FY08 Aviation Mishap Review

Bob Galloway  John Mills  Steve Rauch
NTSB 831.13 Flow and dissemination of accident or incident information.

(b) ... Parties to the investigation may relay to their respective organizations information necessary for purposes of prevention or remedial action.

... However, no (release of) information... without prior consultation and approval of the NTSB.

This information is provided for accident prevention purposes only
DOI FY 08 Aviation Mishaps

- Palmer, AK: 3 Aircraft Accidents, 3 Minor Injuries
- Medora, ND: 
- Portland, OR: 
- Meeker, CO: ...and an IWP that we can learn a lot from
Palmer, AK
October 4, 2007

Husky A1B
Mission
Off-airport training
Damage
Substantial
Injuries
None
Procurement
Fleet A/C
NTSB ID
ANC08TA006
NTSB Probable Cause.

The flight instructor/mentor pilot for a federal agency was demonstrating off-airport landing techniques to a commercial federal pilot at a remote off-airport site during a public use training flight. The flight instructor was flying the airplane, and was attempting to do a touch and go landing on a gravel bar when the left wing struck a clump of vegetation. The flight instructor completed the touch and go, and returned the airplane to its base, where it was found that a wing rib would have to be replaced. The operator noted that there were no preaccident mechanical problems with the airplane.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows: The flight instructor's failure to maintain clearance from high vegetation during the off-airport landing.
Touch and Go area
Obstacle
Discussion

- Crew Resource Management
  ... Communication
  ... PIC responsibilities
  ... Co-Pilot responsibilities

- Complying with training objectives
Bell 206B-III
Mission
Horse Herding
Damage
Substantial
Injuries
2 minor
Procurement
Call When Needed
NTSB ID
CHI08CA021
NTSB Probable Cause.

The pilot lost control of the helicopter and it impacted the terrain after a skid caught the top of a wire fence. The helicopter was being used for a herding mission when the left skid caught the top wire of a ten foot high fence. The helicopter began a dynamic roll to the left and impacted the ground. The pilot reported trying to counteract the roll by "reducing the power and adjusting the cyclic but was unsuccessful."

The National Transportation Safety Board determines the probable cause(s) of this accident as follows: The pilot failed to maintain clearance from the fence while maneuvering at a low altitude, which resulted in the helicopter rolling over and impacting the terrain. A factor associated with the accident was the fence.
Bell 206B-III

Mission: Horse Herding

Damage: Substantial

Injuries: Badlands Plains

Procurement: Call When Needed

NTSB ID: CHI08CA021
Approaching Gate 1
Inside the Chute and below the fence
Chute Narrows and Turns

13' 15' 6"

15' 6"
Aviation Risk Assessment Matrix

HAZARD PROBABILITY

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<th>Frequent</th>
<th>Likely</th>
<th>Occasional</th>
<th>Seldom</th>
<th>Unlikely</th>
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EFFECT

- Catastrophic (I)
- Critical (II)
- Moderate (III)
- Negligible (IV)

HAZARD PROBABILITY

- Extremely High
- High
- Medium
- Low

Low Risk

Corral Complex
AM Observations
Medora, ND, October 18, 2008

Discussion

- Risk Management Strengths
  ... Involvement by all levels of supervision in planning and execution
  ... Excellent division of responsibilities
  ... Park and Project Aviation Plans current
  ... Plans complied with policy
  ... Excellent planning and execution of mishap response plan
AM Observations
Medora, ND, October 18, 2008

Discussion

- Risk Management Weaknesses

... Direct observation by IC, helicopter manager, and HEMG trainee limited due to tactical situation

... Park and Project Aviation Plans did not identify and control high risk aspect of operating helicopter inside the corral complex
AM Observations
Medora, ND, October 18, 2008

Discussion

- Heighten awareness of airframe non-specific ORM issues such as...

... Task fixation and overconfidence

... Hazard identification and risk reduction during mission planning, particularly focusing on Change Analysis

... Involvement of field personnel (pilots and aircraft managers) and senior aviation managers (Regional and National) in managing operational risks
Portland, OR
July 8, 2008

Incident with Potential

Bell 206B-III
Mission
Osprey Survey
Damage
None
Injuries
None
Procurement
ARA
NTSB ID
N/A
I-5 Bridge
Approximate location of the aircraft
Pilot estimated clearances

150' laterally

50' above
Discussion

- Risk Management Strengths

... Hazard reporting (by observer)

... Post-incident cooperation and corrective actions
Discussion

- Risk Management Weaknesses

... Failure to report the hazard (by pilot and passengers)

... Normalization of deviance, risk tolerance, and unnecessary risk-taking

... Project planning and risk management not current, not comprehensive, and not in compliance with policy (352 DM 1.9)
Discussion

- Risk Management Weaknesses

... 352 DM 1.9 addresses:

- Risk Assessment
- Education and Training
- Project Planning
- Wire Strike Prevention
- Operational Environment
- ALSE
- Flight Following
- Weight and Balance
- Airspace Coordination
Air Tractor
AT-802
Mission
Fire Suppression
Damage
Destroyed
Injuries
1 minor
Procurement
On Call
NTSB ID
DFW08TA224
NTSB Probable Cause.

While making a pass to drop fire retardant, the airplane's left cockpit access door opened when the airplane experienced an area of turbulence. Although the pilot was unable to close the door, he elected to attempt another pass to jettison his remaining retardant before returning back to the airport. During the pass the airplane departed controlled flight and impacted the ground in a right wing low attitude. The airplane came to a rest in an upright position and the pilot was able to exit the airplane unassisted. An examination of the airplane's door latch revealed no pre-impact anomalies.

The National Transportation Safety Board determines the probable cause(s) of this accident as follows: The pilot's improper decision to continue an aerial application following an uncommanded opening of the cabin door in flight, and his subsequent failure to maintain control of the airplane.
Flat Bush Fire

N
Flat Bush Fire
Drop Sequence

T 178
2nd drop

T 182

T 452
2nd drop
Overflight of engine crew - 1st run
Note altitude and bank angle - 1st run

Line is length of wing - 60'}
45° angle of bank and increasing
~85° angle of bank and descending

Aircraft experiences aerodynamic stall and begins to lose altitude
Aircraft is fully stalled and continues descending
Jettison of retardant and beginning of right roll
.3 sec later - aircraft has rolled 45° right

Aircraft remains stalled and not in control of the pilot
Left hatch/door
Relationship of wreckage to Engine crew

Original location of Engine 621
BLM Fire Engine

Broken windows, broken mirrors, shrapnel holes,
USFS Fire Engine

Aircraft engine landed 6 feet from fire engine

Retardant spray and shrapnel damage
A close call
Discussion

- Pilot's reaction to emergency
  ... PIC responsibilities during an emergency
  ... Unnecessary risk-taking
  ... Communication with ATGS

- Immediate corrective action when unnecessarily risky behavior is observed
  ... Other aircrew
  ... Ground personnel
An earlier close call

Don’t just ask “Is it legal?”
Ask “Is this necessary?”
AM Observations
Meeker, CO, August 27, 2008

Discussion

- SEAT Manager
  ... Daily Briefings
  ... Unprofessional demeanor

- Sharing information when you see a problem
  ... On-the-spot correction
  ... SAFECOM
  ... Direct communication to CO, COR, or COTR
  ... Organizational chain-of-command
  ... Pilot’s Records Improvement Act of 1996
Questions?