U.S. Air Rescue Commission - ICAR Mountain Rescue Program Coordinator; Flight For Life Colorado Alpine Rescue Team
5 Helicopters (AS 350B3 and B3e)

54 mountains above 4,250 metres
Accidents in Mountain Rescue Operations

Includes:
Aviation Accidents
Mother Nature
Human Error
Equipment Failure

www.mra.org
Accident Report

When Rope Meets Rotor

September 9, 2015

Utah Highway Patrol/Salt Lake County SAR
Wasatch Mountains
Utah Helicopter Resources

AirMed
Life Flight
Utah Highway Patrol
AirMed
University of Utah Medical Center

Bell 430
EC 145
AirMed has 3 Long Range Avalanche Receivers
Accident Report

Winter Storm Closes in on AirMed Flight

January 11, 1998

4 killed in crash of rescue helicopter

Utah aircraft carried injured skier; same company operated fatal Littleton flight

By Robert Gehrke
Associated Press

SALT LAKE CITY — Rescuers braving steep terrain and the threat of avalanches late Monday recovered the bodies of four men killed when a medical helicopter crashed during a snowstorm.

"It was an effort, but we've got them all down," said Salt Lake County sheriff's office spokesman Jerry Nishita. "Very lucky they were able to find them."

All four, including the pilot and a flight nurse, were pronounced dead at the scene.

The helicopter crashed while attempting to pick up a skier who had broken a leg in a avalanche. The skier had been able to walk down the mountain and was taken to a hospital in Bear Lake, where he was treated for other injuries.

The skier was airlifted to a hospital in Twin Falls, Idaho, where he died of his injuries.

The helicopter, a Bell 412, was operated by AirMed, a medical transport company based in Twin Falls.

The helicopter went down near the southern end of the Wasatch Range, where avalanches are a constant threat.

The pilot and flight nurse were both experienced in mountain rescue.

The cause of the crash is under investigation by the National Transportation Safety Board.

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NTSB Cause: Human Error
Flight by the pilot into known adverse weather conditions

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LifeFlight
Intermountain Healthcare

2 Agusta A109 K2’s
5 Agusta AW109 SP
Life Flight is equipped with a Long Range Avalanche Receiver
Local SAR teams work closely with AirMed and LifeFlight.
Accident Report

Heavy Fog Closes in on Life Flight During Rescue Operation

January 10, 2003
Life Flight 6 was destroyed when it impacted terrain. The pilot and flight paramedic were fatally injured, and the flight nurse was seriously injured.
Utah Highway Patrol
Department of Public Safety
Utah Highway Patrol has conducted 500 rescues or recoveries in the past five years,
Mount Olympus, Utah

The crewmember spotted the two teens, and threw his medical backpack from the helicopter to the steep terrain below.
In a hot load situation, the crewmember helped the teens on board the AS350-B2.
• The pilot exited to transport the hikers to safety.

• When the pilot returned, Beesley could not be located.

• It took the helicopter crew 45 minutes to find his body beneath a 90-foot cliff.
Kerry Crowley
“60 climbs within 60 miles”
Jacob’s Ladder
Lone Peak
3,350 metres
• Several one-skid operations were performed to drop off rescuers.

• The victim was lowered by rope to a suitable ledge.

• The objective was to perform a one-skid load of the deceased hiker.
The “Plan”
THE ACCIDENT

Video shot by a rescuer above the recovery effort

(NOTE: Rotor is turning on clockwise direction, unlike how it appears in the video)
Click on Image for link to YouTube
https://youtu.be/bgju2U3cK-c
The rope was not cut, but rather caught, and pulled by the blade.

If the rope had made a full rotation, it would have wrapped itself around the main rotor mast and led to disaster.
Video
Frame-by-Frame
Video #2
Frame-by-Frame
The tail boom impacted terrain, causing damage to the tail boom, horizontal stabilizer, and vertical fin.
The pulling of the rope caused significant damage to the StarFlex Assembly.
Starflex Assembly
The pilot reported that the helicopter "began to shake violently."
The pilot regained control, and descended for 5 km. to an emergency landing at a lower altitude.

Upon applying power to land, the helicopter "began to shake violently again until touching down."
Contributing Factors

• Rescuers on operation for 24 hours
• Pilot was not made aware of the ropes
• Temporary loss of tail rotor effectiveness caused ½ clockwise rotation.
• Aircraft was facing downhill and pilot was able to develop forward airspeed.
“My first thought was, ‘I need to crash this helicopter.’”

Pilot Kent Harrison
Closing thought…

…a tribute to those who are the best part of somebody’s worst day.
THANK YOU
Please wake the person next to you!
Photo Credits

AirLife (Utah)
Crowley family
Google Earth
Martha Ellis
KSL-TV

LifeFlight
NTSB
Salt Lake County SAR
Charley Shimanski
Utah Highway Patrol
Weber County SAR