

On Thursday, June 27<sup>th</sup>, 2024, Aircraft Commander, Carlos Casanova, at approximately 1516 hours, was operating the Seminole County Sheriff's Office Airbus H-125 helicopter, FAA N-Number N174SC, as the pilot in command. Onboard the aircraft was, Officer Brittany Warren, co-pilot seat, and Tactical Flight Officer, Bryan Ucelo, in the right rear outboard passenger seat behind the pilot.

The flight crew was conducting a training scenario for new tactical flight officer candidates at the Sanford Airport (KSFB). The parameters of the flight operation, given by KSFB Tower, were to remain south of Runway 27 right and remain north of Runway 27 left, at or below 500 feet above ground level.

The weather conditions at the time reported by KSFB:

- KSFB 271853Z 30010KT 10SM SCT048 BKN070 33/23 A2987 RMK AO2 LTG DSNT NE AND S AND SW SLP114 T03330233
- KSFB 271949Z 29011G20KT 10SM TS FEW055 SCT080 BKN100 32/22 A2988 RMK AO2 LTG DSNT ALQDS TSB43
- KSFB 271953Z 29014G20KT 10SM TS FEW055 SCT080 BKN100 32/23 A2988 RMK AO2 LTG DSNT ALQDS TSB43 SLP115 T03170228

Weather conditions observed by the pilot: partly sunny with a high temperature near 95 plus degrees, 100 percent humidity with light showers, visibility at 5 plus statute miles, scattered clouds at 3000-4500 feet AGL, winds at 10 plus knots from the northwest 300, and gusting at 10 - 20 knots from the west 270. A few rain showers approximately five miles northeast of KSFB and a few rain shower cells west of the airspace.

At the beginning of the scenario, the aircraft took off from an open field at Sanford Airport, south of runway 27 center, north of runway 27 left, near the bunkers and the wooded area. The flight crew departed into the wind north northwest, then eastbound toward a private airport named Cedar Knoll Flying Ranch. The aircraft altitude outside the airport environment when operating east of the airport (Cedar Knoll Flying Ranch) was at 500 AGL. After that, it changed its course westbound, back toward Sanford Airport, to begin the simulated callout. The reason for the flight crew flying out east toward Cedar Knoll Flying Ranch was to set the Wescam camera for the tactical flight officer.

As the aircraft began to get closer to the airport environment, the helicopter was orbiting at approximately 200 to 300 feet above ground level, speeds of approximately 20 to 40 knots. During a left turn orbit south of runway 27 center, the aircraft got slower to speeds near zero. The aircraft continued its orbiting course to the left and began to lose altitude. The aircraft began a rapid descent. The rapid descent was not intended by the pilot in command. The pilot then raised the collective to compensate for loss of lift. Then, the pilot felt a sudden shutter of turbulence air and a rapid descent with a strong tailwind. The pilot recognized the conditions for the vortex ring state (VRS), also known as "settling with power." Due to these conditions, the pilot in command began to slightly lower the collective and pitch the nose forward to gain airspeed in an attempt to break away into cleaner undisturbed airflow. As the aircraft continued to lose altitude, the pilot in command began to look for a place to land and began an autorotation flight maneuver. Due to the

continued loss of altitude, the flight crew landed at an open field west of the wooded area near the Avocet's decommission aircrafts (28.77531 -81.23075).

Once on the ground, the pilot in command began the shutdown procedure. Initially, the pilot in command was not able to lock the collective lever properly. At that time, the aircraft began to shake, and the pilot in command felt unusual vibrations along with the rotor system spinning up from idle. Due to the increase in vibrations and rotor system spin-up, the pilot in command pulled the fuel lever shut off to stop the fuel from going to the engine. The pilot in command then transitioned to secure the collective lever. Then, the rear passenger, Bryan Ucelo, reached from the back and pulled the rotor brake lever to the lock position. Moments later, the rotor system stopped. After that, the pilot in command shut down the mission equipment and aircraft battery.

After the aircraft was shut down and the rotor stopped spinning, the pilot in command exited the aircraft and walked over to the front passenger (co-pilot seat). Officer Brittany Warren was assisted in exiting the aircraft from the co-pilot seat. The flight crew walked away from the aircraft with no obvious physical injuries. The aircraft sustained significant damage to the skids, airframe, and mission equipment. The Seminole County Sheriff's Office aviation crew and Aircraft Rescue and Fire Fighting (ARFF) arrived on the scene and assisted with the post-crash hard landing. The aviation crew began the aircraft recovery process. The aircraft was relocated to the Sheriff's hangar at 500 Don Knight Ln, Sanford, FL 32771. The Sanford Airport KSFB tower supervisor and the Orlando FSDO were notified.



Carlos Casanova SCSO [REDACTED] Date 07/01/2024