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**AIR ACCIDENT  
INVESTIGATION UNIT**

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## PRELIMINARY INCIDENT REPORT

This is preliminary information, subject to change, and may contain errors. Any errors in this Report will be corrected when the Final Report has been completed.

<b>1. AIRCRAFT MANUFACTURER:</b>	Airbus
<b>Model:</b>	A340-300
<b>State of Registry:</b>	UK
<b>Registration:</b>	G-VELD
<b>Serial Number:</b>	214
<b>Year of Manufacture:</b>	1998
<b>2. OPERATOR:</b>	Virgin Atlantic
<b>3. TYPE OF OPERATION:</b>	Public Transport - Scheduled
<b>4. DATE / TIME:</b>	11 Jan 2009 @ 12.13 hrs
<b>5. POSITION OF OCCURRENCE:</b>	140 nm West of Galway, Ireland
<b>6. PERSONS ON BOARD:</b>	Crew: 13                      Passengers: 143
<b>7. INJURIES:</b>	Crew: 0                        Passengers: 0
<b>8. DAMAGE:</b>	Minor
<b>9. INVESTIGATOR-IN-CHARGE:</b>	Graham Liddy

### History of the Flight

The aircraft was routing from Heathrow to Chicago on a scheduled flight. At approx 12.13 hrs, some 140 nm west of Galway, the cabin crew reported a small fire in the bottom of the waste bin storage compartment of the bar unit in the Upper (First) Class area. The fire was located in a hole in the floor of the compartment. The crew noted that a damaged electric cable loom appeared to emanate from this hole. Arcing was observed in the hole.

The cockpit crew turned off the Galley and Commercial power circuits, but the fire and arcing persisted. The Captain declared an emergency and diverted to Shannon, where the aircraft landed safely some 30 minutes later. During the diversion, the cabin crew used five 1 kg BCF extinguishers. These subdued the flames but the arcing persisted. After each application, the fire restarted after approximately five minutes. The observed flames were not large and were described as "licks of flame". After landing, the Airport Fire Service tackled the fire with a 5 kg BCF extinguisher, but a glow continued to be observed at the bottom of the hole. The Fire Crew Watch Leader discussed the situation with the crew and a decision was made to de-power the aircraft. When this was done the glow disappeared and no further arcing was observed.

## **Results of Investigation to Date**

The Investigation found that the cable loom in the bottom of the waste bin compartment had been completely severed and bore strong evidence of burning/arcing. The loom in question consists of ten wires in a protective sheath, six wires carrying 28 V DC and the other four carrying 115 V AC. This wiring provided power and dimming circuits for “mood” lighting which is recessed into the bar unit counter-top. Initial indication was that the lower edge of the metal waste bin made contact with the wiring loom. Information from drawings provided by the Operator indicated that two runners should be installed in the bottom of the compartment to keep the bin above the wiring loom, thereby avoiding contact. Furthermore, a protective metal cover should be installed over the loom in the bottom of the compartment. No evidence of the presence of the loom cover or rails was found. Initial inspection indicated the possibility that they were never fitted.

The bar unit installation was a modification, specific to this Operator, which was installed in this aircraft three years ago, seven years after the aircraft was manufactured. A fleet inspection of the Operator’s A340-300 and A340-600 (which have a similar bar unit fitted but a different part number) aircraft found that a number of these aircraft also had problems relating to missing covers, rail screws and cable routing in this area. Damage to the loom was found on one other aircraft. A similar bar unit is installed in the Operator’s B747-400 fleet, but the cable routing is such that the same potential for cable damage does not arise. An initial precautionary inspection of the B747 fleet found no problems in this area.

While the cause of the wiring damage to this aircraft has been determined, significant other issues are being examined by the Investigation. These include the difficulties faced by the crew in isolating the damaged circuits, the emergency checklist, the design of the modification and the standards relating to such modifications.

The Investigation is ongoing and a Final Report will be published in due course.

**- END -**