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

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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