

INCIDENT

Aircraft Type and Registration:	Airbus A320, C-GTDG
No & type of Engines:	2 CFM56-5B4 turbofan engines
Year of Manufacture:	2001
Date & Time (UTC):	20 June 2006 at 0700 hrs
Location:	Cardiff Airport, Wales
Type of Flight:	Public Transport (Passenger)
Persons on Board:	Crew - 7 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Damage to leading edge of the left engine fan cowl
Commander's Licence:	Air Transport Pilot's Licence
Commander's Age:	43 years
Commander's Flying Experience:	12,050 hours (of which 3,875 were on type) Last 90 days - 141 hours Last 28 days - 68 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot and subsequent AAIB enquiries

Synopsis

The aircraft taxied onto a parking stand and struck a small tug attached to a set of steps, which had been parked within the stand area, unattended. The airport authority carried out their own investigation into the incident and made a number of changes to the airport infrastructure and procedures. The AAIB forwarded copies of this report to ICAO for consideration.

History of the flight

The aircraft was being taxied onto Stand 9, in order to board passengers for a flight. The commander, in the left seat, used the Visual Docking Guidance System (VDGS) to position the aircraft accurately onto the stand. However, he did not see a small baggage tug, with a set of steps attached behind it, on the left side of the stand.

As the aircraft approached the stop line, the left engine fan cowl struck the tug, causing damage to the fan cowl and the tug. The aircraft was brought to a stop and the crew disembarked without further incident.

Some eye witnesses commented that the aircraft was taxied at a higher than normal taxi speed, but the commander reported that there was no undue pressure of time on the operation.

Background information

Prior to the incident, another aircraft (a Boeing 737), had been parked on Stand 9 for boarding with a set of steps positioned at the front passenger door. Once embarkation was complete, but some time before the aircraft's

departure slot, a tug was used to reverse the set of steps away from the aircraft. However, the driver found that he was unable to move the combination completely clear of the stand area; he could not drive away forwards because the aircraft to which the steps had been attached was close in front, and his path to the rear was blocked by a white van. He was unable to establish to whom the van belonged, and decided to leave the tug and steps where they were, with the intention of moving them once the departing aircraft was clear of the stand. The driver returned to his crew room and was allocated other duties. In due course, the Boeing 737 departed.

When the duty ramp controller received a request for a parking stand for the Airbus A320, he observed (by CCTV) that Stand 9 had become vacant, and allocated it to the aircraft.

The airport authority reported that extensive construction work was underway on the ramp at the time of the incident. Vehicles had from time to time been parked in unassigned locations as a result. Parking arrangements had also been in a state of flux, and parking had not been effectively policed. Until changes made in light of the incident, the VDGS devices fitted to each stand were permanently illuminated, enabling pilots to taxi onto parking stands without reference to ground personnel.

Information to pilots

Civil Aviation Publication (CAP) 637 is a loose leaf guide for pilots, tug drivers, and ramp staff, entitled 'Visual Aids Handbook'. In the chapter on VDGS, three notes are published:

*'NOTE 1: A pilot **should not** assume that a stand is safe to enter simply because the stand VDGS is active or lit. Where ground handling personnel are not present on the stand or if the pilot has*

any doubt about the position of any equipment on or NEAR to the stand, the aeroplane should be stopped immediately and assistance requested.'

'NOTE 2: Except under the guidance of a marshaller, an aeroplane should not be taxied onto a VDGS equipped stand when the guidance system is switched off.'

'NOTE 3: Ground staff should NOT activate a VDGS until a thorough inspection of the stand and its immediate surrounds has been made in order to ensure that all equipment is correctly parked in allocated areas and that the stand is safe for use by the type of aeroplane assigned.'

These notes were discussed with members of the CAA Aerodrome Standards Division, who reported that a new version of the Handbook is in production, and an attempt will be made to clarify and distil the advice above in the new version.

Activation of VDGS and AAIB Safety Actions

The investigation identified that, whilst there is much guidance material regarding design and installation of VDGS, there are no ICAO Standards or Recommended Practices concerning when it should be activated. The CAA advises aerodromes that the equipment should only be activated when an aircraft is expected on a parking stand, and after the stand has been inspected by ramp staff; this procedure appears to have considerable safety benefits. The CAA informed the AAIB that all UK aerodromes now follow this procedure. The position elsewhere in the world was less clear, and the AAIB has forwarded copies of this report to the Chairman of the ICAO Aerodromes Panel and the Rapporteur (Chairman) of the Visual Aids Working Group (which reports to the Aerodromes Panel) for consideration.

Airport Authority Safety Actions following the incident

The airport authority investigated the incident and made a copy of its report available to the AAIB. The report identified both the immediate and underlying causes of the incident, and detailed action to be taken:

- *Switches for VDGS systems to be installed on each stand, and ground crew to be instructed to carry out safety checks of the stand areas before switching the equipment on.*
- *Improved parking arrangements for equipment to be introduced and policed.*
- *Consideration to be given to re-locating the duty ramp controller's working position into the operations tower, where there is a better view of the parking stands.*

- *Risk assessments of aircraft marshalling and docking procedures to be reviewed.*

Conclusion

It was not possible to determine why the aircraft commander did not see the tug and steps. In the last stages of manoeuvring onto the stand, it is probable that his attention was concentrated on the VDGS system and the need to stop the aircraft accurately.

Clear international Standards or Recommended Practices concerning when the VDGS should be activated would remove the potential for confusion in the congested ramp environment. Nevertheless, in spite of the availability of VDGS or other aids, it remains the responsibility of the pilot in command to avoid collision, whether on the ground or in the air.