NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety

Wreckage Examination Summary

March 15 - 16, 2022

A. ACCIDENT ERA22LA120

Location:	Beaufort, North Carolina
Date:	February 13, 2022
Time:	1402 Eastern Standard Time (EST)
Operator:	Private
Aircraft:	Pilatus PC-12
Registration:	N79NX

B. PARTICIPANTS:

IIC:	Heidi Kemner National Transportation Safety Board Ashburn, Virginia, USA
Participant:	Martin Pohl Swiss Transportation Safety Investigation Board Payerne, Switzerland
Participant:	Markus Kohler Pilatus Aircraft, Ltd Stans, Switzerland
Participant:	Oliver Haefner Pilatus Aircraft, Ltd Stans, Switzerland
Participant:	Jeff Davis Pratt & Whitney Canada Bridgeport, West Virginia, US

C. SUMMARY

On February 13, 2022, about 1402 eastern standard time, a Pilatus PC-12, N79NX, was destroyed when it was involved in an accident near Beaufort, North Carolina. The commercial pilot, student pilot, and 6 passengers were fatally injured. The airplane was operated as a Title 14 Code of Federal Regulations Part 91 personal flight.

D. WRECKAGE EXAMINATION

1.0 Airframe Examination

The cockpit and sections of the fuselage were not recovered. The forward and aft sections of the main wing spar were separated, recovered, and the fracture surfaces exhibited overload. The wing to fuselage interface bolts were found intact for the three locations that were recovered. Neither door was recovered, but the cargo door piano hinge remained attached to the empennage.

Figure 1. Overview of wreckage layout.

The left and right main landing gear were recovered. The landing gear actuators were not recovered. The nose landing gear was not recovered. A section of the left wing and left inboard flap actuator was located. Also, a section of the left winglet was recovered. The remaining of the left wing, aileron, and flap were not recovered. The 7.5 ft inboard section of the right wing flap and a majority of the right winglet were located. The remaining section of the right flap, right aileron, and right wing were not recovered. Aileron control continuity could not be confirmed because a majority of the aileron flight control system was not recovered.

Figure 2. View of recovered portions of right wing.

Figure 3. View of recovered portions of the left wing.

The vertical stabilizer remained attached to the empennage. The left and right strakes were impact separated from the empennage and recovered. The pitch trim actuator extension was measured at 56 mm, which corresponded about neutral. The rudder was separated from the vertical stabilizer but remained intact. The rudder trim tab remained attached to the rudder. The rudder trim actuator extension was measured at 24 mm, which corresponded to slightly right, but within the green take-off range. The balance weight of the rudder remained intact and attached to the rudder. A section of the right horizontal stabilizer was located separated from the empennage. The elevator was not located. The elevator flight control cables remained attached to the elevator control bell crank. The elevator bob weight remained attached as well. Elevator and rudder flight control continuity was confirmed from the flight control surfaces to the forward cabin area of the fuselage through multiple overstress breaks and cuts by recovery personnel. The clamps that attached the stick pusher servo to the elevator control cables were intact and exhibited no signs of slippage.

Figure 4. View of vertical stabilizer and rudder.

Figure 5. View of recovered section of right horizontal stabilizer.

Multiple seat cushions/structures, interior wall sections, and cabin carpet were recovered, but the exact location could not be identified. There was no evidence of fire on any section of the airplane.

The ELT was removed from the empennage by divers after the airplane was located in the water. They turned the ELT to the OFF position.

Figure 6. Recovered ELT.

The MAU (Modular Avionics Unit) was recovered.

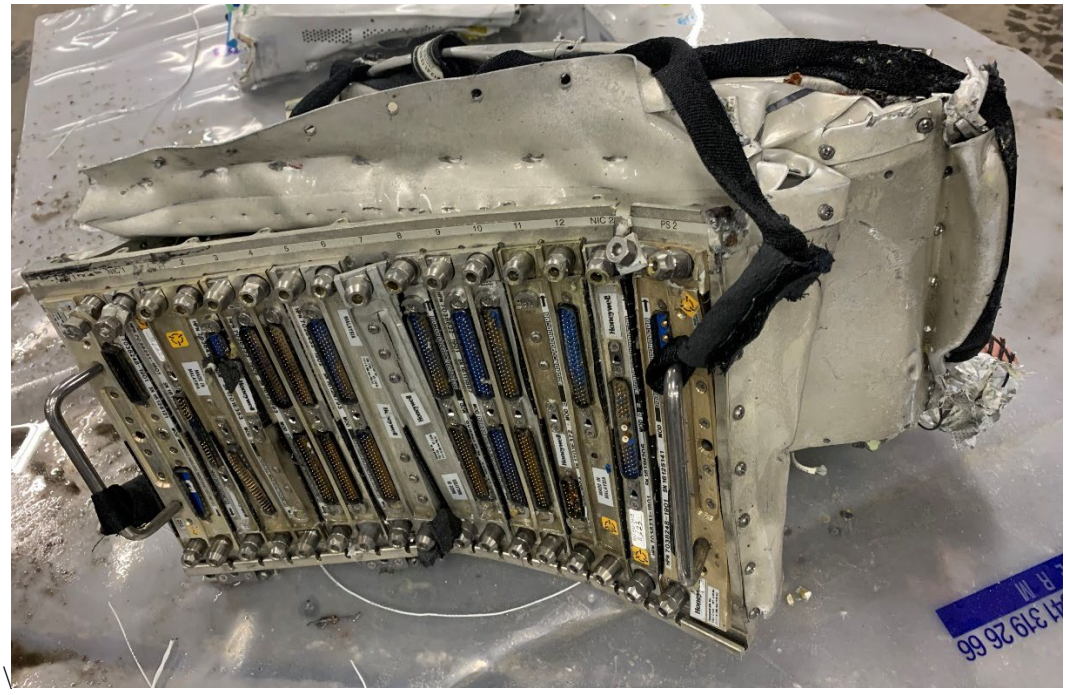

Figure 7. Recovered MAU.

2.0 Engine Examination

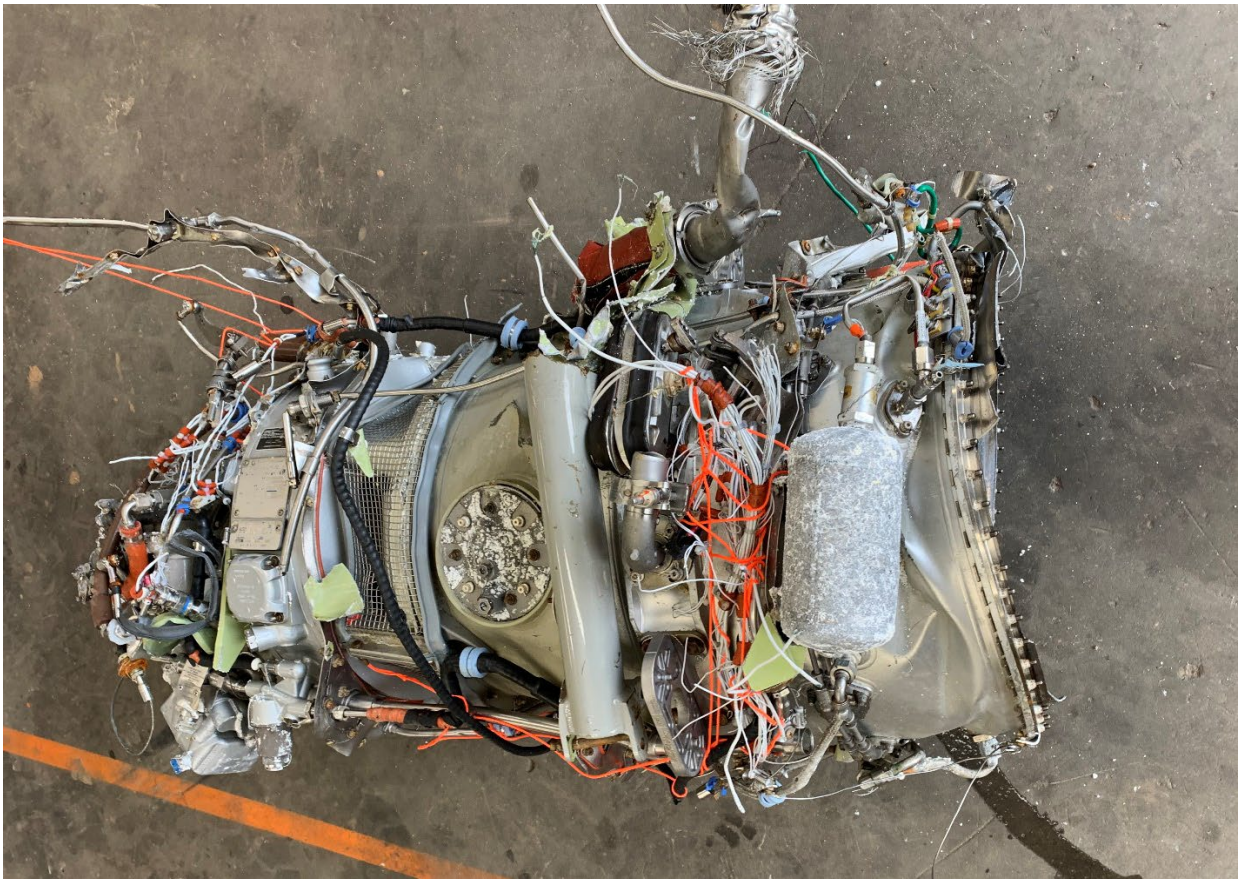

Figure 8. View of recovered section of engine.

The engine was impact separated from the airframe. The reduction gear box was not recovered. The accessory gear box was recovered and present during the engine examination. The power turbine housing and sections of the power turbine vanes exhibited rotational scoring. In addition, the power turbine vanes were bent the opposite direction of travel. The inlet case struts were fractured. The No. 1 bearing housing struts were deformed.

Figure 9. View of turbine vane airfoils bent the opposite direction of travel and rotational scoring throughout engine.

The fuel filter was removed and no debris was noted in the screen.

The propeller governor, overspeed governor, were not recovered.

The P3 filter was removed from the engine. Water and corrosion were noted in the filter.

The Accessory gear box chip detector was located, and corrosion was noted on it.

The oil filter was removed and examined. Oil was noted in the screen, and no debris was noted.

3.0 Propeller Examination

The propeller hub was not recovered. Three propeller blades were recovered with the wreckage, the two others were not. The three propeller blades were separated at the hub and about midspan of the blade.

Figure 10. View of recovered section of propeller.