

NATIONAL TRANSPORTATION SAFETY BOARD

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



April 3, 2019

MATERIALS LABORATORY FACTUAL REPORT

Report No. 19-021

A. ACCIDENT INFORMATION

Place : Madras, Oregon
Date : August 19, 2017
Vehicle : Wheeler Express
NTSB No. : WPR17FA185
Investigator : Zoë Keliher

B. COMPONENTS EXAMINED

1. Two red ends from the pitch control.

C. DETAILS OF THE EXAMINATION

Two rod ends were submitted to the Materials Laboratory for examination of the surfaces of the internal bearing bore for any evidence of the installation of fastening hardware. The as-received evidence is shown in Figure 1. Closer views of the evidence are shown in Figures 2 -4. Digital microscope images of the inner bearing bores are shown in Figure 5. Using a 5X to 50X stereo-zoom optical microscope, no markings consistent with the presence of fastening hardware were observed in either bearing bore.

Michael Budinski
Chief, Materials Laboratory Division

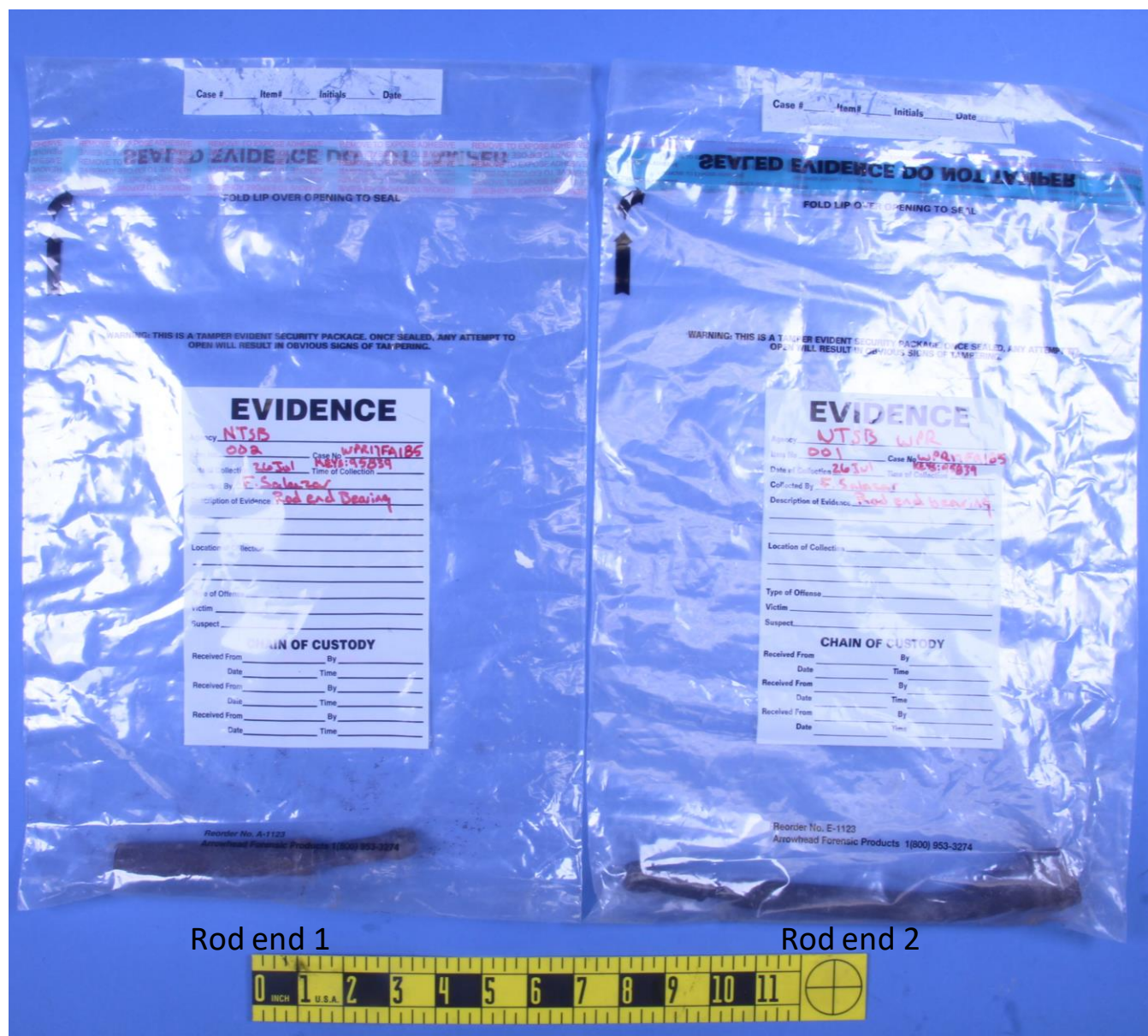


Figure 1 Image of the as-received evidence.



Figure 2 Views of the rod end bearings.



Figure 3 Closer view of rod end bearing 1.



Figure 4 Closer view of rod end bearing 2

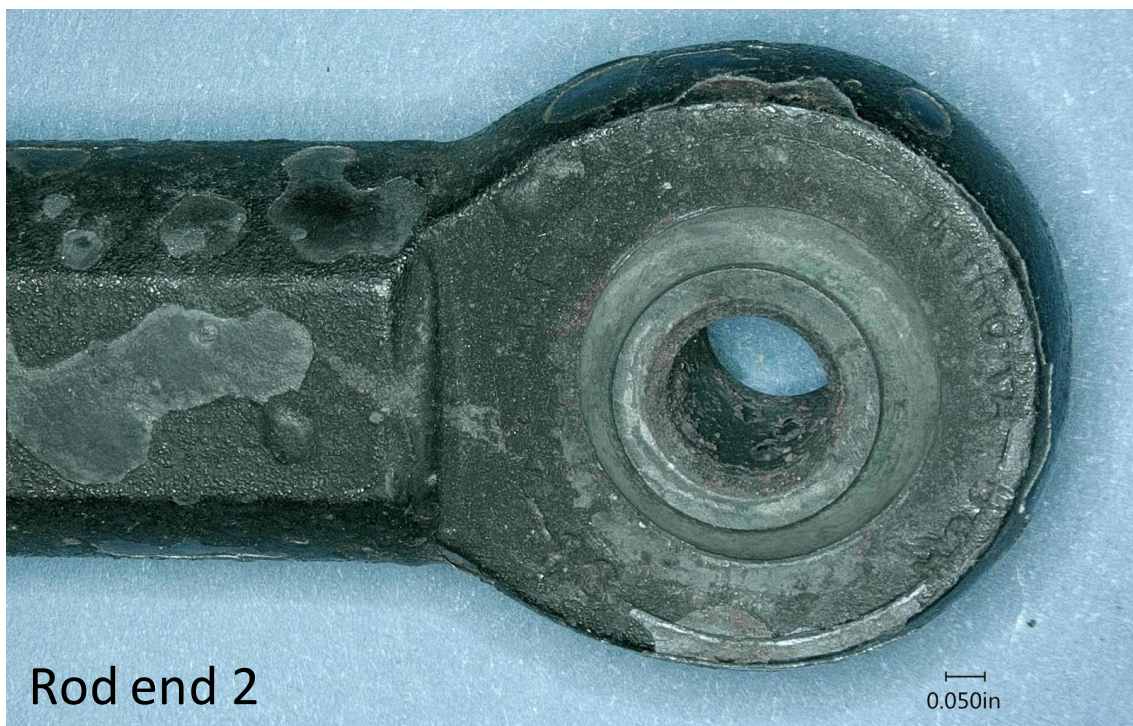


Figure 5 Close digital microscope views of the rod end bearing bores.