

Safety Matters



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Safety Matters...

is the Isle of Man Aircraft Registry (IOMAR) publication for promulgating important safety information to the owners and operators of Isle of Man registered aircraft. Recipients are asked to ensure these are copied to the relevant members of their staff who could have an interest in the information, or who need to take appropriate action in response to the information.

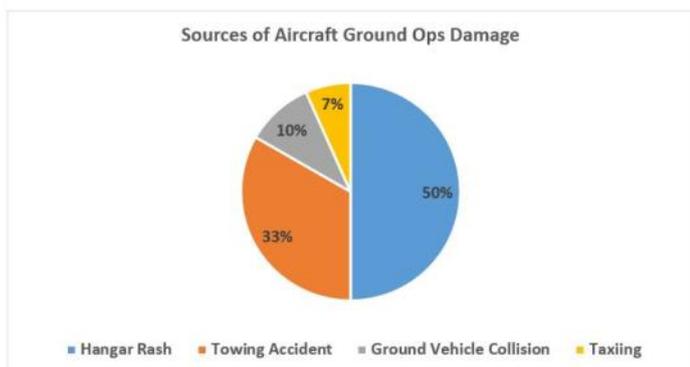


GROUND HANDLING MISHAPS

Industry Survey Findings

Business aircraft operators are 800 times more likely to incur damage to their aircraft during ground handling than in an accident, according to a confidential, [two-year survey of flight departments](#) conducted by VanAllen Group. For aircraft insurers, ground events account for the largest single source of customer claims payments. But, according to a 2015 NBAA Safety Committee safety survey, aviation professionals greatly undervalue the threat of a ground event.

Respondents to the VanAllen Group survey suffered on average one ground event per 4,000 flight hours. That means, if you have two aircraft, you have a 50% probability of having a ground event every 2.2 years. Of those incidents, half were cases of "hangar rash," while a third of the damage was attributed to towing accidents. The remainder consisted of ground vehicle collisions and taxi incidents.



IOMAR Data

This data is broadly similar to that held by the Isle of Man Aircraft Registry. Over the last 2 years, 16 occurrence reports have been submitted relating to ground handling. Of these, using the same



categories as the VanAllen Group survey, 6 were "hangar rash", 4 were towing related, 3 were during taxi on the apron, and 3 were of damage found cause unknown.

Recommendations

VanAllen Group provides a number of recommendations and best practices, including:

- 3 wing walkers should be available for all hangar movements and 2 or more for any ramp movement.
- Ensure direct supervision of:
 - all towing away from home base.
 - all de-icing operations.
 - all refuelling operations.
- Always use trained marshalls with bright wands.

VanAllen Group concluded that the consistent application of a comprehensive set of Aircraft Operator ground event risk mitigating policies and practices greatly reduces that threat.

NEW ICAO SID AND STAR CLIMB AND DESCENT PROCEDURES AND PHRASEOLOGY

Background

Edition 16 of International Civil Aviation Organization (ICAO) Doc 4444 (PANS-ATM) effective 10th November 2016 includes significantly revised procedures and phraseology for ATC climb and descent instructions to aircraft following a SID or a STAR. These were developed by ICAO in an attempt to harmonise the varying procedures and phraseology applied around the world, which had resulted in a mismatch between ATC and flight crew understanding and expectations.

However, it appears that not all States have implemented these procedures and flight crew need to be aware of the further potential for varying procedures and phraseology between States during an extended period of transition which is likely to extend into 2018.

Revised ICAO Procedures

The [revised ICAO procedures and phraseology](#) were developed to ensure that ATC clearances to aircraft on a SID/STAR with published level and/or speed restrictions explicitly state if such restrictions are to be followed or are cancelled. For example:

- CLIMB VIA SID TO (level).
- CLIMB TO (level), CANCEL LEVEL RESTRICTION(S)".
- CLIMB VIA SID TO (level), CANCEL SPEED RESTRICTION(S).
- CLIMB UNRESTRICTED TO (level) or CLIMB TO (level), CANCEL LEVEL AND SPEED RESTRICTION(S).

The procedures and phraseology also clarify:

- ATC issued speed control instructions and SID/STAR speed restrictions.
- Vectoring or direct routings.
- Re-joining a SID/STAR.

It has not been possible to establish a complete list of implementation plans for all States. However, it is known that the following states are intending to implement in due course:

- Canada - 27 April 2017 (see [AIC 2/17](#)). A [video](#) on the changes is also available.
- UK - not before late 2017 (see [IN 2016/098](#)).
- Australia - not before 2 March 2017 (see [AIC H33/16](#)).
- UAE - 1 June 2017 (see [Safety Alert 13](#)).

IFALPA have also issued a Safety Bulletin ([16SAB11](#)) which includes details of US variations.

Guidance to Flight Crew

In busy terminal manoeuvring airspace there are potential high risks from misinterpreting the meaning of an ATC climb or descent instruction when on a SID or STAR. Consequently, if ATC use phraseology at variance to ICAO and flight crew are in doubt as to whether SID/STAR level restrictions are cancelled or remain applicable, it is recommended that flight crew **maintain the last assigned clearance and seek clarification** utilising the new ICAO phrases as appropriate, for example:

- CONFIRM CLIMB VIA SID TO FLIGHT LEVEL 70.
- CONFIRM SID LEVEL RESTRICTIONS CANCELLED.

Flight crew are also advised to:

- review the revised [ICAO procedures and phraseology](#), an ICAO [leaflet](#) that summarises the changes and a [document](#) provides more detailed scenarios and phraseology examples.
- review national procedures for their state of operation and destination as appropriate; however, note that not all States promulgate their variances from ICAO Doc 4444 in their national AIP, and be prepared for variations in procedure and phraseology.

ELECTRONIC FLIGHT BAGS (EFB)

Registry Publication 35

Guidance to operators on the approval and use of EFB contained in [RP35](#) has been significantly updated.



This includes revised guidance to operators on the Operational Risk Assessment (ORA) process and provides generic risks and potential mitigation measures that may be applied.

Class 1, 2 & 3

Along with some other national aviation authorities and administrations, the Isle of Man Aircraft Registry continues to utilise three hardware classes (1, 2 and 3) as these classes are used to assist the scoping of the ORA. Guidance is also provided on the completion of a Human/Machine Interface (HMI) Assessment, the role of the EFB Administrator and training requirements for all those that manage or use EFBs.

Recommendations

It is recommended that all EFB Administrators review the revised RP and take account of the guidance provided

SAFETY MANAGEMENT IN SUPPORT OF DAY TO DAY AIRCRAFT OPERATIONS

St Helena Airport

An aircraft on the Isle of Man Aircraft Register recently became one of very few aircraft to have made a stopover at St Helena Airport.



St Helena is a British Overseas Territory in the South Atlantic Ocean. The island's airport opened earlier this year but commercial flights are yet to commence and due to challenging wind shear conditions and unusual runway characteristics, the airport is Cat C and requires the approval of the aircraft's State of Registry.



The operator, airport and the Isle of Man Aircraft Registry worked in collaboration to undertake a detailed review of the local procedures and restrictions and assess the results of recent St Helena flight trials. This resulted in the operator being able to develop robust operational procedures and limitations to be applied in accordance with and in the context of their Safety Management System.

ACCIDENT REPORT

PHENOM 300

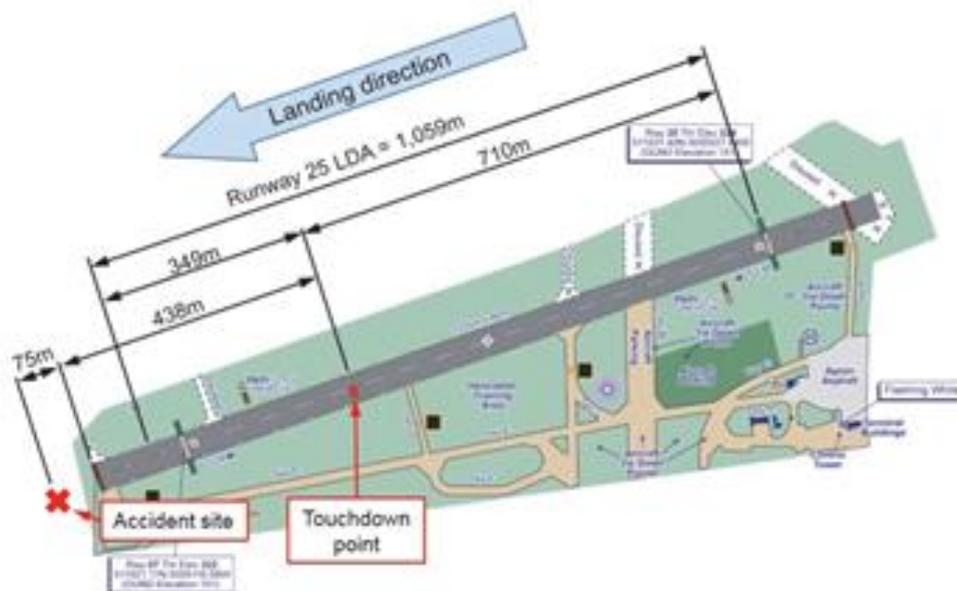
The UK Air Accidents Investigation Branch (AAIB) has published its [report](#) into the Embraer EMB505 Phenom 300 landing accident at Blackbushe Airport in July 2015.

Synopsis

The aircraft entered the visual circuit to land on Runway 25 at Blackbushe. A number of TCAS alerts occurred while flying in the circuit, and the pilot manoeuvred the aircraft until it was significantly higher and faster than normal for a visual approach. Following several TAWS alerts, the aircraft crossed the runway threshold 43 kt above the target threshold speed. The AAIB's report into the accident concluded that despite the pilots attempt to deploy the jet's speed brakes, they remained retracted as the flaps on the wing were deployed. The aircraft floated before touching down 710m beyond the threshold, with only 438m of paved surfaced remaining and overran the runway end. It collided with an earth bank, and then cars in a car park, causing the wing to separate and a fire to start. The four occupants were fatally injured.

Analysis

Several factors combined to create a very high workload for the pilot. This included the pilot being exposed to 66 audio warnings, instructions and messages during the three minutes and 32 seconds before reaching the start of the runway. The report stated: "It is possible that in these circumstances the pilot ... fixated on his initial strategy - landing - and lacked the mental capacity to recognise that the approach had become unstable and should be discontinued." The AAIB also ruled out bad weather or any technical defects with the aircraft and also confirmed that the pilot was free of any substances that may have reduced his performance.



MAINTENANCE ADVICE RELEVANT TO FLIGHT CREW

An Isle of Man registered aircraft had not yet reached cruising altitude when a split in ITT levels was noticed by the flight crew. The flight manual and emergency checklists do not provide any detailed procedure to follow, and the flight crew reduced LH engine power and continued to destination. It was subsequently found that the LH engine pylon had suffered heat and smoke damage. As part of the investigation it was found that an article had been previously issued by the manufacturer aimed at maintenance personnel, highlighting that abnormal ITT indications may precede a precooler failure. However, it appears that flight crew are not commonly aware of the significance of the indications. The Isle of Man Aircraft Registry has been in communication with the aircraft manufacturer and the State of Design of the aircraft.

ELECTRONIC DEVICES

LOST IN SEATS

Fire Hazard

The crushed mobile phone below was found between two seats on a Qantas A380 flying Sydney to Dallas-Fort Worth after smoke was detected in the upper deck.



The UK CAA have recently published the following alert and advice:

“Recently there have been a small number of incidents of phones and tablets catching fire on board aircraft worldwide. Causes included crushing in the aircraft seat mechanism. Operators of aircraft with seats featuring electrical or mechanical means of adjusting position should consider briefing passengers to take care of their personal electronic devices. Passengers should also be told that, if this happens, they should not move the seat and inform the cabin crew, who can assist. Cabin crew procedures should be amended accordingly, including an explanation that assistance from engineering may be needed on the ground”.

SKYCLIPS



Safety Animations

SKYclips are a growing collection of short animations of around 2 minutes duration which each focus on a single safety topic in aviation. The clips are being created by the Flight Safety Foundation European Advisory Committee and can be found on the [SKYbrary website](#). Subjects currently covered are:

- Stopbars.
- Callsign Confusion.
- Conditional Clearances.

AND IN OTHER NEWS...

The Isle of Man Aircraft Registry has simplified the All Weather Operations (AWOPS) application process with a single form now available for all AWOPS applications. The simplified process will aid those operators who already have established AWOPS operating standards and procedures as well as operators new to AWOPS.