



Australian Government
Australian Transport Safety Bureau



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In-flight upset
154 km west of Learmonth, WA
7 October 2008
VH-QPA
Airbus A330-303



ATSB
TRANSPORT SAFETY REPORT
Aviation Occurrence Investigation AO-2008-070
Preliminary

-extract-

ONGOING INVESTIGATION ACTIVITIES

Aircraft systems

Analysis of the aircraft's systems and recorded data is ongoing and will include the following activities:

.../...

- The investigation will review records of previous occurrences involving ADIRU (Air Data and Inertial Reference Unit) failures (which did not result in in-flight upsets) and previous occurrences where large numbers of spurious ECAM messages were generated.

The ATSB (Australian Transport Safety Bureau) has received many suggestions from members of the public to consider the effect of various external sources of electromagnetic interference on the aircraft, particularly any transmissions by the Harold E. Holt very low frequency transmitter near Exmouth, WA. Initial analysis suggests it is unlikely that any transmissions from this facility could affect systems on board an aircraft flying near the vicinity. However, further assessment of this possibility and other possible sources of external electromagnetic interference will be examined.

Data is also being gathered from passengers regarding the nature of any portable electronic devices that were in operation at the time of the upsets. Initial analysis suggests that it is unlikely any such devices could affect systems in the manner which occurred on the occurrence flight. However, further examination of this possibility will also be conducted.

Cabin safety

Interviews have been conducted with all of the cabin crew and some of the passengers who were seriously injured. Further interviews will be conducted to determine the sequence of events in the cabin and the factors associated with any injuries.

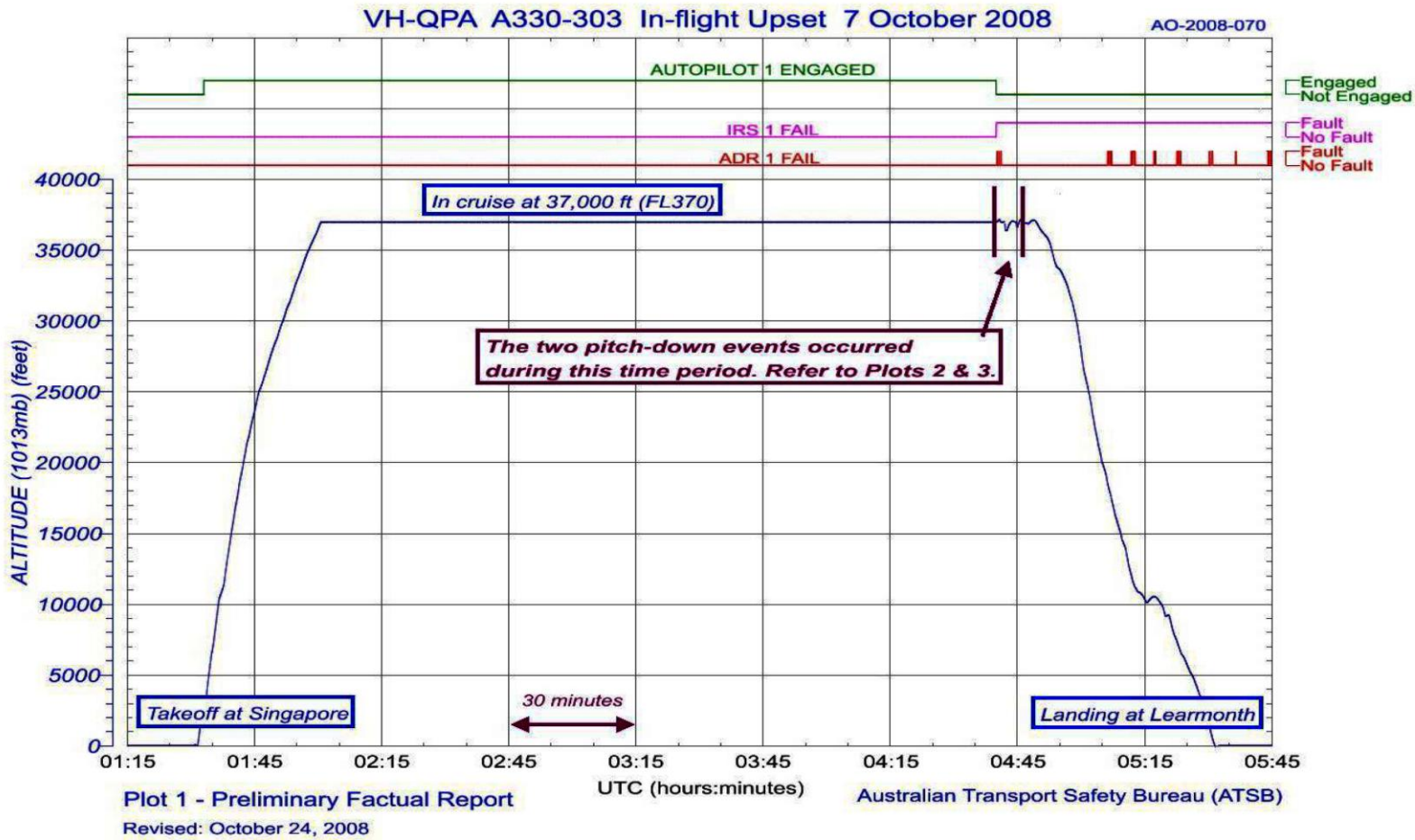
A passenger questionnaire has been developed and distribution of the questionnaire commenced on 28 October 2008 by email. The questionnaire asks passengers for their observations during the upset events, as well as asking questions on safety information, use of seatbelts, injuries and use of personal electronic devices. It is intended that all passengers will be provided with the questionnaire.²³

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²³ Contact details for some passengers are incomplete. If any passenger has not received a questionnaire, please contact the ATSB on 1 800 020 616 (or 61 2 6257 4150 from outside Australia) or via email to atsbinfo@atsb.gov.au

APPENDIX B: FLIGHT DATA RECORDER PLOTS

Figure B1: Data plot for complete flight duration



ABBREVIATIONS

ADIRS Air data and inertial reference system

ADIRU Air data and inertial reference unit

ADR Air data reference

AOA Angle of attack

AP Autopilot

ATSB Australian Transport Safety Bureau

BEA Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile

CVR Cockpit voice recorder

ECAM Electronic centralized aircraft monitor

FCPC Flight control primary computer (also known as PRIM)

FCSC Flight control secondary computer (also known as SEC)

FDR Flight data recorder

FL Flight level

GPS Global positioning system

IR Inertial reference

ICAO International Civil Aviation Organization

NTSB National Transportation Safety Board

PFD Primary flight display

PRIM Common name for flight control primary computer (FCPC)

QAR Quick access recorder

UTC Universal time, coordinated