

Williams Shaun

From: Fox Matthew
Sent: Thursday, July 19, 2018 1:34 PM
To: Williams Shaun
Subject: ANC18LA048 - Fairbanks, Alaska - Brake line examination
Attachments: IMG_1545.JPG; IMG_1546.JPG; IMG_1549.JPG; IMG_1553.JPG

Shaun,

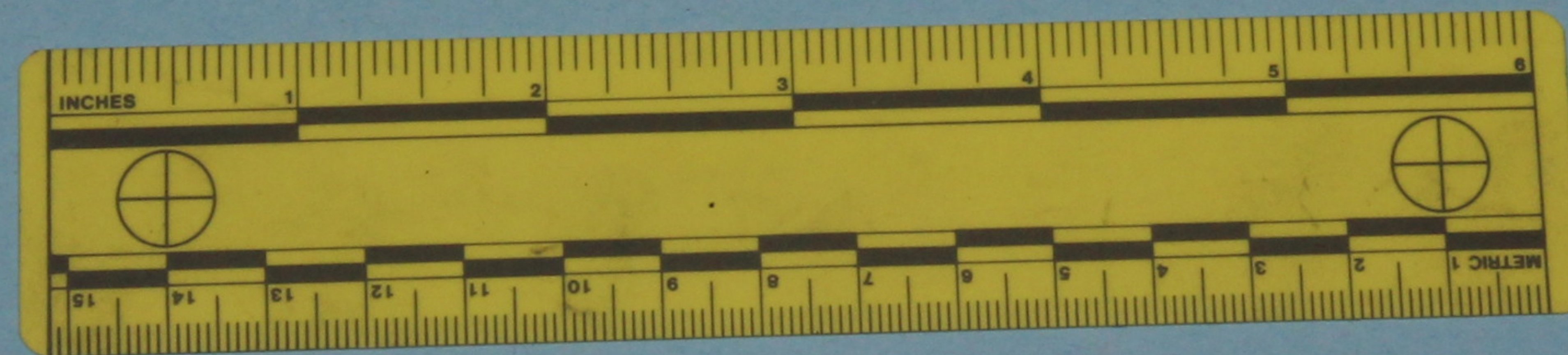
The submitted brake line tube and fitting hardware from the subject investigation were examined at the NTSB Materials Laboratory (see attached photos). At the failed end, the outer diameter of the tube approximately matched the nominal outer diameter of the ¼-inch diameter aluminum tube. The interior surface of the failed end had circumferential marks up to 0.136 inch from the end consistent with formation of a flared end with a flaring tool. The sleeve was trapped within the nut from the failed end, and deposits of gray metal appearing consistent with deformed brake tube material was observed deposited on internal threads of the nut up to 3 threads from the end of the sleeve.

An intact flare with a nut and sleeve was present at the opposite end of the tube. When assembled with the sleeve in place on the intact flared end, the end of the tube was approximately flush with the end of the sleeve. The length of the flared end measured along the interior surface was 0.109 inch.

According to Federal Aviation Administration Advisory Circular AC 43-13-1B, *Acceptable Methods, Techniques, and Practices – Aircraft Inspection and Repair*, a double flare is used on soft aluminum tubing having a 3/8-inch outside diameter or less. No evidence of folded walls consistent with a double flare was noted at either end of the submitted brake line tube.

-Matt

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