

Narrative:

The purpose of this statement is to document the findings and observations noted during inspection of aircraft N632SD involved in an accident @ D98 on 09/15/2021.

Aircraft N632SD, an Airbus AS350 B2 rotorcraft, experienced a hard landing and blade strike/sudden stoppage during an instructional flight while performing a 180-degree autorotation. After notifying the FAA of the incident, the aircraft was moved to a hangar located on the field utilizing the approved handling wheels.

On 09/16/2021 I inspected the aircraft and noted the following:

- Blue Main Rotor Blade underside leading edge scraped near blade tip
- Starflex damaged at Blue Main Rotor Blade
- R/H Horizontal Stabilizer dented
- Section of Tail Rotor driveshaft cover missing (recovered by flight crew)
- Section of Tail Rotor driveshaft missing (recovered by flight crew)
- Remaining Tail Rotor driveshaft damaged
- R/H Crew entry door misaligned

Pictures of the aircraft and damage were taken. This concluded my initial inspection of the aircraft. A review of the aircraft records indicated a 30 hour inspection was completed on 05/06/2021 @ ACTT 6324.8 by Michael Bulifant, A&P [REDACTED] and returned to service. No maintenance discrepancies were noted in the aircraft logbook from 05/06/2021 to 09/15/2021. Current Aircraft Total Time as of 09/15/2021 is 6356.8.

I interviewed the flight crew, consisting of Mr. Bruce Barget, contract flight instructor and Ms. Jennifer Downey, student pilot and employee of the Oakland County Sheriff's Department noting the following:

Mr. Barget stated he and Ms. Downey departed Oakland International Airport (KPTK) for Lapeer Airport (D95) to perform flight instruction and Solo practice for Ms. Downey. After approximately an hour of instruction at this location, they moved to Romeo Airport (D98) to continue instruction. During demonstration of a 180 autorotation the aircraft sustained a hard landing and subsequent damage noted above.

Asked to describe the sequence of events, Mr. Barget stated he explained the autorotation procedure to Ms. Downey, picked the landing spot and positioned the aircraft for the maneuver. The engine fuel control lever was moved from the flight detent, reducing engine speed to approximately 70% NG, simulating an engine failure. During descent, the fuel control lever was then moved back toward the flight detent. At approximately 60-70 feet AGL the collective was pulled to increase pitch and stop the descent of the aircraft approximately 10-15 feet from the ground. During this time the rotor low RPM warning was sounding and the rotor speed continued to decrease, resulting in the aircraft failing to come to a hover as intended and contacting the ground. Mr. Barget noticed the fuel control lever was not in the flight detent. This position (not fully in the detent) prevented the engine from increasing speed when the collective pitch was increased, resulting in the continued reduction of rotor speed. After impact with the ground the aircraft bounced forward and was vibrating excessively. They shut down

the aircraft, checked for injuries and assessed the damage. At this time they began notifying required parties.

Ms. Downey concurred with Mr. Barget's explanation of the events with nothing additional to add.

A review of the Airbus RFM autorotation training procedure and Oakland County Sheriff's policy and procedure manual indicates the maneuver was performed properly with exception of the fuel control lever not positioned back in the flight detent, preventing the engine from governing properly.

Contact information was exchanged and my onsite investigation concluded.



Edward S. Janos
EMI-FSDO GL-23

