

Australian Government Australian Transport Safety Bureau

Fumes event – Boeing 737, VH-VBL

near Melbourne Airport, Victoria, 17 April 2012

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Fumes event – Boeing 737, VH-VBL

AO-2012-060

What happened

At 0749 Eastern Standard Time¹ on 17 April 2012, a Boeing Company 737-7Q8 aircraft, registered VH-VBL (VBL), departed Melbourne, Victoria, on a scheduled passenger service to Sydney, New South Wales. On board were two flight crew, five cabin crew and 129 passengers.

Two cabin crew were stationed at the front of the passenger cabin (cabin), one being the cabin supervisor (supervisor). The other three cabin crew were stationed at the rear of the cabin.

The pilot in command (PIC) reported a burning smell in the cockpit on takeoff that dissipated at the top of climb. Shortly after the landing gear had retracted, at about 1,000 ft, the supervisor advised the PIC of a very unusual smell in the front and rear of the cabin.

The PIC instructed the supervisor to open the vents to improve ventilation and to advise him if the smell did not dissipate within 3 to 5 minutes. The PIC advised the supervisor that the cause of the smell was probably the result of the aircraft being newly out of maintenance and that he had experienced a similar occurrence before.

One of the rear crew members was ill a number of times and was not able to continue with his duties. The inability of a cabin crew member to continue with their duties could have reduced the level of safety if there had not been an extra crew member on the flight, although the operator had procedures in place to mitigate this risk for a cabin crew complement of four, the standard cabin crew complement for this aircraft type.

About halfway through the flight, the supervisor went to the cockpit to discuss the situation with the PIC. The PIC again advised that he had experienced a similar occurrence before. The supervisor also noted that the smell was not present in the cockpit.

On descent into Sydney, while passing through 10,000 ft, the PIC noticed a slight smell for about a minute.

At 0901 the aircraft landed at Sydney. After the passengers left the aircraft, the PIC discussed the matter with a company engineer. Following a review of the maintenance log, the engineer advised that the aircraft had just undergone an engine wash and that may have caused the smell.

After vacating the aircraft, the PIC discussed the situation with the cabin crew and advised them of the engineer's comments.

No passengers reported feeling unwell during or following the flight, though the cabin crew observed some passengers in the front of the cabin coughing during the flight. The PIC at no time felt unwell. The first officer (FO) advised the PIC that he had not smelt anything unusual throughout the flight.

Two of the cabin crew members affected by the fumes were later deemed by a doctor to be unfit to return to work. The doctor deemed one crew member fit to fly back to her home port, the other was deemed unfit to fly and did not return to his home port until the following day.

PIC of VH-VBL recollection of event

About 30 minutes into the flight, the supervisor informed the PIC that one of the rear cabin crew members had been ill. The PIC was also aware that the supervisor and the other crew member in the front cabin were experiencing minor symptoms due to the fumes.

¹ Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

Cabin crew of VH-VBL recollection of event

Immediately after the aircraft became airborne, before the landing gear was retracted, the supervisor and the other crew member in the front of the cabin noticed a strong smell, though there were no visible signs of fumes. As this was a No Contact Period², the supervisor was unable to advise the flight crew.

Although she had worked as a supervisor with the company for about six years, the supervisor could not recognise the smell and described it as similar to dirty socks. As soon as the landing gear was retracted, the supervisor informed the PIC of the smell and that the rear cabin crew could also smell the fumes.

A short time later, the supervisor noted that the smell was slightly worse when she stood up. The supervisor developed blurry vision, dizziness and a dry throat. The other crew member at the front of the cabin felt nauseous and had a dry cough throughout the flight.

The supervisor advised the PIC of the condition of the crew member in the rear cabin, but did not use the term "incapacitated" as she believed she had explained the crew member's condition clearly.

After the flight, the supervisor conducted a debrief with the cabin crew and the PIC joined them a short time later and advised that he was considering submitting a hazard report on the occurrence.

Checklists and procedures

The PIC did not refer to the company's 'smoke, fire and fumes checklist' during the event as he considered the situation to be under control and that the smell had dissipated. Additionally, there were no complaints from the passengers.

Part of the checklist states that, in case of fumes, cabin crew were not to open the flight deck door and were only to communicate by interphone. Further, if any cabin crew were affected, the PIC was to inform the company.

The company procedures required the flight crew and the cabin crew to conduct a debrief following occurrences such as this. Additionally, company procedures require the PIC to report the occurrence of fumes in the aircraft immediately after landing.

Safety message

The incident highlights the potential for crew incapacitation from exposure to fumes.

Clear and unambiguous communication between the flight and cabin crew should be maintained during any unusual event. The following ATSB investigation reports provides further reading on occurrences related to fume events in aircraft passenger cabins:

- AO-2009-025 Fumes event, 5 June 2009 www.atsb.gov.au/publications/investigation_reports/2009/aair/ao-2009-025.aspx
- AO-2007-063 Fumes event, 23 November 2007
 www.atsb.gov.au/publications/investigation_reports/2007/aair/ao-2007-063.aspx
- AO-2007-031 Fumes event, 5 August 2007
 www.atsb.gov.au/publications/investigation_reports/2007/aair/ao-2007-031.aspx
- AO-2007-025 Smoke in cabin, 23 July 2007
 www.atsb.gov.au/publications/investigation_reports/2007/aair/ao-2007-025.aspx

² The 'no contact period' for take-off was from when power was applied for take-off until the landing gear was retracted. During this period, cabin crew are not permitted to initiate communication with flight crew regardless of circumstance.

200500141 – Fumes event, 15 January 2005
 www.atsb.gov.au/publications/investigation_reports/2005/aair/aair200500141.aspx

Aircraft details

Manufacturer and model:	turer and model: Boeing Company 737-7Q8	
Operator:	Virgin Australia	
Registration:	VH-VBL	
Type of operation:	Air transport – high capacity	
Location:	near Melbourne Airport, Victoria	
Occurrence type:	Fumes event	
Persons on board:	Crew – 7	Passengers – 129
Injuries:	Crew – 2 (minor)	Passengers – nil
Damage:	None	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The Bureau is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, relevant international agreements.

The object of a safety investigation is to identify and reduce safety-related risk. ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not a function of the ATSB to apportion blame or determine liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.