

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA23FA266

MATERIALS LABORATORY

Factual Report 23-095

December 29, 2023

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A. ACCIDENT INFORMATION

Location: Porter, NY
Date: 6/11/2023
Vehicle: Wonder Michael S Harmon Rocket, N85TP
Investigator: Lawrence McCarter

B. COMPONENTS EXAMINED

Outboard portion of a Hartzell propeller tip and a section of the propeller blade it separated from (Figure 1).

C. EXAMINATION PARTICIPANTS

Specialist Joseph Panagiotou
National Transportation Safety Board
Washington, DC

D. DETAILS OF THE EXAMINATION

The portion of the propeller tip that separated from the propeller blade was approximately 4 inches long. The fracture surface on this portion of the propeller tip exhibited slant fractures consistent with an overload fracture (Figure 2). On the leading edge of the propeller tip an indentation was observed consistent contact damage (Figure 3). The propeller tip also exhibited some scuff marks on the pressure side. The portion of the propeller tip exhibited plastic deformation in opposing directions as can be seen in both figures 2 and 3. The deformation and fracture surface found on the portion of the propeller tip are consistent with damage caused due to impact.

The portion of blade adjacent to the separated portion of the propeller tip exhibited some scratches and scuffing on the top pressure side (Figure 4). There was also an area of impact damage along the trailing edge of this portion of blade.

Submitted by:

Joseph Panagiotou
Engineer



Figure 1. Portion of the propeller tip and propeller blade as received.



Figure 2. Fracture surface of separated propeller tip.

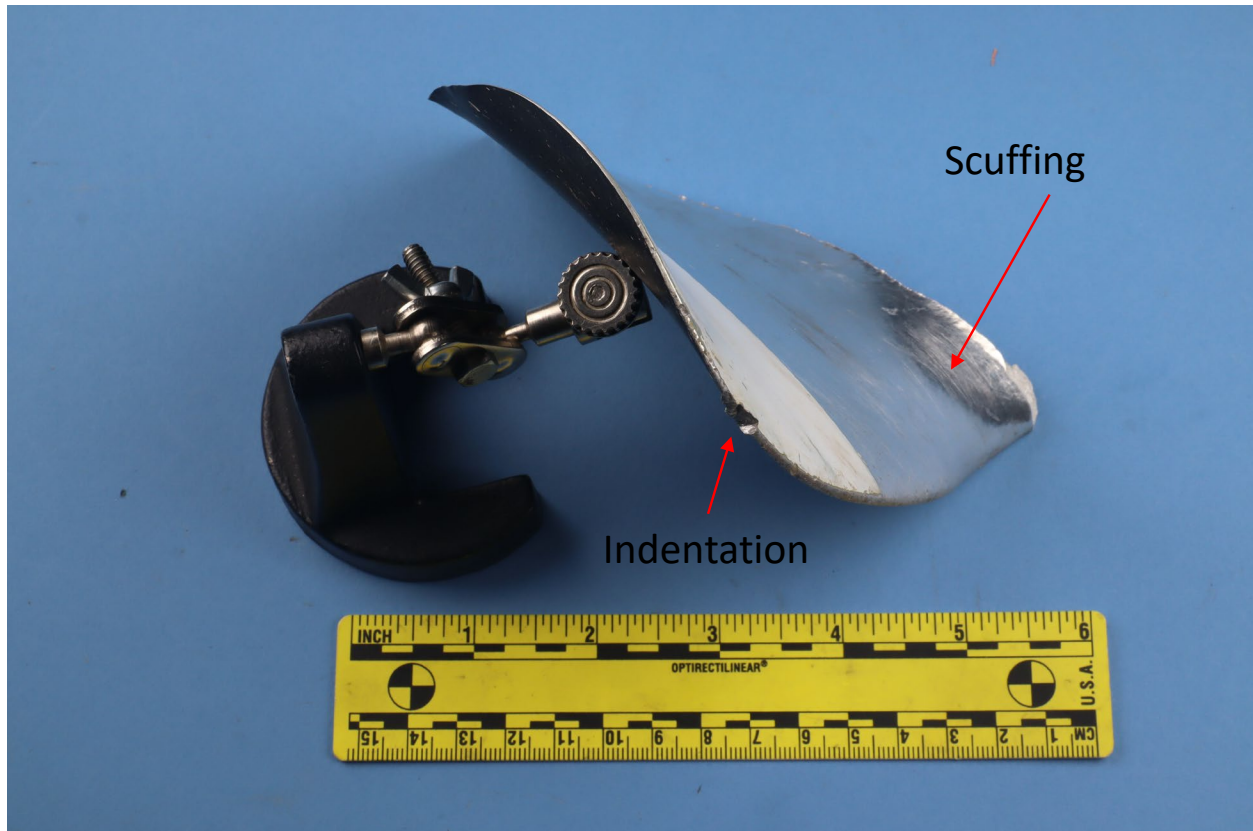


Figure 3. Indentation on outboard leading edge of the propeller tip.



Figure 4. Portion of the propeller blade adjacent to the separated tip.