RECORD OF CONVERSATION

Michael Huhn
Air Safety Investigator
Western Pacific Region

Dates: February 16 & 17, 2012
Person Contacted: Mr. Kenneth Johnson (Helicopter Pilot)
NTSB Accident Number: WPR12GA106

Narrative:

The following is a synopsis of the information provided by Mr. Johnson in two separate telephone conversations, one on each of the listed dates. FAA inspector Tom Weisner was a participant in the conversation on February 17.

February 16, 2012 Conversation (NTSB only)

- Mr. Kenneth Johnson was still in the hospital [St Johns Hospital in Jackson, WY] in the ICU at the time of this interview
- He had a TT of about 22,000 hours, with approximately 4,500 TiT
- He was the pilot of the helicopter N407HL on the accident flight
- About lunchtime on February 15, he was notified that a snowmobiler had an accident and was unresponsive; he was assigned to fly the SAR mission for that snowmobiler
- The intended flight destination was the "V-Trail" in or near Togwotee Mountain
- The departure point was the Teton County Sheriff /SAR building in Jackson
- Two SAR volunteers were on board
- Ray Shriver was seated in the front left seat, and Mike Moyer was seated in the rear (side uncertain)
- The pilot was in the front right seat, and the only operable flight controls were in that position
- The flight departed with about 500 lbs of fuel
- The flight was provided with approximate GPS coordinates for the snowmobile accident but was unable to locate the site
- The pilot recalled that the weather in that locale was a high overcast and light winds
- Flight planning forecast an expected high temperature of 13 degrees F in the snowmobile accident area
- They spotted two snowmobilers in a meadow signaling the helicopter
- The helicopter landed in the meadow

- The SAR crewmember in the front left seat exited the helicopter to speak with the snowmobilers
    - They agreed to lead the helicopter on their snowmobiles to the accident site
    - The SAR member re-boarded the helicopter
- The helicopter then lifted off to follow the snowmobiles
- He flew low along the ridge line as he followed the snowmobiles
- The helicopter was faster than the snowmobiles, and he stopped two or three times in a hover to allow the snowmobiles to catch up
- On either the second or third hover, the pilot experienced a slight left yaw
    - He believed the helicopter to be 100 to 200 feet above the trees at that time
    - He applied pedal and lowered the collective to attempt to "fly out of it" and re-stabilize the helicopter
- The aircraft then started "spinning rapidly"
    - He thought it was nose-left, but could not be certain
    - He wasn't sure if it was a mechanical failure or LTE
    - He said the spin onset and spin was rapid
- The helicopter descended towards the trees, and the pilot was unable to control the spin
- He "pulled collective" just as the helicopter descended into the treetops
- He presumed that he was knocked unconscious because he did not recall the impact sequence or the immediate aftermath
- The first post-accident event he recalled was that he was alone in the helicopter; the other two persons were outside
- He recalled that the helicopter was lying nearly inverted, on its left side
    - He believed that Mr. Moyer had pulled Mr. Shriver out over the top of him
- Mike Moyer helped the pilot extricate himself from the helicopter
- Mr. Shriver was seriously injured, and Mr. Moyer's leg was injured, so the pilot "post-holed" through the deep snow about 150 yards up a hill to obtain radio coverage in order to call for assistance
- Help arrived at some point thereafter

<u>February 17, 2012 Conversation</u> (NTSB and FAA)

- Mr. Johnson had been released from the hospital the night before, and was at his home at the time of this interview
- He categorized the mission as "simple and straightforward" and similar to many he had accomplished previously
- His flight planning (with 500 pounds of fuel) allowed for a 1,400 pound payload
- Expected temperature at the site was 12 to 14 degs F
- They had a lat/long for the accident site; it was supposedly on the "V-trail"
- The flew to the lat/long, but couldn't find the snowmobile accident party
- He began a "grid search" and soon located two snowmobilers in a meadow signaling him
- They landed, Mr. Shriver spoke w/ the snowmobilers, and the agreement was made that the helicopter would follow them
- He followed them up a "gentle ridge"

- The second or third time he stopped in a hover to allow the snowmobiles to catch up, he felt a small amount of left yaw
- The helicopter was in the upper third of the "MGT"
- The pilot thought that the initial yaw was a result of a tailwind
- He increased and then decreased the collective and the helicopter began to spin
    - He believed it went nose left, but was not certain
- He could not control the aircraft; he re-stated that he had "absolutely no control of the aircraft"
- He did not roll off the throttle; his aim was to avoid a rapid descent/severe impact due to height above the ground
- He did not recall whether he pulled the collective during the descent; he thinks he would have, but wasn't certain
- The Bell 407 is supposedly factory equipped on delivery with the "high altitude tail rotor kit"
- The pilot never had an unintended LTE event before
    - He was not certain if this was one
    - His experience with LTE or near-LTE was that it was nowhere near as violent or sudden as what he experienced on this flight
- He said that the SAR supervisor Tim Ciocarlen heard from a snowmobiler that the tail rotor had stopped
- He thought that the aircraft went into the trees in a slightly nose up attitude
- When he came to, Mr. Shriver was already out of the helicopter
- Then Mr. Moyer helped him out of the aircraft

<u>Mr. Johnson's responses to FAA and NTSB questions</u>

- He believed the initial yaw was nose left
- He reduced the collective at the onset to allow more "power" to be provided to the MR and TR
- He did not recall hearing any unusual noises prior to the spin
- The minor yaw wasn't immediately subsequent to hover entry
- The "hard spin began almost instantaneously" after the left yaw
- It was "violent, very violent"
- The helicopter was equipped with single controls (collective and cyclic), and the left side pedals were disconnected from the system and "locked out"
- There was "no chance for any snags" of the controls by the left-seater
- He thought the pedals went "total flop" which he explained as them having no resistance
- He was the chief pilot for Hillsboro Aviation
- He had a portable Garmin 296 operating for the flight, as well as a panel-mounted 530
- He did not see or hear any annunciations of problems prior to the spin
- The V-trail runs along a drainage valley, approximately NW to SE
- The helicopter was flying above the gentle/sloping hills that form the west side of the drainage valley, headed roughly N to S
- Grouse Mountain was to the east of the helicopter accident site
- He did not recall his altimeter indication during the hover or just before

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Dates: July 8, 2014
Person Contacted: Mr. Kenneth Johnson (Helicopter Pilot)
NTSB Accident Number: WPR12GA106

Narrative:

The following is a synopsis of the information provided by Mr. Johnson in a telephone conversation on this date. The conversation was in response to NTSB questions concerning the helicopter weight and balance for the accident flight, due to the fact that the data had never been provided to or obtained by the NTSB.

- Mr. Johnson reported that he was now employed flying helicopters for the State of Washington
- He did not have any copies of the flight weight and balance (W&B) data
- For the Teton SAR operations, the helicopter W&B information was posted/retained in the SAR hangar in Jackson
- He recalled that the flight "load count" was planned for 10,000 feet msl, and that they departed Jackson at about half their payload weight capability
- He did not recall the fuel load, but recalled that they did not depart Jackson with full fuel
- He estimated the following items and weights
    - Pilot (right seat) – 185 lbs
    - Ray/SAR (left seat) – 175 lbs
    - Mike/SAR (forward-facing rear seat) – 170 lbs
    - Medical bag – 20-25 lbs
    - Litter – 7 lbs
    - Skid (inflatable rescue litter/sled) – 35 lbs
    - Survival kit – no estimate
    - Helicopter paperwork – no estimate
- He estimated that they flew about 45 – 50 minutes prior to the accident, and recalled that the helicopter burned about 40 gallons/hr
- Regarding the event, he recalled that shortly after the helicopter had come to a hover, the nose yawed left, but he was able to quickly recover that

- During that correction, he did not approach "any limits" with the helicopter control system, and the right anti-torque pedal did not contact the stop
- Almost immediately after that, the helicopter "went right hard" [began spinning to the right] which he described as "like the tail rotor fell off."
- He was unable to correct that yaw/rotation
- He used collective and power changes to attempt to reduce the ensuing descent
- When asked what he thought might have caused the loss of control and accident he provided the following
    - He had thought about it many times, and was hopeful that the investigation would discover some mechanical or aerodynamic problem with the helicopter
    - A colleague of his suggested that the apparent loss of tail rotor effectiveness could have been due to a malfunction of the "tail rotor limiter," which reportedly is only supposed to engage at airspeeds above 50 knots and limits the maximum tail rotor blade pitch angles, and thus tail rotor thrust and loads
    - He had seen photographs of the tail rotor blades and noticed the two blades had different damage patterns. He wondered if one blade had possibly delaminated or partially failed in flight