

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA22LA348

MATERIALS LABORATORY

Factual Report 22-099

December 15, 2022

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A. ACCIDENT INFORMATION

Location: Raeford, North Carolina
Date: July 29, 2022
Vehicle: CASA C-212-200 Aviocar (N497CA)
Investigator: Lynn Spencer

B. COMPONENTS EXAMINED

Items from the right main landing gear

1. Two fractured pieces of right main landing gear upper fitting, a primary piece and a small fragment.
2. Fragment of rubber seal.
3. Six mounting bolts, five with washers, one was saw-cut into to two pieces and was missing a washer.
4. Miscellaneous: three washers, two castellated nuts, one bushing.

C. EXAMINATION PARTICIPANTS

Specialist Michael Budinski
NTSB
Washington, DC

D. DETAILS OF THE EXAMINATION

The submitted right main landing gear items are shown in in Figure 1.

Images of the right main landing gear upper fitting are in Figures 2-4. All exposed fracture surfaces were examined using a 5X to 50X stereozoom microscope. The fracture faces exhibited features consistent with overstress separation. No progressive or pre-existing fracture features were observed. One closed secondary crack was noted as identified in Figure 3. This crack was not opened for examination.

Two of the bolts were substantially bent in the shank region. Of those two, one of the bolts had its threads saw-cut for removal from the aircraft.

The following miscellaneous items were not examined: 3 washers, 2 castellated nuts, 1 bushing, and a fragment of rubber seal.

Submitted by:

Michael K. Budinski
Chief, Materials Laboratory



Figure 1. Image of the submitted items.

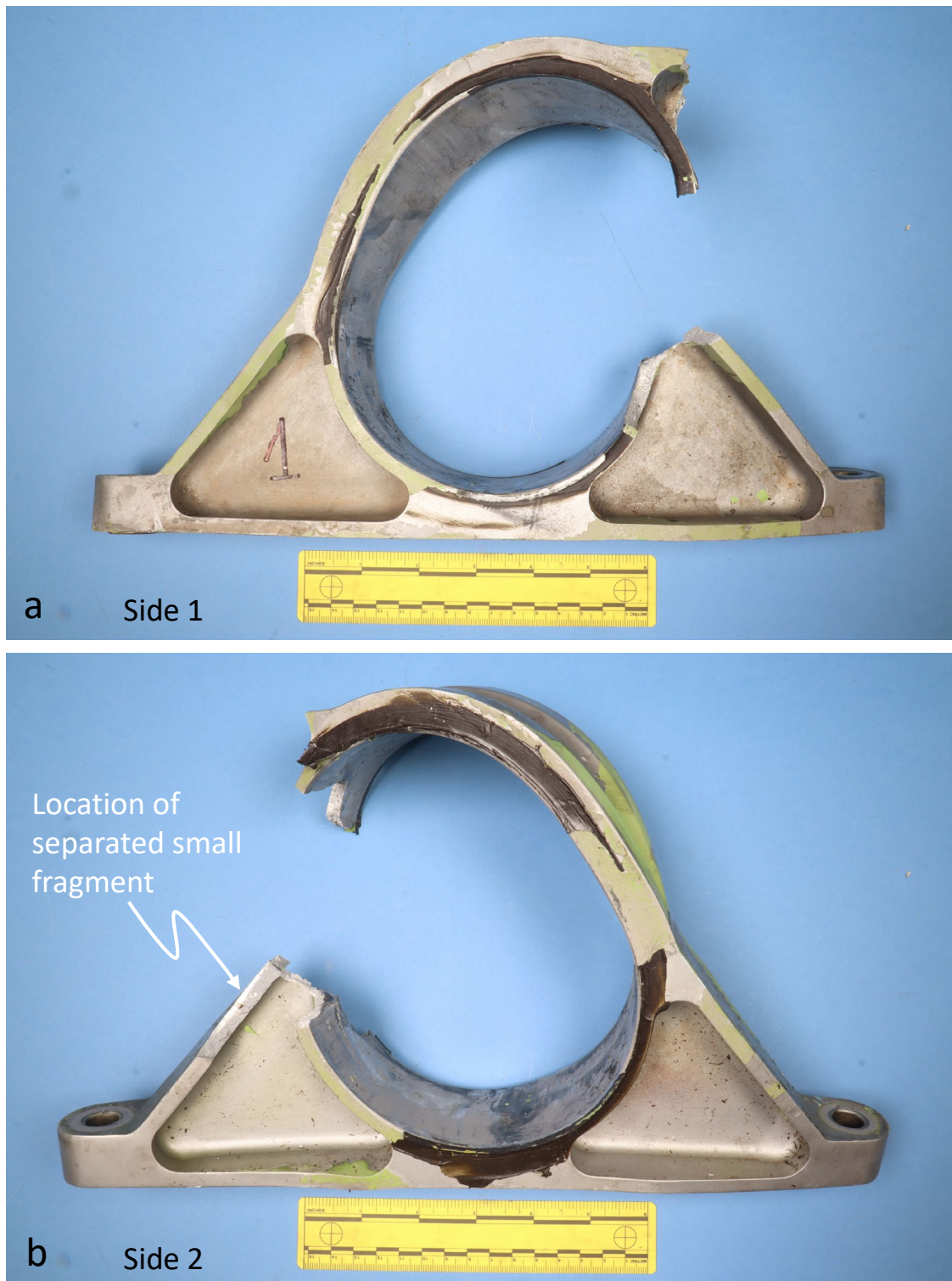


Figure 2. Images showing two sides of the primary piece of the right main landing gear upper fitting.

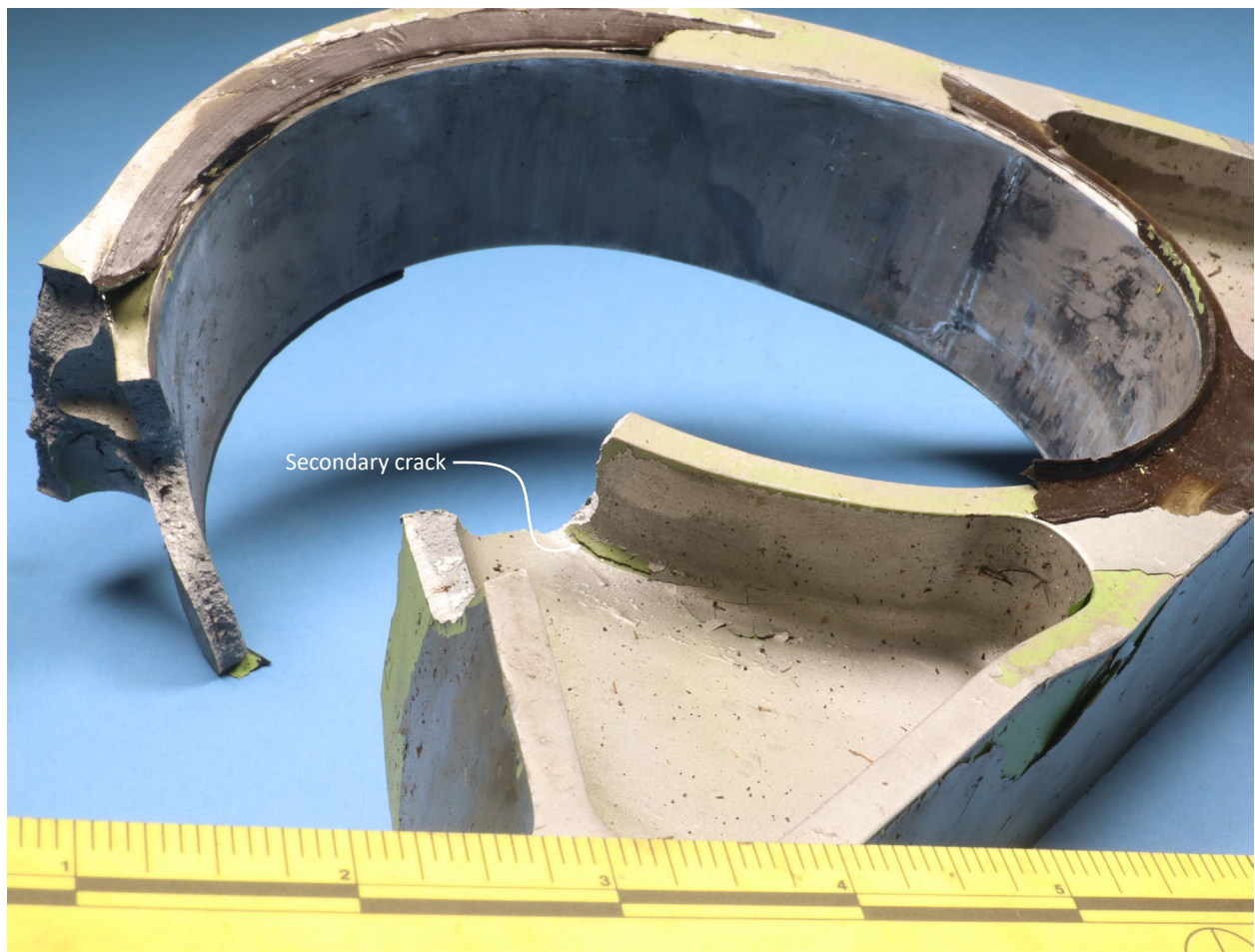


Figure 3. Oblique image of the primary piece of the right main landing gear upper fitting, with a secondary crack identified.

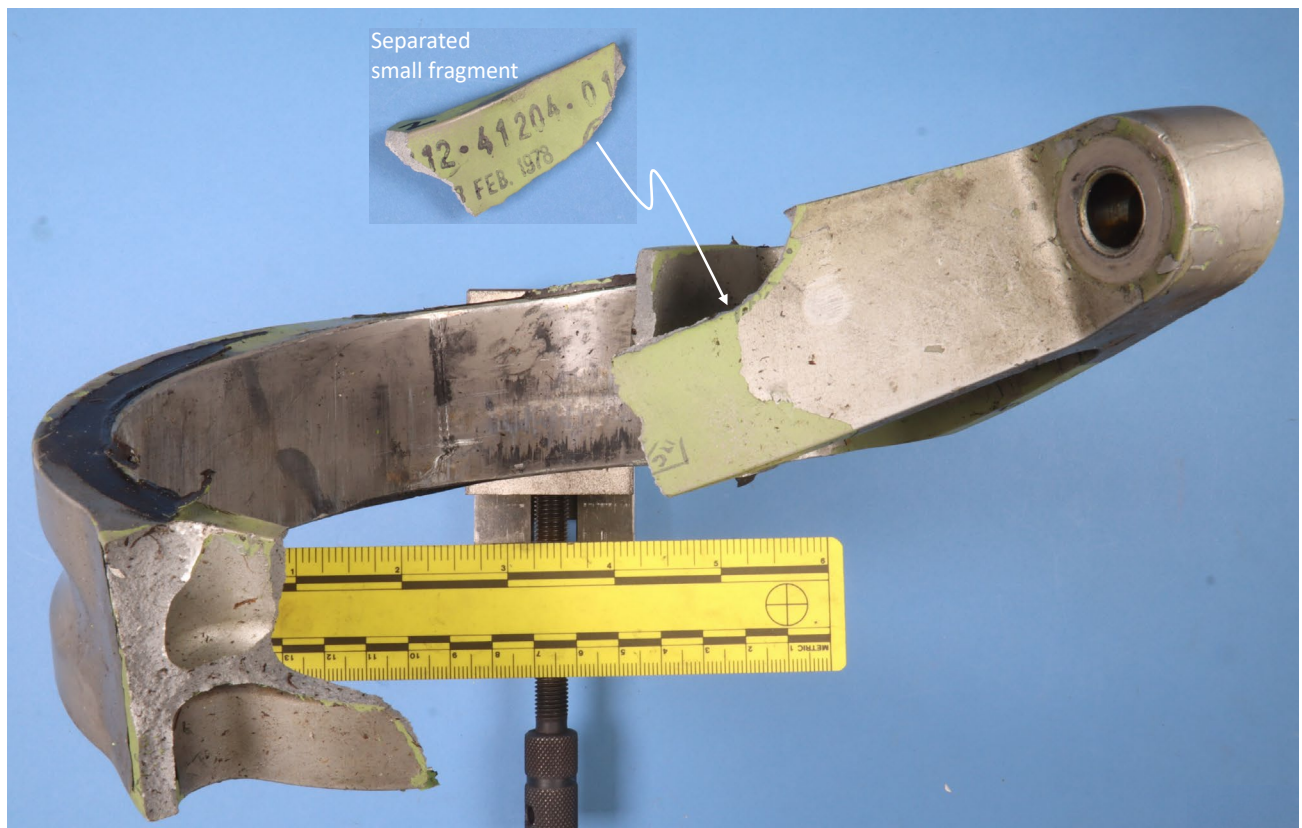


Figure 4. Side view of the primary piece of the right main landing gear upper fitting with an inset image of a separated fragment.