

# NATIONAL TRANSPORTATION SAFETY BOARD

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



January 22, 2009

MATERIALS LABORATORY FACTUAL REPORT

Report No. 08-134

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## A. ACCIDENT

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

## B. COMPONENTS EXAMINED

Annunciator panel, fractured pieces of a runway reflector and unknown material, left and right brake hose assemblies

## C. DETAILS OF THE EXAMINATION

The cockpit annunciator panel was submitted to determine if there was any filament stretching in any of the annunciator panel lights. The panel was heavily fire damaged, as shown in Figure 1. The faceplate melted into the indicator fixtures. Once the plastic was removed from each indicator fixture, the bulbs were examined. 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. None of the filaments examined had hot stretching relaxation of the coils (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.

Fractured pieces of an unknown material were submitted for comparison to pieces of runway reflector found at the scene. An example of both materials is shown in Figure 2. The runway reflector consisted of four layers (although not all the pieces still contained all four layers): 1) a reflective upper layer, 2) a tan layer consistent in appearance to plastic, 3) a gray, flexible layer consistent in appearance with adhesive and 4) a black, aggregate-like layer consistent in appearance with asphalt. The unknown samples contained two layers. The lower layer was a black, aggregate-like layer consistent in appearance with asphalt similar to the bottom layer of the known reflector material. The top layer, which was shiny and black, was not consistent with any material found on the known reflector fragments.

The left and right brake hose assemblies were submitted for examination to determine if any debris, particularly anything consistent with tire material, was found embedded in the hose and wiring. No embedded material was found on any of the hoses or wiring.

Nancy B. McAtee  
Investigator



Image No.:0812A00135, Project No.: 2008100011

Figure 1 Annunciator panel.

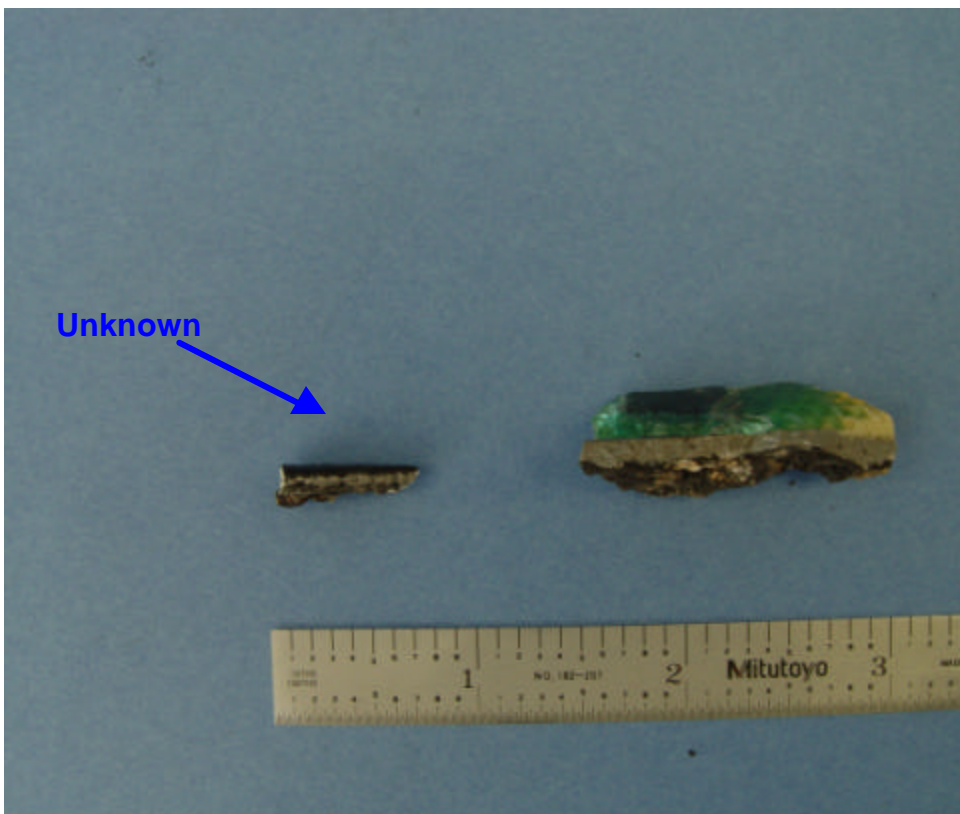


Image No.:0901A00125, Project No.: 2008100011

Figure 2 Fragments of unknown material and a runway reflector.