

Kurt Gibson
Aviation Accident Investigator
Eastern Region Aviation

Date: 10/05/2024

Subject: ERA24FA310

Contact: Les Doud - Air Safety Investigator, Hartzell Propeller

The following information was from an email between Les Doud and the NTSB IIC (Kurt Gibson) regarding the observed engine RPM data recordings and propeller RPM and propeller blade centrifugal force (CF) calculations:

"To summarize the RPMs that have been discussed:

1. Pilot statement they limit themselves to 3500 engine RPM = 1842 Prop RPM
2. Stated blade design limit from Whirlwind = 2100 Prop RPM
3. Governor max RPM set point from bench test = 2420 Prop RPM
4. Engine Redline 5600 RPM = 2947 Prop RPM
5. Max recorded RPM from engine ECU during accident flight = 3585 Prop RPM"

"The CF of one blade at the design limit of 2100 RPM is 10,500 lbs. At 3585 RPM the CF is 30,600 lbs., almost 3x the design limit."

Les Doud further explained that the separation of the propeller was consistent with an overspeed event.

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