

NATIONAL TRANSPORTATION SAFETY BOARD

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



December 16, 2019

MATERIALS LABORATORY FACTUAL REPORT

Report No. 19-073

A. ACCIDENT INFORMATION

Place : Brookings, OR
Date : April 18, 2019
Vehicle : Vans RV8A, N791PF
NTSB No. : WPR19FA116
Investigator : Tom Little

B. COMPONENTS EXAMINED

Forward section of elevator torque tube and fractured connecting rod (Figure 1).

C. DETAILS OF THE EXAMINATION

The connecting rod fractured at the nut where it was threaded into the forward portion of the elevator torque tube. The fracture surfaces of the connecting rod were examined using a stereo microscope. The threaded shank portion of the connecting rod exhibited plastic deformation (Figure 2). The plastic deformation consisted of bending of the threaded shank and resulted in elongation of the thread pitch on one side of the threaded shank and compression of the thread pitch on the other. Some thread was torn out at the final fracture point (Figure 3). This fracture is consistent with bending overstress.

Joseph Panagiotou
Fire Protection Engineer



Figure 1: Forward section of elevator torque tube and fractured connecting rod as received.

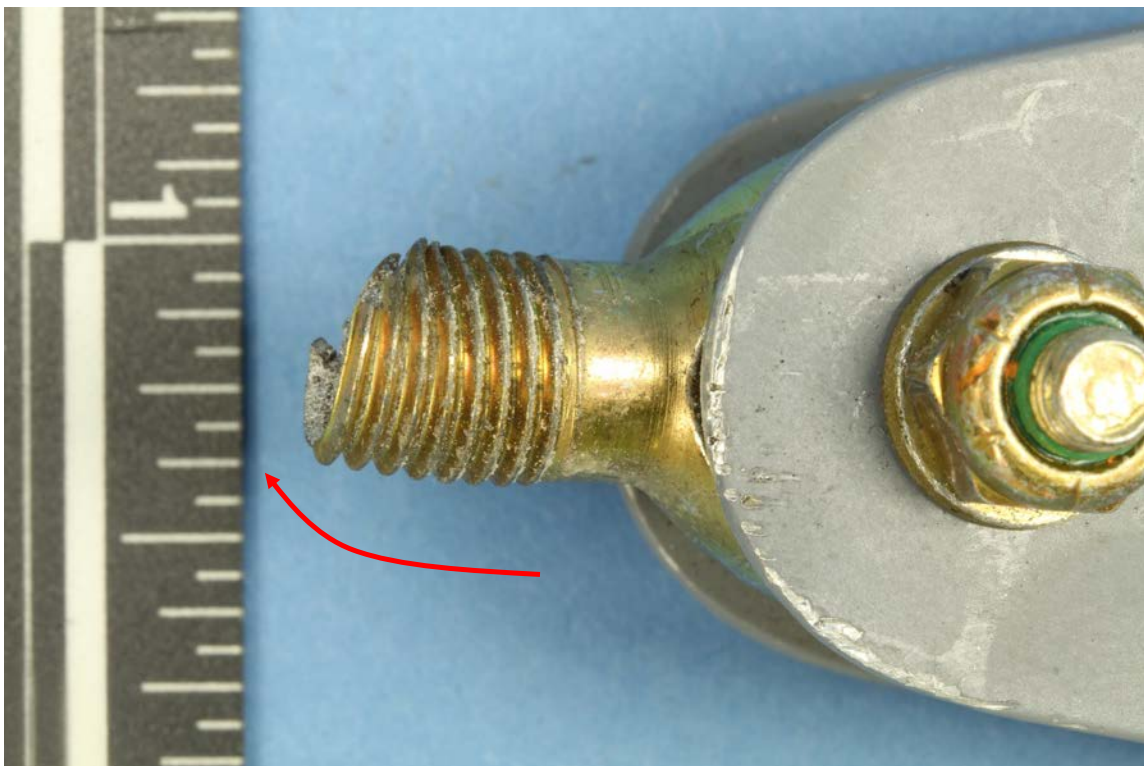


Figure 2: Connecting rod shank exhibiting plastic deformation.

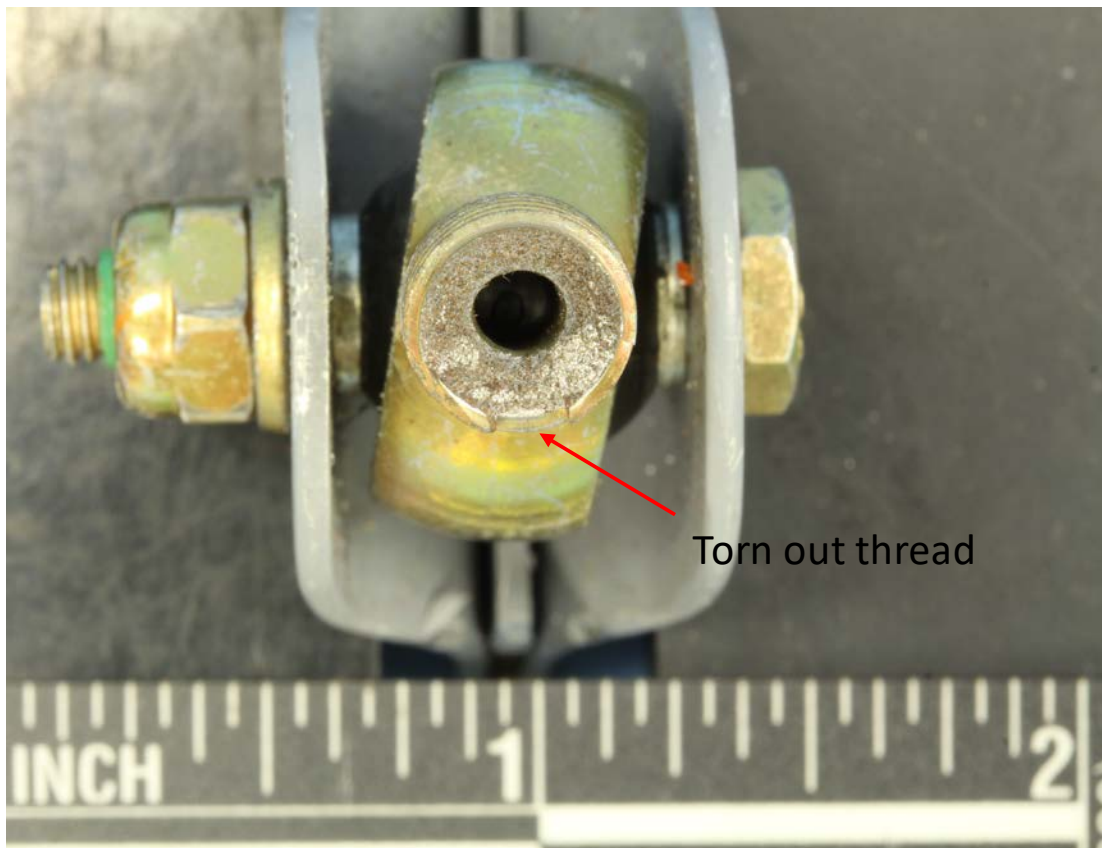


Figure 3: Torn thread at final fracture point.