

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



ERA23LA293

MATERIALS LABORATORY

Factual Report 24-039

July 26, 2024

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A. ACCIDENT INFORMATION

Location: Waldorf, Maryland
Date: July 9, 2023
Vehicle: Hughes 369D, N5027P
Investigator: Chihoon Shin, AS-40

B. COMPONENTS EXAMINED

Three engine mounts.

C. EXAMINATION PARTICIPANTS

Specialist Matthew R. Fox, Ph.D.
NTSB
Washington, DC

D. DETAILS OF THE EXAMINATION

An overall view of the submitted engine mounts as received is shown in figure 1. The engine mounts were intact as shown, and the arms appeared to be straight. Welded areas attaching the arm tubes to the fittings at the inboard ends of the upper mounts and at the center and outboard ends of the center mount were examined at up to approximately 50x magnification using a stereo microscope, and no evidence of cracks were observed.

Next, each mount was scanned using a Keyence VL-500 series 3D scanner. A cylinder was fit to each of the tubular arms, and no substantial deviations were observed along the length of the arms relative to the fitted cylinder. Cylinders were also fit to the inboard ends of the outboard fittings on the upper mounts, and the cylinder axes aligned to the respective arm tube axes with angle differentials of no more than 0.2 degree. Distance was also measured on each arm measuring the length between attachment hole centers where the hole axis intersected the attachment surface plane. The measured lengths were within 0.1 inch of lengths calculated from reference aircraft positions noted on engineering drawings for the engine mounts.

Submitted by:

Matthew R. Fox, Ph.D.
Chief Technical Advisor - Materials

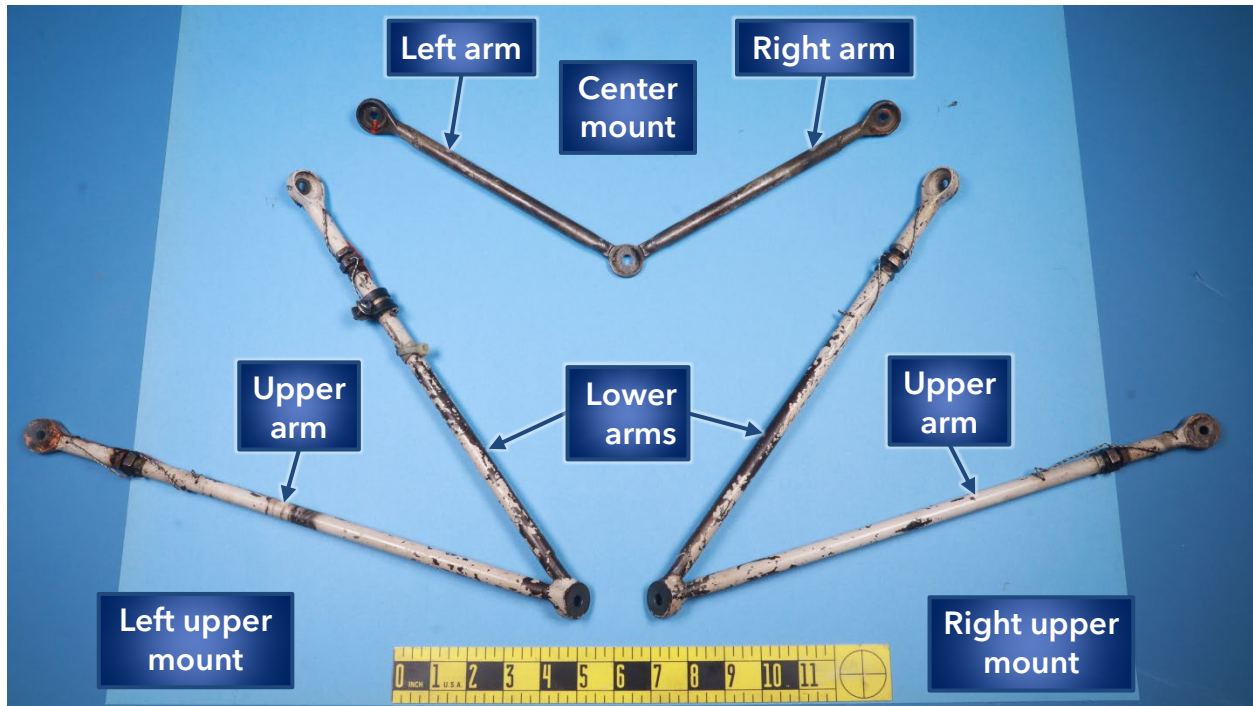


Figure 1. Overall view of the submitted engine mounts.