

## Accident report February 13, 2018

### Helicopter 471RA

The helicopter was picked up from its annual and biannual flight review was conducted on January 17, 2018. I flew the helicopter from Ann Arbor to my home in Stockbridge Michigan. The helicopter sat in the hangar for roughly 2 weeks and we were inside the hangar around the helicopter several times each week. Somewhere around the first week of February we noticed that it was dripping some oil. I contacted Mike at Bijan air and told him about the issue. He came out to my house I think on the fifth or sixth of February. He checked the aircraft out and added a undisclosed amount of oil. He asked if we could take it outside and do a run-up.

The run-up consisted of a five-minute flight idle. Followed by a five minute full rotor speed. Everything checked out, all the gauges were in the green. The aircraft was not flown, shut down after the 10 minute runtime. I talked with Mike after words and he said that the seal may have gotten dry, but everything looked okay keep an eye on it. We put the helicopter back in the barn and there wasn't any apparent oil leak for the first couple days. Around the third day I noticed it dripping oil again. I called Mike and told him that it was leaking. I asked if it would be safe to fly and, he said, " yes just fill it up with oil and bring it down." On February 13 we decided to take it to Ann Arbor.

I am a follower of Jesus Christ and take my commitment to Christianity very seriously. That's why it's important that I mentioned this. Before we pulled the helicopter out Irwin and I prayed over the helicopter. In the past I would always thank Jesus after a safe helicopter trip. On this day I felt uneasy. My prayer was, " Lord if I'm not to fly this helicopter to Ann Arbor today please make it obvious " due to the feelings that I did have we were very careful to follow Mike's instructions and be very alert to anything out of the ordinary.

During the preflight check we added oil to fill line. Then we pulled the aircraft outside, hooked up the APU and started the aircraft. During the last start when Mike was present the turbine made a unusual sound for a brief period of time and Mike said that was okay. The same noise was heard again during startup for roughly the same brief period of time. The startup was normal and all the gauges read in their customary positions.

There were no oil leaks visible during the start up and run up. My assistant that disconnected the APU unit was reporting to me in the cockpit what he saw underneath. Mike instructed that we check for any leaks once it's running to make sure everything's okay. I told Erwin my assistant that I would hover for a minute so I could use full power and then we would check it out again to make sure it wasn't leaking. Once again we checked the aircraft and it didn't seem like it was leaking. But Irwin did mention he did see residue from where it was leaking.

I told Erwin that I would fly out over the field and come back to check it again. We took off heading southeast. I noticed when I started the aircraft the heater was on there seemed to be a bit of smoke in the cockpit. When we started it when Mike was out it smoked out the exhaust. I knew that bleed air came from heat of the turbine. I knew that oil had drip down onto

the exhaust in the same spot both times. I turned the heater off and slid my little window open to clear out the smoke. I didn't have any reason to suspect that we would not fly to Ann Arbor. Although I thought it would be important to do a few extra checks before we departed for Ann Arbor. We had a family friend that wanted to ride with me. I made the decision to load the passenger.

There wasn't any visible smoke in the cockpit. After hovering and checking the aircraft again I flew out over the field. When we just passed the house I detected smoke again. I was 20 to 30 feet in the air the next thing I knew we were laying sideways on the ground. I was initiating a turn to go back to the house to recheck the aircraft. It appeared as though I was still roughly the same distance above the ground as when I crossed over the pine trees. My ground speed was somewhere between 10 and 20 miles an hour. The field was snow-covered and roughly 30 acres. It was sunny, practically no wind. The descent to the ground seemed instantaneous. As did the aircraft yawing to the right.

After impact I tried to shut the aircraft down. The fuel shutoff valve had been bent over due to my knee contacting it. I was unable to pull it out. I tried to turn the turbine off with the twist grip and red button with no success. The passenger Carrie help me get out, and then she climbed out. We were concerned that it was going to catch on fire or blow up. Due to the fact that the turbine was running full speed with the aircraft laying on it's side. We walked back up to the house and the aircraft continued to run.

My belief is God answered my prayer and kept me from flying to Ann Arbor. The many subdivisions and buildings around Ann Arbor airport could have been struck if the helicopter had a mechanical failure and there wasn't sufficient area to set down. The resulting outcome of the accident could've involved innocent life's. Fortunately we were able to walk away with minor scrapes and bumps. There's no question in my mind there was some mechanical failure of some sort. Mike and Bijan Air have always done a great job. I see no fault on their behalf whatsoever. The field elevation probably goes up 8 to 10 feet after the trees. Traveling over a field that large with no visual cues does lead me to question the proximity to the ground.

My feelings still is that something happened and caused a 10 to 15 foot ground clearance to instantly disappear. Inside the aircraft it felt like the hand of God just pushed it to the ground. I've given nearly 500 people free rides and have had a lot of experience hovering and takeoffs and landings. I've tried my best to give every detail I could think of. I just praise Jesus for the hand of safety that was with us. I talked with Erwin and he said he saw smoke and oil coming out of the aircraft after I took off. He will be available on Tuesday when you come out if you like to talk with him.

After the aircraft had been released for removal I retrieved it with my Bobcat. I placed it back inside my hangar. A few hours later I checked on it. It was leaking fuel from three or four different locations. I took a pair of vise grips and bent the fuel shut off straight again. I pulled it with all my might and it wouldn't move. Then I took a pair of side cutters and cut the cable going

to the fuel shutoff valve. I was able to shut the valve and hopefully reduce the fuel spillage. I placed three catch containers underneath the aircraft to collect dripping fuel.

Pilot Christopher Andrew Salow

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