

Inspectors Statement

My Name is Cornelius J. Baker, I am an Aviation Safety Inspector assigned to the West Columbia Flight Standards District Office.

On December 19, 2017, at approximately 1715, I received a call from Regional Operation Center concerning an aircraft accident at the Ridgeland-Claude Dean Airport. The aircraft involved was a Cessna 177, N3179T. Spoke with Deputy Chief Russell Wells of the Jasper County Emergency Services and the accident aircraft's CFI, Darrell Johnson. Mr. Johnson and his student were uninjured. The aircraft was clear of all runways and posed no hazards to other aircraft. It was decided to wait until the next morning before arriving on scene.

Arrived on scene at 9:30 am on December 20, 2017 and surveyed the accident site. The aircraft was departing runway 21 and ended up hitting hangars left of the runway. Inspections revealed the aircraft touched down twice before hitting the first hangar. The first ground strike appeared to be the left main wheel and the aircraft became airborne again. The second ground strike was the left main first then the right touched down for short distance and the aircraft became airborne again. The aircraft then struck the first hangar about 10 feet up with its left wing. The aircraft spun to the right hitting the second hangar with the nose and right wing. The aircraft was substantially damaged.

An inspection of the aircraft was performed and all the major components were found at the accident site. Flight controls were inspected for continuity, the rudder was connected at both ends and the rudder pedals could be moved in both directions, but range could not be determined due to tail damage. The elevator could be moved, but again due to aircraft damage the full range of motion could not be determined. The aileron controls could not be moved due to wing damage, but the left aileron was down and the right was up. This would appear the cables were intact at impact. The right control column was turned 90 degrees to the right and the left control was nearly centered. Left control column could be moved left or right, but had no effect on aileron movement. The right column could not be moved left or right. The engine mount basket was failed to the right. The propeller damage appears to have occurred with no rotational forces. The engine throttle was set to full power and the mixture was in the cut off position. The elevator trim appears to be set in the nose up position and the trim tab appears to be in a nose up position. Due to instrument panel damage and the tail section being fractured the actual setting could not be determined. The flaps were set to ¼ flaps or the first position, the flap indicator was showing ¼ flap setting. The flaps appeared to be extended, but the right was out more than the left. This appears to be due to the wing damage and twisting of fuselage.

An interview was conducted of the Certified Flight Instructor at the scene. Mr. Darrell Johnson stated, "We had flew earlier in the day and had no issues with the aircraft. I performed the preflight of the aircraft. No abnormal issues were found during the preflight, run up or at any other point. We performed one pattern run with a full stop landing and brief stop on the ramp before proceeding on our next flight. The takeoff from runway 21 was normal with light winds. My student Lawson Lowery was on the controls

with my assistance. The takeoff roll was normal and I recall saying airspeed is alive. We rotated about 60-65 knots of airspeed and I watched the airspeed climb during our ascent. The aircraft began suddenly pulling hard to the left. At this point I became firm on the controls and was trying to discover what the issue was and bring the airplane's path back over the runway. I could not regain directional control to the right. I called for full control of the aircraft. I was mashing the rudder with as much force as I could to the right and did not notice any change in our slide to the left. We still had a positive airspeed at this time. While I did still have a positive airspeed, I tried lowering the nose down in order to pick up additional airspeed to see if that would help our situation. I noticed no change in our left turn. I used aileron in order to bank and try to maintain clear of the hangars, this made it difficult to climb as we were in a bank, but it did delay our impact into the hangars. At some point during this excursion I began to try to prepare for a landing. I do recall verbally saying pull power a couple times (Lawson hadn't released the throttle) once I decided to abort and was landing the aircraft. My student did still have control of the power and seemed stuck, so I shut the aircraft down. We touched down on the grass still headed for the hangars. Even upon ground contact, we could not regain directional control. My goal was to get the airspeed as low as possible before we hit anything. You can see my skid marks where I landed. My left wing struck a hanger and forced the aircraft to pivot into another hanger before coming to a complete stop. The motion flung our stuff out as well as I had my upper half hanging out the side. I released my seatbelt and swung out and checked on my student. Both of us seemed fine with no injuries. I only sustained some minor soreness and a tear in my jeans."

Interview of the student didn't occur until later in the day after our return to the office. He stated, "We just performed a full stop landing and taxied back to the ramp. Upon returning to the runway they performed a mag check and set the flaps to the first notch. Full power was applied and rotation was at 70 knots. After rotation he stated, "I am not sure what happened. We had no rudder control to stay center line. He remembers the aircraft popped higher than usual. The instructor took control of the aircraft and the impact happened so fast.

A second trip was scheduled on December 28, 2017 to measure the elevator trim actuator, due to the student's statement that the aircraft popped up higher than usual. The tail section of the aircraft had separated at station 188.50 on the left side and was in compression on the right side. There was also separation at station 164.53 on the right side. The tail section is hanging on the control cables making trim position hard to determine. Fuselage side panels just forward of the elevator leading edge were removed to gain access to the elevator trim actuator. A measurement was taken of the actuator position, which measured 1.4 inches. According to information provided by Textron Aviation this measurement translates into 5 degrees nose down. The aircraft had been moved by this time so it is hard to say if this was the actual position at the time of the accident. Both the instructor and student met us at the aircraft and we had time to talk. The student was questioned if he let go of the controls when the instructor stated he had the aircraft. Mr. Lawson said he had. He was then asked if you let go of the controls why then did the instructor have to pull the mixture because he couldn't get you to let go of the throttle. Mr. Lawson could not answer that question. He was then asked, "If you

didn't let go of the throttle is it possible you had left rudder applied and didn't realize it?" Mr. Lawson stated, "He didn't have the rudder pushed." Mr. Lawson then went on to say, "you think I caused this." To this I answered, "No I am just trying to figure out what happened." We had a perfectly normal operating aircraft on the first takeoff and then of the sudden no rudder control. Now on the ground and we can move the rudder even while it hangs on the cables. To this I received no reply. To this I received no replies from either person. I went and examined the aircraft's side panels near the rudder pedals and found no indication the pedal had hung up on it. At this point we departed without a clear understanding of what happened.

The aircraft was retained for further examination.

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