

# NATIONAL TRANSPORTATION SAFETY BOARD

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



May 14, 2015

## MATERIALS LABORATORY FACTUAL REPORT

Report No. 15-052

### A. ACCIDENT INFORMATION

Place : Teterboro, New Jersey  
Date : May 3, 2015  
Vehicle : Cessna 525B, N784JS  
NTSB No. : ERA15IA206  
Investigator : Timothy W. Monville, AS-ERA

### B. COMPONENTS EXAMINED

Nose landing gear actuator with fractured lug, P/N 9912370-5,  
MFGR P/N 1541900-7, S/N 1375.

### C. DETAILS OF THE EXAMINATION

The as-received actuator is displayed in the two views of figure 1. The end attachment fitting on the actuator was fractured in locations on either side of the bearing as shown. Magnified visual examination on the fitting revealed fracture features and deformation patterns consistent with overstress separations at both locations. The fracture locations were consistent with tensile forces along the axis of the actuator. No indications of preexisting cracking or corrosion were noted.

X-ray Fluorescence spectroscopy of the fitting identified the material as 7075 aluminum alloy. Hardness (HRB 75.2 avg) and electrical conductivity (40.8% IACS) measurements were consistent with 7075 aluminum in the T73 temper condition.

Joe Epperson  
Senior Metallurgist

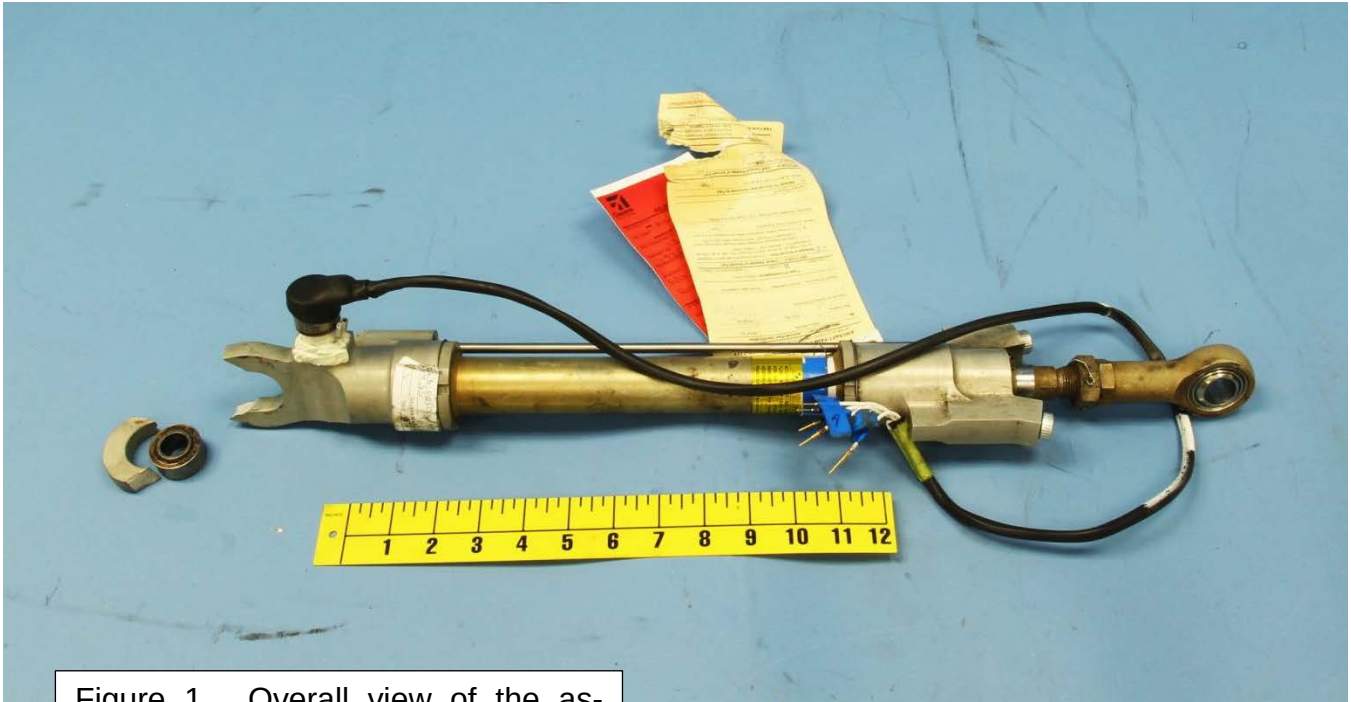


Figure 1. Overall view of the as-received actuator at top with a close-up view of the fractured attachment fitting below.

