



National Transportation Safety Board



Onboard Recording Devices

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Required Recording Devices

- No regulatory requirement for any certified, crash-resistant recording device:
 - Flight data recorder (FDR)
 - Cockpit voice recorder (CVR)
 - Image recorder

Recovered Parametric Data



Serial Number 36519



Serial Number 34790

Recovered Personal Electronics Data

- Four smartphones
- One iPad
- Two cameras

Data Recovered

- Aircraft track history



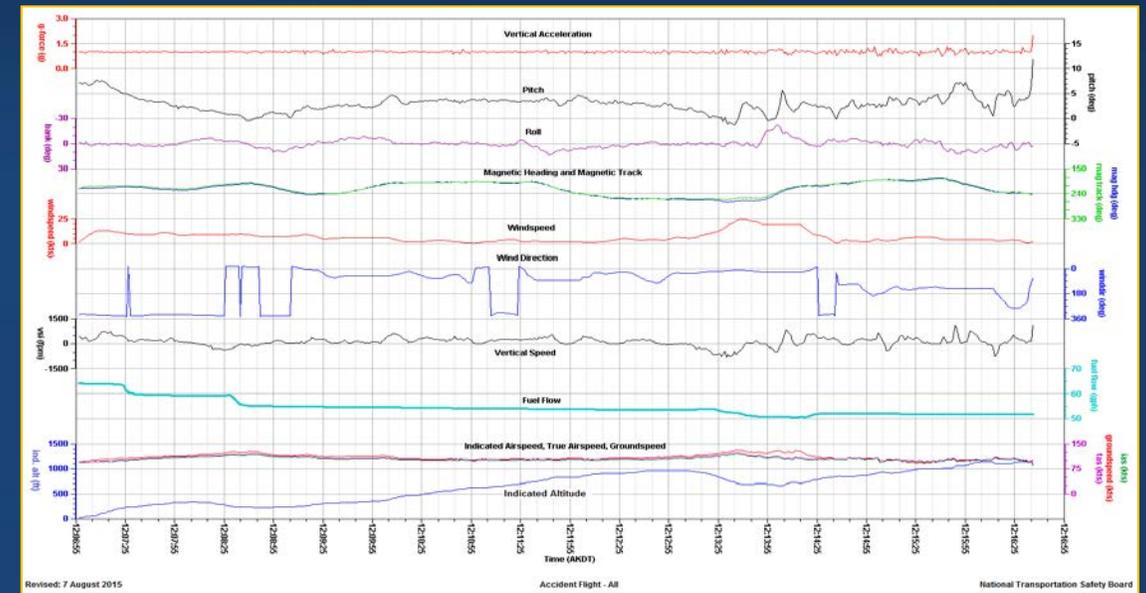
Data Recovered

- Aircraft track history
- Pilot device use history

Date	First activity (AKDT)	Last activity (AKDT)
6/25/15	0700	0743
6/24/15	0449	2229
6/23/15	0348	2112
6/22/15	0426	2038

Data Recovered

- Aircraft track history
- Pilot device use history
- Aircraft dynamics



Data Recovered

- Aircraft track history
- Pilot device use history
- Aircraft dynamics
- Inward photos/video



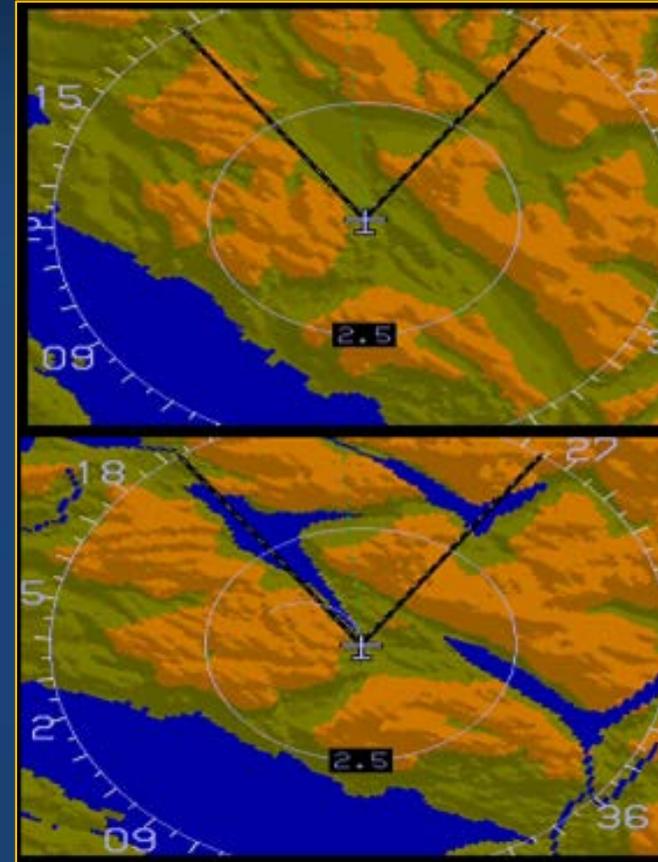
Data Recovered

- Aircraft track history
- Pilot device use history
- Aircraft dynamics
- Inward photos/video
- Outward photos/video



Data Recovered

- Aircraft track history
- Pilot device use history
- Aircraft dynamics
- Inward photos/video
- Outward photos/video
- Simulations



Investigative Risk without Required Recorders

- Not required to be installed or carried
- Not crash-resistant
- Lack of critical details
 - Video incomplete
 - No cockpit audio

Lightweight Flight Recorder Specification

- TSO-C197 addresses crash-resistant lightweight flight recorder systems
- Addresses installation, impact, and post-crash fire requirements

Previous Related Recommendations

- Safety Recommendations A-13-12 and -13
 - Addressed TSO-C197 specifications
 - Latest in a series of NTSB recommendations since 1999
 - Both classified “Open–Unacceptable Response”
 - Reiterated during last month’s 2015 Frisco, Colorado Airbus helicopter investigation

