NTSB National Transportation Safety Board

Update on Current Corporate Aviation Accidents

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NTSB Board Member

April 20, 2011
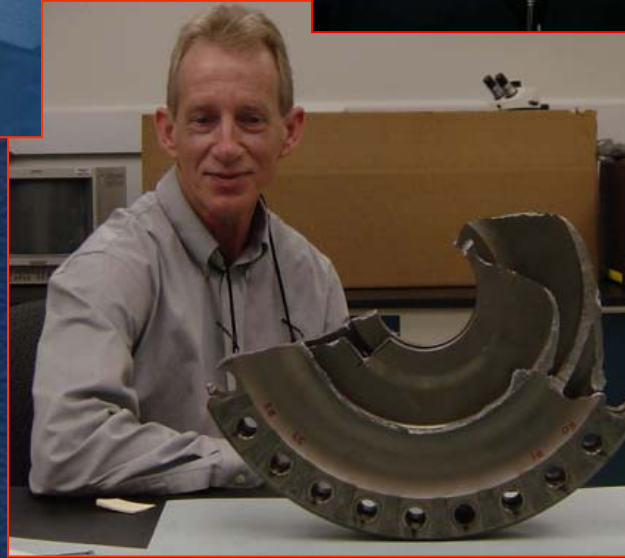
The Board

The investigators

Corporate Aviation / Part 135 – Fatal Accidents since last CASS

Accident Date	Type of Operation	Location	Aircraft Type	Fatalities
July 4, 2010	Part 135	Alpine, TX	Cessna 421	5
Aug 21, 2010	Part 135	Katmai National Park, AK	DHC-2	4
March 30, 2011	Part 135	Pikesville, KY	Cessna 310R	2
March 30, 2011	Part 135	Greensboro, NC	Beech 58	2

- Improve oversight of pilot proficiency
- Require image recorders
- Improve safety of EMS flights
- Improve runway safety
- Reduce dangers of flying in icing conditions
- Improve CRM
- Human fatigue

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East Coast Jets

Aviation-safety.net © Paul Kanagie / PHLAIRLINE.COM

**Owatonna, MN
July 31, 2008
8 fatalities**

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Accident sequence

- Wet runway, 8 knot tailwind
- After touchdown, Captain delayed 7 seconds before deploying Lift Dump
- 17 seconds after touchdown, captain initiated go-around/ takeoff attempt
  - Appx. 1200 feet from runway end
  - Appx. 75 – 80 knots
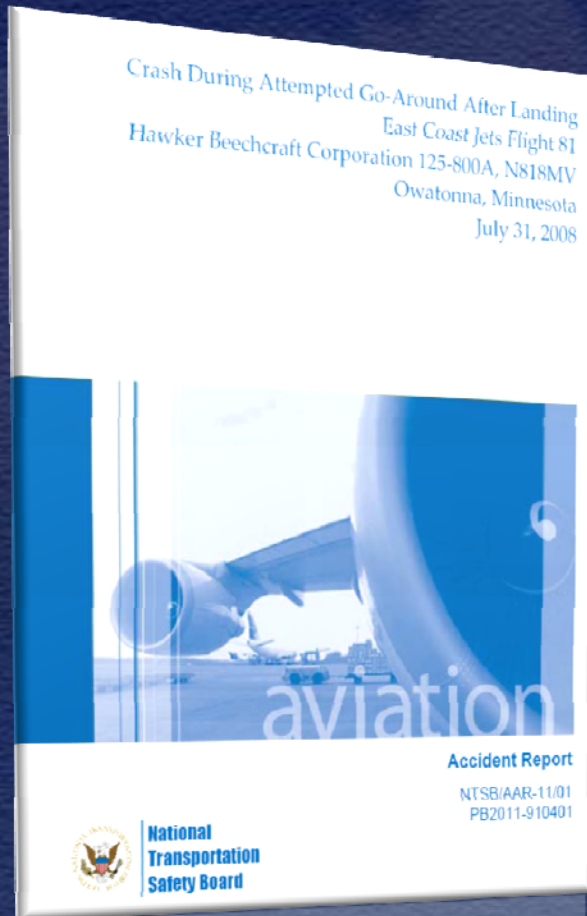- Collided with localizer antenna

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Focus of investigation

- Cockpit atmosphere and resource allocation
  - F/O called FBO 2 minutes before landing
- Need for SOPs
- Need for better quality CRM
- Checklists used in training
- Wet runway landing distance computations in AFMs
- Weather briefings
- Fatigue

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- 26 Findings
- 14 Recommendations

NTSB finding

- "The captain allowed an atmosphere in the cockpit that did not comply with well-designed procedures intended to minimize operational errors, including sterile cockpit adherence, and this atmosphere permitted inadequate briefing of the approach and monitoring of the current weather conditions;… inappropriate conversation; nonstandard terminology; and a lack of checklist discipline throughout the descent and approach phases of the flight."

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NTSB finding

- "The flight crewmembers exhibited poor aeronautical decision-making and managed their resources poorly, which prevented them from recognizing and fully evaluating alternatives to landing on a wet runway in changing weather conditions, eroded the safety margins provided by the checklists, and degraded the pilots' attention, thus increasing the risk of an accident."

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Finding related to SOPs

- "If, as a Part 135 operator, East Coast Jets had been required to develop standard operating procedures and its pilots had been required to adhere to them, many of the deficiencies demonstrated by the pilots during the accident flight might have been corrected by the resultant stricter cockpit discipline."

NTSB Recommendation

- "Require … Part 135 and 91 subpart K operators to establish, and ensure that their pilots adhere to, standard operating procedures."

"When asked about the flight department's standard operating procedures (SOPs), the chief pilot advised that they did not have any..."

"... the flight department had started out as just one pilot and one airplane, and that they now had five pilots and two airplanes..."

09 14 2007

The importance of written SOPs

- "Standard operating procedures (SOPs) are universally recognized as basic to safe aviation operations."
  - AC 120-71A

- "A flight operations manual is an essential possession for all corporate aviation departments."
  - NBAA Management Guide

SCANA

SCANA King Air C90B and 350 NORMAL TAKEOFF Actions and Callouts		
Trigger	PF	PM
Receipt of Takeoff Clearance, or CTAF Announcement of Takeoff Intentions and Before Takeoff Checklist complete	• Power Levers – Advance to Takeoff Power (80% percent torque for 350; 1200 ft lbs torque for C90) "SET POWER" • Observe ITT and Torque settings.	• Observe L AUTO FEATHER & R AUTO FEATHER lights illuminated. "AUTO FEATHER ARMED" • Observe engine gages and ensure Takeoff Power is set. "POWER SET"
Movement of aircraft		• Observe PROP PITCH lights extinguished <350 only> and consider any other CAS annunciator lights <C90B and 350>. • Verify normal engine indications. • Crosscheck airspeed indications.
80 Knots	"CHECKED"	"80 KNOTS"
V1		"V1"
VR	• Rotate to approximately 10 degrees	"ROTATE"
After liftoff	• Verify positive rate of climb. Captain "GEAR UP" • Position gear lever to UP • Extinguish Landing and Taxi lights.	"POSITIVE RATE" • Engage Yaw Damp "YAW DAMP ON"
400 feet AGL, or obstacle clearance altitude, whichever is higher and 125 kts minimum < 350 only >	"FLAPS UP"	"FLAPS UP" • Position flap lever to UP • Observe flaps indicate UP

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Different expectations

- There is often a "disconnect" between the expectations of the "customer" and what they are actually getting.

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What do your customers want?

- **World class**
  - Top 3 - 5 percent of the industry
  - Organization thrives in seeking to be the very best

- **Best practices**
  - Adopts and implements quality, standards, procedures, equipment, and training above and beyond regulatory requirements

- **Basic regulatory compliance**
  - Meets spirit of regulations, but no higher

- **Sub-standard performance**
  - non-adherence to regulations, cutting corners are the norm

Adopted from Pete Agur

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Things to think about

- Do you have clearly defined, well thought-out written SOps?

- If so, do you insist on rigorous adherence to those standards?

- How do you measure adherence?

- Do you reward the right kinds of behavior?

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