\_for\\_print.pdf](https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/uk-past-events/summaries/mwr_2023_04_for_print.pdf) [Accessed June 2023]

<sup>3</sup> [http://publicapps.caa.co.uk/docs/33/CAA8230\\_SafetySense\\_12-Strip-Flying.pdf](http://publicapps.caa.co.uk/docs/33/CAA8230_SafetySense_12-Strip-Flying.pdf) [Accessed June 2023].

<sup>4</sup> [https://assets.publishing.service.gov.uk/media/61b1d596e90e0704439f4371/Cessna\\_FRA150L\\_Aerobat\\_G-CIIR\\_12-21.pdf](https://assets.publishing.service.gov.uk/media/61b1d596e90e0704439f4371/Cessna_FRA150L_Aerobat_G-CIIR_12-21.pdf) [Accessed June 2023]

## Analysis

After careful planning and preparation, the pilot attempted to takeoff from Runway 04 at Hamilton Farm. As he reached the midpoint of the runway the aircraft was not yet at takeoff speed or airborne, and therefore he closed the throttle as planned and aborted the takeoff. As he braked, the aircraft veered to the left and the pilot was unable to prevent the aircraft leaving the runway where the left wheel dug in the aircraft pitched onto its nose and right wing.

The conditions on the runway were wet and parts of the runway were described as waterlogged, but the pilot had prepared for the conditions and was therefore able to react accordingly. Planning a go/no-go point prevents confusion and prevents the takeoff being continued when the performance is not as good as expected. Continuing the takeoff often presents a far greater risk to the aircraft and its occupants than aborting. The accident occurred at a slow speed and as such the damage to the aircraft was limited and both occupants were uninjured.

## Conclusion

Careful planning, preparation and execution of a takeoff, including the use of a go/no-go point meant that the accident did not result in significant damage to the aircraft or injuries to the occupants. The AAIB has investigated a number of accidents, often resulting in fatal injuries to the occupants, where such steps have not been taken and the takeoff continued.

## Accident

<b>Aircraft Type and Registration:</b>	Piper PA-28R-200, G-EPTR	
<b>No &amp; Type of Engines:</b>	1 Lycoming IO-360-C1C piston engine	
<b>Year of Manufacture:</b>	1972 (Serial no: 28R-7235090)	
<b>Date &amp; Time (UTC):</b>	19 May 2023 at 1354 hrs	
<b>Location:</b>	Perth Airport	
<b>Type of Flight:</b>	Training	
<b>Persons on Board:</b>	Crew - 2	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Engine shock loaded, propeller bent, flaps damaged, scoring of underside of aircraft.	
<b>Commander's Licence:</b>	Commercial Pilot's Licence	
<b>Commander's Age:</b>	56 years	
<b>Commander's Flying Experience:</b>	6,388 hours (of which 6,104 were on type) Last 90 days - 52 hours Last 28 days - 27 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

Due to distractions the crew of G-EPTR did not lower the landing gear on the downwind leg or conduct the final checks on approach. As a result, the aircraft landed with the landing gear up causing damage to the propeller, aircraft and engine, although there were no injuries to either occupant. Neither pilot heard or saw the gear warnings, and the automatic extension system fitted to the aircraft had been disabled by the selector being in override, as was customary on the aircraft.

## History of the flight

The crew of G-EPTR were conducting a training flight and had returned to the circuit having completed some general handling in the local area with the student as PF. On the sixth circuit, with the aircraft at the beginning of the downwind leg, both pilots became aware of an aircraft which had conducted a practice engine failure after takeoff. This aircraft was climbing out just outside of G-EPTR downwind. Both pilots continued to monitor the position of the other aircraft which was relatively close to them. With their attention out of the cockpit both pilots missed that the landing gear had not been selected down, which normally would have been completed at the beginning of the downwind leg. The resultant circuit was tighter than normal, and the aircraft was slightly high on final approach. The instructor was then 'pattering' the student on the approach and, again, both pilots missed the final check of the gear at this point.

As the tail skid of the aircraft made contact with the runway, the instructor realised immediately what the problem was but felt it was too late to go around. The aircraft came to a stop on the runway after approximately 100 m and there were no injuries to the occupants who were able to vacate the aircraft without assistance. The aircraft suffered damage to the propeller, flaps and underside with the engine being shock loaded.

### **Aircraft information**

Landing gear down and locked positions are indicated by three green lights located under the selector switch mounted on the instrument panel to the left of the throttle quadrant. A yellow warning light, located at the top of the instrument panel, illuminates while the gear is in transit, or not in the full up or locked down position. When all the lights are out it indicates the gear is up. The positioning of the gear indicating lights means that an instructor in the right seat must lean over to see them.

When the aircraft was built, it was fitted with a backup landing gear extender which lowers the gear regardless of the gear selector position dependant on speed and engine power (propeller slipstream). This backup extension is designed to occur below approximately 105 mph with the throttle closed. The speed will vary from approximately 85 mph to 105 mph dependant on altitude and throttle position. A lever is fitted beside the emergency gear lowering lever, which, if latched in the override position, disables the backup gear extender meaning the gear position is controlled only with the selector switch regardless of speed or power. If the override lever is latched in place, a yellow warning light below the gear selector flashes to remind the pilot that the automatic gear system is disabled. In 1988, after litigation in the United States, the aircraft manufacturer issued a Service Bulletin<sup>1</sup> (SB) with two options for compliance, one of which was the complete removal of the system. The second means of compliance was for operators to include the SB in the aircraft's pilots operating handbook and for increased education on the function and operation of the system. The aircraft manufacturer considered compliance with the SB to be mandatory, and G-EPTR met with the second means of compliance. Due to the nature of the instructional flying undertaken on the aircraft, the system was nearly always selected to override.

The aircraft has an audible warning system for the landing gear which uses a microswitch in the throttle quadrant that activates a warning horn and the red landing gear unsafe light (positioned at the top of the instrument panel) under the following conditions:

- Gear up and power reduced below approximately 14 inches of Manifold Air Pressure (MAP).
- The backup gear extender has extended the landing gear and the gear selector is UP, except at full throttle.
- Gear selector switch UP while on the ground.

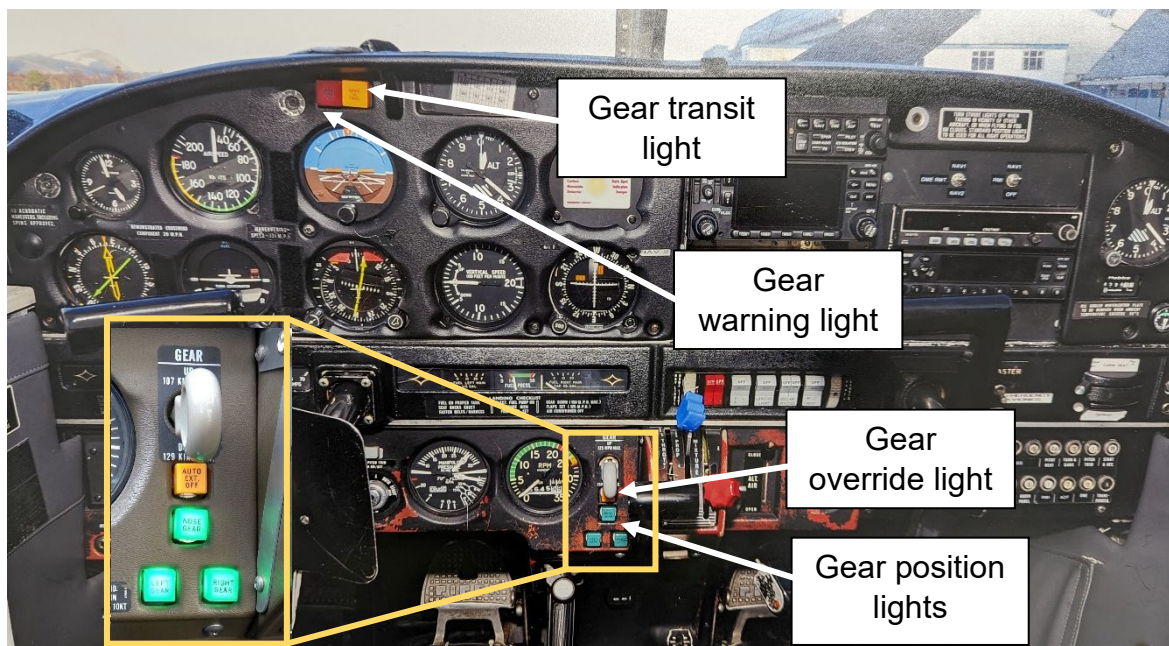
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### **Footnote**

<sup>1</sup> [https://s3.amazonaws.com/pipercrm/Solution/19551/SB\\_0866A.pdf](https://s3.amazonaws.com/pipercrm/Solution/19551/SB_0866A.pdf) [Accessed June 2023].

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**Figure 1**

Cockpit layout of the aircraft type

The aircraft warning that would have been active on the accident approach was that triggered by the power being reduced below 14 inches of MAP. However, the instructor commented that this can come very late on G-EPTR because the MAP required on final is around 15 inches until the flare for landing.

The gear warning horn emits a 90 Hz beeping sound. Neither pilot recalls hearing the gear warning horn during the approach or seeing the red warning light. Neither the horn nor warning light was tested to confirm they were working. The override lever for the backup gear extension was latched in the override position and automatic gear extension was disabled.

### **Aerodrome information**

Perth Airport has an Air Ground Communications Service (AGCS). AGCS radio station operators provide traffic and weather information to pilots operating on and in the vicinity of the aerodrome. Such traffic information is based primarily on reports made by other pilots. The student had done much of their previous flying at an airfield with a full air traffic control service. Both the instructor and the student commented that the circuit at Perth could be busy with many different aircraft types, requiring good lookout and awareness of other aircraft.

## Human factors

Distractions are one of the most common causes of errors both inside and outside of aviation. The CAA Safety Sense Leaflet on Distractions and Interruptions in General Aviation states that:

*'Distraction and interruption are unavoidable aspects of flying that require consideration and mitigation. Many occurrences, serious incidents or accidents have been caused by apparently trivial distractions or interruptions, with examples including loss of control, collisions, aircraft configuration errors or airspace infringements. In most cases, the attention of the pilot or crew was diverted from the primary task of flying and navigating the aircraft.'*<sup>2</sup>

A common scenario described in the leaflet is one where the landing checklist is omitted due to the crew being distracted within the circuit by other traffic. This omission of the checklist can result in the aircraft landing without the gear extended or the gear not being retracted after takeoff. The leaflet suggests that to mitigate the risks pilots should consider when they will perform their checklist, perhaps completing it earlier than normal if the circuit is expected to be busy. A further check on approach should also be performed.

Aircraft accident reports often describe how pilots have not heard warning tones or callouts, or noticed warning lights, especially at times of high workload or stress. This selective attention is a common feature of humans and allows us to operate in a complex and dynamic world. The volume of information being sent to the brain from the senses is beyond the processing power we have. We have therefore evolved to prioritize the processing of that information according to the task that is being performed. The advantage of this selective attention is it allows our brain and its limited processing power to concentrate on one particular aspect of a task. The obvious disadvantage is that we fail to notice other stimuli trying to get our attention. Selective attention is not limited to hearing; we can also fail to notice warning lights or changes in our environment.

## Analysis

The crew of G-EPTR landed at Perth Airport without lowering the landing gear. The landing checklist was omitted, probably due to the crew being distracted by other circuit traffic close to their position. Any additional check of the landing gear on final was also omitted, also probably as both crew members were distracted by the need for the instructor to provide guidance to the student during the approach. Distractions are one of the most common causes of errors and failing to lower the landing gear is one of the many scenarios discussed in the CAA Safety Sense Leaflet.

Neither pilot noticed either the warning tone or the red warning light which would have alerted them to the retracted landing gear. The tone and light were not tested so it is possible that they were not working at the time of the accident. However, humans have evolved to prioritize information coming from our senses so as not to overwhelm our brain,

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### Footnote

<sup>2</sup> [https://www.caa.co.uk/media/lqnhlhxe/caa8230\\_safetysense\\_31\\_distraction\\_aw9.pdf](https://www.caa.co.uk/media/lqnhlhxe/caa8230_safetysense_31_distraction_aw9.pdf) [Accessed June 2023]

so it is also possible that the crew experienced selective attention when they did not hear or see the warning, as their focus was on other parts of the task at that moment. Due to the required power setting for the approach the alert may also have occurred so late in the approach that the aircraft was already in the final stages of landing meaning there was little chance to avoid the accident event if the crew had heard or seen the alert.

The set up of the lights in the cockpit also presented a challenge to the instructor in the right hand seat who needed to lean over to see them. While the instructor was very familiar with the type, this still represents an addition barrier to noticing the lights are not illuminated green on final.

The aircraft had been built with a backup gear extender which was designed to extend the gear, based on speed and engine power, in the event the pilot forgot, but this system had been disabled on the accident flight, as was normal practise for the operator on this aircraft. The manufacturer has recommended via a SB that either that the system be removed entirely or that further information on its performance be supplied to all pilots. The operator had decided to operate G-EPTR with the system selected to override rather than remove it entirely. While the system might well have prevented G-EPTR landing without the gear down, it was being operated in accordance with the manufacturer's guidance.

## **Conclusion**

The aircraft landed with the landing gear up after the crew did not perform either the landing checklist or the check on final approach. This was probably because the crew were distracted, firstly due to other traffic in the circuit and afterwards because the instructor was providing guidance to the student on the final approach. The CAA have produced a Safety Sense Leaflet on distraction that includes the example of an aircraft landing gear up.

Neither pilot noticed the warning light or heard the warning horn, and this could be because it was either not working or because they were concentrating on other tasks. The warning might also have occurred too late to have avoided the accident.

The damage to the aircraft included to the propeller, flaps and the underside as well as shock loading to the engine but neither pilot was injured, and they were able to vacate the aircraft without assistance.

## Accident

<b>Aircraft Type and Registration:</b>	X'Air 582(7), G-BZEJ	
<b>No &amp; Type of Engines:</b>	1 Rotax 582/48-2V piston engine	
<b>Year of Manufacture:</b>	2002 (Serial no: BMAA/HB/134)	
<b>Date &amp; Time (UTC):</b>	29 May 2023 at 1440 hrs	
<b>Location:</b>	On approach to Wolverhampton Halfpenny Green Airport, South Staffordshire	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Nose gear bent and glass fibre nose crushed	
<b>Commander's Licence:</b>	National Private Pilot's Licence	
<b>Commander's Age:</b>	71 years	
<b>Commander's Flying Experience:</b>	164 hours (of which 85 were on type) Last 90 days - 12 hours Last 28 days - 9 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

## Synopsis

The aircraft ran out of fuel whilst approaching to land at Wolverhampton Halfpenny Green Airport and the aircraft was damaged during the subsequent forced landing in a field. Although the pilot was using a navigation application that was capable of calculating the fuel required for the flight, this was not used, and no pre-flight calculation was performed.

## History of the flight

The pilot had planned to fly from Sandown Airport, Isle of Wight, to Otherton Airfield, Staffordshire, as part of a group of other aircraft. The aircraft was fully fuelled to 50 litres (13.2 US gallons) and a container with 20 litres (5.3 US gallons) was carried on the passenger seat next to the pilot. The pilot was using a software navigation application<sup>1</sup> on a portable electronic device and had entered a route from Sandown passing to the east of Southampton, overhead Brize Norton towards Wolverhampton and then to Otherton. The flight was to be flown at an airspeed of 50 mph. The pilot advised that he was aware that he would need to land en route to refuel but had not planned where that would take place nor reviewed the calculated fuel required. However, this information would have been available to him using the navigation application.

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### Footnote

<sup>1</sup> <https://www.skydemon.aero/> [accessed 20 June 2023].

After taking off from Sandown, the pilot initially remained flying in the local area before 30 minutes later heading towards the first turning point east of Southampton. The pilot advised that there was a headwind and also some turbulence. As the aircraft approached Brize Norton control zone, which the pilot intended to overfly, he could see a layer of cloud ahead. Unsure that he could remain in VMC, the pilot altered course to the west, towards Cotswold Airport. The pilot advised that the turbulence made it difficult to read the fuel quantity that was marked on the tanks behind him and so decided to land as soon as possible to refuel. The pilot subsequently landed at Blakehill Farm nature reserve, which is a disused airfield about 7 nm south-east of Cotswold Airport. The flight time from Sandown had been 2 hours 16 minutes.

The pilot stated that he then uplifted the 20 litres of fuel, which provided about 30 litres of fuel in the tanks. This he estimated was sufficient to fly to Wolverhampton Halfpenny Green Airport, where he intended to refuel again before flying on to Otherton. The pilot stated that he did not perform a fuel calculation prior to takeoff.

After takeoff the pilot initially flew west to route around Cotswold Airport before heading north, flying over Gloucester Airport after 33 minutes into the flight. As the aircraft approached Wolverhampton, 55 minutes after having overflowed Gloucester, the pilot was aware that the aircraft was now low on fuel and requested an immediate approach to land on Runway 34. However, shortly afterwards the engine stopped due to fuel starvation and the pilot carried out a forced landing in a field, 700 m short of the runway threshold. The field was furrowed, and the nosewheel dug into soft soil causing the aircraft to tip forward and it came to rest inverted. The pilot was uninjured and vacated the aircraft unassisted. The aircraft's nose structure and nose gear were damaged. The time from departing Blakehill Farm to landing in the field was 1 hour 29 minutes.

## Conclusion

The pilot did not calculate the required fuel for the flight from Sandown to Otherton or utilise the navigation application function that provided this information. Accordingly, a clear plan of where the aircraft would be landed en route to refuel and allowance for reserve fuel was not established. This led to the pilot initially landing at a disused airfield to refuel from a container that he was carrying and then subsequently making a forced landing having run out of fuel.

This accident highlights the importance of pre-flight planning. CAA Safety Sense Leaflet 01, *Good Airmanship Guide*<sup>2</sup>, includes a section on fuel planning.

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### Footnote

<sup>2</sup> <https://publicapps.caa.co.uk/docs/33/20130121SSL01.pdf> [accessed 20 June 2023].





## **AAIB Record-Only Investigations**

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

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

The accuracy of the information provided cannot be assured.



**Record-only UAS investigations reviewed: June - July 2023**

- 19 Mar 2023**     **Model Aircraft Clipped**     Over Norton, Oxfordshire  
**Wing Cub**  
A radio controlled aircraft towing a radio controlled glider took off in turbulent conditions. Control of the aircraft was lost and it struck a car, damaging the vehicle's bonnet, but the glider landed safely.
- 17 Apr 2023**     **Ghost Hybrid**     Twinwood Farm, Bedfordshire  
Following standard procedure for the type, after a successful transition from vertical to forward flight the UAS controller mode was changed to 'fixed wing.' The aircraft initially turned left as expected toward its default loiter location but then continued rolling left and entered a spiral dive from which it could not be recovered. The accident was thought to have been the result of a transient fault in the UAS's electronic control system.
- 03 May 2023**     **WingtraOne**     Denham Aerodrome, Hertfordshire  
**Gen 2**  
Whilst conducting an aerial survey the UA departed from controlled flight and struck a tree before falling to the ground. The operator has shared the flight logs with the manufacturer who determined that the right wing flaperon servo failed rendering the aircraft uncontrollable. Subsequent inspection revealed a cold solder joint on a sensor which led to the intermittent failure of the servo.
- 16 May 2023**     **Sensus M8-XP**     Lode, Cambridgeshire  
The remote pilot misjudged the aircraft's flightpath, and the UA flew into a tree and dropped to the ground. There was damage to eight propellers, all four legs and the camera.
- 17 May 2023**     **DJI Mini 2**     Barrow-in-Furness, Cumbria  
The remote pilot was operating the 249g UA at a height of about 30 m above a private property to take video of some classic cars located there. He was not aware that he was flying in a Flight Restricted Zone of a nearby airfield because the UA manufacturer's app did not show it and he had not checked an official source. From the video feed he saw a person at the property taking pictures of his UA and talking on the phone. The person then walked away but came back with a shotgun and shot at the UA causing it to fall to the ground. The event was the subject of a police investigation.
- 23 May 2023**     **DJI M300 RTK**     Clywedog Reservoir, Powys  
The UA hit a wall during a surveying flight and fell to the ground.

**Record-only UAS investigations reviewed: June - July 2023 cont**

- 24 May 2023**    **Yuneec 520e**                      Southampton  
The UA was being operated from an unoccupied car park close to a railway line. After entering a hover at a height of approximately 5 m the UA began to drift rearwards, accelerating and gradually descending. The UA failed to respond to the remote pilot's corrective control inputs and struck the ground 15 m from the takeoff point.
- 25 May 2023**    **Model Aircraft Catalina**    Upottery Airfield, Devon  
At about 50 feet, the right motor stopped. The remote pilot made the decision to land the model aircraft on the grass but was unable to stop it before it hit a fence.
- 07 Jun 2023**    **DJI Mini 2**                              King George Dry Dock, Southampton  
During a training flight, the UA was blown into a crane by the wind and then fell to the ground.
- 10 Jun 2023**    **DJI Matrice 30T**                      Oadby, Leicestershire  
Before a takeoff at night, the UAS operator shone a torch upwards to see if there were any obstacles in the way but saw none. During the takeoff, the UA lifted and collided with an overhead telephone cable. The UA dropped onto the operator's hand causing a minor injury. The UAS was damaged beyond repair.
- 11 Jun 2023**    **Model Aircraft Riot**                  Winterton, Lincolnshire  
Following a reported battery error the model aircraft disappeared from view and was not recovered. When recovered two weeks later it was found to have sustained damage to the nose.
- 13 Jun 2023**    **Model Aircraft Condor**    Solent Airport, Hampshire  
On a maintenance flight, the control signal to the UA was lost. The model aircraft rolled and nose dived into the airfield.
- 22 Jun 2023**    **Model Aircraft 1911**                  Winterton, Lincolnshire  
**Deperdussin**  
**Monoplane**  
The engine stopped during flight and the remote pilot carried out a forced landing into a field, during which the model flipped over damaging the fuselage.

**Record-only UAS investigations reviewed: June - July 2023 cont**

- 22 Jun 2023**     **Model Aircraft Robey**     Forton (Montford Bridge) Airfield, Shropshire  
**Sirocco 4 glider**  
Following a loss of elevator control the model glider fell into the garden of a neighbouring property. The model glider was destroyed.
- 22 Jun 2023**     **DJI M300**                             Bristol  
When the pilot noticed the UA heading towards some trees, he tried to get the UA to climb but it did not respond and subsequently hit a tree.
- 24 Jun 2023**     **Model Aircraft Model**     Caerwys, North Wales  
**Glider**  
The remote pilot lost control and sight of the model glider which has not been recovered.
- 29 Jun 2023**     **DJI Mini 3 Pro**                     Bootle, Liverpool  
While taking aerial photographs, the remote pilot became distracted and the UA struck a building. The UA fell to the ground and was destroyed.
- 12 Jul 2023**     **DJI M300 RTK**                     Swinton, Salford  
A gust of wind caused the UA to collide with bushes and the UAS carry case. Propellers were damaged and a piece of blade impaled the pilot's right hand.
- 12 Jul 2023**     **DJI Mavic III**                     Brent Charlie Platform, North Sea  
The UA was returning to land on a rig having been used for filming in 'sports' mode. It was inadvertently left in sports mode during the approach, which caused it to remain at high speed and the approach to be misjudged, and it struck a handrail before falling to the platform surface.
- 13 Jul 2023**     **Applied Aeronautics**             Portland Harbour, Dorset  
**Albatross**  
After launch, the UA reported a fault and tried to 'Return to Home'. On approach to land, the UA commenced a sudden steep descent. The standby remote pilot switched to 'Stabilize' mode on his controller and tried to gain control, but the UA continued its descent and entered the sea. It was recovered a few days later.
- 25 Jul 2023**     **Model Aircraft Bristol**         Winterton, Lincolnshire  
**Bulldog**  
While the model aircraft was flying back towards the runway, the left wing detached and the aircraft fell into a wheat field.





## **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](http://www.aaib.gov.uk)).



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

- |   |   |
|---|---|
| 1/2015 Airbus A319-131, G-EUOE<br>London Heathrow Airport<br>on 24 May 2013.<br>Published July 2015.                                      | 1/2017 Hawker Hunter T7, G-BXFI<br>near Shoreham Airport<br>on 22 August 2015.<br>Published March 2017.                         |
| 2/2015 Boeing B787-8, ET-AOP<br>London Heathrow Airport<br>on 12 July 2013.<br>Published August 2015.                                     | 1/2018 Sikorsky S-92A, G-WNSR<br>West Franklin wellhead platform,<br>North Sea<br>on 28 December 2016.<br>Published March 2018. |
| 3/2015 Eurocopter (Deutschland)<br>EC135 T2+, G-SPAO<br>Glasgow City Centre, Scotland<br>on 29 November 2013.<br>Published October 2015.  | 2/2018 Boeing 737-86J, C-FWGH<br>Belfast International Airport<br>on 21 July 2017.<br>Published November 2018.                  |
| 1/2016 AS332 L2 Super Puma, G-WNSB<br>on approach to Sumburgh Airport<br>on 23 August 2013.<br>Published March 2016.                      | 1/2020 Piper PA-46-310P Malibu, N264DB<br>22 nm north-north-west of Guernsey<br>on 21 January 2019.<br>Published March 2020.    |
| 2/2016 Saab 2000, G-LGNO<br>approximately 7 nm east of<br>Sumburgh Airport, Shetland<br>on 15 December 2014.<br>Published September 2016. | 1/2021 Airbus A321-211, G-POWN<br>London Gatwick Airport<br>on 26 February 2020.<br>Published May 2021.                         |

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

<http://www.aaib.gov.uk>



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## GLOSSARY OF ABBREVIATIONS

aal	above airfield level	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 <sub>R</sub>	Main rotor rotation speed (rotorcraft)
BBAC	British Balloon and Airship Club	N <sub>g</sub>	Gas generator rotation speed (rotorcraft)
BHPA	British Hang Gliding & Paragliding Association	N <sub>1</sub>	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 <sub>1</sub>	Takeoff decision speed
ILS	Instrument Landing System	V <sub>2</sub>	Takeoff safety speed
IMC	Instrument Meteorological Conditions	V <sub>R</sub>	Rotation speed
IP	Intermediate Pressure	V <sub>REF</sub>	Reference airspeed (approach)
IR	Instrument Rating	V <sub>NE</sub>	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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