

Statement for NVG training

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To: Sell, Krisanne (VSP) <[REDACTED]>

Cc: Randy Rowles <[REDACTED]>

Date: November 16, 2023

To: Krisanne Sell, Director of Maintenance VSP

From: Steve Hebert, Flight Instructor, Helicopter Institute

Subject: NVG Flight training with aircraft N26VA, Bell 407

I was conducting NVG flight training on November 15, 2023. This training included full down autorotations. I flew two pilots during this two hour flight session and conducted a pilot change without shutting down or inspecting the aircraft. The first pilot performed five autorotations while the second performed seven, including straight in and 180 degree. All maneuvers were smooth and controlled and all landings were well coordinated without ground impact. None of the maneuvers were conducted with excessive pitch applied and each landing had some degree of forward movement. At no time did we feel anything unusual in the flight controls or suspect that a hard landing had occurred.

When the aircraft was shutdown after the training session, I exited the left side to perform a post flight inspection and immediately saw that paint was missing from the left auxiliary fin. As I moved closer I realized that the auxiliary fin was damaged and immediately notified LT Mancano with the observation.

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N26VA INCIDENT

During the NVG training we completed multiple maneuvers including hovering auto rotations, hydraulics off flying and landing, stuck left pedal flight without landings, straight in auto rotations and 180 auto rotations. During all maneuvers, both myself and the CFI were on the controls and at no time was there a loss of control or no one controlling the aircraft. During the flight, both myself and the CFI did not notice any changes in the controls, no shaking or vibrating of the controls and no sound that was outside of the normal for all the procedures we performed. Everything below is the most accurate information I can report to the best of my memory.

Hovering Auto Rotations- We completed two hovering autos while approximately 2-3 feet above a hard surface. On the first the nose drifted approximately 30-40 degrees to the right. We descended vertically and the proper amount of collective was added to keep from bouncing the aircraft or having one skid hit before the other. The second iteration the nose drifted approximately 10-20 degrees and the landing was vertical with correct collective input and smooth touch down.

Hydraulics Off- We performed one iteration of hydraulics off pattern and landing. The final approach was shallow with a slightly high nose attitude until close to the ground where the nose was leveled. We used most of the taxi way in a slow flight/ hover taxi stage of the flight until we performed a run on landing. The skids touched down at approximately 5-10 knots with a level attitude and then skidded approximately 15-20 feet where it came to rest. All controls were neutralized during the ground run except for the collective which was reduced all the way down.

Stuck pedal- We performed a stuck pedal maneuver twice during training. The stuck pedal was introduced in a high power setting (about 75-78 percent torque) and then a standard traffic pattern was flown each time. When we came back around we hover taxied along the taxi way with the stuck pedal but did not land the aircraft. Once the training iteration was completed, the pedals were neutralized and a normal hover was then performed.

Straight In Auto Rotations- We performed two straight in auto rotations to the taxi way. We were 1000 feet above the ground and approximately 90 knots when the instructor initiated the auto. Collective was reduced immediately and a slight nose high attitude was used to reduce airspeed. The descent for both maneuvers were approximately 55-80 knots indicated and the rotor speed stayed in the green during the whole auto. The approach to the landing spot was standard (not high or low) with an approximate 5-8 degree nose up attitude and a slight use of collective to control rotor speed and then right before touchdown the nose was leveled and collective was pulled to cushion the landing. Both autos ended in a run on landing that was approximately 15-20 ft with both skids touching at the same time and no bouncing. Control surfaces were neutralized once on the ground and collective was lowered completely.

180 Auto Rotations- We completed three 180 auto rotations, one with a left turn to final and two with a right turn to final. All autos were initiated at the same phase of flight, 1000 ft and 90 knots. All initial reactions to the auto were the same, immediate reduction in collective, a slight nose high attitude to

reduce speed and then a turn towards our spot. The autos varied in rate of descent at a higher altitude depending on how close we were to our landing spot but once established on a standard glide path we returned to a normal descent rate. One of the autos were as described above with a transition to a normal landing attitude and normal use of collective. Two of the landings, I flared slightly high and the tail stinger touched the ground before I leveled out the aircraft for a standard run on landing. I was not aware that we had hit the stinger on the ground but the instructor informed me of it after we had gotten the aircraft to a complete stop. During every iteration of the maneuver, once the aircraft was on the ground all controls were neutralized and the collective was completely lowered. At no time during the training period did we have an excessive rate of descent and the rotor speed did drop or overspeed.

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On Nov 14, 2023 I participated in emergency procedures training with Heli Institute Instructor Steve Herbert. During the training we performed the following maneuvers:

- 2 hovering autorotations
- 2 power recover straight in autorotations
- 2 straight in autorotations
- 2 right 180 autorotations
- 3 left 180 autorotations

All the autorotations with the exception of the two straight in were performed to full touchdown. In addition each touchdown involved a ground run. No autorotations ended with a "zero airspeed" touchdown. I do not recall any maneuver being outside of what I would consider a normal autorotation. While I do not recall the actual descent rate in the autos I do not believe any were outside of normal. Prior to each touchdown the nose was either slightly elevated or level. I think we may bumped the stinger twice during the maneuvers. I never felt like we landed at any time in what I would consider a hard or abrupt landing. Most landing were smooth with quite a bit of ground run so none ended with a zero airspeed landing.