



08/03/2019

Steve Kroening
Aviation Safety Inspector
Kansas City Flight Standards District Office

Dear Steve Kroening:

Thank you for your call and time taken to speak with me regarding the occurrence on 6/9/2019.

On June 9 shortly after 1pm, N724H suffered a hard landing at a private helipad located at [REDACTED] Lebanon, Mo. My family occupied the helicopter and I was acting as Pilot in Command.

We departed KTBN at approximately 12:45. I pulled into a vertical hover and checked ASOS, and checked the density altitude reading, set down and performed a verification check on performance using Tim Tuckers Gyronimo app. We were well within the OGE hover performance for the reported conditions; we departed and traveled approximately 15 minutes to our landing point in Lebanon. I performed a High reconnaissance and setup for my typical approach into this landing site.

I performed a slow and controlled approach to 20 ft AGL above the LZ, which I have performed several time.

At approximately 20ft AGL, 0 airspeed, 0 VSI I received a noticeable right yaw, which I interpreted as LTE. I lowered collective to reduce power and initiate a descent. The aircraft rotated 290 degrees and descended the 20 feet over approximately 7 seconds in a controlled descent. We landed right skid first and bounced one time landing on both skids.

The following data was from the AHRS as recorded from ForeFlight:

Delta (ms)	Lat	Lon	Alt	Heading	Speed	Notes
0	37.74354	-92.5132	1114.829	288.9	2.9	Stabilized approach
1006	37.74354	-92.5132	1114.173	288.9	2.2	
1049	37.74354	-92.5132	1112.861	287.5	1.6	
992	37.74354	-92.5132	1110.564	275.5	2	Initial Yaw

Delta (ms)	Lat	Lon	Alt	Heading	Speed	Notes
1003	37.74355	-92.5133	1110.236	305.7	6.6	
1017	37.74359	-92.5133	1107.612	22.9	11.7	Descent Established
978	37.74362	-92.5132	1101.05	95.6	11.8	
1008	37.74358	-92.5132	1091.535	151.7	11.7	
1007	37.74353	-92.5132	1078.74	192.8	12.3	
981	37.74352	-92.5132	1085.63	234.9	1.9	
999	37.74352	-92.5132	1083.333	187.9	0.7	
2008	37.74353	-92.5132	1079.068	187.9	0.1	
1026	37.74353	-92.5132	1077.1	187.9	0	

Upon coming to a stop, the helicopter was still running with blades turning. I performed a standard 3-minute cool down and shutdown procedure. There were no injuries or property damage.

I reviewed video of the incident from the property owner's camera and confirmed there was no:

- No tail strike
- No rotor strike

On 6/11/2019 Dean Houseman from Cape Copters, the local Robinson Certified Service center came to the location of the helicopter and performed the Robinson Hard Landing Inspection. The helicopter had not been moved at the time. They performed the Robinson Hard Landing Inspection (2.550).

They removed the side cowlings, fan cowlings and upper hydraulic cowlings. After performing the post hard landing check list, the only visible damage found was at the left side forward cross tube attachment area of the landing gear and the fuselage skin above the landing gear.

I reviewed form 6120.1 with Cape Copters and the AOPA and as it states "NOTE: Engine failure or damage limited to engine if only one engine fails or is damaged, bent fairing or cowlings, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades and damage to landing gear, wheels, tires, flaps, engine, accessories, brakes, or wing tips are not considered "substantial damage" for the purposes of this report." We agreed the landing gear damage was excluded under 6120.1 and 49 CFR 830.2

On 6/18/19 the aircraft was returned to the Robinson repair facility for repair.

Robinson indicated they would perform an overhaul inspection, and provide an estimate within 14 weeks.

Steve Kroening

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What Could I have done To Prevent Future Occurrences like this?

After practicing with a CFI and recreating several of the conditions, I now believe this to yaw was caused from turbulence from the rotor downwash interacting with a building near the LZ. I misinterpreted the right yaw as LTE and should have applied pedal to the stops and ridden the turbulence out. Given my concern of suffering a loss of power event, I immediately lowered the collective. This experience has changed how I address "E" in PAVE as SB-97 and was a clear external factor weighing on my mind. I have also focused on targeted training with my flight instructor and recreated this scenario to gain experience in this area of operation and have added mechanical turbulence to my confined area high reconnaissance awareness. I am continuing to train weekly and focus on Confined Area, Steep Approach as well as commercial training. This occurrence has been a learning block and active point of discussion in our training.

Sincerely,

A black rectangular redaction box covering the signature of Michael Hendricks.

Michael Hendricks

Enclosure