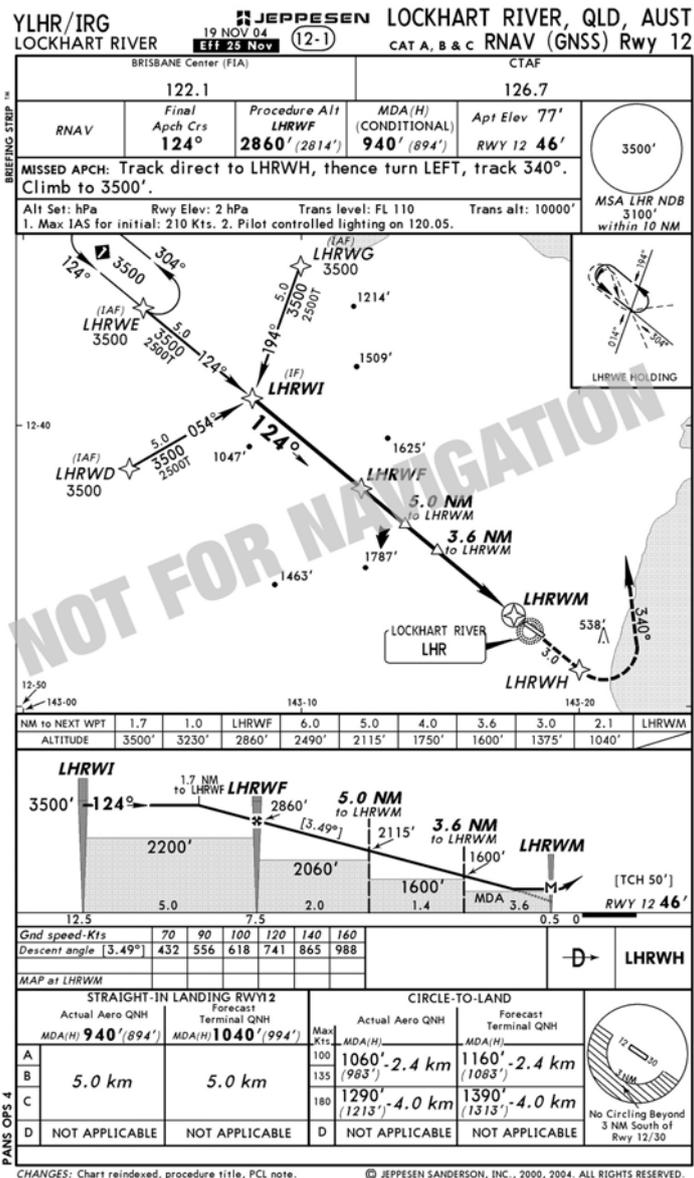


## FACTUAL INFORMATION

On 7 May 2005, a Fairchild Metroliner SA227-DC, registered VH-TFU, with two pilots and 13 passengers, was being operated under instrument flight rules (IFR) on a scheduled passenger service from Bamaga to Cairns via Lockhart River, Qld.

The crew reported departure from Bamaga at 1111 eastern standard time with an intention to climb to FL170 (17,000 ft). At 1133 they advised air traffic control that



they had left FL170 and at 1136 reported being on descent passing 9,000 ft with an estimated time of arrival at Lockhart River of 1139.

The crew subsequently reported that they were conducting the Lockhart River Runway 12 RNAV<sup>1</sup> approach, and that they were at waypoint Whisky Golf (LHRWG), tracking for Whisky India (LHRWI). Whisky India is located 12 NM<sup>2</sup> prior to the missed approach point of the Lockhart River Runway 12 RNAV approach.<sup>3</sup>

At 1158, when the crew had not reported having landed at Lockhart River, air traffic control declared an uncertainty phase. When attempts to contact the aircraft failed, a search was commenced. At 1625 the burnt wreckage of the aircraft was located in the Iron Range National Park on the north-western slope of 'South Pap', a heavily

<sup>1</sup> RNAV Area Navigation – A method of navigation that permits aircraft operations on any desired course within the coverage of station referenced navigation signals or within the limits of self contained system capability.

<sup>2</sup> NM – a nautical mile is 1.852 kilometres

<sup>3</sup> Company pilots were expected to hold a subscription to the Jeppesen Sanderson Inc. chart amendment service. It should be noted that although the charts that the pilots were expected to use were produced by Jeppesen Sanderson Inc. these charts were developed from data published by Aircservices Australia. The Lockhart River, Qld - Runway 12 RNAV (GNSS) approach chart produced by Aircservices Australia is included for reference (see Appendix B)

timbered ridge, approximately 11 km north-west of Lockhart River. All occupants were fatally injured and the aircraft was destroyed by impact forces and the post-impact fire.

The aircraft had cut a swath of less than 100 m through heavy timber on the steep slope and came to rest at an elevation of 1,210 ft above mean sea level (amsl) about 90 ft below the top of the ridge.



The aircraft entered the forest canopy at a descent angle of between 3 and 5 degrees. Damage to the propellers and engines was consistent with both engines producing power at impact. An intense, fuel-fed, post-impact fire destroyed most of the aircraft fuselage, including much of the instrument panel and avionics. The accident site is located on the published Lockhart River 12 RNAV final approach track. At that point in the approach, the minimum obstacle clearance altitude was 2,060 ft amsl.

Information obtained from the Bureau of Meteorology estimated that the weather conditions in the Lockhart River area at the time of the accident were overcast with broken low cloud with a base between 500 ft and 1,000 ft above

mean sea level. The wind was from the south-east at between 10 and 15 knots, with occasional squally showers and intermittent drizzle. Those general conditions were confirmed by persons at Lockhart River.

The pilot in command had accrued a total of 6025.2 hours flying experience, of which 2977.6 hours were on the Metroliner aircraft type.<sup>4</sup> The copilot had accrued a total of 653.4 hours flying experience, of which 148.0 hours were as a copilot on the Metroliner aircraft type.<sup>5</sup>

The aircraft was fitted with a cockpit voice recorder (CVR) and a flight data recorder (FDR). Both recorders were recovered from the accident site, secured and taken to the Australian Transport Safety Bureau's laboratory for examination and data download.

Preliminary analysis of the 30 minute CVR tape indicated that it contained a mixture of electrical pulses and fragments of conversations, some identified from previous flights. While analysis of the CVR tape is continuing, it is likely that no useful data on the accident flight will be recovered. It is unclear which of the two pilots was flying the aircraft at the time of the accident.

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<sup>4</sup> The pilot in command's log book entries were complete up to 16 April 2005. The investigation is yet to verify hours flown since that date.

<sup>5</sup> The copilot's log book entries were complete up to 5 May 2005

The FDR contained approximately 100 hours of useful data which has been assessed as being of reasonably good quality and contains data relating to the accident flight.

That information indicates that the engines were delivering power at the time of impact. (See Appendix A for list of recorded parameters).

Preliminary data indicates that both engines were delivering around 30% to 35% torque, which is consistent with the approach power configuration. The aircraft had been descending at a constant rate, but with some turbulence evident, over the 50 seconds prior to the impact.

The aircraft, serial number DC-818 B, was manufactured in December 1992. The aircraft's *Flight/Maintenance Log* dated 6 May 2005 (the day prior to the accident) indicated that the aircraft had completed 26,875.5 hours and 28,527 cycles. Scheduled maintenance was due at 26,932.0 hours and 28,565 cycles.

The investigation is continuing and will include:

- Analysis of recorded data
- Collation and analysis of operational, maintenance and regulatory records, other data and statements, and recovered instruments
- Analysis of instrument approach procedures.

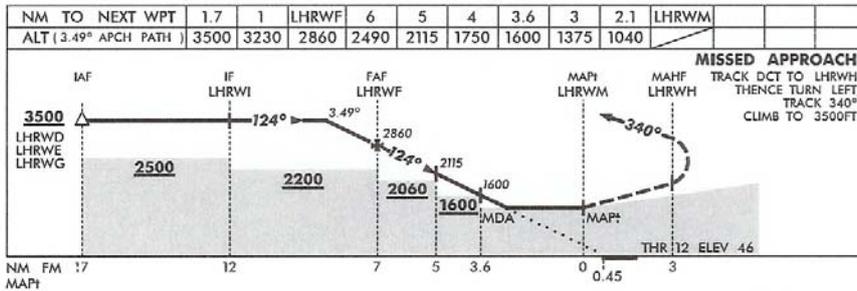
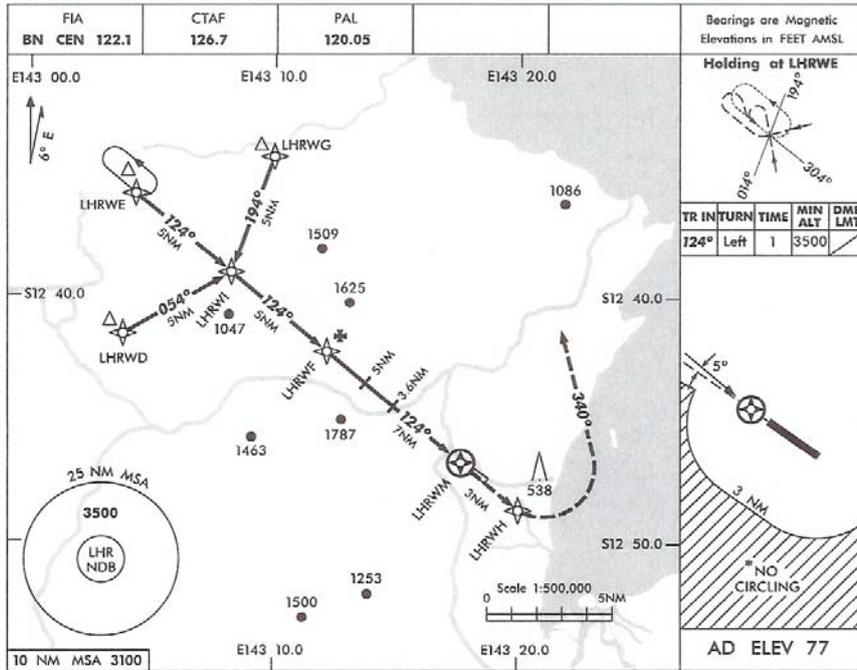
## **Appendix A**

**The FDR fitted to VH-TFU recorded the following parameters:**

- Elapsed Time Counter
- Pressure Altitude
- Indicated Airspeed
- Magnetic Heading
- Flap Position
- Roll Attitude
- Stabiliser Position
- Acceleration: Longitudinal Axis
- Acceleration: Vertical Axis
- Left Propeller (% RPM)
- Left Engine Torque (%)
- Right Propeller (% RPM)
- Right Engine Torque (%)
- VHF radio microphone keying
- Roll input
- Yaw input
- Pitch input
- Pitch attitude (Note: This parameter did not record and was unserviceable on all flights during the 100 hours of recorded data)

# Appendix B

25 NOV 2004 USE QNH RWY 12 RNAV (GNSS) LOCKHART RIVER, QLD (YLHR)



CATEGORY	A	B	C	D
S-I GNSS	1040 (994-5.0)			NOT APPLICABLE
CIRCLING*	1160 (1083-2.4)	1390 (1313-4.0)		
ALTERNATE	1583-4.4		1813-6.0	

1. MAX IAS: INITIAL : 210KT.  
 \* 2. NO CIRCLING BEYOND 3NM SOUTH OF RWY 12/30.

Changes: PROC NAME, ALTN/MINIMA, PAL, Editorial.

LHRGN01-101

