

# NATIONAL TRANSPORTATION SAFETY BOARD

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



January 9, 2015

MATERIALS LABORATORY FACTUAL REPORT

Report No. 15-002

## A. ACCIDENT INFORMATION

Place : Bagram Air Force Base, Afghanistan  
Date : April 29, 2013  
Vehicle : B747-400BCF  
NTSB No. : DCA13RA081  
Investigator : Brian Murphy  
AS-40

## B. COMPONENTS EXAMINED

FDR chassis and M-ATV antennae mounting structure

## C. DETAILS OF THE EXAMINATION

The FDR chassis and the M-ATV antennae mounting structure from the accident aircraft were submitted to the laboratory for examination. There was an orange-colored transfer on the surface of the antennae mount. The transfer material on the antennae mount was compared to the paint on the FDR chassis to determine the origin of the transfer. The transfer material was examined using a Fourier Transform Infrared (FTIR) micro-spectrometer with a diamond attenuated total reflectance (ATR) accessory in accordance to ASTM E1252-98 and ASTM E334-01 (American Society for Testing Materials E1252-98: *Standard Practice for General Techniques for Obtaining Infrared Spectra for Qualitative Analysis* and American Society for Testing Materials E334-01: *Standard Practice for General Techniques for Infrared Microanalysis*). The spectrometer was used to collect and process infrared wavelength absorbance spectrum of the transfer sample. The transfer spectrum was compared to the spectrum from a paint sample removed from the FDR chassis. The transfer sample was not an exact match for the paint from the FDR chassis. However, the transfer sample spectrum and the chassis paint sample spectrum shared three similar peak patterns. The transfer material spectrum was also similar to other spectra of paints indicating that the transfer is likely a paint

transfer. The origin of the orange colored transfer could not be determined by spectral analysis. Therefore, the testing results were determined to be inconclusive.

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