



RECORD OF CONVERSATION

Timothy W. Monville
Sr. Air Safety Investigator
Eastern Region

Date: May 19, 2021
Person Contacted: FAA Inspector Jerry Toms
NTSB Accident Number: ERA21LA040

Narrative:

FAA inspector Jerry Toms was contacted by phone on November 9, 2020, at 1359 EST and left a voice mail message. He was called at [REDACTED] He was called again on November 10, 2020, at 0941 EST, and left a voice mail message. He returned the call the same day from the same phone number, but the time was not recorded.

He indicated that the helicopter was purchased in 1971 as a 206A, but it received upgrades to become a "B" model. That modification installed an Allison 250-C20 turbo-jet engine. The records which documented details of the conversion process indicate the instructions were carefully followed.

He provided details about the flight indicating that the flight departed 3NC2 for a planned 1.5 hours flight with the pilot-in-command (PIC) and a NC Highway Patrol trooper who was working towards becoming a PIC. After the original departure with full fuel (76 gallons) he flew to Smithfield where he performed 3 instrument approaches. The flight returned to 3NC2 and the pilot executed 1 approach and encountered settling with power. He recovered and performed a 2nd approach and felt uneasy. The flight crossed E. Tryon Road and the passenger was offloaded. He departed and returned to approach from the southwest which was the same direction as the 1st and 2nd approaches. He approached 75-foot-tall trees that were about 1/2 mile from the landing pad. While descending, a portion of the helicopter hit the top of a tree. Based on physical evidence, one main rotor blade flexed down contacting the tailboom, separating the tail rotor drive shaft and partially separating the tailboom at that station. The tailrotor drive shaft separation unloaded the drive shaft load, which the pilot sensed as the sudden increase in main rotor rpm; which he said he believed that engine surge might have saved him. The engine surged which momentarily stopped the descent, then the helicopter began to yaw to the right. He entered an autorotation. He indicated that no video captured the accident and there was nothing mechanically wrong with the helicopter. The tail rotor blades showed minimal damage, and the

skids were broken. The pilot's seat cushion and seatpan showed very slight compression. He asked the pilot about settling with power and loss of tail rotor effectiveness and the pilot indicated that he did not know what settling with power was.

Inspector Toms indicated that the Highway Patrol had experienced budget issues. Their mechanic at the time of this event and the FAA inspection process had been deployed for the National Guard. The helicopter sat for more than 1 year. The Highway Patrol hired a local mechanic to do contract maintenance.

The FAA team showed up at the hangar on November 9th.

He asked the pilot what occurred and he reported he was uncomfortable with two persons in the aircraft while initiating the approach to landing at their heliport (3NC) and dropped off the second pilot across the road where the State Police have another facility. Then he returned to make the approach into the heliport as the sole occupant with about half fuel load remaining. This was their main heliport facility and suitable for a standard normal approach path to the Pad. He reported that when just below translational lift, the helicopter experienced a rate of descent about 1,500 ft-per-minute, and then the tail rotor contacted the tree. The helicopter crashed onto the road and came to rest upright.

Postaccident examination of the helicopter revealed main rotor blade contact with the tailboom and tail rotor drive shaft at a downward angle. Because the main rotor mast was separated, he could not do a rigging check, but he did a rigging check of the tail rotor drive shafts and control tubes were checked and both were OK.

There were 3 different approaches to the hangar, from the southwest, southeast and northeast. The northwest was blocked by buildings and a radio tower and the west was blocked by trees. The wind was variable from 090° to 120° and the pilot set up for an approach from the southwest, which required less maneuvering and put the wind to the right. The other option the pilot had was to land on the south pad, but that day there was an outreach event at the hangar at the south pad.

He indicated that after the accident the helicopter was placed on a dolly and recovered to the Highway Patrol's hangar. The helicopter was defueled on November 9th; there was no fuel contaminants. He indicated that the pilot reported the accident to the FAA Flight Standards District Office and indicated that the helicopter encountered vortex ring state and settling with power. There was no loss of engine power.

He was asked about the latitude and longitude of where the helicopter came to rest and he advised he would get that.

Inspector Toms contacted NTSB on November 13, 2020, at 1304 EST. The phone number was not recorded. He indicated that he has been provided copies of the pilot's training records and there were 2 entries related to settling with power. He did not see any training for Vortex Ring State. He indicated that Mr. Marvin Horn was an instructor with the NC Highway Patrol, but after he left, training was done by Keith Herring, Richard Collie, or Michael Tribula. Most of the

training was conducted in the Bell 407 helicopter. And about 80% of all recent training involved instrument work. Further review of the training records documented the PIC would fly cross country to Johnston County Airport, fly some instrument approaches at the airport, then fly back to the State Police Heliport. It indicated most of this flying was in the newer larger aircraft, not this 206.

The digest was e-mailed to him for review on May 19, 2021. He replied on May 20, 2021, at 1615 EDT with comments that were incorporated into the narrative. The corrected digest was e-mailed to him on May 21, 2021. He replied with comments on May 24, 2021 at 0814 EDT. The corrected digest was e-mailed to him on June 14, 2021. He replied on June 15, 2021 at 0754 EDT. The corrected digest was e-mailed to him on June 15, 2021, at 1749 EDT. He replied the same day at 1830 EDT with, "Tim, I read this report and believe it is accurate and contains statements from me and references to statements of the PIC. The photo depicts the tail rotor drive shaft impact damage and the pilots statement of the surge of power and increased main rotor rpm are consistent with the loss of torque of the tail rotor drive. The increased lift and PIC statement that he thought that surge saved him is consistent with the increased rpm and reduced rate of descent and the lessened impact damage on the belly landing gear attach points, the seat structure and cushion. I believe this accurately presents the physical findings, the PIC statements of the sequence and sensations of the sequence and the damage.

Sincerely,
Jerry L Toms"