



Australian Government

Australian Transport Safety Bureau

ATC procedural error involving a Piper PA-34, VH-FEJ

37 km SW of Townsville Airport, Queensland, 14 March 2012

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Addendum

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What happened

On 14 March 2012, the pilot of a Piper PA-34 aircraft, registered VH-FEJ (FEJ), submitted a flight plan from Archerfield to Cairns, with a planned refuelling stop at Townsville, Queensland. Prior to departure, air traffic control (ATC) at Archerfield updated the flight plan from visual flight rules (VFR) to instrument flight rules (IFR) at the pilot's request. The pilot was the sole person on board.

VH-FEJ



Source: Kyle Mayne

The updated flight plan for FEJ was transmitted via a change message in the Aeronautical Fixed Telecommunication Network (AFTN)¹ to the various ATC agencies responsible for the flight, including Townsville.

Townsville ATC, operated by the Department of Defence, utilised computer printed flight progress strips (strips). The strip for FEJ was printed prior to the change message being processed, and indicated that the flight involving FEJ was a VFR flight.

In the Townsville Approach area, the Planner position was responsible for checking the strips for aircraft arriving and departing Townsville. Once checked and activated, the strips were then passed to the Approach controller. At 1559 Eastern Standard Time,² the strip for FEJ was activated when Brisbane ATC provided an estimated time of arrival (ETA) at Townsville of 1628. As well as providing the ETA, Brisbane ATC also advised that FEJ was cleared at 10,000 ft, an IFR cruising level.

When the pilot of FEJ contacted Townsville Approach, he requested a runway 01 instrument landing system (ILS)³ approach. The Approach controller cleared the aircraft to track direct to the initial approach fix and, once the aircraft was within 36 NM, cleared the pilot of FEJ to descend to 4,000 ft, the initial level for the ILS (Figure 1).

Shortly after, the Approach controller became concerned about FEJ maintaining visual meteorological conditions (VMC)⁴ given the weather in the area, and queried the pilot on the aircraft's flight category. The pilot advised he was an IFR flight and was in cloud. The Approach controller immediately instructed the pilot to stop the descent at 5,500 ft. At the time, FEJ was passing through 5,300 ft, and descended to 5,200 ft before the pilot was able to arrest the descent and climb FEJ back to 5,500 ft. Shortly after and prior to commencing the ILS, the pilot became visual and FEJ landed without further incident.

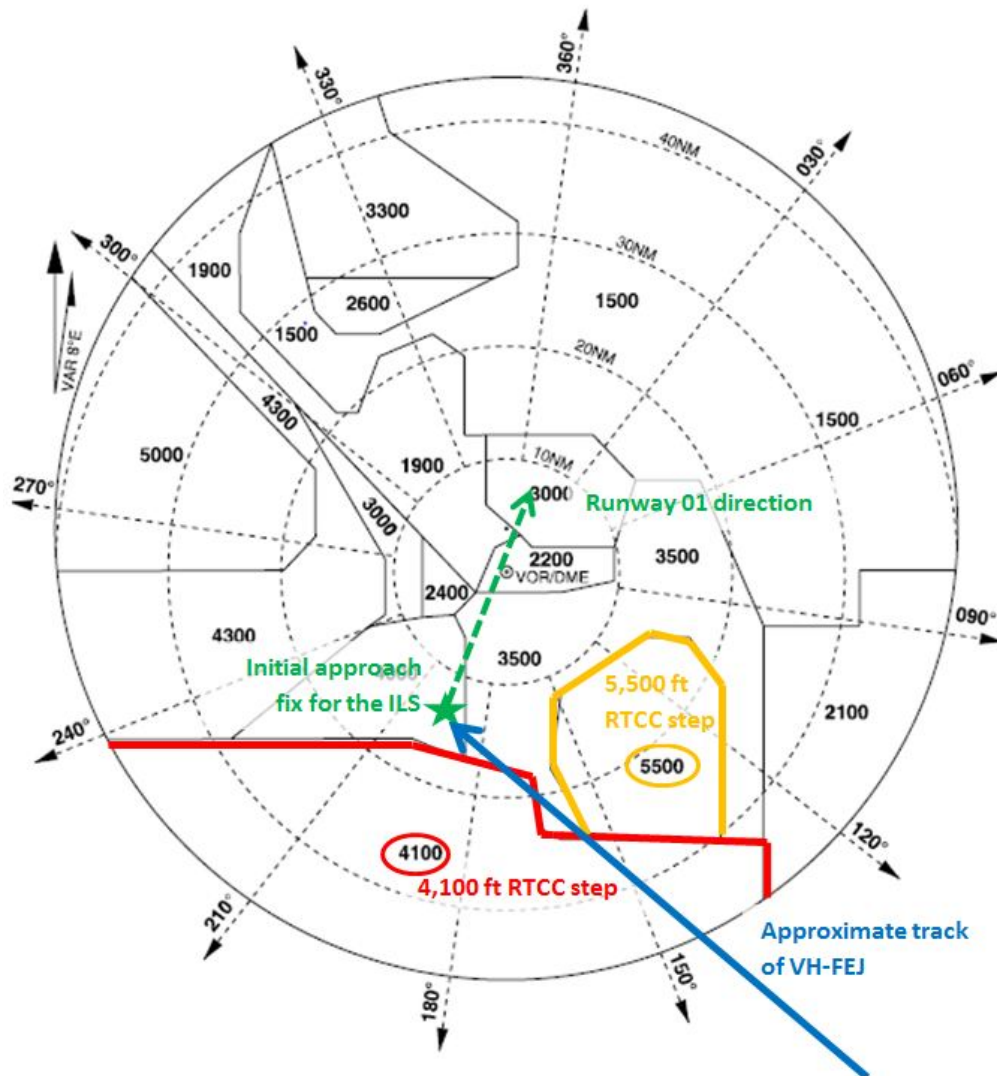
¹ Aeronautical Fixed Telecommunication Network (AFTN) – an international aeronautical communication system for the exchange of messages.

² Eastern Standard Time was Coordinated Universal Time (UTC) + 10 hours.

³ Instrument landing system (ILS) is a ground aid to facilitate landing in low visibility conditions.

⁴ Visual Meteorological Conditions (VMC) is an aviation flight category in which visual flight rules (VFR) flight is permitted – that is, conditions in which pilots have sufficient visibility to fly the aircraft maintaining visual separation from terrain and other aircraft.

Figure 1: Townsville radar terrain clearance chart showing the approximate track of VH-FEJ



Source: Aeronautical Information Service

Meteorological information

The automatic terminal information service (ATIS) current during FEJ's arrival stated that pilots should expect an instrument approach. The wind was 090° magnetic at 16 knots, the visibility was greater than 10 km, with rain showers in the area and scattered cloud at 1,500 ft.

Department of Defence comments

The Department of Defence conducted an internal investigation into the incident and found that the Approach controller did not compare the flight rules category on the strip for FEJ with that displayed on the radar display, as the controller reported they expected the strip to be accurate. In addition, neither the Planner nor the Approach controller queried why FEJ was arriving via an IFR level. However, the report noted that it was not unusual for VFR aircraft to request an ILS at Townsville.

The radar terrain clearance chart (RTCC) displayed the lowest safe altitude ATC could descend an aircraft to in instrument meteorological conditions (IMC).⁵ When the Approach controller determined that FEJ was an IFR flight, the aircraft had already been issued descent to 4,000 ft, which was 100 ft below the 4,100 ft RTCC step. As the track of the aircraft was in close proximity to the 5,500 ft step on the RTCC, the Approach controller sought to stop FEJ's descent at that level. By the time the pilot was able to arrest the aircraft's descent, FEJ had reached 5,200 ft. Although FEJ did not descend below the RTCC altitude on the aircraft's track, terrain clearance on track was not assured until FEJ climbed back to 5,500 ft (Figure 1).

Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

Department of Defence

As a result of this occurrence, the Department of Defence has advised the ATSB that controllers are now required to check flight progress strips thoroughly prior to passing them to Approach, ensuring the flight rules category is correct.

General details

Manufacturer and model:	Piper Aircraft Corporation PA-34-200T	
Registration:	VH-FEJ	
Type of operation:	Private	
Occurrence category:	Serious incident	
Primary occurrence type:	ATC procedural error	
Location:	37 km SW of Townsville Airport, Queensland	
	Latitude: 19° 27.30' S	Longitude: 146° 30.08' E
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

⁵ Instrument meteorological conditions (IMC) describe weather conditions that require pilots to fly primarily by reference to instruments, and therefore under Instrument Flight Rules (IFR), rather than by outside visual references. Typically, this means flying in cloud or with limited visibility.

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.