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AAIB Special Bulletins / Interim Reports

AAIB Special Bulletins and Interim Reports

This section contains Special Bulletins and Interim Reports that have been published since the last AAIB monthly bulletin.

ACCIDENT

Aircraft Type and Registration:	Britten-Norman BN2A-26 Islander, VP-MON,	
No & Type of Engines:	2 Lycoming O-540-E4C5 piston engines	
Year of Manufacture:	1969 (Serial no: 082)	
Location:	V C Bird International Airport, Antigua (TAPA)	
Date & Time (UTC):	7 October 2012 at 2010 hrs (UTC), 1610 hrs (local)	
Type of Flight:	Commercial Air Transport (Passenger)	
Persons on Board:	Crew - 1	Passengers - 3
Injuries:	Crew - 1 (Fatal)	Passengers - 2 (Fatal) 1 (Serious)
Nature of Damage:	Aircraft destroyed	
Commander's Licence:	Commercial Pilot's Licence	
Commander's Age:	31 years	
Commander's Flying Experience:	Total - not known Last 28 days - 25 hours Last 24 hours - 0.5 hours	
Information Source:	East Caribbean Civil Aviation Authority (ECCAA) Accident Investigation	

Synopsis

The aircraft crashed shortly after takeoff. Water was present in the fuel system feeding the right-hand engine, which was not producing power at impact.

This Special Bulletin, issued by the AAIB, contains information on the progress of the investigation and focuses on the fuel suction filter assemblies. One Safety Recommendation is made.

The investigation continues.

Status of the investigation

The ECCAA was informed of the accident immediately and began an investigation under the Antigua Civil Aviation Regulations 2004. In accordance with established international arrangements, the Air Accidents Investigation Branch (AAIB) of the United Kingdom, representing the State of Design and Manufacture of the aircraft, and (through its registration in a British Overseas Territory) the State of Registry and the State of the Operator, appointed an Accredited Representative to participate in the investigation. The AAIB Accredited Representative is supported by an AAIB Advisor.

The aircraft manufacturer was informed of the accident. Air Safety Support International (ASSI)[1], which performs regulatory oversight of the aircraft operator, was also informed.

Initial investigative activity focussed on examination of the aircraft wreckage and accident site, gathering of evidence from witnesses, and examination of technical records.

After the accident, the European Aviation Safety Agency (EASA) issued an Airworthiness Directive (AD)[2], which requires operators of Britten-Norman Islander and Trislander aircraft to determine if the aircraft they operate are equipped with the correct standard of fuel cap appropriate to the type of fuel receptacle, or filler neck, on the wing upper surfaces. Until such time as the correct caps are fitted, a water contamination check is required to be conducted before every flight. This includes checking the tank drains, the gascolators, and tip tanks if installed.

History of the flight

The aircraft, which had flown earlier during the day, was on a commercial air transport (passenger) flight from V C Bird International Airport, Antigua, to John A Osborne Airport, Montserrat, with the pilot and three passengers aboard. Weather conditions at the time of departure were good, although convective clouds and heavy rain showers had passed over the airport while the aircraft was parked before flight. Approximately 40 mm of rain fell at the airport during this period. There was no evidence that a water drain check was carried out on the aircraft following the rainfall.

Shortly after takeoff, the aircraft yawed and rolled to the right, descending rapidly and apparently out of control. It impacted the ground within the airport perimeter, right wingtip first and steeply banked to the right, at low forward speed. Ground marks and damage to the wingtips and nose indicated that the aircraft cart-wheeled before coming to rest erect. The fuselage forward of the wings was destroyed; there was comparatively less damage to the rear part of the aircraft.

The pilot and two passengers, both of whom were seated in the forward part of the cabin, were fatally injured. Another passenger, seated in the rear-most row of seats[3], was seriously injured and taken to hospital for treatment.

Additional information

Examination of the wreckage found that the right-hand engine was not producing power at the time of impact, and the fuel system feeding that engine contained significant quantities of water. The right-hand fuel filler cap was of a design that was incompatible with the filler neck. Tests showed that the cap, installed in the neck, could allow water to pass into the fuel tank, for example if the aircraft were parked during periods of rain. The EASA AD referred to above addressed this incompatibility.

Following loss of power on one of the two engines on an Islander aircraft, the failed engine's propeller should be feathered to reduce the drag produced. Following successful feathering, continued flight should be possible. Examination of the right-hand propeller showed that it was not in the feathered position. A subsequent bench test of the propeller control unit found that it functioned satisfactorily. This together with the as-found position of the propeller controls suggested that no attempt was made to feather the propeller.

Footnote

[1] ASSI is a wholly-owned, not-for-profit, subsidiary of the United Kingdom Civil Aviation Authority (UK CAA).
[2] AD No.: 2012-0270, 20 December 2012.

Footnote

[3] The Islander may be fitted with up to five rows of two seats. VP-MON was fitted with only the forward four rows.

Fuel system description

The fuel system on this aircraft type consists of an integral tank within each wing such that it is normally operated in a tank-to-engine configuration, although there is provision for cross-feeding. Refuelling is achieved via a filler cap on each wing upper surface. Each tank is fitted with a sump on the wing underside, with holes in the tank floor that allow fuel to flow into it. Each sump is semicircular in lateral section and is approximately 18 inches long and 3 inches in radius. The sump forms the lowest part of the tank and contains a water drain plug and a fuel drain valve. Fuel is drawn into the engine fuel feed line at the back of the sump via a coarse-mesh suction filter. It then passes through two electric boost pumps, each equipped with a nylon mesh filter, before being fed to a gascolator in the nacelle and thence to the carburettor.

Fuel suction filters and Modification NB/M/350

Figure 1 shows the aircraft fuel tank installation and the detail of a modification to the fuel suction filter assembly.

This modification, Mod NB/M/350, mounted the suction filter 8.5 in forward of the sealing plate, on the end of a tube, and raised the filter from 1.05 in to 2.25 in above the bottom of the sump. The modification, issued in 1968, was intended to provide increased protection from water contamination of the fuel. Water, if present, collects at the bottom of the sump and tends to move aft during takeoff and climb. The modified filter is more likely to remain above the water level, as represented in Figure 2.

The modification was not routinely installed on new build aircraft until aircraft Construction Number 091. The investigation has not established how many of the earlier aircraft had been modified. The fuel tank sumps of VP-MON (Construction Number was 082) had not been modified.

Previous accident

On 2 August 1984, a Britten-Norman BN-2A-6 Islander, registration N589SA, suffered an engine failure and crashed into the ocean shortly after takeoff from Vieques, Puerto Rico. All on board were fatally injured. The United States National Transportation Safety Board (NTSB)'s investigation[4] determined that the probable cause of the accident was:

> *'…the failure of the pilot to execute the emergency engine-out procedure properly shortly after takeoff following a loss of power in the left engine because of water in the airplane's fuel system and the failure…..to remove excess water known to be in the airport's in-ground fuel tank before conducting fuelling operations. The pilot's failure to execute the engine-out procedure properly was due to his inexperience in multi-engine airplanes.'*

The NTSB stated that the water contamination check had either not been conducted, was conducted too soon after refuelling, or was made with the aircraft not in a level attitude. The report noted the potential of Modification NB/M/350 to provide improved protection against loss of engine power due to water contamination and recommended that the Federal Aviation Administration:

> *'Issue an Airworthiness Directive applicable to Pilatus Britten-Norman BN-2, BN-2A, BN-2B, BN-2T, and BN-2A Mk 111 model airplanes requiring the incorporation of Britten Norman modification NB/M/350 to provide increased protection from fuel contamination.'*

Footnote

[4] NTSB Report Reference: NTSB/AAR-85/08.

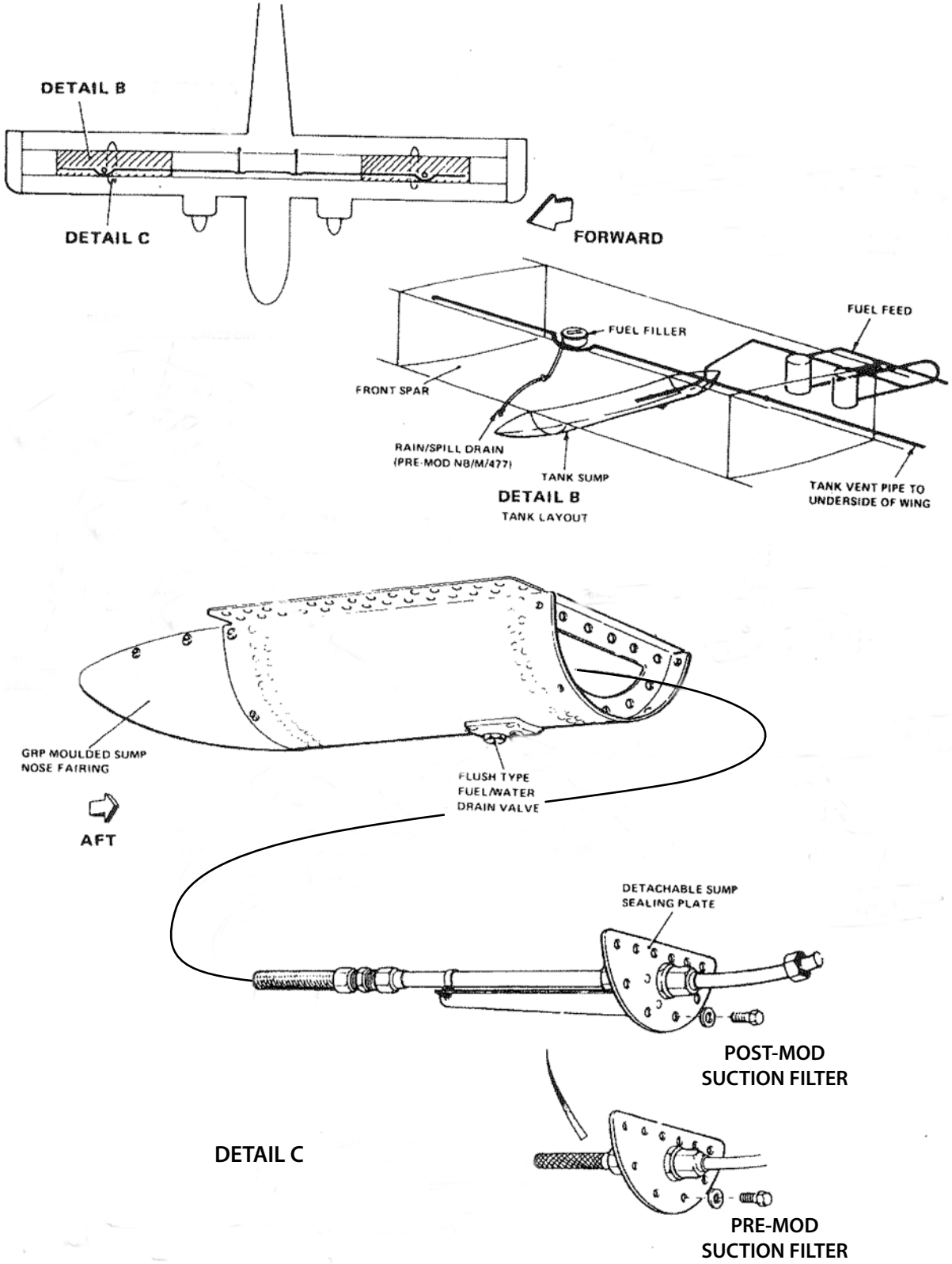

Figure 1

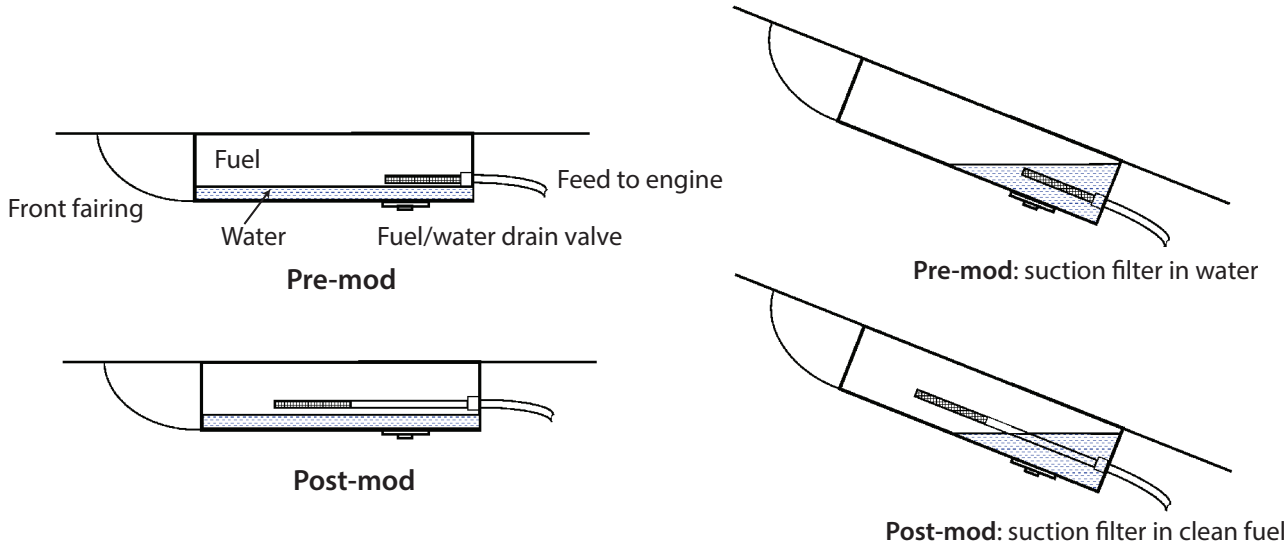

Figure 2

The FAA response included the following:

> *'The modification NB/M/350 was introduced at the factory at the request* [of the] *Australian government. There are about 68 airplanes flying without the modification, 15 of which may be in the U.S. In view of the satisfactory worldwide experience with these airplanes, the CAA-UK is of the opinion that, although modification NB/M/350 might be thought to yield enhanced protection, the evidence indicates that the required sump capacity is adequate if water drain checks are performed. A review of the CAA-UK mandatory occurrence reports data, the FAA's service difficulty reports, and accident/ incident reports has revealed no evidence of incidents due to water in the fuel other than the subject accident.'*

The investigation found that an engine had lost power as a result of water contamination of the bulk fuel supply where the aircraft had refuelled. However the key similarity with the circumstances of the accident to VP-MON was that the water in the fuel tank sumps probably entered the engine fuel supply lines when the aircraft rotated into the takeoff attitude.

Both N589SA and VP-MON had the same pre-modification fuel suction filters, which drew fuel from the rear of the fuel sump. The modified design appears to offer improved tolerance to water in the fuel tank sump.

Safety Recommendation

Examination of VP-MON indicated that the right hand engine was not producing power at the time of impact and that the fuel system feeding that engine contained significant quantities of water. The investigation determined that the pre-modification fuel suction filter assembly was less tolerant to water in the fuel sump than the post-modification design during takeoff and climb. The investigation of a previous fatal accident to the same aircraft type identified similar causal factors.

The modified suction filter offers an improved tolerance to water in the fuel tank sumps, and therefore the following Safety Recommendation is made:

Safety Recommendation 2013-014

It is recommended that the European Aviation Safety Agency takes action to require that Britten-Norman Islander aircraft are equipped with fuel suction filter assemblies which minimise the likelihood of any water present in the fuel tank sumps being fed to the engines.

Published 4 July 2013

AAIB Field Investigation reports

SERIOUS INCIDENT

Aircraft Type and Registration:	ATR42-300, EI-FXA
No & Type of Engines:	2 Pratt & Whitney Canada PW 120 turboprop engines
Year of Manufacture:	1992 Serial no: 282
Date & Time (UTC):	22 February 2012 at 0700 hrs
Location:	On approach to Glasgow Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 2 Passengers - None
Injuries:	Crew - None Passengers - None
Nature of Damage:	None
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	58 years
Commander's Flying Experience:	6,389 hours (of which 3,900 were on type) Last 90 days - N/K hours Last 28 days - 25 hours
Information Source:	AAIB Field Investigation

Synopsis

During a radar-vectored ILS approach, the aircraft's speed reduced and the stall alert activated. Corrective action led to an overspeed. Following further corrective action the speed reduced close to a second stall alert. Tiredness or fatigue may have been a factor.

History of the flight

The flight crew reported for duty at Manchester at 2130 hrs on 21 February to operate a series of three cargo flights. Following normal pre-flight preparations they flew an ATR-72 to Paris Charles de Gaulle, arriving at 2246 hrs; the commander was pilot flying on this sector. They undertook duties on the ground and relaxed in the crew room at the airport, before boarding EI-FXA for the remaining two sectors. The aircraft departed for Newcastle on time at 0330 hrs, with the co-pilot as pilot flying. The aircraft departed for Glasgow at 0607 hrs with the commander as pilot flying.

Shortly after takeoff at Newcastle, the aircraft entered cloud and the flight crew selected level two ice protection[1]. During the flight, both above and below FL100, the commander initiated conversation on a range of topics, speaking at length on some of them[2]. The co-pilot's responses were polite but brief. The commander yawned from time to time during the flight. Both flight crew members missed, or mis-heard,

Footnote

[1] See 'Ice protection' below.

[2] The operator had a 'sterile flight deck' policy, which restricted conversation below FL100 to operational matters.

communications from ATC during the flight. Some standard operating procedures were not adhered to.

The co-pilot obtained the Glasgow ATIS report, which stated that Runway 23 was in use and was 'wet' throughout its length; the surface wind was 220°/21 kt; visibility was 8 km in moderate rain; cloud was 3-4 oktas at 1,300 ft aal, 3-4 oktas at 2,000 ft aal, and 5-7 oktas at 3,800 ft aal; the temperature was 11 °C and the dewpoint 10°C, and the QNH was 1,007 mb. Having calculated that the landing weight was 13.0 tonnes, he prepared the landing data card. The calculated approach speed, for flap 30, with wind correction, was 99 KIAS for non-icing speeds and 114 KIAS for icing speeds. He noted that the approach could be completed using non-icing speeds[3], although level two ice protection was still ON.

When briefing the approach the commander did not state whether icing or non-icing speeds would be employed for the approach and did not address other topics stipulated in the company's procedures.

The Glasgow approach controller provided radar vectors and descent instructions. During descent to 3,500 ft amsl, the co-pilot selected the terrain display ON to show the terrain north of the final approach, and the flight crew discussed the proximity of high ground.

At 0648 hrs the flight crew received a final approach vector from ATC to position the aircraft onto the ILS localiser. Having turned the aircraft onto the ILS intercept heading using the autopilot, the commander commented that he would reduce airspeed as ATC was positioning them onto a "NICE SHORT FINAL". The aircraft was 9.8 nm north-east of the airport at 3,000 ft amsl and 215 KIAS, and engine torque was reduced from 65% to about 15% on both engines. The approach controller instructed a descent to 2,000 ft amsl and cleared the aircraft to establish first on the localiser and then on the glideslope. The commander commented "I'LL HAVE TO COME DOWN A BIT QUICKER THAN THAT, WON'T I" and increased the selected vertical speed.

As the flight director captured the localiser the commander instructed the co-pilot to arm the approach mode. Engine torques were reduced to approximately 0% and the rate of descent was reduced. The aircraft was now 8.2 nm from the runway at 2,500 ft and 185 KIAS (see Figure 1, Point A).

At 140 KIAS and 2,100 ft amsl, flap 15 was deployed and the engine torque was increased to about 20%. Approximately 15 seconds later, the autopilot levelled the aircraft at the selected altitude of 2,000 ft amsl. Engine torques were reduced to about 3% (see Figure 1, Point B), airspeed reduced, and the autopilot progressively pitched the aircraft nose-up as it maintained 2,000 ft amsl. Neither of the flight crew mentioned the gradually reducing airspeed.

The co-pilot commented that they were 6.5 nm from the runway, but that the autopilot had not yet captured the glideslope. With the aircraft below the glideslope, the approach controller inquired whether it was established on the ILS. As the first officer keyed the radio to respond, the stall alert sounded and the stick shaker activated. Simultaneously, the autopilot disconnected (see Figure 1, Point C). The aircraft was approximately 1,700 ft agl at 111 KIAS and the angle of attack was +11.2°. The co-pilot called "FLY THE AIRCRAFT [EXPLETIVE]". The commander almost immediately pitched the aircraft nose down to -10° and advanced the power levers almost to full power (see Figure 1, Point D), saying as he did so "I'VE GOT IT I'VE GOT IT DON'T WORRY".

Footnote

[3] Icing speeds must be used when level two ice protection is used. Level two ice protection should be selected on at an outside air temperature of 7 °C or less for flight in visible moisture.

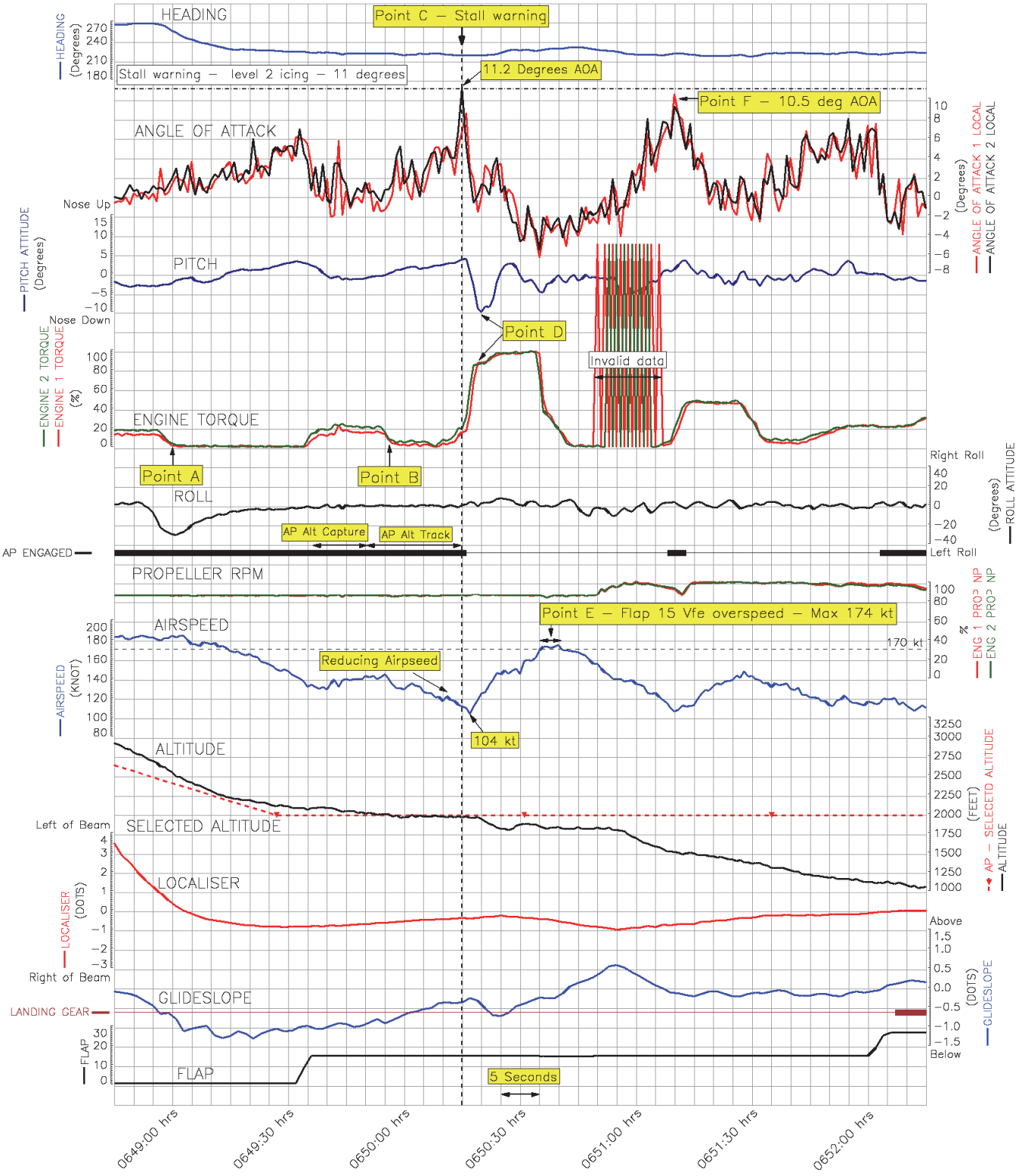

Figure 1

Approach to Glasgow Airport Runway 23

Airspeed reduced to 104 KIAS before increasing. The pitch attitude remained approximately -10° and the co-pilot called "NOSE UP NOSE UP" to which the commander replied "NO". At 125 KIAS the commander started to pitch the aircraft nose-up, having descended to approximately 1,600 ft agl.

The commander levelled the aircraft at about 1,900 ft amsl. Engine torque was now 98 % and airspeed continued to increase. Having received no response, the controller asked again if the aircraft was established on the ILS. The co-pilot replied that the aircraft was established on the localiser, and the controller instructed the pilots to contact the tower controller. As the co-pilot read the instruction back to the controller, the airspeed exceeded the flap 15° V_{fe} limit of 170 KIAS and the overspeed warning system activated. Airspeed peaked at 174 KIAS and the limit was exceeded for around 5 seconds (see Figure 1, Point E). The commander retarded the power levers, reducing engine torque rapidly to 35%, and then more gradually to about 1%. A moment later the co-pilot suggested "PUT THE AUTOPILOT IN" to which the commander replied "SHHH JUST STEADY ON".

The co-pilot set propeller rpm to MAX on command. The flight director began to capture the glideslope 4.8 nm from the runway at about 1,850 ft amsl, 0.5 dot above the glideslope.

As the aircraft descended, its airspeed reduced to a minimum of 111 KIAS and the angle of attack reached 10.5° (0.5° below the stall alert/stick shaker threshold) (see Figure 1, Point F). Passing approximately 1,500 ft amsl, the flight crew attempted to re-engage the autopilot but it disconnected immediately. Simultaneously, engine torque was increased to 45%, airspeed increased and the angle of attack reduced. The controller asked if the aircraft was still on frequency and the co-pilot replied "AFFIRM, STANDBY WE'VE JUST GOT... EH...A FEW PROBLEMS", before advising the controller that the problem had been resolved and that he would contact the tower.

At an airspeed of 115 KIAS, 3.4 nm from the runway, the autopilot was engaged and the aircraft was fully configured for landing with flap 30° selected. The remainder of the approach and landing was completed without further incident until touchdown, when a nacelle overheat warning activated. The flight crew did not action the associated procedure. The commander taxied the aircraft to its parking position and the crew shut down the aircraft.

Reporting of the event

An engineer met the aircraft on its stand. The commander briefed the engineer that there had been a problem with the autopilot. The co-pilot then informed the engineer that the autopilot was not faulty, and that the flight recorder should be preserved. No formal reporting action was taken regarding the incidents in flight and no entry was made in the technical log relating to the stall alert, overspeed, or nacelle overheat.

Having finished their flying duty, the flight crew went to their hotel. The co-pilot then contacted the company's flight safety department and an internal investigation began. The company informed the Irish Air Accidents Investigation Unit on 23 February, and the AAIB was informed on 24 February.

The previous sector

The CVR recording contained the latter part of the flight from Paris to Newcastle. Analysis showed that the commander (who was pilot monitoring during this sector) did not apply standard phraseology in his transmissions to ATC, omitting words such as 'flight level' and 'heading', even in transmissions containing

read-backs of both. He yawned on occasion, and remarked to ATC that it was "LATE". He initiated or continued conversation on non-operational topics several times during the CVR recording, above and below FL100, and omitted some standard calls. On arrival at Newcastle, the co-pilot corrected an error by the commander concerning shutting down an engine whilst taxiing towards the aircraft's parking position.

The CVR continued to record during part of the turn-around at Newcastle, during which the commander was again heard to yawn.

Engineering

An inspection of the aircraft revealed no damage or abnormalities.

Flight crew

The two pilots had not flown together previously, but had spent a week on standby in Paris together.

The commander

In the three weeks prior to 20 February, the commander had been on a recurrent training course and then on leave, and during this time he slept at night and had been awake during the day. After a normal night's sleep he woke at about 0900 hrs on 21 February, and returned to bed for a few hours during the afternoon, before driving for 2 hrs 45 mins to Manchester to begin his flying duty. Although he stated that the first two days of night duty following a period of sleeping at nights were 'quite difficult' in terms of achieving rest, he said that he was 'well rested' prior to flight.

The commander recalled practising, in a simulator during recurrent training, recovery following a stall alert.

The co-pilot

Throughout the weekend of 18 and 19 February the co-pilot slept during 'normal' (night-time) hours. On 20 February, he relaxed in his hotel room before operating a night flight (with a different commander) from Glasgow to Paris and Manchester, where the operator provided a hotel room. He went to bed at approximately 0645 hrs, but was woken by a cleaner in the hotel corridor at 1205 hrs, and only managed to 'doze' for approximately an hour in the afternoon, before reporting for the flying duty to Paris.

He said that his quality of sleep was good for the first four or five hours during a day-stop, after which his quality of sleep reduced and he was more likely to be woken. Although he acknowledged that four or five hours sleep was generally *'not sufficient'*, he stated that he was not tired during the approach to Glasgow.

Guidance on avoiding fatigue

Civil Aviation Publication 371 – *'The Avoidance of Fatigue in Aircrews'*, published by the United Kingdom CAA, did not apply directly to this operation, which was regulated by the Irish Aviation Authority (IAA). However, it included the relevant statement:

> *'Travelling time, from home to departure aerodrome, if long distances are involved, is a factor influencing any subsequent onset of fatigue. If the journey time from home to normal departure airfield is usually in excess of 1½ hours, crew members should consider making arrangements for temporary accommodation nearer to base.'*

Recorded information

The aircraft was equipped with a (Flight Data Recorder) FDR and a 120-minute duration CVR. FDR data and CVR audio was available for the entire incident flight.

FDR documentation

FDRs record binary data containing encoded parametric information. The binary data can then be converted to engineering units (knots, feet etc.) by referencing detailed documentation specific to the aircraft installation. The generic name for this documentation is the Data Frame Layout (DFL). Commission Regulation (EC) 859/2008, referred to as EU-OPS, provides common technical requirements and administrative procedures applicable to commercial transportation by aeroplane. EU-OPS 1.160 '*Preservation, production and use of flight recorder recordings*', states:

> *'(4) When a flight data recorder is required to be carried aboard an aeroplane, the operator of that aeroplane shall:*
>
> *(ii) Keep a document which presents the information necessary to retrieve and convert the stored data into engineering units.'*

The FDR system fitted to EI-FXA had been modified by a former operator. The modification was designed by Delta Engineering Corporation and approved by the FAA. It consisted of the fitment of an Additional Flight Data Acquisition Management Unit (AFDAMU)[4] and sensors which increased the number of parameters recorded on the FDR. The modification was required so that the aircraft, which was then operated on the US register, was compliant with the requirements of FAR 121.344. The aircraft manufacturer was not involved in the design of the modification nor the creation of the DFL documentation.

The operator provided the AAIB with two DFL documents; one produced by the AFDAMU manufacturer and the other by the aircraft manufacturer. During the readout of the FDR by the AAIB, conversion information for the aileron and elevator surfaces was found to be incorrect. A third document was then provided. This contained different information for the conversion of the aileron and elevator positions, but the document contained no reference to an approved design organisation. Thirteen days after the initial request from the AAIB, the operator provided a fourth document which it had obtained from the originator of the modification. The operator advised that it had not previously been aware of this document, which was found to contain the relevant information for the aileron and elevator parameters. On this occasion, the delay in providing accurate DFL information did not impede the investigation.

FDR readouts

The operator was required by the IAA to conduct a readout of the FDR once every two years. Prior to the AAIB being notified of the incident, the operator had made a copy of the FDR and sent it to an avionics company that specialised in the readout of FDR's. Before conducting its own replay, the AAIB evaluated the report provided to the operator by that company and found that both the flap and elevator parameters were wrongly displayed. Both parameters were later confirmed serviceable and the errors attributed to incorrect conversions applied within the avionics company's equipment.

Evaluation of the two previous reports provided by the same company for EI-FXA, dated October 2010 and January 2008, contained the same errors. The operator advised that it had assumed that it was the responsibility of the avionics company providing the readout service to confirm the serviceability of the FDR parameters and that the operator had consequently not checked the readouts for errors. However, discussions with the UK

Footnote

[4] SAGEM manufactured unit, part number ED35E109-05-01.

CAA and IAA confirmed that it was the responsibility of the operator to confirm the serviceability of FDR readouts. The operator advised that it has updated its procedures and that the readout company has addressed the erroneous decoding issues identified.

Ice protection

Ice protection on the ATR-42 is achieved by pneumatic and electrical equipment. Pilots select the appropriate modes, commonly referred to as level one, two, and three, according to the operating conditions. Level one, which is selected ON regardless of flight conditions, provides heating of the pitot probes and windshields. Level two is selected when icing conditions are encountered and provides anti-icing of the propellers, flight control horns, and side windows. Level three is selected when ice accretion is detected on the aircraft and provides airframe and engine de-icing. The levels are selected cumulatively.

When level two is selected, the angle of attack for activation of the stall alert and stick shaker reduces and pilots are required to use higher minimum speeds, known as 'icing speeds'[5].

An illuminated push-button, labelled ICING AOA is fitted on the instrument panel to the left of the engine instruments. It illuminates as soon as level two anti-icing is selected ON, and reminds pilots that the stall alert threshold is lower in this condition and that higher speeds must be used. If the aircraft then leaves icing conditions, and the flight crew confirm that no ice is on the airframe, the push-button may be selected off and 'non-icing' speeds used.

Footnote

[5] The angle of attack values are different during and just after takeoff.

Stall protection and recovery

On the ATR-42, stall protection is provided by a stall alert and a separate stick pusher. The stall alert activates a 'cricket' sound in the flight deck, and a stick shaker which vibrates the control columns, when an angle of attack approaching the stall is detected. At a greater angle of attack, closer to the angle at which aerodynamic stall occurs, a stick pusher applies a nose-down pitch input. Angle of attack is sensed by probes fitted on both sides of the forward fuselage and processed by the centralized crew alerting systems.

Instructions applicable in case of stall warning activation (cricket audio warning and stick shaker) are detailed in the Flight Crew Operating Manual (FCOM), section 2.02.12 of which states:

> *'Recovery of stall approaches should normally be started as soon as stall alert is perceived: a gentle pilot push (together with power increase if applicable) will then allow instant recovery.'*

Analysis

Although the flight progressed normally until the approach to Glasgow there was evidence that the commander was not operating in a manner consistent with the company's procedures. Standard calls and responses were not always carried out correctly, he engaged in conversation on non-operational topics below FL100 and did not always use standard radiotelephony phrases. Several items from the company's prescribed briefing topics were omitted from the approach briefing for Glasgow.

This was his first night-flying duty following a period during which he had slept 'normal' hours, at local night. Although he stated that he was well-rested prior to flight, the incident occurred almost 24 hours after the

end of his last proper sleep. Before his flying duty, he drove approximately 2 hrs and 45 minutes to his base. Consequently, knowingly or not, he may have been tired or fatigued.

The manner in which the commander responded to monitoring calls by the co-pilot is likely to have discouraged further input at a time when effective cross-cockpit communication would have assisted in ensuring safe flight. Fatigue or tiredness caused by the pilots' diminished quality of rest in the period prior to this flight duty would have influenced effective monitoring.

At touchdown, the NACELLE OVERHEAT warning was triggered. The Flight Crew Operating Manual (FCOM) contained a procedure to be followed in event of this warning, but the flight crew did not apply the procedure.

The stall alert should have been reported promptly to the company's operations department; the overspeed and nacelle overheat should have been reported and entries made in the technical log to enable engineers to carry out appropriate checks. It was fortunate that the co-pilot reported this serious incident in a sufficiently timely manner to enable preservation of the CVR recording.

Conclusion

The appropriate airspeed was not maintained during the approach because standard operating procedures were not observed, monitoring was not effective and there was diminished crew cooperation during recovery actions. The performance of the crew may have been affected by tiredness or fatigue, caused by diminished quality of rest in the period prior to flight duty.

BULLETIN CORRECTION

The online version of this report was corrected on Friday, 9 August 2013

The first line of the first paragraph on page 12 incorrectly states that the co-pilot obtained the Newcastle ATIS report, this should read:

> 'The co-pilot obtained the **Glasgow** ATIS report, which stated that …..'

AAIB correspondence reports

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

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

The accuracy of the information provided cannot be assured.

ACCIDENT

Aircraft Type and Registration:	Airbus A319-131, G-EUOA
No & Type of Engines:	2 International Aero Engine V2522-A5 turbofan engines
Year of Manufacture:	2001 (Serial no: 1513)
Date & Time (UTC):	23 February 2013 at 0813 hrs
Location:	London Heathrow Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 6 Passengers - 103
Injuries:	Crew - None Passengers - None
Nature of Damage:	Left navigation light cover broken and dent to underside of left wing adjacent to winglet. Ground equipment vehicle damaged
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	50 years
Commander's Flying Experience:	11,450 hours (of which 4,440 were on type) Last 90 days - 176 hours Last 28 days - 65 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot, report by the aircraft operator and information from the airport operator.

Synopsis

A mobile steps vehicle was parked in the inter-stand clearance area with the front of the vehicle protruding part-way into the stand area. As the aircraft taxied onto stand following the electronic guidance system, its left wingtip struck the steps, knocking them over. A number of safety actions were taken by the aircraft operator to prevent recurrence.

Description of the event

The aircraft had flown from Basel to Heathrow with 103 passengers and 6 crew members on board. Its allocated parking position was Stand 503, which was adjacent to the north end of Heathrow's Terminal 5 main building. Mobile steps were to be required for passenger disembarkation.

As the aircraft taxied onto stand, its left wingtip collided with the set of mobile steps, knocking them over. Once it was assessed by ground staff as safe to do so, the aircraft continued forward to park at the designated point. Both the aircraft's wingtip and the mobile steps sustained damage.

Report by the aircraft commander

The first officer was the handling pilot. Both flight crew were aware of the steps protruding into the stand safety area "by about 18 inches", but their assessment was that it was safe to proceed. The stand guidance was active, and as the aircraft approached the parking position it was aligned with the stand centreline. Before the aircraft reached the parking position, the Turn Round Manager (TRM) indicated an emergency stop to the crew, who complied. It was then established that the aircraft's left wingtip had collided with the steps. The flight crew requested the attendance of the airfield emergency services. The aircraft subsequently taxied forward to park without further incident. The steps ended up on their side and protruding about five to six feet into the stand safety area.

Both the flight crew had assessed the stand to be clear and, at the time, were positioning the aircraft by reference to the stand guidance system. The commander reported that stands at Terminal 5 have different clearance margins, and that the flight crew in this case were not aware how relatively little clearance existed between the parking area boundary and the aircraft's wingtip.

Report by the aircraft operator

The aircraft operator conducted an investigation and made its findings available to the AAIB. It established that the driver parked his mobile steps in the inter-stand clearway at right angles to the aircraft's line of approach with the engine running and steps raised to the appropriate height. It was also established that the vehicle was physically too large to park in this manner without infringing sterile stand areas, and that it had protruded into the Stand 503 safety area by about 18 inches. Clearance between each wingtip and the edge of the inter-stand clearway was determined to be 0.925 m (about 36 inches), for an A319 on the stand centreline.

The TRM proceeded to the head of the stand as the aircraft approached, and positioned himself near the centreline stop bar. He believed that when he completed a visual check of the stand area it was clear of equipment.

An examination of the steps vehicle found that the parking brake operating lever was defective, such that normal activation of the lever did not fully apply the brakes. It was determined that factors such as vehicle orientation and vibration from the engine could have caused the vehicle to move forward after being parked.

Airport operator's safety instructions

Instructions, standards and recommended practices for airside operations are published by Heathrow Airport Limited. Operational Safety Instruction (OSI) 07/12 states that a member of the airline/handling agent staff should be nominated to carry out a safety check of the stand before arrival of an aircraft (in this case, the TRM). This check is to include ensuring that the stand is unobstructed by vehicles or equipment and is clear of Foreign Object Debris (FOD).

In OSI/11/09, Heathrow Airport Limited sets out policies and procedures to be followed by operators and drivers of wheeled vehicles whilst airside. The OSI states that vehicles may only be parked in designated areas, and unattended vehicles must have their engine switched off and the parking brake applied. Parking in inter-stand clearways is specifically prohibited.

Safety actions

The aircraft operator produced a number of safety actions intended to prevent recurrence. These included reminding ramp staff that vehicles are not permitted to be left unattended in the inter-stand clearway and of the need for a full walkround inspection of the stand prior to aircraft arrival. Flight crews were to be reminded

that relatively little wingtip clearance exists at some stands and airports, including Heathrow. Additionally, all ground equipment with parking brakes of the type fitted to the mobile steps were to be checked for similar defects and correct operation.

SERIOUS INCIDENT

Aircraft Type and Registration:	Airbus A321-211, EC-HUI
No & Type of Engines:	2 CFMI CFM56-5B3/P turbofan engines
Year of Manufacture:	1999 (Serial no: 1027)
Date & Time (UTC):	3 January 2013 at 1639 hrs
Location:	London Heathrow Airport
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 6 Passengers - Not reported
Injuries:	Crew - None Passengers - Not reported
Nature of Damage:	Damage to nose landing gear assembly
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	58 years
Commander's Flying Experience:	15,961 hours (of which 5,131 were on type) Last 90 days - 103 hours Last 28 days - 45 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft, which was destined for Madrid, was being pushed back from Stand 522 at Heathrow Airport when the incident occurred. The commander reported that the pushback procedure proceeded normally initially and the flight crew were cleared by the ground crew for engine start.

The aircraft's nosewheel steering mechanism, which is hydraulically powered, is normally inhibited during the pushback procedure to allow the pushback vehicle to manoeuvre the aircraft without damaging the steering system. This is achieved by action on a towing control lever on the nose landing gear, which is operated by the pushback ground crew. When the control lever is in the towing position, a NW STRG DISC message appears on the flight crew's display.

The commander reported that the towing control lever was not correctly set and that, as the right hand engine was started, the nosewheel steering system became pressurised and was damaged as a result. The ground crew stopped the pushback procedure immediately. After explaining the situation to the flight crew, the aircraft was towed back on to stand; it was subsequently inspected and removed from service pending maintenance action.

SERIOUS INCIDENT

Aircraft Type and Registration:	Boeing 777-200, V8-BLF
No & Type of Engines:	2 Rolls Royce Trent 892-17 turbofan engines
Year of Manufacture:	2000 (Serial no: 30869)
Date & Time (UTC):	27 December 2012 at 1140 hrs
Location:	Over Broxbourne, Hertfordshire
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 12 Passengers - 256
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damage to right engine thrust reverser assembly
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	56 years
Commander's Flying Experience:	17,052 hours (of which 1,539 were on type) Last 90 days - 152 hours Last 28 days - 51 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and additional enquiries by the AAIB

Synopsis

Whilst climbing through FL150 after takeoff from Heathrow Airport, the crew noticed a loud rumbling noise together with a small amount of vibration and observed an Exhaust Gas Temperature (EGT) exceedence on the right engine. Having performed all the appropriate drills, it appeared that all engine parameters were normal but the crew nevertheless decided to return to Heathrow.

Following an uneventful overweight landing, inspection showed that a large amount of the right engine inboard thrust reverser inner wall structure was missing and the engine nozzle was damaged. This was the fifteenth similar occurrence known to the manufacturer and a number of inspections and modifications were already in place to try to mitigate inner wall damage and potential parts liberation. The aircraft manufacturer has advised that replacement of the thrust reverser inner wall will be required, and may be mandated, for all affected aircraft.

History of the flight

The aircraft had taken off from Runway 27L at Heathrow, destined for Dubai. During the climb at about FL150, the crew noticed a loud rumbling noise, a small amount of vibration and an EGT exceedence on the right engine. All memory and Emergency Checklist items were carried out and a review of the engine parameters showed both engines were within the normal range. Nevertheless, the commander decided to return to Heathrow as a precaution and a normal two-engined

approach and landing was carried out on Runway 27L. An emergency services Local Standby was initiated at the airport due to the overweight landing.

Upon examination, it was found that the right engine inboard thrust reverser half was missing a large amount of material from its inner wall and consequently, the exhaust nozzle had been damaged and was loosely attached (Figure 1). A considerable amount of the missing composite structure was recovered later that day from a property in Broxbourne, Hertfordshire. All parts, including the damaged reverser half, were despatched to the aircraft manufacturer for further examination.

Thrust reverser break-up history

This incident represented the fifteenth similar occurrence of Boeing 777 Trent engine thrust reverser break-up known to the manufacturer (the design and manufacture of the reverser is the responsibility of the airframe manufacturer). Approximately half of the events involved fracture and liberation of a portion of the reverser inner wall which can also result in consequential damage to the exhaust nozzle.

In June 2010, a similar incident to a British-operated Boeing 777-236, registration G-YMMP, prompted an AAIB Field Investigation which was reported in the AAIB Bulletin 10/2011. At that time it appeared that this was the tenth known event and various Service Bulletins (SB) which had been issued by the manufacturer were described, culminating in SB 777-78-0071 which was issued in late 2009. It is apparent that attention had been focussed on the effectiveness of the insulation blanket in protecting the composite structure from heat and the SB introduced a new thermal protection system. The modification had not been approved by EASA at the time of the incident

Figure 1

Right engine thrust reverser showing material missing from inner wall and dislodged exhaust nozzle

to G-YMMP. However, at the time of the incident to V8-BLF, it is understood that more than 60% of the affected fleet had been modified. Additionally, more than 50% of the fleet have incorporated an associated engine manufacturer's modification to a bleed vent.

The AAIB was also made aware of another case of inner wall collapse on a similar aircraft in the Far East on 7 January 2013, although this is not an AAIB investigation and no details are known.

Engineering investigation

V8-BLF was fitted with the later standard of insulation and was up-to-date with the various required inspections. However, it was found that one of the

four compression rods which carry the hoop stresses in the inner wall was not correctly engaging the receptor cups when the thrust reverser was closed (Figure 2). Because of this, the end of the compression rod had damaged the insulation blanket in that area, although no evidence of associated heat distress was found, as well as wear to the hanger brackets (Figure 3). The manufacturer reports that the cause for the misalignment and subsequent incorrect engagement has not been determined, but that investigation continues.

Whilst an additional inspection has been required to inspect for evidence of disconnection or wear in the compression rods, the manufacturer has devised a programme of thrust reverser inner wall replacement for reversers, because existing non-destructive test techniques may not reliably detect previous thermal damage. They further advise that the Federal Aviation Administration may mandate inner wall replacement on all Rolls-Royce powered Boeing 777 aircraft.

Figure 2

Receptor cup showing witness mark where compression rod has not engaged (Boeing picture)

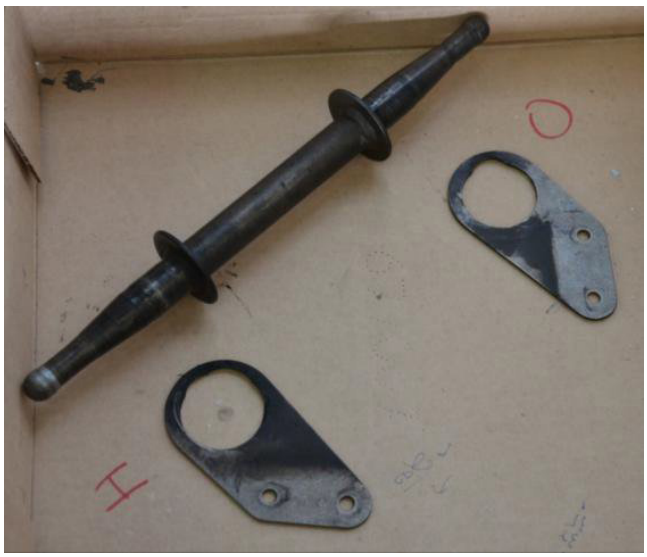

Figure 3

No.1 compression rod and worn hanger plates (Boeing picture)

ACCIDENT

Aircraft Type and Registration:	Aeroprakt A22-L Foxbat, G-EOID
No & Type of Engines:	1 Rotax 912ULS piston engine
Year of Manufacture:	2009 (Serial no: LAA 317A-14836)
Date & Time (UTC):	18 May 2013 at 1000 hrs
Location:	Private strip, Sandford St Martin, Oxfordshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Nose and left main landing gear, tailplane
Commander's Licence:	Private Pilot's Licence
Commander's Age:	47 years
Commander's Flying Experience:	390 hours (of which 42 were on type) Last 90 days - 3 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The aircraft departed from a private, grass strip and at about 40 ft the engine suffered a marked loss of power. The pilot landed straight ahead in an adjacent grass field which had an uneven surface. During the landing roll the landing gear and nose were damaged.

History of the flight

The pilot intended to carry out a short local flight from a private grass strip located in a paddock. He was accompanied by a friend who was also a pilot and had flown the aircraft before, but not from this grass strip. They briefed the intended flight and carried out the necessary flight planning. A weather station in the paddock indicated a light wind from the west-north-west, producing a tailwind of about 2-3 mph which they considered allowed acceptable takeoff performance.

They performed a pre-flight inspection of the aircraft in the barn before refuelling it from a bulk fuel supply to ensure two hours flight time. Fuel samples were taken from the gascolator in the engine bay and the emergency drain under the fuselage. There was no evidence of water present in the fuel samples. The aircraft was moved out of the barn and the pilots walked the length of the strip where the owner pointed out the marker posts he used as go/no go points for takeoff performance and as go-around indicators for landing. They discussed the adjacent trees and the best climb out directions and agreed that the flight could be conducted safely.

Having returned to the aircraft they performed the checks from printed notes and discussed the fuel system, ensuring that both fuel selector handles were placed in the ON position. The engine started normally and the pilot checked that the oil had reached its normal operating range.

The aircraft was taxied to the western end of the strip for an easterly departure. The pre-takeoff checks were completed and the full power and magneto checks were all satisfactory. As they lined up, the anemometer of the weather station was not rotating and the pilot selected maximum power. The aircraft accelerated, lifted off at the expected point on the strip and climbed away. At about 40 ft the engine note changed, with some rough running and a noticeable reduction in power. The pilot decided to land straight ahead in the adjacent uncut grass field. Soon after initial touch down, the aircraft bounced into the air and then landed heavily, stopping in a short distance. The pilot isolated the fuel and electrical systems and both occupants vacated the aircraft through the normal exits.

No explanation for the loss of power was identified and a post-accident inspection of the fuel revealed no water. At the low height and airspeed a straight ahead landing was the only option.

ACCIDENT

Aircraft Type and Registration:	Cessna 150H, G-BRJT
No & Type of Engines:	1 Continental Motors Corp O-200-A piston engine
Year of Manufacture:	1968 (Serial no: 150-68426)
Date & Time (UTC):	7 May 2013 at 1500 hrs
Location:	Welshpool Airport, Powys
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damage to aircraft's tailplane, runway lighting and adjacent fencing
Commander's Licence:	Private Pilot's Licence
Commander's Age:	29 years
Commander's Flying Experience:	109 hours (of which all were on type) Last 90 days - 8 hours Last 28 days - 8 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was landing at Welshpool following a flight from Haverfordwest. The weather was fine, with a forecast surface wind from 150° at 10 kt, although the pilot reported the actual wind direction as varying between 150° and 210°. On approach to Runway 22 (a 1,020 m asphalt runway, with 879 m landing distance available), the pilot was informed by the Air/Ground radio operator that the wind was variable. The pilot elected to fly the approach and landing with two stages of flaps lowered, at a speed of 60 kt IAS.

Shortly after flaring the aircraft for landing, the pilot felt it drift to the right, downwind. The stall warning horn sounded at the same time as the pilot made a decision to go-around because of the excessive drift. He applied full power but, at about the same time, the aircraft's tail struck a runway light. The aircraft became airborne for two or three seconds, before the right hand elevator struck a fence post and the aircraft sank to the ground. The pilot was able to steer back towards the runway and bring the aircraft to a stop. Both the pilot and his passenger were uninjured.

ACCIDENT

Aircraft Type and Registration:	Cherry BX-2, G-CGTE
No & Type of Engines:	1 Rotax 912-ULS piston engine
Year of Manufacture:	2011 (Serial no: PFA 179-13386)
Date & Time (UTC):	6 April 2013 at 1130 hrs
Location:	Croft Farm, Defford, Worcestershire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to propeller, nose landing gear, cowling and engine
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	47 years
Commander's Flying Experience:	16,700 hours (of which 7 were on type) Last 90 days - 141 hours Last 28 days - 58 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The engine stopped abruptly and the aircraft landed in a fallow field close to the runway, during which the nose landing gear collapsed.

History of the flight

The purpose of the flight was to conduct a handling assessment following fitment of an engine cowling with a revised profile. After satisfactory high and low speed tests, the pilot returned to the farm airstrip and flew the aircraft at a height of 1,500 ft parallel to, and to the north of, Runway 09 so that he could observe the windsock, which indicated that the wind was from 030º at about 10 kt. However, as he was about halfway along the runway length, the engine rpm hunted twice before stopping completely. The pilot turned the aircraft to the right, intending to perform a downwind glide approach to grass Runway 09.

Whilst in the turn he attempted to lower the landing gear, but found that the lever became snagged on the right thigh area of his flying suit and required both hands to free before he successfully extended the gear. During this period, the nose of the aircraft had dropped and it banked to the left. Regaining his desired attitude, the pilot realised that this, and the effect of the wind, meant that he would be unlikely to reach the runway. After three unsuccessful engine restart attempts, he landed the aircraft in a fallow field adjacent to the runway, during

which the nosewheel leg collapsed and the aircraft came to rest on its mainwheels and engine cowling.

The pilot commented that the nature of the engine stoppage suggested fuel starvation, but an examination immediately after the accident found sufficient fuel onboard and no fuel system defect. The builder of the aircraft has undertaken to advise the AAIB of the results of an engine run.

ACCIDENT

Aircraft Type and Registration:	De Havilland DH82A Tiger Moth, G-AYDI
No & Type of Engines:	1 De Havilland Gipsy Major 1C piston engine
Year of Manufacture:	1943 (Serial no: 85910)
Date & Time (UTC):	7 April 2013 at 1430 hrs
Location:	Hampstead Norris Airfield, Berkshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to both lower wings, the elevator and the lower section of the rudder
Commander's Licence:	Private Pilot's Licence
Commander's Age:	35 years
Commander's Flying Experience:	405 hours (of which 119 were on type) Last 90 days - 3 hours Last 28 days - 2 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot was landing the aircraft on grass Runway 23 in good weather, with the surface wind reported as being variable at 0-10 kt. He had flown a straight-in approach, in apparently calm conditions, rather than joining overhead. As he flared the aircraft prior to touchdown, a gust of wind from the south caused the right wing to drop and strike the surface. The aircraft yawed to the right, rocked back onto its left wing, which also struck the ground, and left the runway to the right before coming to a halt.

The pilot had not anticipated the possibility of a crosswind. Had he done so, he would have used a 'wheeler' landing technique.

SERIOUS INCIDENT

Aircraft Type and Registration:	Percival P10 Vega Gull, G-AEZJ
No & Type of Engines:	1 De Havilland Gipsy Six Series II piston engine
Year of Manufacture:	1937 (Serial no: K.65)
Date & Time (UTC):	12 May 2013 at 1036 hrs
Location:	Biggin Hill Airport, Kent
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Minor damage to lower rear fuselage, tailwheel and yoke
Commander's Licence:	Private Pilot's Licence
Commander's Age:	64 years
Commander's Flying Experience:	1,850 hours (of which 346 were on type) Last 90 days - 6 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

After takeoff the pilot was informed that a tailwheel assembly had been found on the runway. A flypast of the control tower confirmed that the aircraft's tailwheel was missing. The pilot subsequently made an uneventful landing. Examination of the aircraft revealed that the bolt attaching the tailwheel assembly to the fuselage was missing. The bolt is located behind a fairing in the rear fuselage and is therefore not visible during pre-flight checks. There is no requirement to carry out a scheduled inspection of the tailwheel mounting structure. As the bolt was not recovered, the reason for the failure could not be determined.

ACCIDENT

Aircraft Type and Registration:	Piper PA-18-150 (Modified) Super Cub, G-AWMF
No & Type of Engines:	1 Lycoming O-360-A3A piston engine
Year of Manufacture:	1968 (Serial no: 18-8674)
Date & Time (UTC):	18 May 2013 at 1450 hrs
Location:	Wycombe Air Park, Buckinghamshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Extensive airframe damage, local soil contaminated with fuel
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	19 years
Commander's Flying Experience:	257 hours (of which 109 were on type) Last 90 days - 14 hours Last 28 days - 8 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was engaged on glider towing operations on the day of the accident. The weather was fine, with a light to moderate surface wind and good visibility. The aircraft had previously carried out ten consecutive glider tows before refuelling. The accident occurred on the third takeoff after refuelling.

Pre-takeoff checks were normal, including engine full-power checks. Shortly after takeoff, at a height of about 50 ft, there was a sudden vibration, which was severe enough to prevent the pilot reading his instruments. The vibration then stopped, combined with a complete loss of engine power. The pilot jettisoned his glider and manoeuvred the aircraft for a forced landing in fields beyond the airfield boundary. The aircraft ran into a hedge and pitched nose-down, flipping over onto its back and coming to rest inverted. The pilot, who was wearing a full harness, was uninjured and was able to vacate through the aircraft's door. At the time of the report, the reason for the engine failure was awaited.

ACCIDENT

Aircraft Type and Registration:	Piper PA-28-180 Cherokee, G-AYAR
No & Type of Engines:	1 Lycoming O-360-A4A piston engine
Year of Manufacture:	1970 (Serial no: 28-5797)
Date & Time (UTC):	12 March 2013 at 1341 hrs
Location:	Exeter Airport
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Nose landing gear broken and propeller damage
Commander's Licence:	Private Pilot's Licence
Commander's Age:	23 years
Commander's Flying Experience:	106 hours (of which 73 were on type) Last 90 days - 13 hours Last 28 days - 4 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot was carrying out a VFR flight from Southend Airport to Exeter Airport. He had downloaded the weather from the internet which indicated good visibility and a high, scattered cloud base with strong, blustery winds from the north-east. The transit to Exeter was uneventful with occasional turbulence and the aircraft was established on the final approach at about 70 kt IAS for Runway 08, with full flap selected. The 1320 hrs METAR gave the surface wind as 030°/18 gusting 28 kt. The pilot rounded out normally and the main wheels touched down but as the nosewheel touched down, the aircraft bounced several times and the nose landing gear collapsed. The aircraft veered to the right and departed the runway, coming to rest on the grass. The pilot isolated the fuel and the electrical system before exiting through the normal door.

The pilot considered that he had probably been a little fast on the approach which led to a fast touchdown. As the aircraft bounced, he had allowed a Pilot Induced Oscillation (PIO) to develop, which had caused the damage to the nose landing gear. He felt he should have initiated a go-around when the aircraft first bounced.

ACCIDENT

Aircraft Type and Registration:	Piper PA-28R-200, N9325N
No & Type of Engines:	1 Lycoming IO-360-C1C piston engine
Year of Manufacture:	1969
Date & Time (UTC):	2 March 2013 at 1710 hrs
Location:	Sibson Aerodrome, Cambridgeshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Nose landing gear damaged
Commander's Licence:	Private Pilot's Licence
Commander's Age:	51 years
Commander's Flying Experience:	275 hours (of which 28 were on type) Last 90 days - 37 hours Last 28 days - 28 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was being flown from Biggin Hill to Sibson as part of a multiple-leg flight from its home base near Cambridge. The weather was fine, with a calm or very light surface wind. The pilot flew a normal approach to Runway 15 at Sibson but made a heavy landing, resulting in the nose landing gear collapsing. There had been no unusual landing gear indications or warnings prior to the accident. The pilot attributed the hard landing to handling error.

ACCIDENT

Aircraft Type and Registration:	Robinson R22 Beta, G-EROM
No & Type of Engines:	1 Lycoming O-360-J2A piston engine
Year of Manufacture:	2002 (Serial no: 3383)
Date & Time (UTC):	11 April 2013 at 1018 hrs
Location:	Redhill Aerodrome, Surrey
Type of Flight:	Training
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (Minor) Passengers - N/A
Nature of Damage:	Extensive
Commander's Licence:	Student
Commander's Age:	36 years
Commander's Flying Experience:	24 hours (of which all were on type) Last 90 days - 18 hours Last 28 days - 9 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The student pilot was carrying out his first solo flight. As he lifted off, the helicopter rolled and yawed to the right, the main rotor blades struck the ground which caused the helicopter to roll onto its right side. The pilot was uninjured and was able to exit the helicopter unassisted.

History of the flight

The student pilot was briefed to carry out his first solo flight which comprised takeoffs, landings and hover practice in the southern hover square at Redhill. The surface wind was calm and there was no precipitation.

Initially, the exercises were carried out 'dual' with an instructor and were performed satisfactorily. The instructor confirmed the student understood the brief for a solo flight. Standing some 10 metres in front of the helicopter, the instructor gave the student the signal to lift into the hover. The student slowly raised the collective control lever, at the same time monitoring the Manifold Air Pressure (MAP) gauge to achieve 18 inches of boost. He had been told that this was the approximate power indication at which the helicopter would start to lift off. As it appeared to lift off, the helicopter 'lurched' to the right and the student instinctively continued to raise the collective lever. The roll to the right increased and was accompanied by the nose yawing to the right, both of which the student was unable to correct before the main rotor blades struck the ground. The helicopter rolled onto its right

side, having rotated through approximately 180°. The student isolated the fuel and electrical systems before exiting through the left door.

The student pilot considered that the cause of the accident was that he had not identified the developing dynamic rollover. He had been taught to lower the collective lever at the onset of this condition but had focussed his attention on the MAP gauge and not monitored the helicopter attitude and therefore did not identify the developing situation.

ACCIDENT

Aircraft Type and Registration:	Robinson R44 II Raven II, G-MRRY
No & Type of Engines:	1 Lycoming IO-540-AE1A5 piston engine
Year of Manufacture:	2007 Serial no: 11780
Date & Time (UTC):	2 May 2013 at 1600 hrs
Location:	Denham Airfield, Buckinghamshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Extensive damage to rotors and fuselage
Commander's Licence:	Private Pilot's Licence
Commander's Age:	47 years
Commander's Flying Experience:	130 hours (of which 110 were on type) Last 90 days - 2 hours Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot was preparing for a local flight when the accident occurred. The weather was fine and dry, with a light easterly wind. The helicopter was on a small concrete parking area adjacent to fuel pumps. As the pilot was carrying out his pre-takeoff checks, the helicopter started to yaw to the left. The pilot lost control of the helicopter and both the tail and main rotor blades struck the ground in its ensuing manoeuvre. The fuselage section came to rest in a nearly vertical position, resting on the back of the engine compartment and the rear of the skids, the tail boom having fractured and lying parallel to the ground. The pilot, who was uninjured, vacated the helicopter through the rear right cabin door. He attributed the unexpected yaw to slippery surface conditions.

ACCIDENT

Aircraft Type and Registration:	Vans RV-8, G-HPWA
No & Type of Engines:	1 Lycoming IO-360-C1E6 piston engine
Year of Manufacture:	2000 (Serial no: 80836)
Date & Time (UTC):	17 January 2013 at 1315 hrs
Location:	Private Strip, Adbury Park, Hampshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to propeller, canopy and left wing
Commander's Licence:	Private Pilot's Licence
Commander's Age:	51 years
Commander's Flying Experience:	3,000 hours (of which 398 were on type) Last 90 days - 45 hours Last 28 days - 35 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot was landing at a private grass airstrip at Adbury Park, near Newbury. Following a normal approach to the north-easterly runway, which was 600 m long, the aircraft touched down and commenced its landing roll. There was a boggy section in the middle of the strip of which the pilot was aware but assumed would be frozen after a week of sub-zero temperatures. However, when encountered, this section was much boggier than expected and the aircraft flipped inverted. The pilot was uninjured. He commented that an underground drain had broken, flooding the area and preventing it from freezing.

ACCIDENT

Aircraft Type and Registration:	Escapade Jabiru(3), G-VNON
No & Type of Engines:	1 Jabiru Aircraft Pty 2200 piston engine
Year of Manufacture:	2005 (Serial no: BMAA/HB/325)
Date & Time (UTC):	6 April 2013 at 1605 hrs
Location:	Farm airstrip near Melksham, Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to landing gear, engine mount and propeller, cockpit floor and rudder pedals
Commander's Licence:	Private Pilot's Licence
Commander's Age:	64 years
Commander's Flying Experience:	312 hours (of which 163 were on type) Last 90 days - 2 hours Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot was conducting a local flight from a private airstrip. The grass airstrip was orientated 01/19, and the pilot estimated the surface wind at 9 or 10 kt, variable in direction between 010° and 080°. After taking off in a northerly direction he encountered rather turbulent conditions, so decided to curtail the flight and return to the airstrip. As he descended on final approach there was still some turbulence, so he configured the aircraft with two stages of flaps (30°) and increased the approach speed from 50 to 55 kt.

The pilot was satisfied with the final approach, although there was a significant crosswind. Approaching the flare the aircraft was slightly fast and the pilot anticipated a slightly late touchdown. However, the aircraft suddenly sank from about 10 ft onto the airstrip, which the pilot thought may have been due to an unexpected wind shift. The aircraft then encountered a bump about halfway along the 500 m strip, and bounced back into the air. When it touched down again the nose leg collapsed, followed by the right leg. The aircraft veered to the right but remained substantially upright.

ACCIDENT

Aircraft Type and Registration:	Gemini Flash IIA, G-MYCS
No & Type of Engines:	1 Rotax 503 piston engine
Year of Manufacture:	1992 (Serial no: 911-0592-7-W710)
Date & Time (UTC):	21 June 2013 at 2030 hrs
Location:	Near Driffield, Yorkshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damage to pod, hang bracket and wheel spat
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	40 years
Commander's Flying Experience:	96 hours (of which 52 were on type) Last 90 days - 21 hours Last 28 days - 10 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The microlight aircraft suffered an engine failure in flight and the pilot carried out a forced landing into a meadow. During the landing roll the nosewheel hit a hole in the ground, causing the wheel to move full travel to the right. The aircraft slewed to the right and tipped over to its left, causing the trike and wing to strike the ground. The pilot observed that landing options had been limited, and considered that the forced landing would have been entirely successful had the aircraft not encountered the hole.

ACCIDENT

Aircraft Type and Registration:	Ikarus C42 FB80, G-CDRO
No & Type of Engines:	1 Rotax 912-UL piston engine
Year of Manufacture:	2005 (Serial no: 0507-6750)
Date & Time (UTC):	26 May 2013 at 0926 hrs
Location:	Old Sarum Airfield,Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Left main landing gear damaged
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	63 years
Commander's Flying Experience:	156 hours (of which all were on type) Last 90 days - 8 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was landing at Old Sarum Airfield following a flight from Popham. The weather conditions were fine, with a very light wind from the north-west. The pilot flew a normal approach to Runway 24 but the aircraft "ballooned" in the flare, which the pilot attributed to him pulling the control column back too far. He attempted to recover the situation by applying a small amount of power to control the descent on to the runway. However, the aircraft made a heavy touch down and the left main landing gear collapsed, causing the aircraft to veer sharply to the left and off the grass runway. The pilot and his passenger, who were both wearing full harnesses, were uninjured. In his report, the pilot recognised that a go-around would have been the correct course of action.

ACCIDENT

Aircraft Type and Registration:	Ikarus C42 FB80, G-CDVI
No & Type of Engines:	1 Rotax 912-UL piston engine
Year of Manufacture:	2006 (Serial no: 0602-6794)
Date & Time (UTC):	5 May 2013 at 1100 hrs
Location:	Popham Airfield, Hampshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers -1 (Minor)
Nature of Damage:	Damage to propeller blades
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	54 years
Commander's Flying Experience:	78 hours (of which all were on type) Last 90 days - 9 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

After refuelling the aircraft and completing the checks, the pilot started the engine and ran it at idle to allow it to warm up. His passenger was strapped in and the doors were closed but the passenger complained that she could not find her mobile telephone and suddenly, against the advice of the pilot, opened the door, stepped out of the aircraft and into the path of the rotating propeller.

She suffered a suspected dislocated shoulder and two of the three composite propeller blades were damaged.

ACCIDENT

Aircraft Type and Registration:	Ikarus C42 FB100, G-FLYB
No & Type of Engines:	1 Rotax 912ULS piston engine
Year of Manufacture:	2003 (Serial no: 0309-6572)
Date & Time (UTC):	7 April 2013 at 1115 hrs
Location:	Perranporth Airfield, Cornwall
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - 1 (Minor)
Nature of Damage:	Damage to landing gear, propeller, engine and right wing
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	72 years
Commander's Flying Experience:	141 hours (of which all were on type) Last 90 days - 3 hours Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was landing at Perranporth Airfield following a flight from Old Sarum Airfield, near Salisbury. The weather was fine, with a surface wind from 150° at 15 kt. The pilot joined the circuit via the downwind position for Runway 09 and, as the wind was rather gusty with some turbulence, he elected to fly the approach with a reduced flap setting. On final approach, the aircraft was subject to a significant crosswind component, which necessitated a 'wing down' approach. When just above the ground, the aircraft stalled and struck the runway hard. The pilot attempted to fly a go-around, but the aircraft appeared to be caught by a gust of wind which caused it to roll and veer to the left. It struck the ground again adjacent to the runway threshold and came to rest, having sustained extensive damage. The pilot, who was uninjured, made the aircraft safe and vacated though his door. His passenger also vacated by his own door, and was treated locally by a paramedic for a cut to his head.

The pilot believed the loss of control and subsequent accident had been caused by strong, gusty wind conditions at the time of landing.

ACCIDENT

Aircraft Type and Registration:	Jabiru UL-450, G-TYKE
No & Type of Engines:	1 Jabiru Aircraft Pty 2200A piston engine
Year of Manufacture:	2001 (Serial no: PFA 274A-13739)
Date & Time (UTC):	31 March 2013 at 1230 hrs
Location:	Charterhall Airfield, Berwickshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - None
Nature of Damage:	Damage to landing gear and propeller
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	56 years
Commander's Flying Experience:	146 hours (of which 77 were on type) Last 90 days - 18 hours Last 28 days - 3 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The aircraft was landing on Runway 07 at Charterhall Airfield after a local flight. The weather was fine but with a strong and gusting south-easterly wind. During the landing roll, the pilot had difficulty keeping the aircraft on the paved surface. He braked heavily and the aircraft slowed considerably but he was unable to prevent it leaving the runway on the left, downwind side. The nose landing gear dug into the soft ground and the propeller struck the surface. The main landing gear was damaged and the aircraft settled onto its underside. Neither occupant was injured.

ACCIDENT

Aircraft Type and Registration:	Mainair Blade 912, G-BZWB
No & Type of Engines:	1 Rotax 912-UL piston engine
Year of Manufacture:	2001 (Serial no: 1284-0501-7-W1079)
Date & Time (UTC):	7 April 2013 at 0755 hrs
Location:	Caernarfon Airport, North Wales
Type of Flight:	Training
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Severe damage to trike and wing
Commander's Licence:	Student
Commander's Age:	55 years
Commander's Flying Experience:	26 hours (of which all were on type) Last 90 days - 14 hours Last 28 days - 5 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

The solo student was taking off from Runway 08 at Caernarfon Airport to practise circuits. The pilot stated that, having reduced engine power shortly after takeoff, the right wing dropped and the aircraft started to descend. He applied full power in an attempt to arrest the descent, but the wing dropped further to the right before striking the runway surface and the aircraft fell onto its right side. The pilot, who was wearing a helmet and lap strap, was unhurt. He considered that the accident had been caused by an excessive reduction of engine power which had resulted in a nose-down attitude combined with a wing drop.

ACCIDENT

Aircraft Type and Registration:	P and M Aviation Quik GTR, G-HOTR
No & Type of Engines:	1 Rotax 912 ULS piston engine
Year of Manufacture:	2012 (Serial no: 8617)
Date & Time (UTC):	27 May 2013 at 0640 hrs
Location:	Near Mevagissy, Cornwall
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - 1 (Minor)
Nature of Damage:	Damage to landing gear, propeller, wing and struts
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	48 years
Commander's Flying Experience:	1,082 hours (of which 36 were on type) Last 90 days - 68 hours Last 28 days - 37 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The microlight failed to gain height after taking off from a field site. With insufficient distance to abort the takeoff safely, the pilot attempted to gain airspeed to clear the boundary hedge. However, the main wheels caught in the hedge and the aircraft stalled, landing heavily in the field beyond. The pilot believed adverse local wind effects had played a part in the accident.

Description of the event

The pilot was attempting a takeoff from a field site. The field was in an elevated coastal position, takeoff being on a heading of 140° with a slight upwards slope. The length of field available was 265 m, with a combination wall and hedge at its far end. The weather was fine, but with a brisk 20 kt wind from 200°.

Pre-takeoff checks were normal and the flex-wing microlight accelerated and became airborne as expected. However, whereas the pilot expected the aircraft to start to pitch up as it gained airspeed after takeoff, it remained in a more level attitude. He made a forward input on the control bar, and the aircraft responded by pitching up but then returned to its original attitude. The pilot assessed that there was insufficient distance to abort the takeoff safely, so continued at full power. His intention was to gain sufficient airspeed to allow the aircraft to climb above the hedge at the field boundary. Using full forward control bar movement, the pilot almost succeeded in clearing the hedge, but the main landing gear caught it and slowed the aircraft down.

With an increased angle of attack and reducing speed, the aircraft stalled and landed heavily on its main landing gear, causing it to collapse. The pilot and passenger were able to vacate the aircraft unaided. The pilot was uninjured but the passenger suffered a bruised ankle from impact with a footrest as the aircraft rolled to the left after the landing gear collapsed.

The pilot observed that he had taken off from the field twice on the previous day in light winds and had not experienced a problem. He noted that on this occasion the brisk surface wind was blowing upslope toward the field and over tall trees on the south-west side of the field. He believed, therefore, that the field had been subject to a local rotor effect which may have produced a downdraft over the field as he attempted the takeoff.

ACCIDENT

Aircraft Type and Registration:	P and M Aviation QuikR, G-HADD
No & Type of Engines:	1 Rotax 912ULS piston engine
Year of Manufacture:	2010 (Serial no: 8510)
Date & Time (UTC):	5 June 2013 at 1734 hrs
Location:	Manchester Barton Aerodrome
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - 1
Injuries:	Crew - None Passengers - 1 (Minor)
Nature of Damage:	Damage to wings, propeller and pod
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	50 years
Commander's Flying Experience:	300 hours (of which 257 were on type) Last 90 days - 21 hours Last 28 days - 13 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The flex-wing microlight appeared to encounter wake or propeller wash turbulence on takeoff. The aircraft turned to the right and rolled over. The pilot and passenger escaped from the aircraft quickly and without difficulty.

Description of the event

The flex-wing microlight was taking off from Runway 09L for a local flight. The weather was fine, with a surface wind from 100° at 6 to 8 kt. The pilot waited for a Cessna Caravan to land before entering the runway and was subsequently instructed by the AFISO to take off at his own discretion. After a ground run of about 100 m, and as the pilot was about to move the control bar forward to lift off, he felt "a severe 'pull' down and back on the starboard wing". With full power still applied, the aircraft turned violently to the right and rolled over. When the aircraft came to rest, the pilot and his passenger were able to escape from the aircraft quickly, without difficulty. All emergency services attended as part of the aerodrome's emergency response procedure but were stood down soon afterwards. The pilot was uninjured but the passenger suffered minor injuries.

Pilot's assessment of cause

The pilot reported that he had never experienced anything similar in the past and had taken off from the same runway on many occasions. He considered the possibility that his passenger may have inadvertently

interfered with the flying controls but did not believe this occurred. He was of the opinion that the accident resulted from turbulence generated by the Cessna Caravan. However, he thought it was less likely to be wake turbulence generated on landing than turbulence resulting from the propeller wash from the comparatively large aircraft. He noted that the Cessna had vacated the runway before his microlight lined up but that it then came to a stop whilst its pilot sought taxi instructions. The Cessna then started taxiing again, to his right, immediately before the microlight started its takeoff roll.

The pilot considered himself familiar with the effects of wake turbulence and thought that his takeoff was started a safe period after the Cessna's landing. However, he had not considered the potential effects that the propeller wash could have on his takeoff. He thought that, in concentrating on the runway during takeoff, he had not seen a potential hazard to the side. He also observed that the radio exchange between the Cessna pilot and the AFISO could have alerted him.

ACCIDENT

Aircraft Type and Registration:	Pegasus Quantum 15, G-MYNO
No & Type of Engines:	1 Rotax 582-40 piston engine
Year of Manufacture:	1994 (Serial no: 6724)
Date & Time (UTC):	26 May 2013 at 1600 hrs
Location:	6 nm north-west of Rye, East Sussex
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - 1 (minor) Passengers - N/A
Nature of Damage:	Damage to landing gear, pod, propeller and wing fabric
Commander's Licence:	National Private Pilot's Licence
Commander's Age:	66 years
Commander's Flying Experience:	116 hours (of which 66 were on type) Last 90 days - 1 hour Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

The pilot had flown from Harringe airfield in Kent to the private grass airstrip near Rye, East Sussex. He recalled that there was a light northerly surface wind, becoming more westerly and gusty by the time of the accident. The airstrip was orientated 02/20 and was described by the pilot as narrow, fenced, and with trees immediately to the west. He flew an approach to Runway 20, but encountered turbulence on the approach and twice flew a go-around. The third approach was flown to a landing, but the microlight appeared to be caught by a gust of wind after landing which blew it to the left and into a wire fence where it came to an abrupt halt.

ACCIDENT

Aircraft Type and Registration:	Pegasus Quantum 15, G-MYNT
No & Type of Engines:	1 Rotax 582-40 piston engine
Year of Manufacture:	1994 (Serial no: 6693)
Date & Time (UTC):	20 April 2013 at 1530 hrs
Location:	Clench Common Airfield, Wiltshire
Type of Flight:	Private
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to wing, light damage to pod and propeller
Commander's Licence:	Private Pilot's Licence
Commander's Age:	60 years
Commander's Flying Experience:	170 hours (of which allwere on type) Last 90 days - 1 hour Last 28 days - 1 hour
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The pilot lost directional control following a bounced landing. The weather conditions, final approach path and lack of recent flying practice probably contributed to the accident.

History of the flight

The aircraft had just passed its annual Permit to Fly inspection and the pilot planned to fly it from his home base to Clench Common Airfield, where he had arranged for its annual check flight to be carried out. The pilot had not flown for about five months, so planned for two takeoffs and landings at his home base before undertaking the transit flight. The weather was generally fine with a light northerly wind, although thermal activity gave rise to some turbulence, causing the pilot to delay his flight to later in the day in the hope of finding smoother conditions.

On arrival overhead Clench Common, the pilot waited for other microlights taking off to clear the area before joining the circuit. The final approach path to grass Runway 15 was relatively short due to the proximity of local airspace restrictions and the air was still turbulent, causing the pilot some difficulty controlling the aircraft.

The aircraft bounced on landing and, once it settled on the runway, the pilot lost directional control. He commenced braking, and the aircraft slowed, but skidded and veered to the left, coming to rest on its left

wing. The pilot, who was uninjured, vacated the pod, which had sustained only minor cosmetic damage. The majority of damage had occurred to the wing.

The pilot reported that he had doubts about the advisability of flying on the day in question, given his lack of recent experience and the turbulent conditions, but had felt some pressure to make the flight to Clench Common. He viewed his decision to fly as a major factor in the accident.

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

1/2010 Boeing 777-236ER, G-YMMM at London Heathrow Airport on 17 January 2008.

Published February 2010.

2/2010 Beech 200C Super King Air, VQ-TIU at 1 nm south-east of North Caicos Airport, Turks and Caicos Islands, British West Indies on 6 February 2007.

Published May 2010.

3/2010 Cessna Citation 500, VP-BGE 2 nm NNE of Biggin Hill Airport on 30 March 2008.

Published May 2010.

4/2010 Boeing 777-236, G-VIIR at Robert L Bradshaw Int Airport St Kitts, West Indies on 26 September 2009.

Published September 2010.

5/2010 Grob G115E (Tutor), G-BYXR and Standard Cirrus Glider, G-CKHT Drayton, Oxfordshire on 14 June 2009.

Published September 2010.

6/2010 Grob G115E Tutor, G-BYUT and Grob G115E Tutor, G-BYVN near Porthcawl, South Wales on 11 February 2009.

Published November 2010.

7/2010 Aerospatiale (Eurocopter) AS 332L Super Puma, G-PUMI at Aberdeen Airport, Scotland on 13 October 2006.

Published November 2010.

8/2010 Cessna 402C, G-EYES and Rand KR-2, G-BOLZ near Coventry Airport on 17 August 2008.

Published December 2010.

1/2011 Eurocopter EC225 LP Super Puma, G-REDU near the Eastern Trough Area Project Central Production Facility Platform in the North Sea on 18 February 2009.

Published September 2011.

2/2011 Aerospatiale (Eurocopter) AS332 L2 Super Puma, G-REDL 11 nm NE of Peterhead, Scotland on 1 April 2009.

Published November 2011.

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