

*AAIU Synoptic Report No.:2003/001*

*AAIU File No.: 2002/0043*

*Published: 06/01/2003*

<b>Aircraft Type and Registration:</b>	Boeing 747-400	G-CIVT
<b>No. and Type of Engines:</b>	Four	Rolls Royce RB 211
<b>Aircraft Serial Number:</b>	25821	
<b>Year of Manufacture:</b>	1998	
<b>Date and Time (UTC):</b>	24 August 2002	at 13.36 hours
<b>Location:</b>	22° West (Shanwick Oceanic Airspace)	
<b>Type of Flight:</b>	Public Transport	
<b>Persons on Board:</b>	345	
<b>Injuries:</b>	None reported	
<b>Nature of Damage:</b>	No damage reported	
<b>Commanders Licence:</b>	UK ATPL	
<b>Commanders Age:</b>	50 years	
<b>Commanders Flying Experience:</b>	19,000 hours	
<b>Information Source:</b>	Watch Manager, ATC, Shannon	

## **SYNOPSIS**

The aircraft was on a scheduled flight from London Heathrow to Toronto when it diverted to Shannon due to an acrid burning smell in the cabin of the aircraft. The Watch Manager at Shannon informed the Chief Inspector of Accidents, Mr Kevin Humphreys, who appointed Mr John Hughes, Inspector of Accidents, to carry out an investigation into the circumstances of this incident.

### **1. FACTUAL INFORMATION**

#### **1.1 History of the Flight**

The aircraft had departed London Heathrow for Toronto at 11:12 hours and was west of 15° West in the Shannon Oceanic area (see Appendix A) when a slightly acrid smell was noticed in and adjacent to Toilet J, situated at the front right of the aircraft and adjacent to the galley area and to door 2R.

The Cabin Crew Chief said that it was more of a hot plastic smell rather than an acrid smell. There was no smoke and no flame. One of the cabin crew donned a smoke hood and directed two BCF fire extinguisher contents at the water heater area in the toilet.

Electrical power to the IFE (In-Flight Entertainment) equipment was switched off in addition to power to the galley area. Members of the cabin staff inspected other toilets and around the No. 2R door area. Electrical power to the overhead lights and the trash compactor was switched off in an effort to try and find the source of the smell. The Captain was fully informed of this trouble-shooting as it was taking place. As the smell had not disappeared throughout the trouble-shooting the Captain decided to divert to Shannon and the passengers were informed. The aircraft was then at 22° West and the time was 13:40 hours

The crew contacted Shanwick and informed them that the aircraft was diverting to Shannon, estimating 54.30N/15W at 14:22 hours.

The Cabin Crew prepared the passengers for landing and had to adjust the VIP seats manually as all the 115 Volt 3 phase power to the seats had been switched off. The aircraft landed at 14:46 hours and the passengers left the aircraft, initially without their hand luggage, through Door 1L and the airbridge.

### **1.1.1      Captains Report**

*“At 20°W the cabin crew phoned to advise that they were searching for the source of a strong acrid smell thought to be electrical burning. They believed they had found flames behind a panel in Toilet J (Aft of Door 2R). On my advice, they confirmed my suspicion that it was the neon light on the water heater. They shut down all electrical services to the cabin and we turned back to Shannon in compliance with the checklist”.*

### **1.2            Survival Details**

The cabin crew were briefed by the Captain for a possible use of emergency slides should the situation deteriorate. However, the problem on landing was well under control and the Captain decided to order an expeditious disembarkation into the terminal (i.e. without taking hand baggage)

There were no injuries reported to the investigation. A local doctor examined members of the cabin flight crew. A replacement crew was flown out the following day from London as, the Investigation notes, it is the policy of the Operator to replace crews following traumatic events in the cabin.

### **1.3            Damage To Aircraft**

There was no damage to the aircraft.

## 1.4

### Aircraft Information

On arrival at Shannon Airport, the aircraft was inspected by technical staff employed by the handling agent. The APU was switched on and all systems were turned on again. The aircraft remained in this state for some time but the smell could not be reproduced. Ceiling panels were removed in the toilet J area but inspection of electrical cables and power sources did not reveal the source of the smell. All IFE systems and galley chillers were switched on and observed for two hours. The maintenance crew were unable to locate any signs of burning or smells and all the ceiling panels were replaced. At about 23:00 hours a company engineer arrived from Heathrow and carried out similar tests but these tests were also negative.

The flying crew, cabin crew and the passengers remained in Shannon overnight.

On the following day the Captain and flight crew arrived at about 13:30 hours in order to carry out further checks, this time with the engines running. The flight crew carried out high power engine runs, with air conditioning running for 10 minutes, to check for any evidence of a burning smell. This check also failed to reproduce the smell in the relevant areas and the aircraft was subsequently released for service.

The aircraft then continued its flight to Toronto on the afternoon of 25 August.

The Operator confirmed that no re-occurrence of smoke/fumes has taken place on this aircraft since the diversion to Shannon.

## APPENDIX A

