



Australian Government

Australian Transport Safety Bureau

# Investigating serious incidents

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# Overview

- Why investigate serious incidents?
- Major accident preparedness
- Some examples of serious incident investigations

# Why investigate serious incidents?

- ICAO requires it
- Investigating a 'close call' provides a 'free lesson' in safety
- Essential for major accident preparedness

# ICAO Annex 13

## *Aircraft Accident and Incident Investigation*

Annex 13 outlines ICAO  
*Standards and Recommended Practices (SARPs) for,*

- Notification
- Investigation
- Reporting



# Annex 13 - Definitions

## Serious incident

*An incident involving circumstances indicating that there was a high probability of an accident.*

*Note: The difference between an accident and a serious incident lies only in the result.*

# Annex 13 - Chapter 5

5.1.2 *The State of Occurrence shall institute an investigation into the circumstances of a serious incident when the aircraft is of a maximum mass of over 2,250 kg*



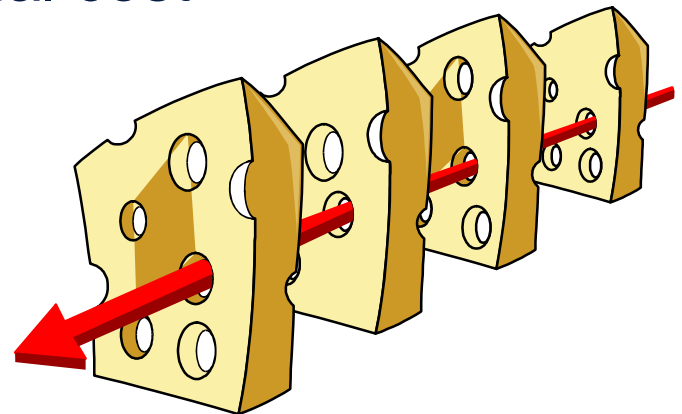
# ICAO Annex 13 – Attachment C

## *Examples of serious incidents*

- Near collisions
- Near controlled flight into terrain (CFIT)
- Take-offs or landings on a closed or engaged runway
- Fires and/or smoke
- Multiple systems failures
- Flight crew incapacitation
- Fuel emergency

# Why investigate serious incidents?

- Having and heeding good safety data is the key to improving aviation safety
- The same safety benefit can be achieved without paying the economic and social cost associated with an accident





# Major accident preparedness

~~***We'll deal  
with it when  
it happens***~~

# Major accident preparedness

- Major accidents are rare events
- However, a State/Administration will only be able to respond adequately to a major accident if they are in a state of constant preparedness
- There are two aspects to that preparedness,
  - Capability
  - Practice

# Major accident preparedness

- **Capability**
  - Appropriate legislation and regulations
  - An agency with sound organisational structure
  - The recruitment and training of investigators
  - Comprehensive policies and procedures
  - Adequate resources
- **Practice**
  - Doing it – eg investigating serious incidents

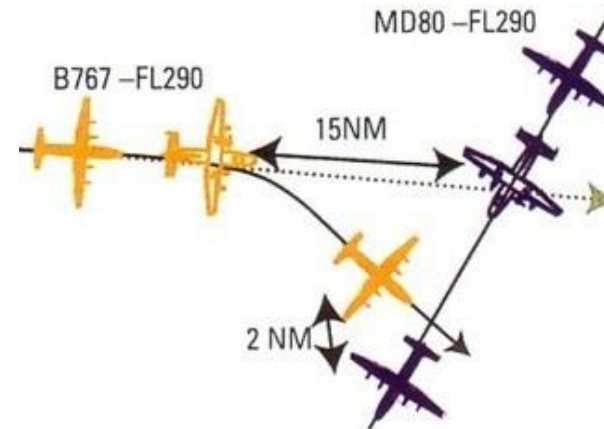
# Investigating serious incidents

- Onsite work
- Collecting and analysing information
- Dealing with stakeholders and other parties
- Analysis and report writing
- Developing recommendations

Time and resources required may well be greater than some accident investigations

# Investigating serious incidents

Counters the perception that the resources needed to maintain an independent aviation safety investigation agency will be underutilised in normal times



# Examples of serious incidents investigated by the ATSB

From 2010 to 2014, the ATSB investigated 39 serious incidents involving high-capacity regular public transport operations

Max seating capacity >38 seats or max payload > 4,200kg



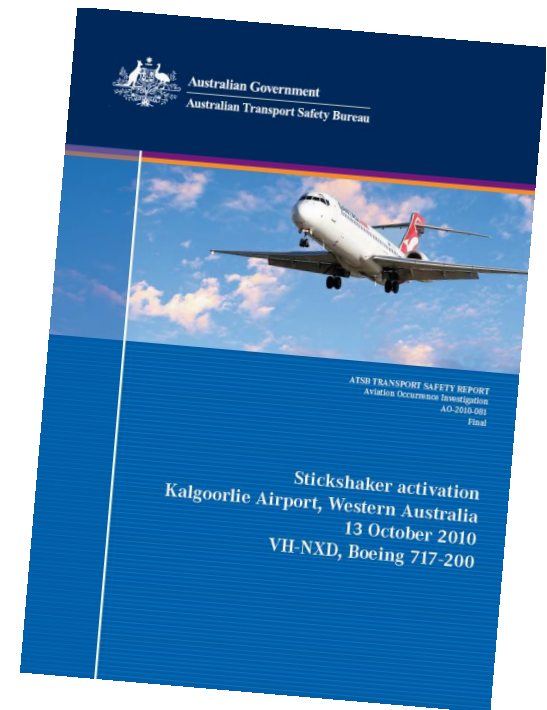
# Examples of serious incidents investigated by the ATSB

- Loss of separation (14)
- Descent during approach (4)
- Weather factors (4)
- Incorrect weight, procedure, plan, or config (4)
- Fire and/or smoke (3)
- Vehicle runway incursion (3)
- Other (7)

# ATSB Investigation AO-2010-081

## *Stickshaker activation*

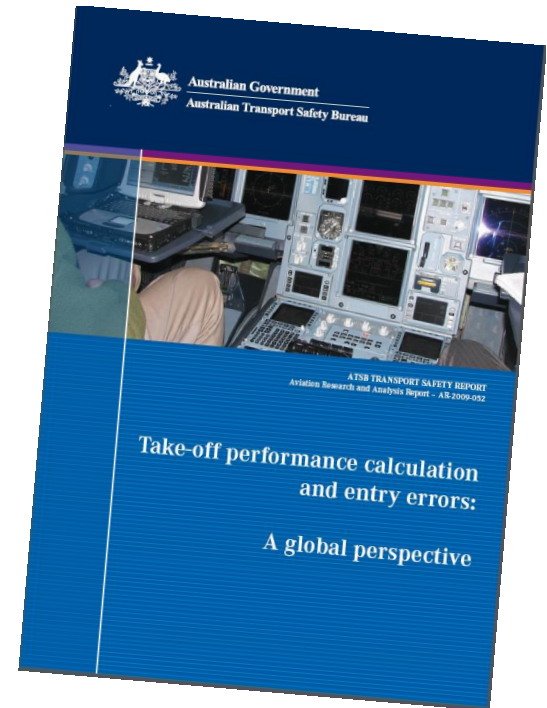
- Boeing 717, two stickshaker activations on approach to land at Kalgoorlie, WA
- Crew had entered the wrong aircraft weight into the FMS
- Incorrect approach speed





# ATSB Investigation AR-2009-052

## *Take-off performance calculation and entry errors: A global perspective*



# ATSB Investigation AO-2011-086

## *Descent below approach path*

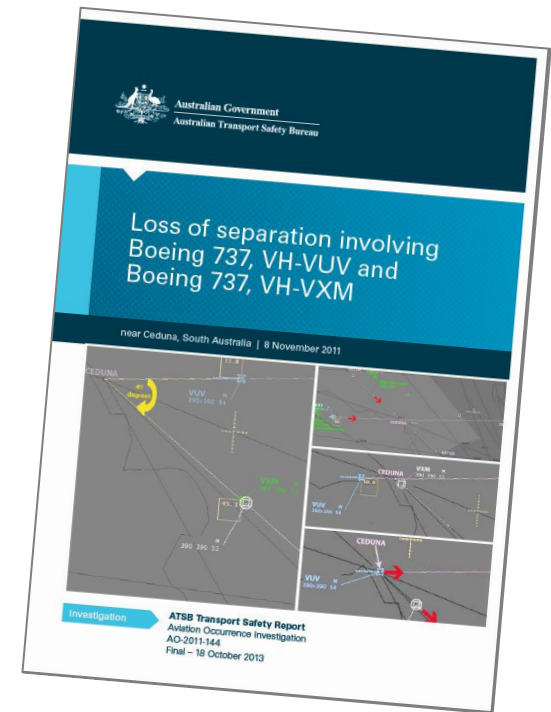
- B777 low on approach to Melbourne, Vic
- Tower controller asked the crew to check their altitude and then instructed the crew to go-around
- Crew caught by surprise by the aircraft's automation



# ATSB Investigation AO-2011-144

## *Loss of separation*

- Two B737 aircraft on converging tracks at FL39 near Ceduna, SA
- Procedural longitudinal separation standard of 20 NM was infringed
- Contributing factors of controller workload and experience



# Summary

Investigating serious incidents is an important opportunity to develop major accident preparedness

# Action by the meeting

- Note the Annex 13 requirement for, and the importance of, investigating serious incidents involving aircraft with a maximum mass of over 2,250 kg
- Recommend the ICAO APAC office conducts a survey of APAC States/ Administrations to obtain information about the reporting and investigation of serious incidents involving aircraft with a maximum mass of over 2,250 kg

# Thank you

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