Record of Conversation

Eliott Simpson
Aviation Accident Investigator
Western Pacific Region

Interview Date: February 21, 2022
Person Contacted: Ronald J Garwood
NTSB Accident Number: WPR22FA101

Attendees:

Eliott Simpson, Investigator in charge, NTSB
Van McKenny, AS40 Helicopter specialist, NTSB
Joan Gregoire, Chief Air Safety Investigator, MD Helicopters
Jack Johnson, Sr Air Safety Investigator, Rolls-Royce
Ben Harris, Aviation Safety Inspector, FAA
Bijan Darvish - Legal Representative for Mr. Garwood

Narrative:

The following is a summary of conversation with Officer Garwood, who was the pilot in command of the helicopter. The interview commenced at 1317.

Officer Garwood provided a summary of his experience.

He was hired by Huntington Beach Police Department (HBPD) in May 2005. He has been a police officer for about 25 years, with prior employment at the Westminster Police Department from about November 1995.

He came to HBPD to be a helicopter pilot. He started out as a part time TFO (Tactical Flight Officer) and was picked to be a full-time member in 2008/2009 as a TFO, and then went to flight school. He did his commercial training in-house and received a commercial rating. He annually attends MD training either at the MD facility or sometimes MD comes to HBPD with their (MD's) aircraft. For the training, MD send their factory pilots and he did transition training with Jerry Trochetta.

Officer Garwood left the air support unit for a period and flew for the Orange County Sheriff's Department as a professional services responder (PSR), where he flew the Airbus Helicopters A-Star. He returned to the HBPD Air Support unit about 2 years ago. During the time he was not flying for HBPD he still completed the MD training annually, at his own expense. He has about 3,700 hours PIC in the MD500N, half that time is at night. He has about 150-200 hours of flight experience using night vision

goggles (NVG's). He typically flies about 12-20 hours a month as PIC, with a duty schedule of 3 days on, and 3 days off.

Officer Garwood was asked to describe his activities during the day of the accident. He was to be pilot for the day, with Nick Vella the TFO. He stated that their start time was 1500, and that department policy is that the first shift of the day has 45 minutes to preflight and have the aircraft ready to respond to calls. They typically also show up 10-15 mins early for the shift.

They performed the preflight, with no anomalies noted, and the helicopter was out on the pad and ready by 1510. He was asked if the aircraft was fueled prior to takeoff. Officer Garwood said the helicopter is topped off at the end of each flight, and he had visually checked that the fuel level during preflight, which was full. He stated that there were no aircraft issues identified during the preflight.

He then ate some food, changed into his flight suit, checked emails, studied some material to prepare for his upcoming instrument check ride. He also performed a tour of a helicopter in the hangar for an employee's family.

The plan was for a 1 hour of flight, followed by a landing at the Newport Beach PD about 1845 to debrief some burglary video footage from a prior flight. They took off a little before 1800. They flew over Huntington Beach, then over Costa Mesa for 15 minutes, and was over the Newport Beach area about 5 min when they then received a radio call to respond to a fight that was taking place in Newport Beach, specifically Balboa Blvd and 22nd St.

They were already in the area, and Officer Vella turned the FLIR camera to Balboa Blvd but didn't see an active street fight. Officer Garwood by this time had entered the helicopter into a right-hand orbit, and the Officer Vella observed someone ducking out into an alleyway and identified this individual as one of the subjects of the call.

Police cars appeared to be enroute to the scene, when the fight began to escalate, with about 10 people now fighting. Officer Garwood glanced down at the monitor while maneuvering the helicopter, to help Officer Vella stay on target. Officer Vella called a code 3 (lights & sirens) to respond to the fight. It looked like someone got knocked out and was not moving. He performed another orbit and saw the police arriving, and informed Officer Vella. The police got out of the car and were both female officers. The fighting group then split up, and it appeared that one of the parties was about to start fighting with one of the officers.

He watched the officers start to get into a fight, and he slowed the helicopter in the turn, such that they were now flying about 50-60 kts. They continued to slow down to keep the camera on the scene longer, before they lost sight of the event behind a building on the backside of the orbit.

He estimated that they were flying about 500-600 agl, which is standard practice, and he was in communication with John Wayne tower and using its current altimeter setting.

Suddenly, the helicopter swung "hard right" and, "does a spin on me and starts to go, just like that." The yaw occurred while travelling at a speed of about 50 kts. He jammed the left pedal fully forward and applied forward cyclic to try and arrest the rotation, but it did not respond. The rate of spin had accelerated by this point. He then pushed the right pedal (not full right pedal as was done with the left pedal) to see if the pedals had malfunctioned. The rate of spin had accelerated, and he hit the left pedal

again, holding it down and tried to nose the helicopter over using forward cyclic. He did not recall changing power settings.

They were at 500 ft and didn't have much available altitude as they were descending. The helicopter did not appear to respond to any left foot pedal inputs, does not remember the pedals "giving anything back". When asked if he recalled if he had pushed the left pedal to its stop, he stated that he felt like he pushed it "through the glass." He was putting in left (pedal) and was trying to get it nosed over, and said the sensation felt like a settling with power recovery, but the aircraft felt as if it was traveling laterally with airspeed.

They were now descending rapidly. As the spin worsened, he started "dancing on the pedals" to counter the motion.

Officer Vella stated, "you good buddy, you got this?", to which he said, "I think so." He was trying to keep the aircraft level, but he knew they were descending rapidly. They were still in the yaw, and the factory training wasn't working, and the helicopter was not responding to pedals inputs.

He stated that the engine was running, "perfectly" throughout, and his goal was to follow training by continuing to fly the helicopter while the engine was still operating, rather than reducing power and performing an autorotation to a heavily populated area including homes and restaurants.

They were now aggressively turning to the right and descending, he tried to slow the descent down by manipulating the throttle to control the nose direction. Officer Garwood described it as something that would be done before hitting the ground when the right pedal was stuck. "At this point, I was trying every trick in the book." Because he was adjusting power and collective, horns and alarms started going off.

The throttle manipulation did provide a little bit of response, and started to slow the rate, so he pushed cyclic forward and left, to try and counter the right spin. There was no horizon, it was dark, and he could only see the city lights, by now he knew they were getting close to the ground or water. He had no visual reference points to judge the impact, but sensed they were getting close to the ground/water, and he started pulling up on the collective to bleed off some airspeed. He remembers see lights from houses prior to pulling the collective. They hit the water hard in a downward right rotation, on Officer Vella's side.

He then recalled a sudden smash and saw water and glass coming at him. The canopy shattered, and he put his head down. He felt the rotor blades hitting the water, and everything then stopped, and within 1-2 seconds he was upside down and submerged. They fly with a full tactical vest, an inflatable "horse collar", Submersible Systems "Spare Air" tank, gun, radio, magazines, and handcuffs, all carried on their chest. When they hit, he kept his hands on the cyclic and collective, and continued to hold on to the collective as a reference point.

He waited for the helicopter to stop moving, grabbed the spare air mouthpiece, cleared it, and started to breath. Holding the collective with one hand he reached down and released his seat harness. His eyes were closed, and he was able to move by feel. He did not recall opening the door, and as he egressed, he pushed himself away with the collective. He didn't sense anything from Officer Vella, but under the conditions, didn't expect that he would.

He exited the helicopter and was upside down. He tried to relax and remained motionless waiting for himself to rise. He realized he was still attached by the helmet cord, so he disconnected it and started to slowly ascend with his hand up over his head. He attributed his experience as a SCUBA instructor as very beneficial in his ability to orient himself in the dark water. He reached the surface and could see the tail boom. He yelled for Officer Vella. Everything was silent and he could see the flashing tail beacon. He saw bubbles and thought it was Officer Vella but didn't see him surface. People start showing up. He did not inflate his vest, and although his training stated never to return to the helicopter, he wanted to go back down to help Officer Vella. However, people by now had arrived, and were trying to pull him out of the water onto boats.

He continued to try to get back to the helicopter, and he told everyone to leave him, and get to Officer Vella. He took off some of his equipment, put it in the boat and swam towards the helicopter.

He was asked how long the spare air lasted, and stated that although the manufacturer advertises 3-5 minutes, he suscepts less because he was breathing hard. He did not run out of air during the accident, and he threw the unit to one of the rescuers who was a lifeguard, for his use.

He inspects his spare air equipment every few months and was in no doubt that the spare air system saved his life. He would not have had enough time to egress without the extra air.

They have an air tank in the hangar and fill the spare air bottles themselves. He has had dunker training with the department, several years before, and felt it was invaluable. The unit does dunker training when it is available. Officer Vella had been through dunker training, along with all other members of the unit. He didn't know the recency of Officer Vella's dunker training.

Officer Garwood was asked to describe the pedal feel in more detail. He stated that the helicopter was not responding to the control inputs he was applying. He remembered pushing the left pedal, but it only seemed to spin it faster. He stated that the pedals were not jammed, and there was no mechanical impingement and, he didn't feel anything structurally wrong. He said it felt like loose pedals with only spring force resistance, rather than the typical feedback. He reiterated that the pedal input was not producing a response, and that under normal conditions, he rarely has to apply full left pedal. He equated it to the feeling of pressing on that brake pedal of a car and it keeps going without stopping.

He compared the NOTAR system to flying a large Coup de Ville Cadillac, you can drive down the road and move the steering wheel side to side and you're still driving straight, maybe with a little shimmy. The NOTAR takes much more input to get a response. He has 3,500 plus hours in the NOTAR and knows what it takes to get a response. The helicopter has more control authority in the yaw axis while in a left turn so full application of left pedal will not go unnoticed. However, orbits are performed to the right because of the seating location of the TFO.

With regard to weather, Officer Garwood recalled a previous issue they had with the windsock at their heliport that wasn't lit. This night he noticed that it was lit, so he specifically noted that the windsock indicated it was "blowing pretty good" about 5-6 knots direction at about 210-220 °. He took a photo of it to send to the technician who repaired to the light. He expected some weather to come in later in the evening based on the windsock direction. When he was in contact with John Wayne Airport, flying from Costa Mesa to Newport, the ATIS indicated wind out of 210 at 5 knots. They were flying out towards the water at 800 feet, airspeed 74 kts, and factored they were encountering an 8-10 knots tailwind. Power was at only 52%, with the wind pushing them along at such a rate that they could maintain a good

airspeed with low engine power. They both specifically commented on how well the helicopter was performing under those conditions.

Officer Garwood stated that because of the wind observation, he knew there was air movement around the helicopter, so he assessed that the event could not have been initiated by “setting with power”. He's had experienced settling with power before, and this was not like it. The yaw was to the right, and it took all his effort to keep the helicopter level.

He had been at MD training 3 weeks before, where he had practiced stuck pedals maneuvers in the MD530, so it didn’t have the NOTAR drag, but generally the aircraft flew the same, and the recovery is the same.

Officer Garwood confirmed that the only time he got warning lights on the instrument panel was when he was manipulating the throttle during the descent. Officer Vella was the one who transmitted that they were having mechanical problems. He transmitted that early on, right when they started to encounter the yaw. The event happened while they were in the orbit pattern. When asked if he had any similar experiences like this one where there was no response using the pedals, he said no, the only thing similar was during the factory emergency training. When asked if he kept the left pedal applied for an extended period of time, he said, “Ya, I would imagine, as that is the procedure, left pedal and get it over.” But he could not recall the duration of the left pedal application. He reiterated that the helicopter was flying beautifully, and that the track and balance was good.

Officer Garwood was asked when he last trained for stuck pedal situations. He replied that it was the year before in a NOTAR equipped helicopter. The first week in February he was at the factory in Arizona and did the 530F differences training, which includes all the same emergency procedures including stuck pedals right & left, in forward level flight and in ground effect hover, never in a right-hand orbit much like a call that they work.

He was asked if he had ever experienced uncommanded right yaw that he could not catch with left pedal and answered no, he had never experienced a right yaw as aggressive as this.

During Bambi bucket training aircraft is at max performance, max weight, engines at 98%, and he had never experienced anything like this, ever. SWAT training with guys in Tyler seats, no wind, low wind, he had never experienced anything like this.

He was asked if they were recording on the FLIR at the time? He said that no, they don’t typically record.

Regarding their schedule that night, he stated that they usually fly 3 hours a night, three 1-hour hops is what was planned.

Officer Garwood stated that he had no concerns about the maintenance. The department always had parts and spent the money to keep the helicopters well maintained.