

NATIONAL TRANSPORTATION SAFETY BOARD

Office of Research and Engineering
Materials Laboratory Division
Washington, D.C. 20594



January 28, 2020

MATERIALS LABORATORY FACTUAL REPORT – ADDENDUM

Report No. 19-033

A. ACCIDENT INFORMATION

Place : Mayport, Florida
Date : December 20, 2018
Vehicle : Piper PA-46-350P
NTSB No. : ERA19LA072
Investigator : Timothy W. Monville, AS-ERA

B. COMPONENTS EXAMINED

Several airplane structure pieces.

C. DETAILS OF THE EXAMINATION

Additional information is available regarding electrical conductor #2 pin. The following information serves as an addendum to report 19-033. Add the following text and figures to the existing report 19-033.

“Figures 8 shows a close-up photograph of the as-received #2 electrical pin. The pin was an open barrel type. Bench binocular microscope examination of the electrical #2 pin revealed the fractured end of a copper cable was attached (crimped) to the barrel portion of the pin. The copper cable contained multiple wire strands. The multiple wire strands were fully inserted into the barrel portion and they fractured outside of the crimped portion of the barrel. Scanning electron microscope examination of the electrical pin revealed the fractured ends of the wire strands were on a slant plane consistent with a cable that fractured from overstress separation. Figures 9 and 10 show photographs of the fractured wire strands that were retained within the crimped barrel portion.”

Frank Zakar
Senior Metallurgist

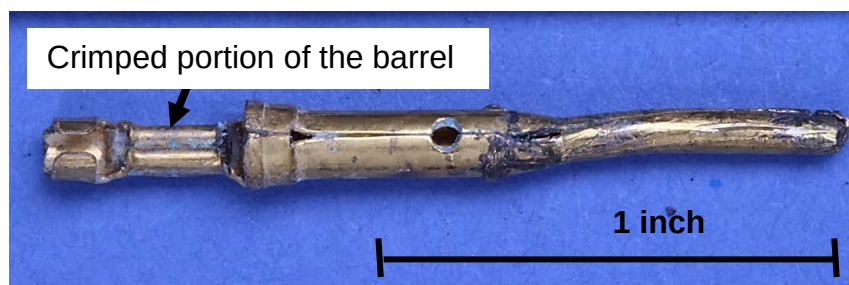


Figure 8. Close-up photograph of electrical #2 pin showing the crimped portion of the barrel.

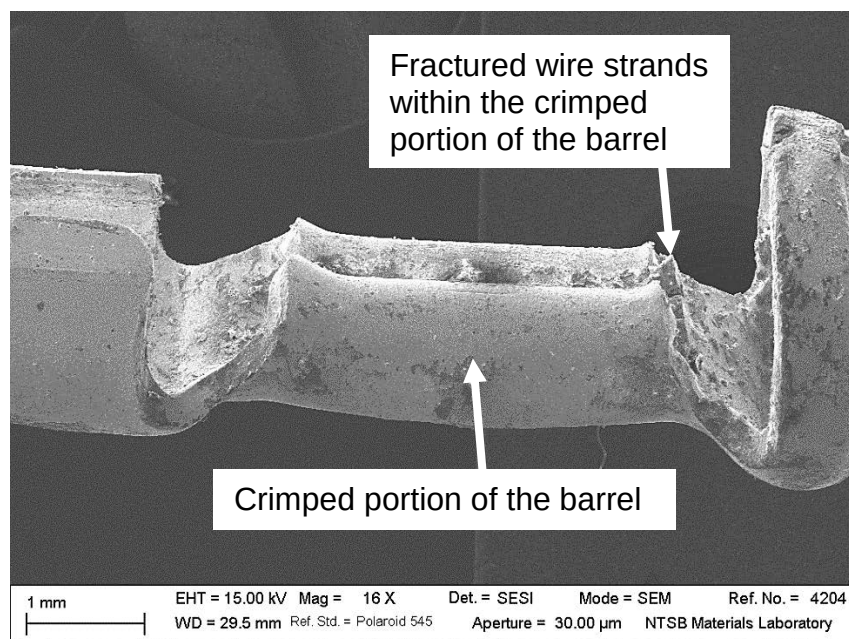


Figure 9. SEM photograph of the crimped portion of the barrel showing fragments of fractured wire strands that were retained within the crimped portion.

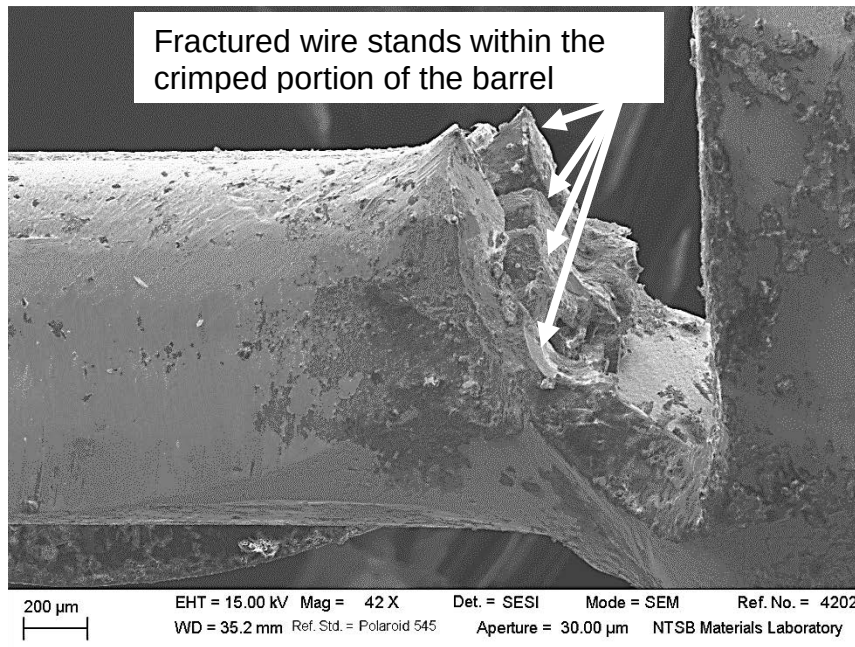


Figure 10. SEM photograph of the crimped portion of the barrel pin showing a higher magnification view of several fractured wire strands that were retained within the crimped portion.