



MEMORANDUM FOR RECORD

Brian C. Rayner
Senior Air Safety Investigator
Eastern Region Aviation

February 2, 2020

Subject: ERA19FA034 Sebring, Florida
Aircraft: AutoGyro USA Cavalon
Name: Bob Snyder – Test Pilot – Autogyro USA

Mr. Snyder was the test pilot/flight instructor/operations manager at AutoGyro USA headquarters in Stevensville, Maryland.. Over the course of the investigation, Mr. Snyder provided information with regard to the accident gyrocopter make and model. Information was discussed in person, over the telephone, and by email. In an email string, Mr. Snyder was asked about the observed vibrations in a video taken by the accident pilot in the accident gyrocopter, and he was also asked about the acceptable levels of vibration in an AutoGyro Cavalon prior to its delivery. The following is an excerpt from that email string.

The only reference I can find for track and balance is “T&B okay?” in the test flight protocol. I could have sworn there was something somewhere about vibration, but I can’t find it.

Plus, what is “OK?” Is there a range for vertical vibration? Lateral vibration? Plus or minus so many IPS?

Thanks...

Mr. Snyder’s response was:

Aircraft for delivery should be balanced to 0.1 ips or less. Most new built experimental aircraft probably need balance. Most but not all. Lots of variables. If the aircraft has any vibrations the balancer should be put on and the process of documenting the correction

should begin. To my knowledge none of this was done to this aircraft. At the least, Chris complained to me about the poor balance (stick shake) of the rotor system on that aircraft when he picked it up from Cloud 9. I remember there was a video of that aircraft stick shake. From that video and my experience I can say that vibration level was unacceptable for delivery.

In our normal operations the rotors would be balanced at new. That would be determined on the first test flight. The rotor system would be checked again at 25 hrs. Although this 25 hr check might be a confirmation from the pilot that no increase in vibration had occurred. What is acceptable for a customer is 0.1 ips for both x and y axis or less. What is acceptable for a rotor balance technician is something else.

Bob