Australian Government
Australian Transport Safety Bureau

Fumes event involving Airbus A320, VH-VNO

211 km N of Melbourne Airport, Victoria, 1 March 2016

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2016-016
Final – 27 July 2016

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Publishing information

Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office: 62 Northbourne Avenue Canberra, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150 (24 hours)
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

Addendum

Page	Change	Date

Fumes event involving Airbus A320, VH-VNO

What happened

On 1 March 2016, at 0640 Eastern Standard Time, a Tiger Airways Airbus A320 aircraft, registered VH-VNO (Figure 1), departed Brisbane, Queensland, on a scheduled passenger service to Melbourne, Victoria. On board were the captain, the first officer, four cabin crew members, and 63 passengers.

Figure 1: Tiger Airways Airbus A320, VH-VNO

Source: Victor Pody

At about 0900 Eastern Daylight-saving Time (EDT), when the aircraft was abeam Parkes, New South Wales, the cabin crew detected a strong odour in the rear of the cabin, and notified the captain. The cabin crew were unsure what the smell was, but they later described it as being like that of an extinguished cigarette. The odour dissipated soon after. About 10 minutes later, it returned and the cabin crew again advised the flight crew.

The cabin crew conducted their normal procedures in response to fumes in the cabin. This included filling bins with water to quench any possible fire, and checking lavatories, galley and the rear of the cabin in an attempt to find the source of the fumes. They also assessed whether there was any evidence of heat or fire.

As the cabin crew were unable to locate the source of the fumes or to find any heat source, the captain further asked them to check the overhead lockers and the floor above the cargo hold. They were still unable to find the source.

In accordance with standard operations with fewer than 115 passengers on board, the flight crew had the cabin air on the low flow setting. In the absence of smoke, they elected to set the airflow to high and see if that removed the odour from the aircraft. The fumes subsequently subsided.

At 0933 EDT, the aircraft was about 211 km north of Melbourne, at flight level 320.[1] The flight crew had been cleared by air traffic control (ATC) to commence their descent for Melbourne. At that time, the cabin manager advised the captain that the fumes had returned and the odour was very strong. They also advised that three cabin crew members were feeling unwell, and that one had vomited.

The captain and first officer then reviewed the situation. They assessed that due to the cabin crew becoming ill, and the source of the fumes still unknown, they would contact ATC, declare a PAN,[2] and request direct tracking to Melbourne. The crew also requested radar vectoring to reduce the workload required to reprogram the flight management system from the previously cleared route already entered into the system.

The cabin manager then advised the captain that the odour was still very strong. The captain recommended that all passengers be moved forwards away from the odour, which was at the rear of the cabin. The captain advised the cabin manager that they had declared an emergency and requested a direct track to Melbourne, and switched the seatbelt sign on.

The air traffic controller asked how many people were unwell and would require ambulance on arrival. The captain discussed with the cabin manager before responding that three cabin crew members and no passengers were unwell. The captain advised the passengers that fire vehicles and ambulance would be present for their arrival at Melbourne Airport.

During the approach, the captain advised ATC that they expected to conduct a normal landing and taxi clear of the runway via a high-speed taxiway. They would then stop and evaluate whether they would continue to taxi to the bay or whether an evacuation of the aircraft would be necessary.

To allow ease of access by emergency vehicles, the control of all runways had been handed from the tower controller to the surface movement controller. Aircraft movements were temporarily suspended, therefore no other aircraft were cleared to take-off or land at the airport. The aircraft landed at 0958 EDT.

The captain had directed the cabin manager to check the rear of the cabin after the aircraft taxied clear of the runway, and advise whether the odour was still there. The cabin manager reported that it was not. The captain then spoke to the commander of the aviation rescue and firefighting service, advised that they would continue to taxi to the bay, and requested that they follow the aircraft. The captain then requested a clearance from ATC to taxi to the bay. The captain also advised the passengers of the situation.

Once parked at the bay, the flight crew elected not to start the auxiliary power unit because they had been unable to determine the source of the fumes or to exclude any potential fire hazard. The captain advised the cabin crew and passengers that the cabin would go dark and the emergency lighting would come on. After shutting the engines down, the captain advised the fire commander that other than sick members of the cabin crew, everything was normal. The captain then left the cockpit to address the passengers, who disembarked normally. The fire crew did not find any source of fumes or fire, nor did a subsequent engineering inspection reveal the source.

Safety message

This incident demonstrates effective crew resource management techniques to deal with an abnormal and evolving situation.

In the event of smoke or fire, the emergency procedures are clear, time is of the essence, and a MAYDAY[3] call is required. In this incident, however, the seriousness of the situation, the source of

---

1 At altitudes above 10,000 ft in Australia, an aircraft's height above mean sea level is referred to as a flight level. Flight level 320 equates to 32,000 ft.

2 An internationally recognised radio call announcing an urgency condition which concerns the safety of an aircraft or its occupants but where the flight crew does not require immediate assistance.

3 Mayday is an internationally recognised radio call for urgent assistance.

the fumes, and the potential risk of the situation, was difficult to assess. The crew's decision to declare a PAN enabled air traffic control to provide assistance, without the immediacy that would have been required in the case of smoke or fire. As the situation unfolded, the flight crew continued to assess their options based on the information available. They made contingency plans in case things escalated or worsened, such as identifying the nearest airport for an emergency landing if required.

The third time the cabin crew reported the odour, and also became unwell, the flight crew had commenced descent, and the workload was very high. The flight crew demonstrated effective decision making and prioritisation based on the information available and the situtation at hand. Throughout the approach to Melbourne, the flight crew communicated with each other, the cabin crew, the passengers, and air traffic control, which kept all parties informed and allowed appropriate assistance to be given.

General details

Occurrence details

Date and time:	1 March 2016 – 0933 EDT	
Occurrence category:	Incident	
Primary occurrence type:	Fumes	
Location:	211 km N Melbourne Airport, Victoria	
	Latitude: 35° 48.55' S	Longitude: 145° 18.52' E

Aircraft details

Manufacturer and model:	Airbus A320	
Registration:	VH-VNO	
Operator:	Tiger Airways	
Serial number:	4053	
Type of operation:	Air transport high capacity – Passenger	
Persons on board:	Crew – 6	Passengers – 63
Injuries:	Crew – 0	Passengers – 0
Aircraft damage:	Nil	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB 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 operations involving the travelling public.

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.