

**SERIOUS INCIDENT**

<b>Aircraft Type and Registration:</b>	Boeing 757-2Y0, G-FCLK	
<b>No &amp; Type of Engines:</b>	2 Rolls-Royce RB211-535E4-37 turbofan engines	
<b>Year of Manufacture:</b>	1994 (Serial no: 26161)	
<b>Date &amp; Time (UTC):</b>	23 August 2013 at 1713 hrs	
<b>Location:</b>	Gatwick Airport	
<b>Type of Flight:</b>	Commercial Air Transport (Passenger)	
<b>Persons on Board:</b>	Crew - 8	Passengers - 220
<b>Injuries:</b>	Crew - None	Passengers - 5 (Minor)
<b>Nature of Damage:</b>	None	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	49 years	
<b>Commander's Flying Experience:</b>	13,470 hours (of which 9,250 were on type) Last 90 days - 86 hours Last 28 days - 230 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot and other AAIB enquiries	

**Synopsis**

The commander ordered passengers to disembark after observing smoke from hydraulic fluid leaking onto the aircraft's brakes. The intent of the order was not understood by all, and some passengers vacated the aircraft using an emergency exit slide.

**History of the occurrence**

The passengers had boarded another aircraft at London Stansted some hours earlier, for a direct flight to Tenerife, but the aircraft developed a technical problem before departure and could not be flown. The passengers were accommodated in the terminal at Stansted for several hours while an alternative aircraft was sought. When the replacement aircraft arrived at Stansted, the crew members' allowable duty hours were insufficient for them to operate to Tenerife and back, so plans were made for them to operate the aircraft to Gatwick, where a replacement crew was to take over. The departure from Stansted was approximately six hours behind its scheduled time.

The flight to Gatwick was uneventful. After landing, the aircraft taxied to Stand 38 where a jet-bridge was attached to the door just aft of the flight deck on the left hand side (door 1L<sup>1</sup>). The crew going off duty began handing the aircraft over to their on-coming colleagues. The

**Footnote**

<sup>1</sup> Doors are numbered from the front of the aircraft and identified as on the left or right side of the aircraft.

passengers remained in the cabin, mostly seated, though some moved around and made use of the aircraft's facilities.

The on-coming commander began his external inspection of the aircraft, during which his attention was drawn to a hydraulic leak above the left main landing gear. He re-boarded the aircraft and informed the cabin manager and co-pilot of the leak, before returning outside to the ramp. The cabin manager used the interphone to inform cabin crew at the rear of the aircraft of the problem. Evidence suggested that this news did not reach all the cabin crew. He saw that the leaking hydraulic fluid was falling onto the brakes, which were warm following the aircraft's landing, and smoke was being produced.

In brief discussion with an engineer, the commander decided it was appropriate to disembark the passengers and crew rapidly. He returned to the aircraft cabin's forward vestibule and made an announcement on the public address system which he later recalled as being "Ladies and gentlemen, we need to clear the aircraft immediately; there is smoke on the left hand side". He stated that the passengers did not react to this announcement, so he made a further announcement saying "Move, come this way!". Shortly afterwards, a member of the cabin crew informed him by interphone that the door 3R emergency exit had been opened and the slide had deployed.

A male and a female passenger who were seated together adjacent to door R3, which is the emergency exit immediately aft of the right wing, were interviewed several weeks after the incident<sup>2</sup>. They explained that their view forward was restricted by lavatories on both sides of the cabin immediately in front of their seat row; their view aft was less restricted.

The male passenger recalled being in his seat by the emergency exit aft of the wing on the right hand side of the aircraft (door 3R), when he heard an announcement on the public address system: "smoke on the left side, get out, get out, get out!". He recalled not being certain that the announcement had been made by a member of crew, and wondering whether a passenger had made the announcement. He looked to the left side of the aircraft but his view was restricted and it was not possible to see whether anything was amiss. He recalled making an assessment of the situation and contemplating how long it would take to disembark via the normal exit. He examined the instructions on the emergency exit, and as he did this he heard another passenger addressing him and saying "do it, do it".

He opened the emergency exit and the slide deployed. He assisted some passengers onto the slide before going down it himself.

His partner, seated next to him, remembered hearing an announcement: "we have smoke on the left hand side, get out"; she commented when interviewed that the announcement was not preceded with an introduction from the person speaking (for example: 'this is the captain').

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**Footnote**

<sup>2</sup> Enquiries into the passengers' identities and contact details took time.

She recalled that another passenger then addressed her partner, saying words to the effect of “Open the exit... you’ve got to open it”. After this, her partner opened the emergency exit, and the slide fitted to it deployed. She left the aircraft via the slide, without difficulty, and then assisted other passengers coming down behind her.

### **Cabin crew reports**

Reports submitted by the cabin crew to the operator’s safety department were forwarded to the AAIB. The reports suggested that the commander’s initial announcement may have included an introduction (“this is the captain...”), although some reports suggested no introduction was made, and that his announcement included instructions that passengers should leave their belongings on board. The report by the cabin crew member nearest door 3R stated that when the emergency exit was opened, he was not certain whether an evacuation had been commanded or not, but that on observing cabin crew members (from the off-going crew) helping passengers at the bottom of the slide, he continued to direct passengers to the emergency exit and down the slide, until it became apparent that cabin crew in the forward part of the aircraft were directing passengers to door 1L.

Statements of other cabin crew members suggested that public address announcements had been made by the cabin manager, “along the lines of ‘don’t panic, leave your bags, move to the forward door on the left hand side of the aircraft’”.

### **After the evacuation**

Airline and airport staff, and then the fire and rescue service personnel, assisted passengers on the ramp. Five passengers suffered minor injuries<sup>3</sup> and were treated at the scene; none were hospitalised.

The passengers who had exited via the slide were escorted into the terminal building. The passengers were then accommodated overnight in a nearby hotel. They were flown to Tenerife the next day.

Estimates of the number of passengers who used the slide varied between 10 and 100; it was not possible to determine the number with certainty, though several witnesses mentioned numbers around 20 or 30.

### **Flight recorders**

The aircraft was fitted with a cockpit voice recorder (CVR) and flight data recorder (FDR). The CVR was downloaded at the AAIB’s facilities, but the recording did not contain either relevant dialogue or the commander’s public address announcement, because conversations had taken place out of the range of the cockpit area microphone, and the public address system was not recorded. The FDR did not contain relevant data and was not downloaded.

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#### **Footnote**

<sup>3</sup> Reliable details of the injuries could not be obtained.

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## Standard operating procedures

### *Cabin crew at doors*

Ten days before the incident, the operator published a '*Safety and Survival Bulletin*' which contained the following article:

*'Unattended doors on the ground*

*Crew are repeatedly leaving doors unattended on the ground with passengers on board.*

*At least one crew member must remain 'in the vicinity' of each pair of doors when passengers are onboard and the aircraft is on the ground (B1 Manual: 2.10.2 Door Cover.)*

*It was only at the end of last year that a B757 had to be evacuated whilst on stand so the importance of following this procedure cannot be stressed (sic).'*

### *Procedures for rapid disembarkation*

The operator had published procedures for rapid disembarkation, alongside procedures for evacuation of the aircraft using emergency exits, which included the forms of words to be used during public address announcements:

***'Rapid Disembarkation***

*In the event passengers need to leave the aircraft quickly using steps/airbridge.*

*Flight Crew PA:*

***"Attention Cabin Crew, clear the aircraft immediately"***.

*This should be followed by a PA from the Cabin Crew:*

***"Attention, this is an emergency announcement, will all passengers follow Cabin Crew instructions and get off the aircraft immediately. Leave everything behind"***.

*In the event a rapid disembarkation is necessary during passenger boarding, the Cabin Crew must be alert to the situation and reverse the flow of passengers as quickly as possible to disembark the aircraft.'*

However, whilst the AAIB investigation was ongoing, the operator revised their procedures to bring airlines within their commercial group into line with each other. The revised instructions stated:

**'CONTROLLED DISEMBARKATION**

*In situations where an evacuation using slides is not necessary but the passengers should leave the aircraft as a precaution (e.g. specific bomb threat, unpleasant odour in the cabin), this is called a **controlled disembarkation**.*

*In a controlled disembarkation steps, airbridge one or more slides, or a combination of methods, can be used. It requires a prompt passenger response but is not a time-critical situation requiring an immediate 'full' evacuation.*

*Depending on the situation the Flight Crew will decide:*

- *at which aircraft doors the steps/airbridge are fitted, unless they are already in place*

*and/or*

- *which doors slides should be deployed*

*and then inform the SCCM.*

*The Captain then gives the instruction:*

***"Controlled disembarkation by the steps/airbridge/slide(s) at door/doors ...!"***

No form of words to be used in addressing the passengers was prescribed.

**Engineering**

The aircraft operator's engineers identified that hydraulic fluid had leaked from the left hand main landing gear retract actuator. The actuator was transferred to an overhaul contractor for strip-down, examination and repair. The examination revealed corrosion on a number of items with damage and failure of associated o-ring seals leading to the fluid leakage from the component. The extent and nature of the damage made the item beyond economic repair. This is the only main landing gear actuator failure held on record by the operator. The component is not subject to a specific overhaul life policy set by the original equipment manufacturer.

The actuator was replaced and the aircraft returned to service.

**Analysis*****Engineering***

The hydraulic leak on the main landing gear actuator appeared to have resulted from corrosion and failure of o-ring seals within the unit. Although no overhaul life was set for the item, and thus it would remain installed for the life of the aircraft, unless it failed or inspection revealed deficiencies, the absence of evidence of previous failures of the component suggested that the probability of failure was slight. Following replacement of the actuator, no recurrence of the leak was reported.

## Operations

The commander's decision to order a rapid disembarkation reflected a concern that the smoke produced by the hydraulic fluid falling on the brakes constituted a hazard and that it was desirable to remove persons from the aircraft.

The SOP for rapid disembarkation called for a member of flight crew to make one announcement, then for the cabin crew to instruct the passengers as follows: '*Attention, this is an emergency announcement, will all passengers follow cabin crew instructions and get off the aircraft immediately*'. In this instance, the commander did not follow the procedure, but made a similar announcement to the one prescribed for the cabin crew to deliver, while standing in the forward cabin vestibule. This reportedly had no effect. It was not possible to determine why the passengers did not react.

The investigation could not establish the precise wording of the announcement made, or whether it was preceded by words such as 'this is the captain...', but the prescribed announcement did not begin with an introduction by the person making it. It is notable that the words laid down in the SOP, by which the cabin crew would instruct passengers to disembark, also had potential to be misinterpreted as an instruction to evacuate, because no reference was made to the manner in which passengers were to leave the aircraft, and it contained the words '*an emergency announcement*'. In particular, the phrase did not specify that passengers must not use the emergency exits. For a passenger seated at the rear of an aircraft, adjacent to an emergency exit, and aware that the only open door is at the very front of the cabin, '*...get off the aircraft immediately*' might be construed to mean that the emergency exits should be used. (Although the form of words applicable to a rapid disembarkation or evacuation would be recognisable to the crew, passengers would not be aware of the distinct phrases and would have to interpret the words they heard, in context.)

The company's revised procedures did not prescribe a form of words for a rapid disembarkation announcement to the passengers, and crew members choosing their words might bear this incident in mind when composing announcements.

When the passengers did not react to his first announcement, the commander made a second one, after which passengers in the forward part of the aircraft began making their way to door L1.

Aft of the lavatories, passengers did not have the clear view up the cabin which those further forward enjoyed. The passengers seated near to door 3R had, therefore, heard an emergency announcement and understood that the passengers were being disembarked; they had also heard reference to 'smoke'. The male passenger's action in examining the emergency exit instructions was an understandable reaction to the circumstances. It was not possible to determine whether he would have activated the exit in the absence of encouragement from the passenger nearby to open it.

The opening of the exit could have been avoided had a member of cabin crew, aware of the intention to carry out a rapid disembarkation, been positioned at the exit. The operations

manual required cabin crew to be in the vicinity of doors while on the ground, and a reminder of the procedure had been issued to crew only ten days before the incident. This incident serves as a further reminder of the benefits of having cabin crew close to doors while on the ground.

Although the cabin crew had been made aware of the hydraulic leak, they were not informed of the intention to carry out a rapid disembarkation until the commander made his PA announcement; procedures did not require this. It would have taken little time to inform the cabin crew, by interphone, of the planned rapid disembarkation, and instruct them to take positions by the exits. This action would both have prevented an undesirable opening of an emergency exit, and placed cabin crew appropriately to deal with any escalation of the situation calling for an evacuation via the slides to be carried out.

The operator, whose safety department investigated the event, does not plan to alter the revised procedures implemented during the AAIB investigation.