



National Transportation Safety Board

Cockpit Image Recorder

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for Recorders



Accident Helicopter

- Appareo Vision 1000: image, audio, GPS, parametric data
- Retrofit, mounted in overhead panel
- Records:
 - 4 hours of cockpit images and audio
 - 300 hours of GPS/parametric data
 - 2 channels of audio
 - 1 channel internal microphone
 - 1 channel of other audio (not connected)

Alaska DPS Recorder Use

- Initially intended as a disciplinary tool
- Following accident, used in SMS program

Value of Image Recorders

- Accident Investigation:
 - Single pilot, remote locations
 - Limited witness, radar, other data
 - Instrument, flight control information
 - Weather conditions
 - Low-cost source of flight data
- Value in SMS Program
- Need industry buy-in

Image Recorder History

- NTSB recommendation to FAA in 2000
 - Develop TSO
 - Require installation for turbine-powered aircraft without CVR, FDR
- Reiterated and expanded several times

Image Recorder History

- FAA issued TSO, refuses to require installation
- NTSB has issued similar recommendations for highway, rail

Image Recordings in Accident Investigation

- Since 2007, turbine-powered aircraft without recorders involved in accidents
 - 466 accidents (about 75 per year)
 - 246 fatalities
 - 55 accidents – cause or factors not positively determined

Image Recordings in Accident Investigation

- Image-related devices seen in 2013
 - Lab analyzed 53 onboard image devices
 - 6 Appareo recorders, all from AS350 helicopters
 - 32 GoPro and other cameras
 - 15 other cell phone, handheld video, survey or commercial filming



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