NATIONAL TRANSPORTATION SAFETY BOARD

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

April 10, 2009

MATERIALS LABORATORY FACTUAL ADDENDUM REPORT Report No. 08-134AD

A. ACCIDENT

Place	: Columbia, SC
Date	: 9/18/2008
Vehicle	: Learjet Model 60, N999LJ
NTSB No.	: DCA08MA098
Investigator	: Bob Swaim

B. COMPONENTS EXAMINED

Light bulbs from annunciator panel

C. DETAILS OF THE EXAMINATION

The cockpit annunciator panel was submitted to determine if there was any hot stretching relaxation of the coils for the light bulb filaments (damage that, if present, would be an indication of impact loading while the filament was on). However, the "on" (or energized) filaments would not stretch if there was not significant impact loading. Each indicator contained two bulbs. There were several damaged bulbs but, in every instance, the damage was limited to only one bulb of the pair in those fixtures. The damage most likely resulted from the removal of the melted plastic from fixtures. The filaments for the intact bulb of the pair were examined to determine the status of the indicator.

Six annunciator lights were examined in depth: 1) left TR unlock, 2) left TR arm, 3) left TR deploy, 4) right TR arm, 5) right TR deploy and 6) right TR unlock. The left TR unlock light was missing one bulb. However, the remaining bulb was intact and displayed no hot stretching relaxation of the coils. The left TR arm light had both filaments intact and did not display hot stretching relaxation of the coils. The left TR deploy light had damage to one of the bulb's glass covers, but both filaments were intact and did not display hot stretching relaxation of the coils. The right TR arm light had damage to one of the bulb's glass covers, but both filaments were intact and did not display hot stretching relaxation of the coils. The right TR deploy light had damage to one of the bulb's glass covers, but both filaments were intact and did not

display hot stretching relaxation of the coils. The right TR unlock bulbs had both filaments intact and did not display hot stretching relaxation of the coils.

Nancy B. McAtee
Chemist

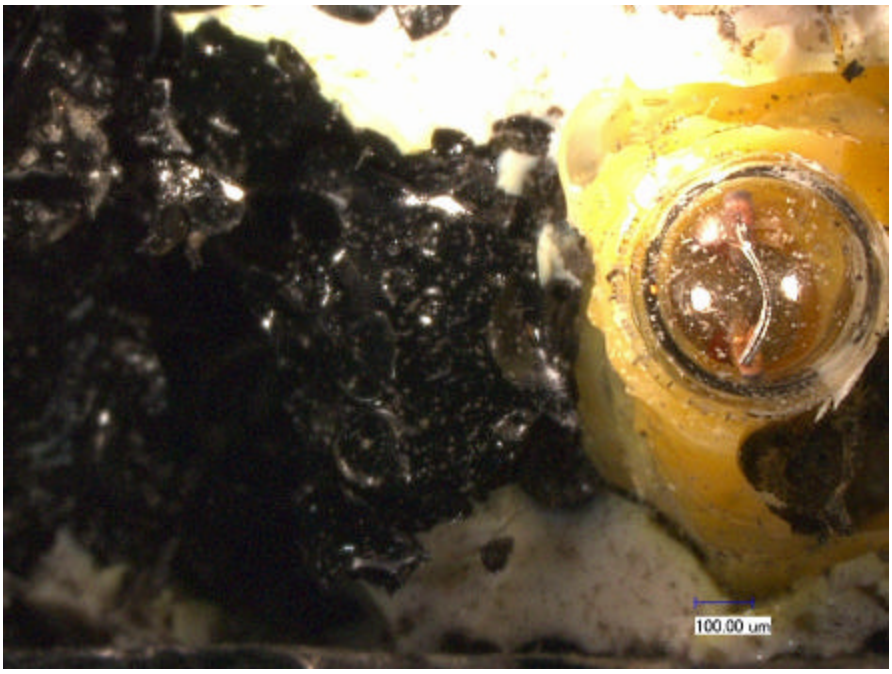

Figure 1: Left TR unlock light bulb (left bulb missing)

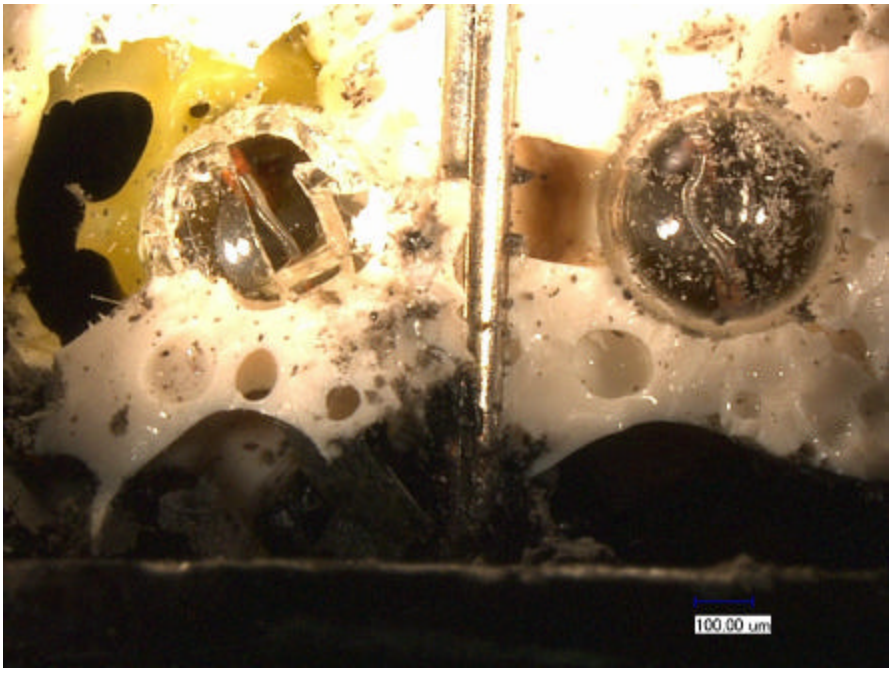

Figure 2. Left TR arm light bulbs

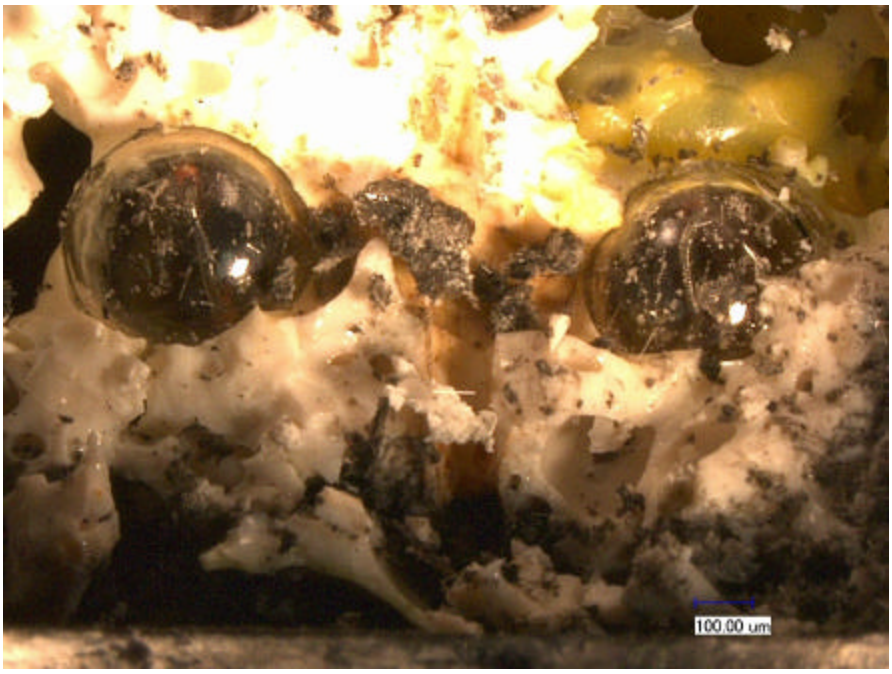

Figure 3: Left TR deploy light bulbs

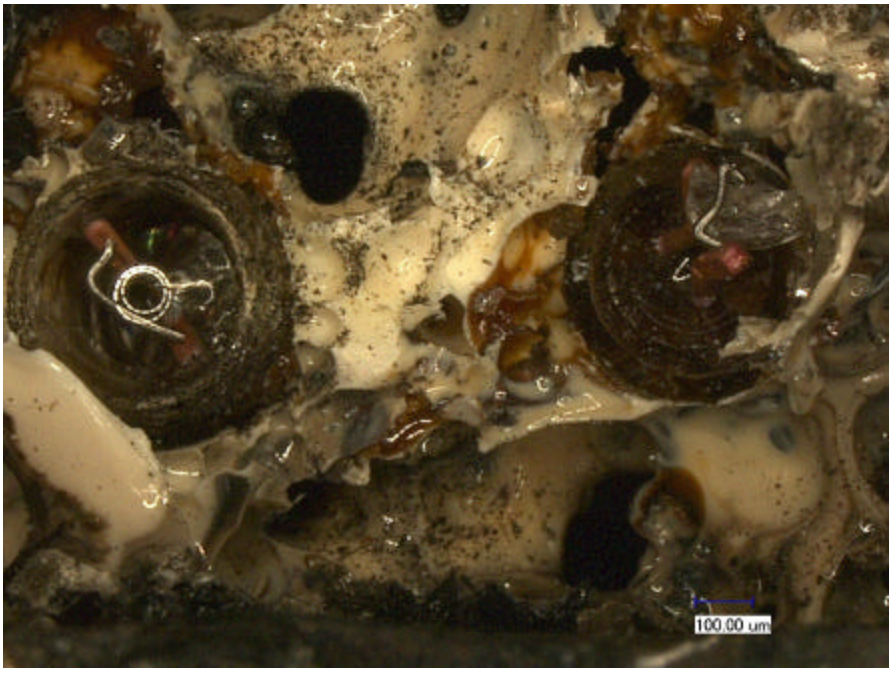

Figure 4. Right TR arm light bulbs

Figure 5: Right TR deploy light bulb s

Figure 6. Right TR unlock light bulbs