

INSPECTOR STATEMENT

Date: 02/21/2018
To: Todd Fox, NTSB
From: Edward S. Janos, FAA ASI
Subject: N471RA Accident.

Narrative:

The purpose of this statement is to document the observations, findings and statements collected during my initial on site investigation of the accident involving a Schweizer Helicopter Model 269D, S/N 0071A, N471RA.

On 02/13/2018 at approximately 15:00 EST, I was instructed by my FLM, Richard Anderson, to respond to a 911 call received at 14:15 EST by the Ingham County Sheriff's Office reporting a helicopter had just crashed in a field. The Sheriff's department was able to determine the location and contacted the FSDO.

When I arrived at the crash location I was met by a man who introduced himself as Chris Salow, the pilot and owner of the aircraft. He appeared to be physically ok and when asked, stated he and his passenger had only minor cuts. He stated the sheriff's department arrived shortly after the crash had already departed without leaving any contact information.

Mr. Salow drove me to the aircraft where I began taking pictures and notes. The aircraft was laying in the snow on it's right side with substantial damage to the r/h fuselage, r/h skid and main rotor blades/rotorhead. Three pieces of main rotor blade were located in the snow approximately 20-40 yards from the fuselage. Reference hand drawn sketch for actual locations.

Mr. Salow indicated the engine was still running after the aircraft hit the ground and he was unable to shut it down due to the fuel shut off lever being damaged in the crash. Fearing the a/c would catch fire or explode he and his passenger departed the scene leaving the engine running. When he returned with the sheriff, the engine was no longer running.

My initial observations were:

- One short skid/drag mark in the snow aft and left of the aircraft.
- All the snow was melted in the area/direction of the engine exhaust.
- Snow in the area surrounding the aircraft was mostly undisturbed.
- Main Rotor blades destroyed and indications where they contacted the ground.
- Fuel dripping from the L/H fuel vent.
- Verified rotor driveline was intact by moving T/R blades with cooresponding M/R movement.
- Tail Rotor and Horizontal Stabilizer are largely undamaged.
- One T/R blade had paint missing and one dent in tail boom where it appeared T/R blade tip contacted during a/c impact with the ground.
- Vertical stabilizer leading edge has impact damage in direction of M/R rotation.
- Did not notice any burning or smoke smell from the cockpit.

- Very clear day with mild winds.
- Aircraft travelled approximately 3-400 yards from takeoff spot (hangar at house) to the middle of the field which is owned by Mr. Salow.
- I noticed an uphill terrain change from hangar to aircraft location.

After completing my inspection of the aircraft I informed Mr. Salow he could move the aircraft to his hangar. With a skidsteer he was able to position the aircraft upright and move it to the hangar where it currently sits.

The following are notes taken from Mr. Salow's verbal statement to me after we returned to his house:

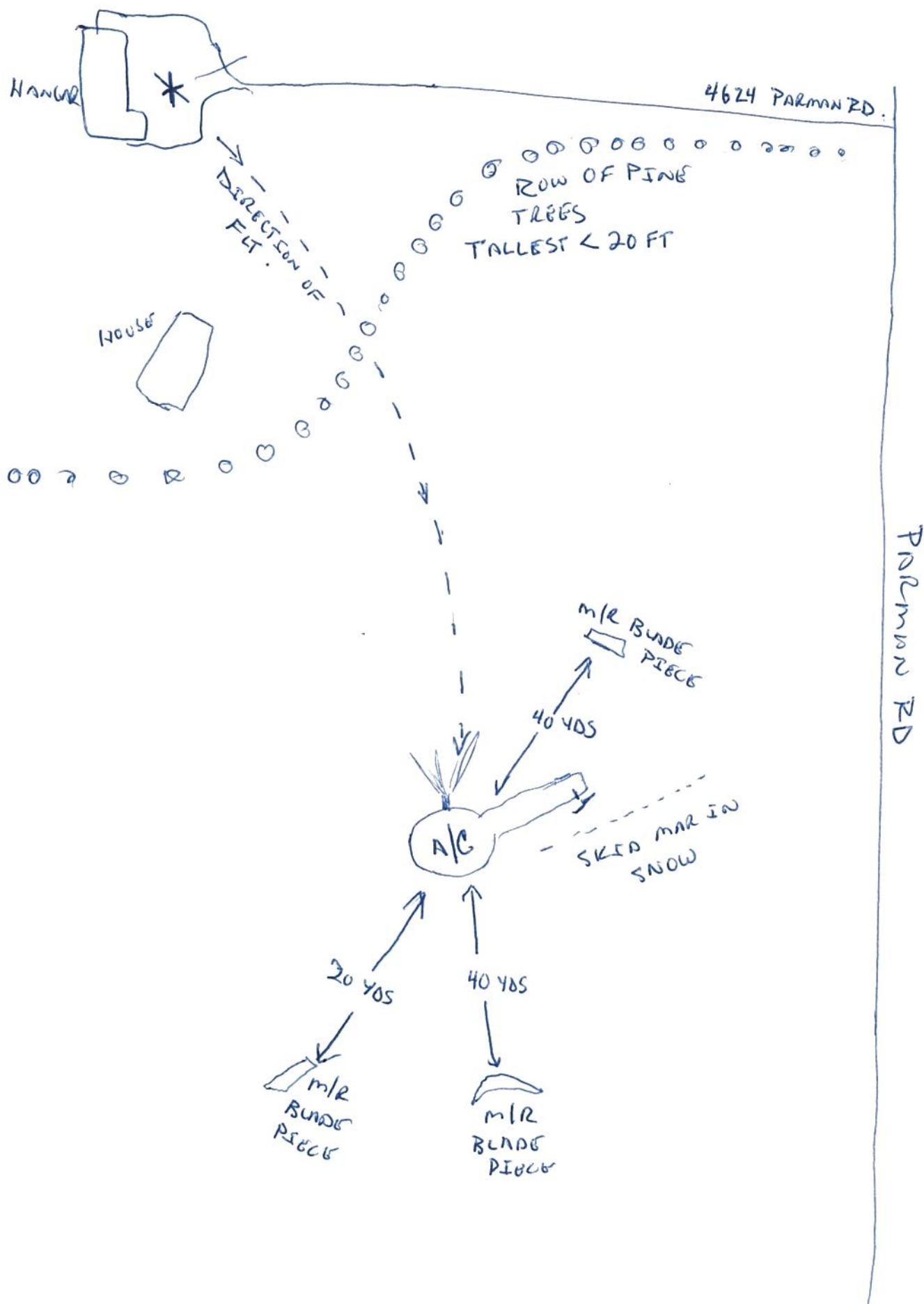
The aircraft was pushed out of the hangar and started using the Auxillary Power Unit. The start was normal with nothing unusual or abnormal noted. The aircraft had approximately 50 gallons of fuel on board. Mr. Salow was flying from the left seat with a female passenger in the right seat. The aircraft lifted off from the front of the hangar and proceeded southwest on a 120 degree heading towards Ann Arbor. Mr. Salow turned on the heater and afterward smelled smoke. He stated it didn't smell electrical and the cockpit appeared hazy, but not thick smoke. He thought his altitude was approximately 30-40 feet above ground level and he was transitioning out of ground effect. The aircraft rolled right and impacted the ground. After impact he attempted to shut down the engine but the fuel shutoff lever had been damaged during the impact. His passenger pushed him up and out the left side of the aircraft and then climbed out. As previously stated, they both immediately evacuated the area. The length of the flight was approxiamately 3-400 yards.

The female passenger, Carrie Sackman, stated she took a picture of the house from the right hand window, which she had opened, as they passed it and was putting her phone in her pocket when the aircraft hit the ground on the right side. She didn't recall seeing anything and had her head down when the aircraft crashed. She also stated she could smell smoke in the cockpit.

Heidi Salow, the wife of the pilot, stated she heard a boom, looked out and saw the helicopter on it's side in the field and called 911.

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INSPECTOR STATEMENT

Date: 02/22/2018
To: Todd Fox, NTSB
From: Edward S. Janos, FAA ASI
Subject: N471RA Accident.

Narrative:

The purpose of this statement is to document the observations, findings and statements collected as part of the accident investigation involving a Schweizer Helicopter Model 269D, S/N 0071A, N471RA.

Mike Bulifant, Director of Maintenance for Bijan Air (BJUA), is the mechanic who complied with the last Annual Inspection of the aircraft on 11/22/2017. I met with Mike on 02/14/2018 at Bijan's hangar to pick up the maintenance logs for the aircraft. I completed the FAA FSDO Form "Receipt for Documents/Materials" and asked Mike to sign it prior to taking possession of the logs.

Mike stated he had spoken with Mr. Salow prior to my arrival and received permission from him to provide the logs I requested. During this time Mike and I had a brief discussion about the aircraft and its maintenance history.

Mike has been maintaining the aircraft since new and indicated it was a very low time aircraft (413 hours TSN) and in excellent condition. I asked him about the possibility of smoke in the cockpit. He informed me of his discussion with Mr. Salow concerning an engine oil leak prior to the accident. Details of these events are in Mike's email statement sent to me 02/20/2018.

Mike produced the Rolls Royce manual and showed me the manufacturers' allowable leak limits. He stated the oil leak was within limits per this manual. Mike also stated he received a phone call from Mr. Salow the afternoon of 02/13/2018 in which Mr. Salow informed Mike the aircraft had crashed shortly after takeoff in his field, enroute to Ann Arbor. During the phone conversation Mr. Salow made mention to Mike wondering if he had caught a skid. Mike accepted my invitation to meet at the aircraft during the planned follow up visit.

A review of the airframe and engine logs, including AD compliance indicates required inspections and maintenance has been performed and signed off accordingly.

On 02/20/2018, FAA Airworthiness Inspector Eric Haft, FAA Operations Inspector Norm Armstrong and myself travelled to Mr. Salow's hangar/home in Stockbridge, MI. We performed a follow up inspection of the aircraft and interview of Mr. Salow and Erwin, an additional witness. The aircraft was moved from the field to the hangar by Mr. Salow following my initial inspection of the aircraft at the crash scene.

Mike Bulifant met us there and upon arrival Inspector Armstrong sat with Mr. Salow to interview him. See Mr. Armstrong's inspector statement for details of this interview.

Inspector Haft and myself, with assistance from Mr. Bulifant (removing access panels, filters, etc.) performed a follow up inspection of the aircraft noting the following:

- Engine drive gear and belt were damaged, a result of the engine continuing to run after impact.
- The engine drive gear (and engine free turbine) turned freely.
- The rotor system was intact and turned freely.
- Collective, cyclic and tail rotor pedals were exercised in the cockpit with correct cooresponding movement of the respective flight controls.
- Engine fuel control rigging checked for travel and adjustment with satisfactory results.
- Engine compressor had no noticeable damage and turned freely.
- Fuel sample from airframe filter bowl was taken. "Clean and bright" results.
- Customer bleed connection for the heater removed and inspected for any oil. None found.
- The R/H forward landing gear leg attachment fitting was torn from the fuselage aftward. A result of the the impact.
- Fuslage buckling primarily on the R/H side. A result of the impact.
- Slight oil residue in the exhaust duct.
- No loose or missing hardware noticed.
- Mr. Salow stated he damaged the bottom of the vertical stabilizer and R/H skid step during movement of the aircraft from the field to the hangar.

We spoke with Mr. Salow's assistant, Erwin. When asked about smoke he stated he couldn't determine the severity of it due to his lack of aviation experience but mentioned it was mostly on start up and was less than he had witnessed during the ground run accomplished with Mr. Bulifant a few days earlier. He stated he was sitting in his truck with Mrs. Salow and after the a/c departed he watched it fly over the trees and then lost sight of it. He heard a boom, drove up the drive and saw the aircraft in the field on it's side.

I returned the aircraft and engine logs to Mr. Salow and reminded him not to touch the aircraft as it hasn't been released. This concluded our visit.

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Inspector Statement

On 20 February 2018, I interviewed Christopher A. Salow regarding a 14 CFR Part 91 Helicopter accident. The accident took place on 13 February 2018 at approximately 1420-1425 local and involved a Schweitzer 269D aircraft (N471RA, S/N 0071A). The estimated coordinates where the accident took place are 42°26'52.93" N 084°15'36.07" W with an estimated field elevation of 949'. During our conversation, I asked the following questions to Mr. Salow:

1. Did you receive a weather briefing prior to departing for your flight? Mr. Salow's response was No; he used his own observations to determine that there was legal weather for the flight.
2. Was a weight and balance conducted before departing for the flight? Mr. Salow's response was No; based on the weight of his passenger (estimated 130 pounds) and that he had approximately 50 gallons of fuel onboard he knew he would remain within center of gravity for the duration of the flight.
3. Did you conduct a passenger briefing prior to loading and departing with the passenger on the flight? Mr. Salow's response was yes; a thorough passenger briefing is always conducted to include, but not limited to, tail rotor avoidance, seatbelt usage, emergency exits, fire extinguisher, door usage, and air-sickness. Mr. Salow stated that when he flies with passengers 99.9 percent of the time he flies with only one set of flight controls installed. The only reason both sets of flight controls were installed in the aircraft was due to the annual inspection and biannual flight review that was conducted within the previous weeks.
4. Was there a noticed change in engine noise prior to the accident? Mr. Salow's response was No; there was no change in engine noise that he recalled prior to the accident.
5. Was there a noticed change in the position of the collective prior to the accident? Mr. Salow's response was No; there was no change in collective positioning prior to the accident.

While continuing our conversation we determined that the terrain rises approximately 10' in elevation from the pine trees that border the field to where the accident occurred. Mr. Salow estimates he was approximately 20-30' AGL and was traveling approximately 10-20 MPH. On the day of the accident, the entire 30-acre field (estimated) was entirely covered in snow. The flight took place in the early afternoon and the sun location was approximately 180° based on past Google Earth imagery. Mr. Salow stated both in his written statement as well as his verbal statement that he was going to takeoff from his pad near the hangar and fly over the field making a right hand turn to return to the pad. He mentioned that the snow on the field made determining his ground reference and orientation extremely difficult. We drove out to the field and the snow had melted but it was noted that the field had been plowed at the end of the recent season and no corn stalks or vegetation remained. We returned to the hangar to continue to discuss anything else that may have happened during the flight. He mentioned again the smoke that he noticed from leaking oil in the exhaust and that he could smell the burnt oil. Mr. Salow stated that there was a right yaw in the aircraft prior to impact and the next thing he knew they were on the ground. There was full left pedal applied when we observed the aircraft with minimal ground run (1-2 times aircraft length). Mr. Salow again stated that it was possible that he flew the aircraft into the ground because of lack of ground references and his perceived height above the ground. At that point, we concluded our conversation and I returned to the aircraft. I noted that the right front skid tube had been snapped

in half rearward and that one of the rotor blades was much more damaged than the other two. We spoke with Mr. Salow's assistant, Erwin, about the smoke. He said due to his lack of aviation knowledge he could not attest if what he saw was a significant amount of smoke and that it was mostly during startup. He stated that he had lost sight of the aircraft after it cleared the trees and was over the snow-covered field.

No further information was gathered, end of statement.

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