

NATIONAL TRANSPORTATION SAFETY BOARD

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



September 14, 2019

MATERIALS LABORATORY FACTUAL REPORT

Report No. 19-001

A. ACCIDENT

Place : Richfield, Utah
Date : June 21, 2018
Vehicle : Shemp Herth Arcus M
NTSB No. : WPR18LA177
Investigator : Joshua Cawthra, AS-WPR

B. COMPONENTS EXAMINED

Upper portion of the rudder assembly

C. DETAILS OF THE EXAMINATION

The purpose of this report is to document the upper bearing attach fracture. The balance of the bearing is missing and has not been recovered. The as-received rudder piece is shown in Figure 1. Close views of the fractured hinge knuckle are shown in Figure 2. Examination of the fractures (Figure 3) using a digital microscope revealed that the knuckle fractured in two locations due to overstress.

Michael Budinski
Chief, Materials Laboratory Division

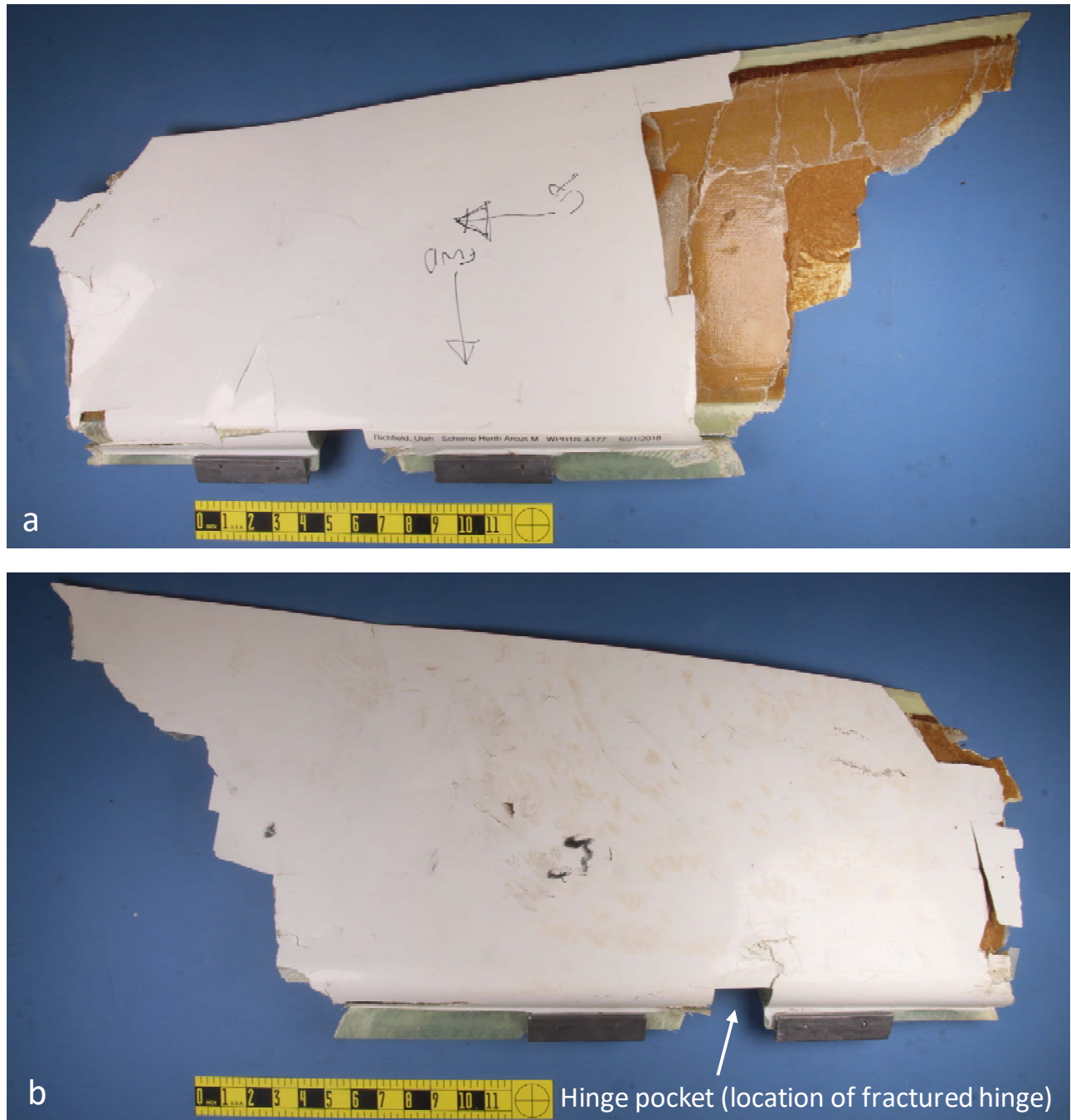


Figure 1 The as-received rudder piece.



Figure 2 Close views of the fractured hinge knuckle.

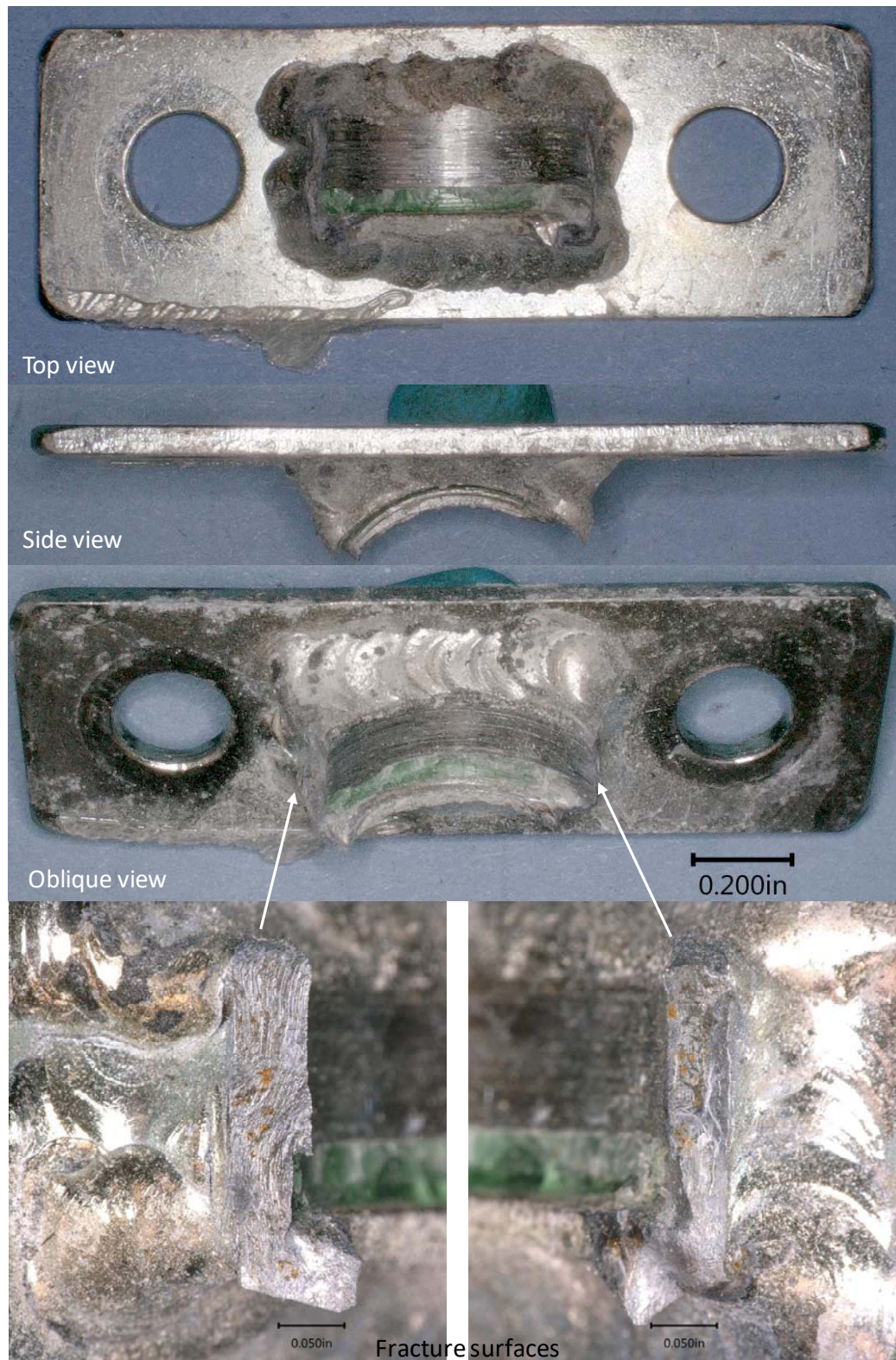


Figure 3 Digital microscope images of the fractured hinge knuckle.