

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



CEN24LA211

MATERIALS LABORATORY

Factual Report 24-046

July 26, 2024

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A. ACCIDENT INFORMATION

Location: Chandeleur Islands, Louisiana
Date: May 22, 2024
Vehicle: Cessna 172RG, N751DW
Investigator: Timothy Sorensen, AS-CEN

B. COMPONENTS EXAMINED

Oil pressure line.

C. EXAMINATION PARTICIPANTS

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

D. DETAILS OF THE EXAMINATION

An overall view of the submitted oil pressure line is shown in figure 1. The oil line was bent approximately 360 degrees near the middle of the line, and the line was fractured within the bent segment.

An overall view of the fracture surface is shown in figure 2. The fracture surface had a relatively smooth surface with curving crack arrest lines emanating from an origin area on one side, features consistent with fatigue. The origin was located at the exterior surface of the tube at the outside of the 360-degree bend. Unlabeled arrows in figure 2 indicate fracture arrest lines as the crack progressed initially through the thickness of the tube wall and then circumferentially to final fracture at the opposite side of the tube.

Submitted by:

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

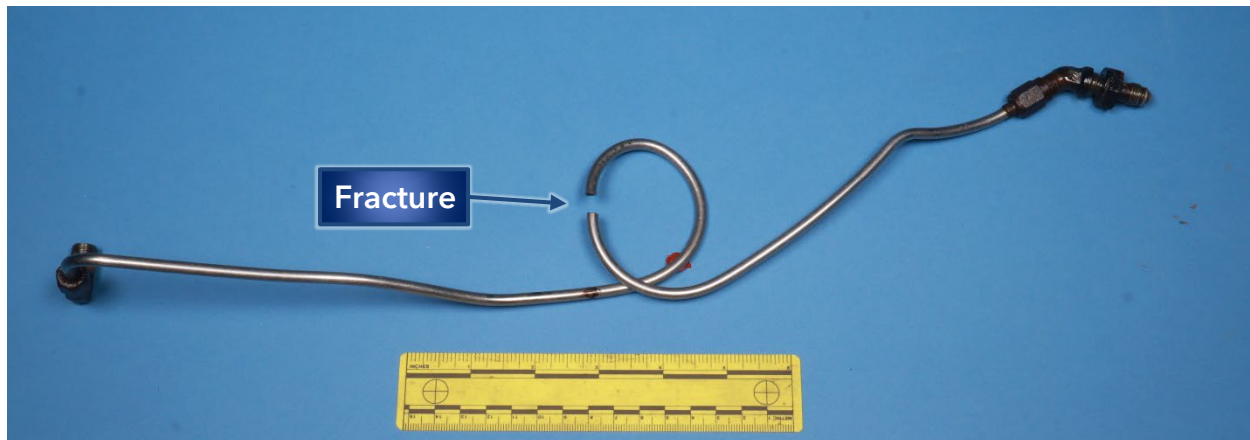


Figure 1. Overall view of the bent and fractured oil pressure line as received. The mating fracture surfaces are positioned in their approximate relative positions.

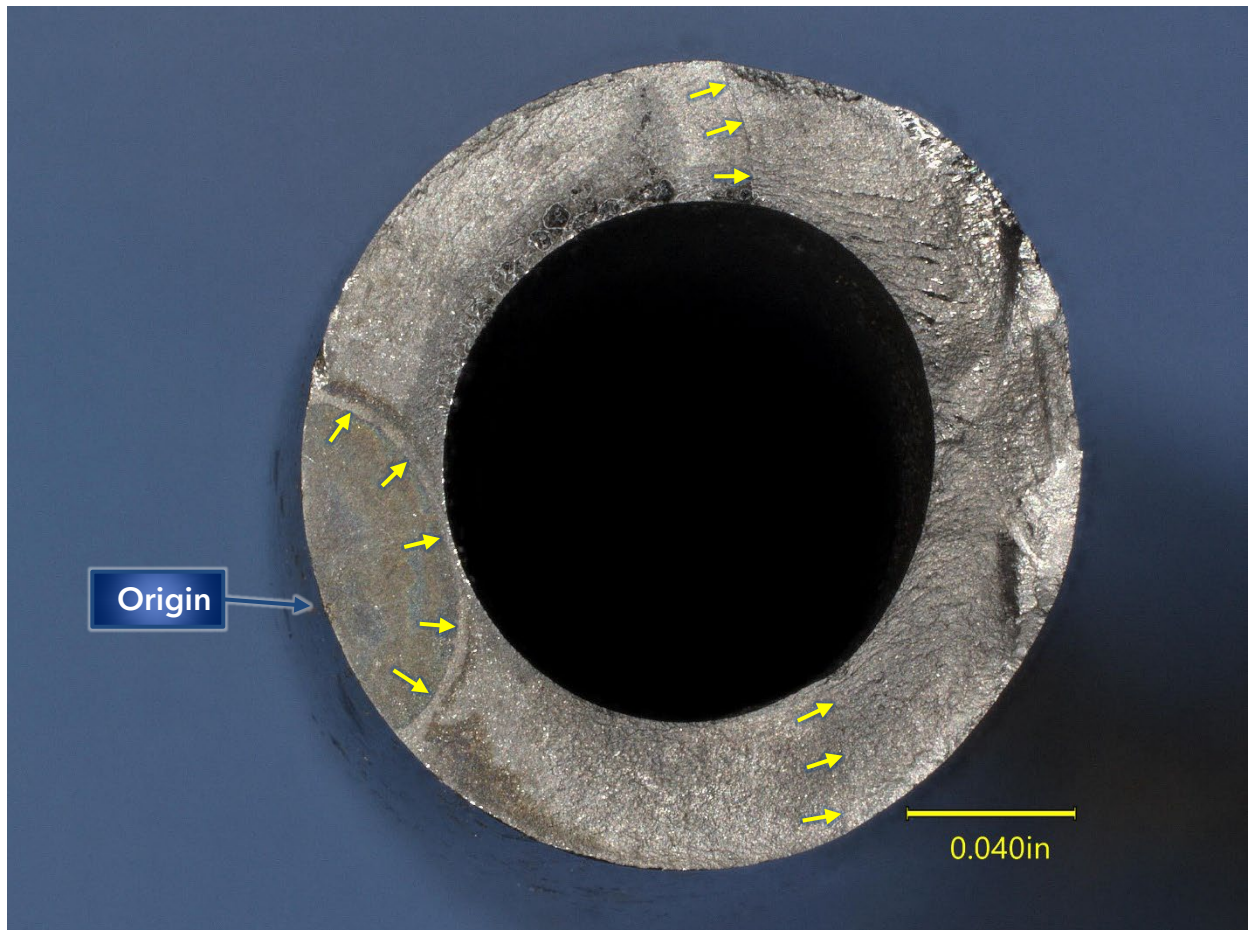


Figure 2. Fracture surface on the oil line piece shown at the right in figure 1. Unlabeled arrows point to several crack arrest lines.