

NATIONAL TRANSPORTATION SAFETY BOARD

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



July 2, 2019

MATERIALS LABORATORY FACTUAL REPORT

Report No. 19-035

A. ACCIDENT INFORMATION

Place : Ft. Lauderdale, FL
Date : 12/24/2018
Vehicle : Cessna
NTSB No. : ERA19LA079
Investigator : Dan Boggs

B. COMPONENTS EXAMINED

A portion of a rocker arm stud (figure 1).

C. DETAILS OF THE EXAMINATION

The rocker arm stud fractured in a threaded portion of the stud (Figure 1). The rolled threads of the rocker arm stud did not exhibit any anomalies in the area of the fracture. Examination of the fracture surface revealed characteristics consistent with a fatigue fracture (Figure 2). The fracture surface exhibited a relatively flat area with faint bands consistent with crack arrest fronts indicated by the dotted red outline in figure 2.

Joseph Panagiotou
Fire Protection Engineer



Figure 1: Portion of rocker arm stud as received.

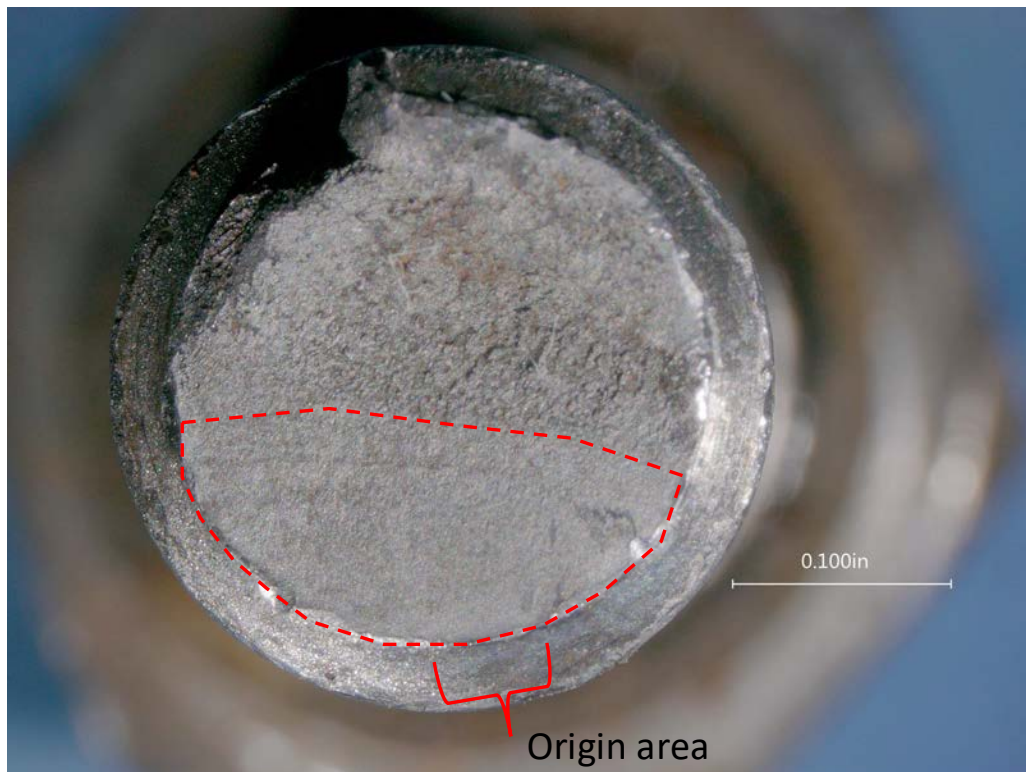


Figure 2: fracture surface with characteristics of a fatigue fracture.