

When Rope Meets Rotor

Utah Highway Patrol/Salt Lake County SAR



CHARLEY SHIMANSKI
Mountain Rescue Program Coordinator; Flight For Life Colorado
Past President; Education Director; Mountain Rescue Association

U.S. Air Rescue Commission ~ ICAR
Mountain Rescue Program Coordinator; *Flight For Life* Colorado
Alpine Rescue Team



Flight For Life
Colorado



5 Helicopters
(AS 350B3 and B3e)

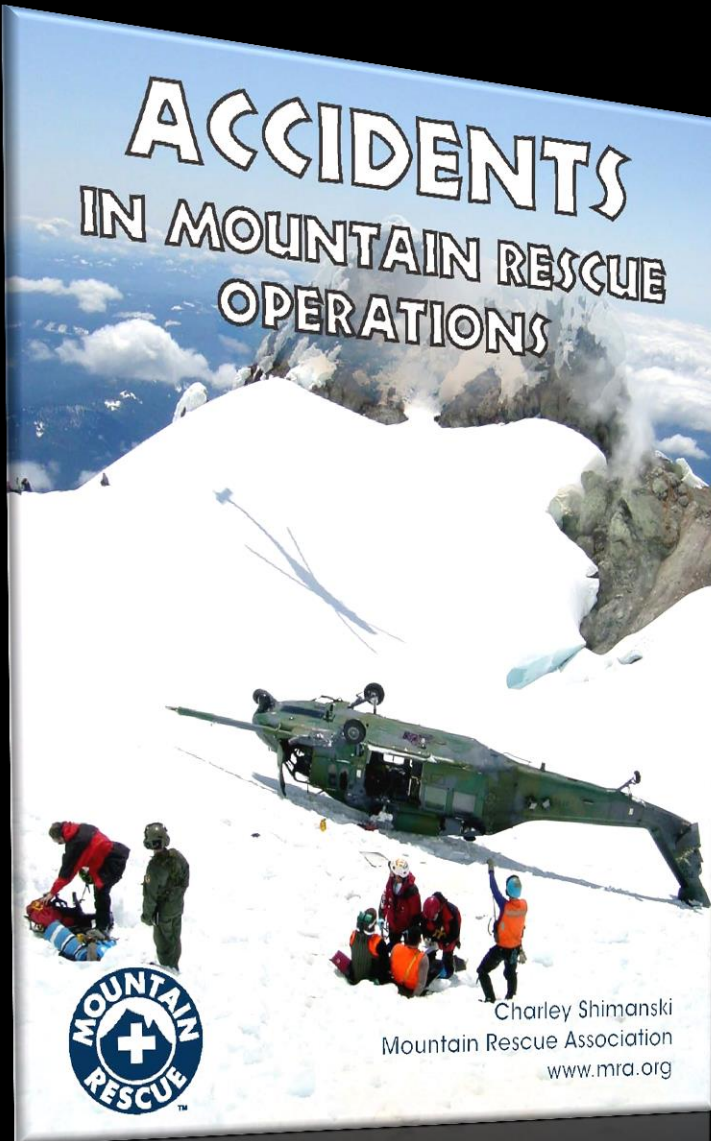
54 mountains above 4,250 metres



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

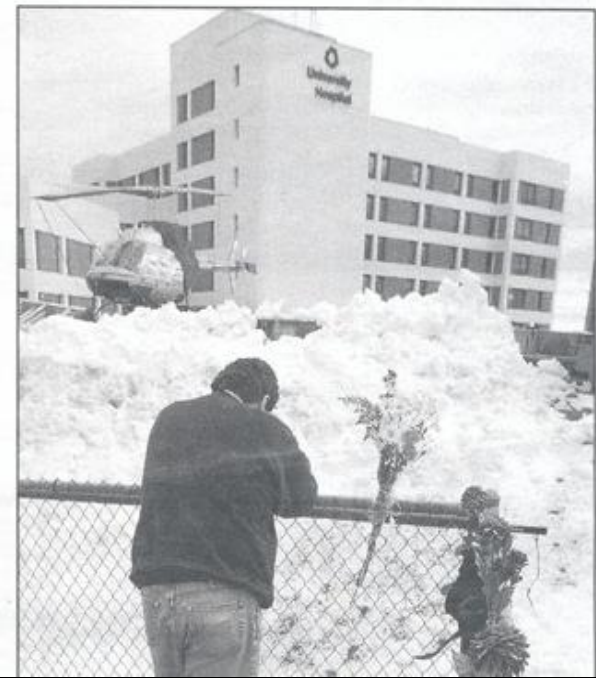
Utah aircraft carried
injured skier; same
company operated
fatal Littleton flight

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



regulator — requires that anti-abortion demonstrators stay at

right of free speech. They lost their constitutional

abortion clinics. Colorado's law requires pro-

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

legislator — requires that anti-abortion demonstrators stay at

right of free speech.

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LifeFlight

Intermountain Healthcare


2 Agusta A109 K2's
5 Agusta AW109 SP



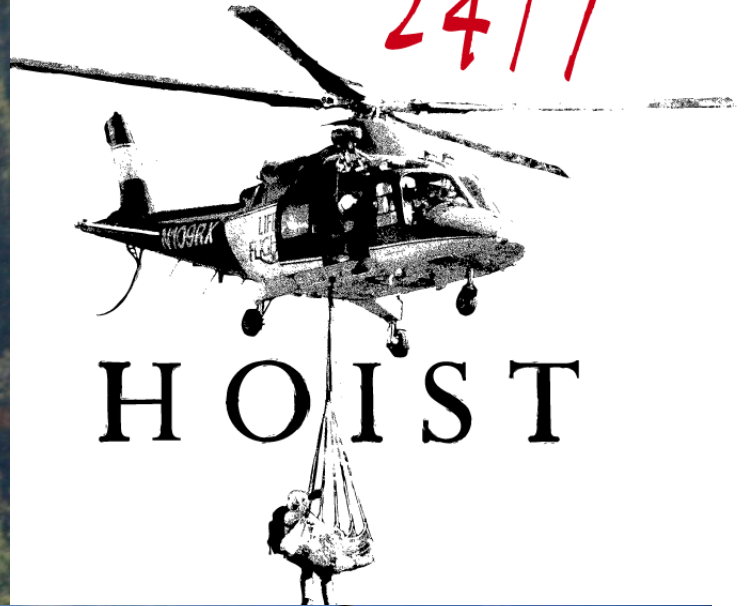
LifeFlight

Intermountain Healthcare



 When Time Counts

24/7



HOIST



LifeFlight is equipped
with a Long Range
Avalanche Receiver



Local SAR teams
work closely with
AirMed and LifeFlight



Accident Report

Heavy Fog Closes in on LifeFlight During Rescue Operation

January 10, 2003



2003 © Martha Ellis



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,



Accident Report Rescuer Falls to His Death

June 30, 2012
Utah Highway Patrol/Unified Police



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.

Accident Report

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September 9, 2015

Utah Highway Patrol/Salt Lake County SAR




Kerry Crowley

“60 climbs within 60 miles”



Jacob's Ladder Lone Peak

3,350 metres

 Lone Peak

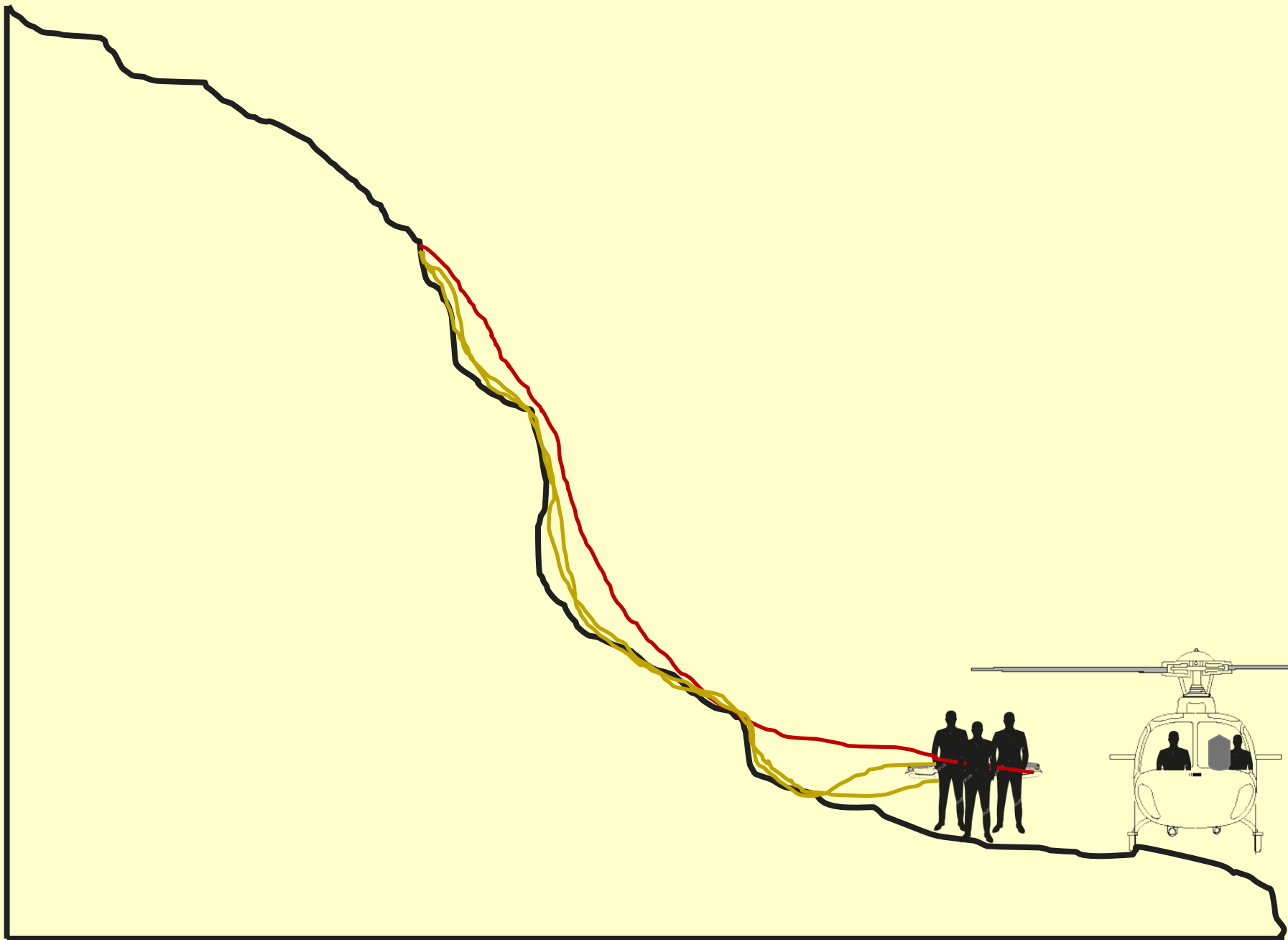


- Several one-skid operations were performed to drop off rescuers.
- The victim was lowered by rope to a suitable ledge.
- The objective was to perform a one-skid load of the deceased hiker.



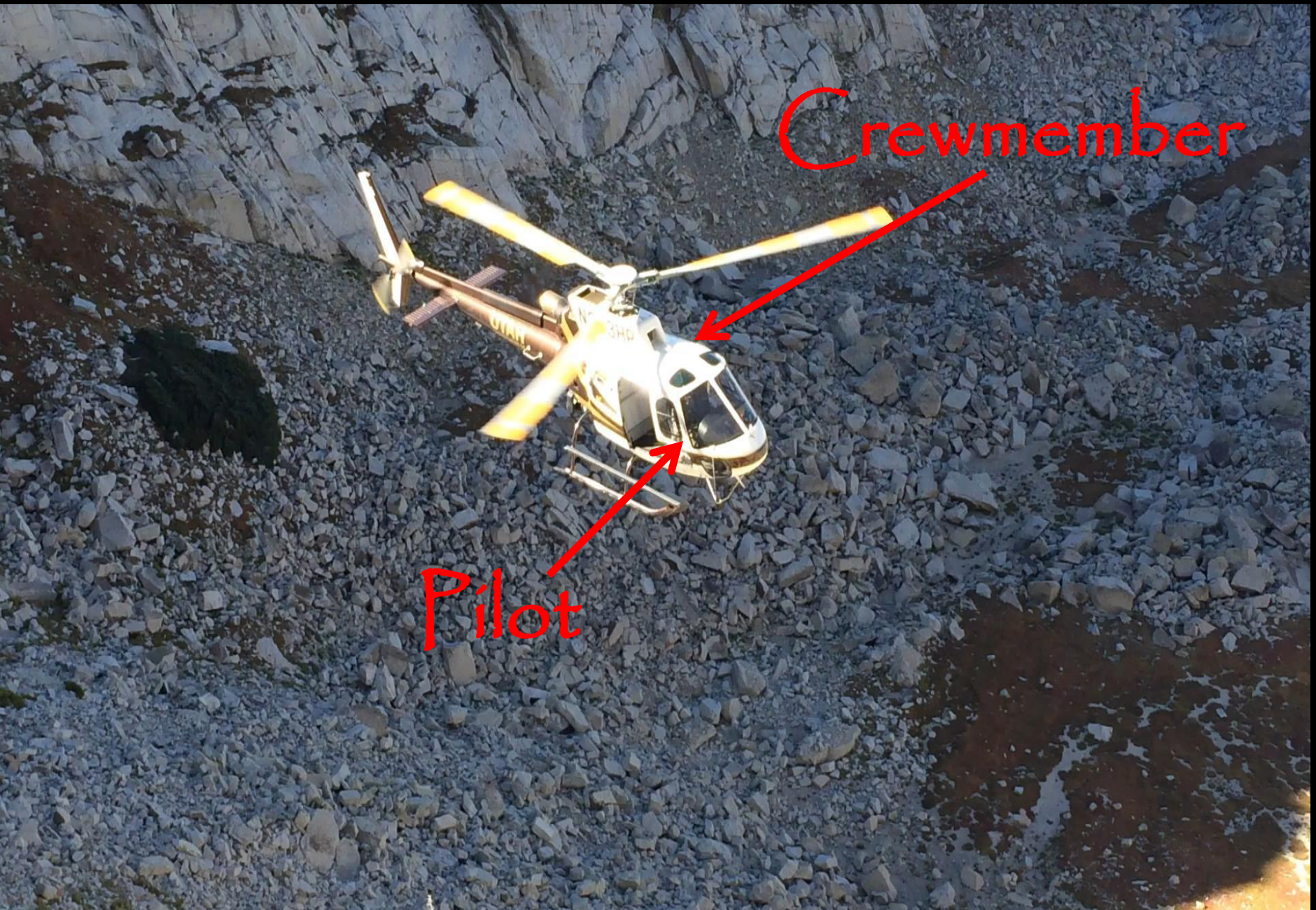






The "Plan"







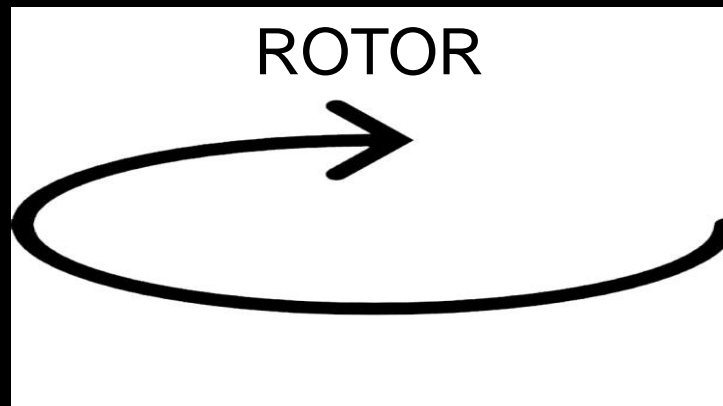
Utah Department of Public Safety

© Utah Department of Public Safety

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)

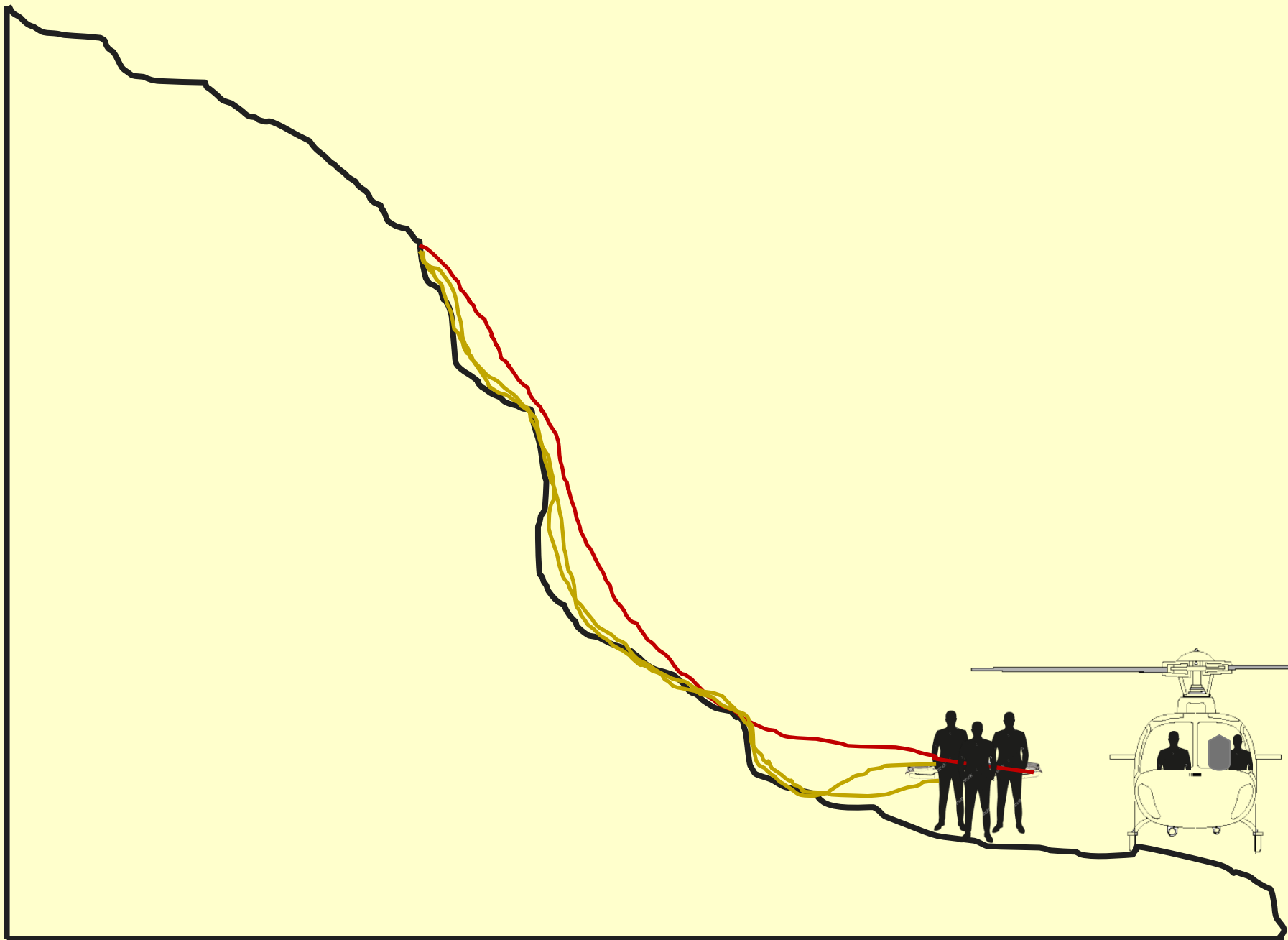


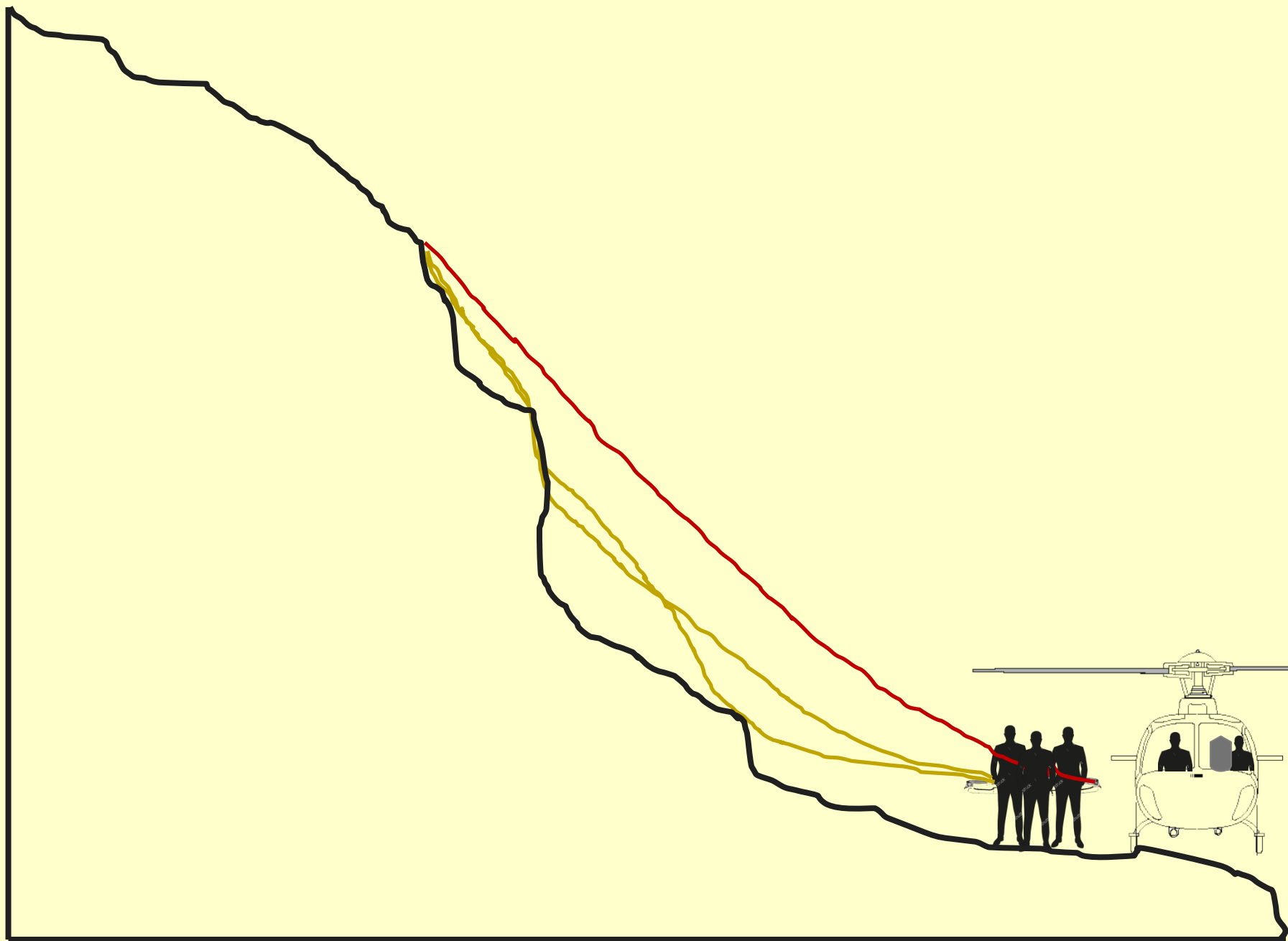


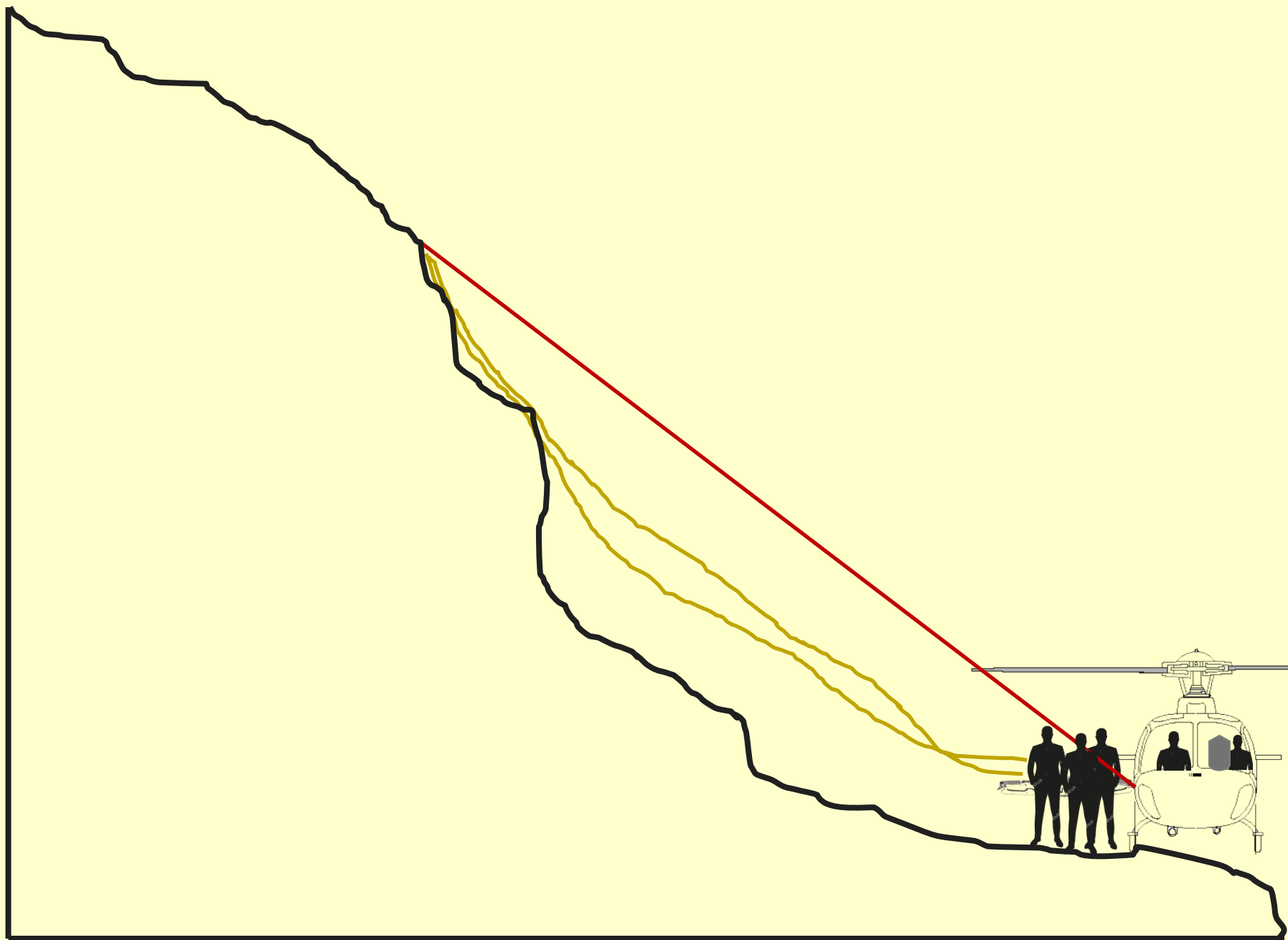
Click on Image for link to YouTube
<https://youtu.be/bgju2U3cK-c>

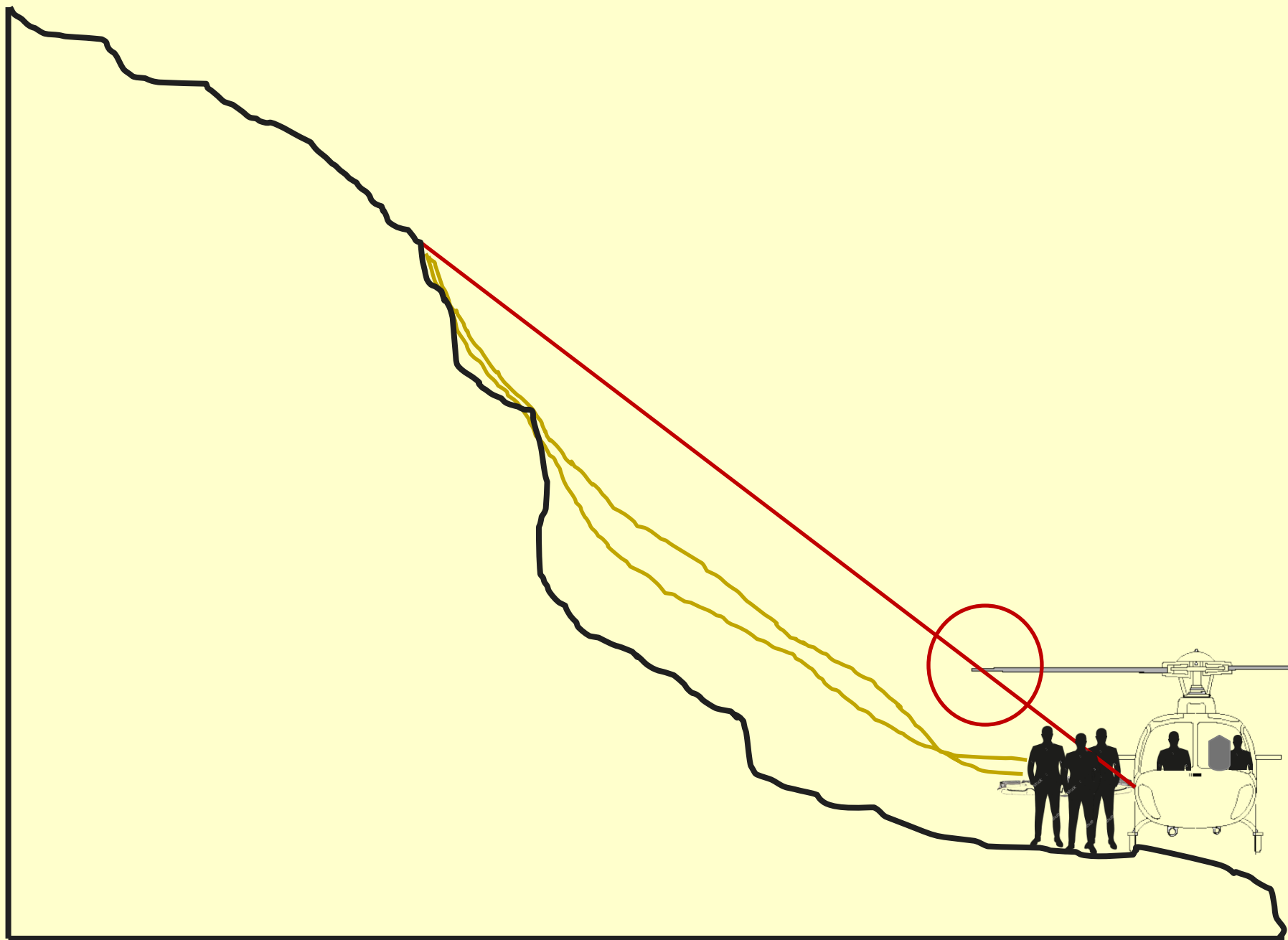
The rope was not cut, but rather caught, and pulled by the blade.

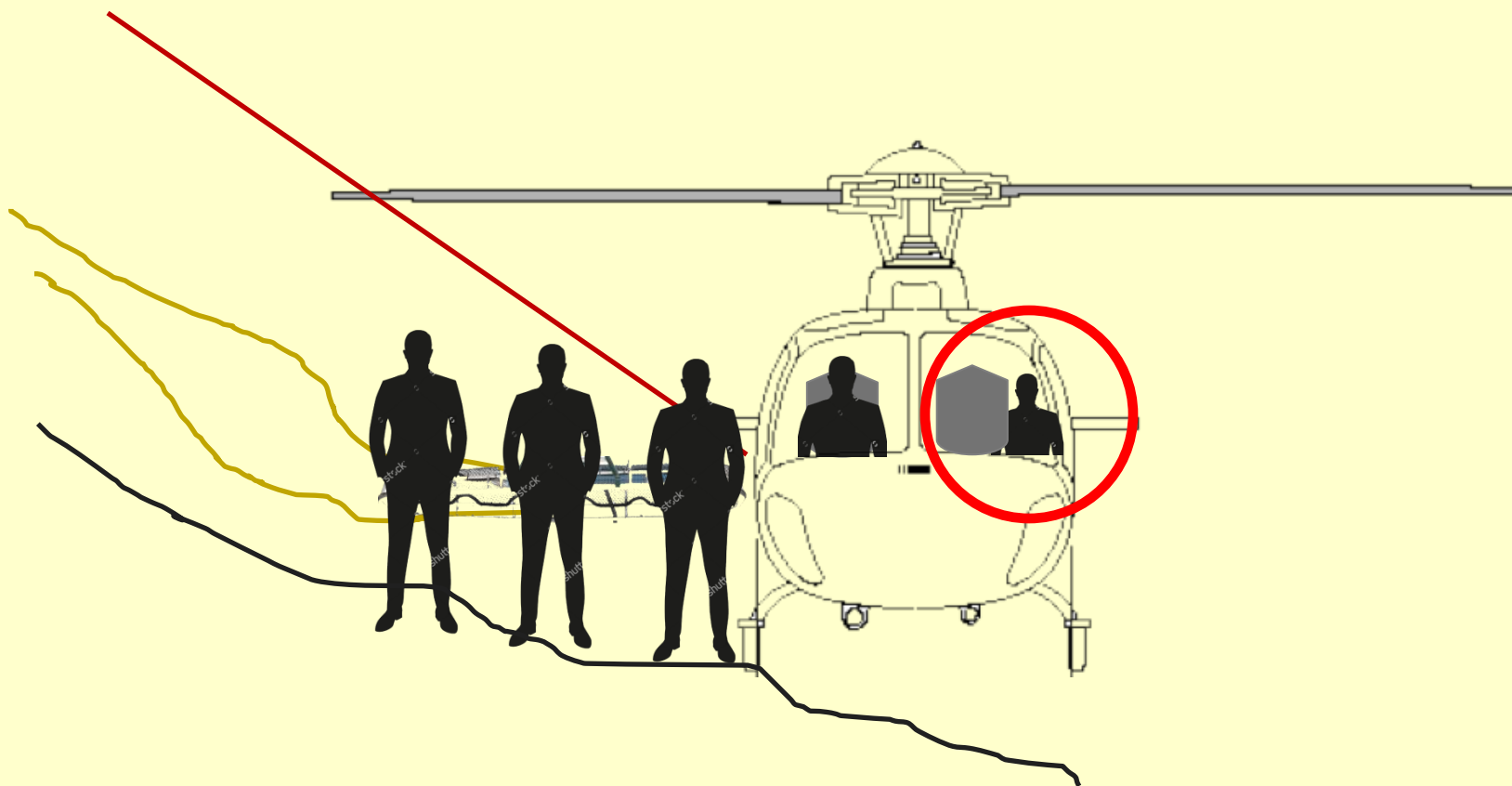
If the rope had made a full rotation, it
would have wrapped itself around the
main rotor mast and led to disaster.











Video Frame-by-Frame





















































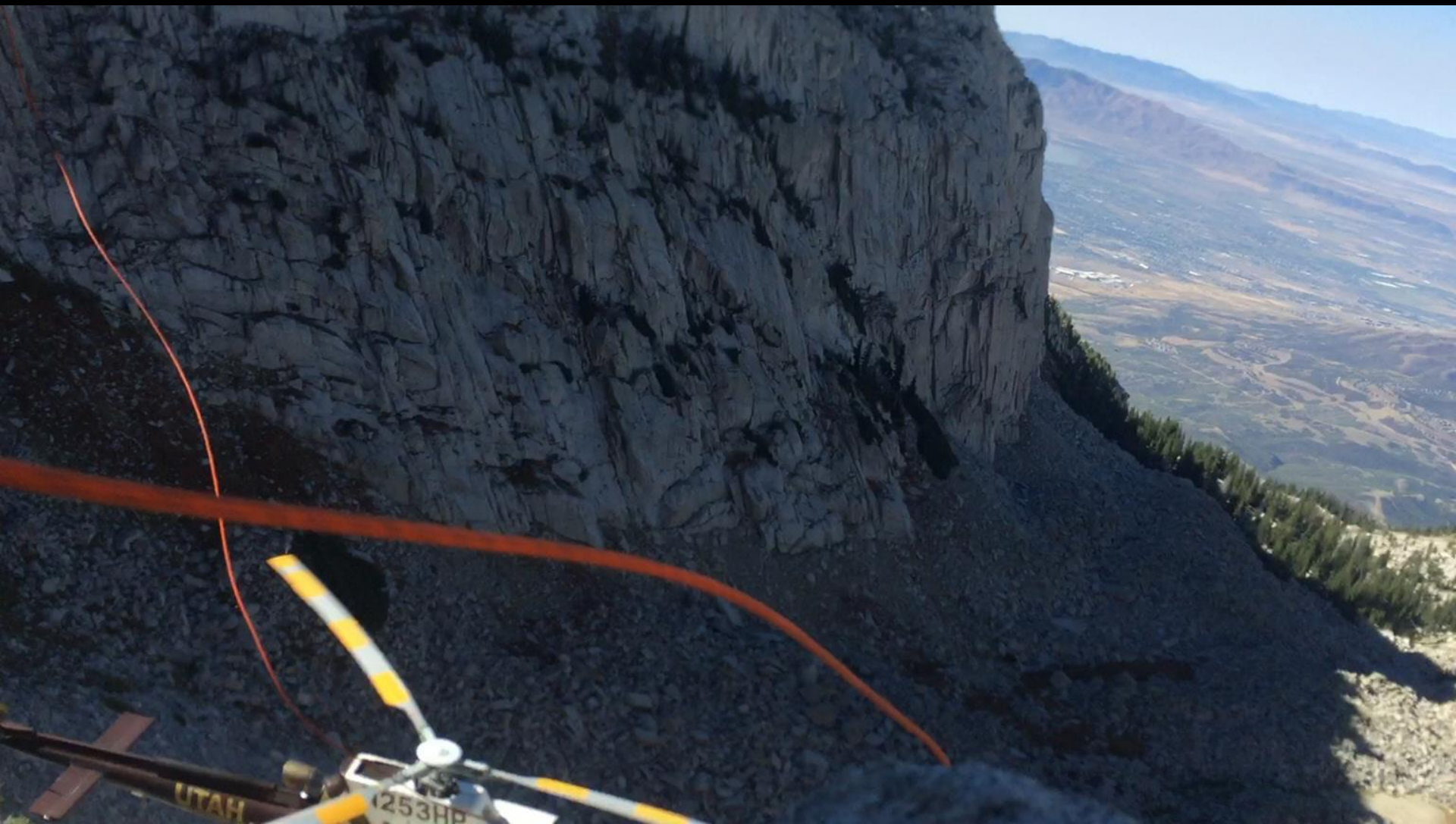




















Video #2

Frame-by-Frame



































Utah Department of Public Safety

Utah Department of Public Safety





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.”

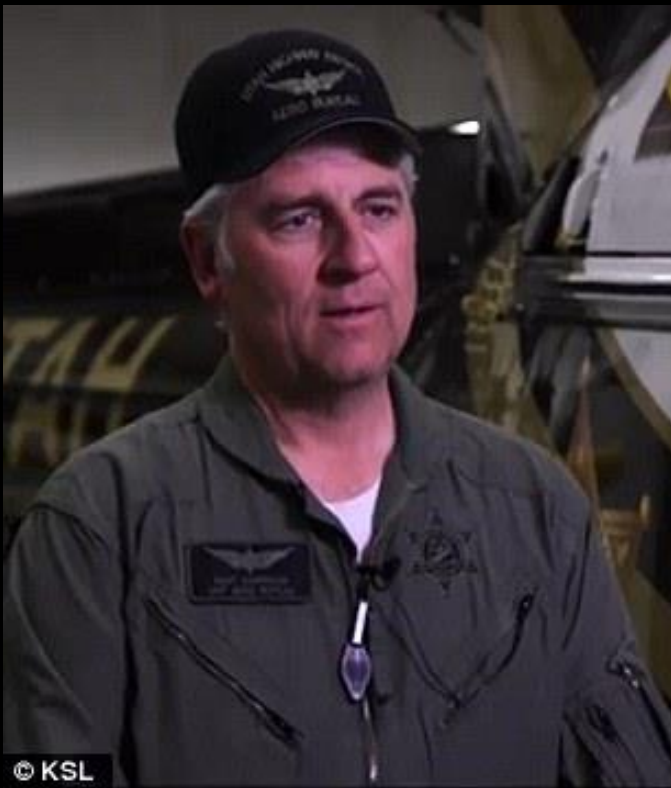
The pilot regained control, and
descended for 5 km.

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