

**National Transportation Safety Board
Washington, D.C. 20594**

Fire Factual
January 26, 2004

A. Accident information

NTSB Accident Number:	DCA05MA004
Date of Accident:	Tuesday, October 19, 2004
Location of Accident:	Kirkville, MO
Aircraft:	British Aerospace Jetstream 32
Registration:	N875JX
Investigator:	Nancy B. McAtee, Joseph Panagiotou

B. Synopsis

On October 19, 2004, about 1937 central daylight time, a British Aerospace Jetstream 32 twin-engine turboprop airplane, N875JX, operating as American Connection Flight 5966 (a feeder commuter for American Airlines), crashed during an instrument approach to the Kirkville Regional Airport in Kirkville, Missouri. The airplane carried 2 crewmembers and 13 passengers. The flight was being operated as a scheduled Part 121 airline flight. It departed from St. Louis, Missouri, about 6:45 pm and was destined for Kirkville.

According to preliminary information, the flight was being vectored by the Kansas City Air Route Traffic Control Center (ARTCC) for the Localizer Distance Measuring Equipment (LOC-DME) approach to runway 36 at Kirkville. The airplane was cleared to descend from 15,000 feet. The airplane reportedly crashed about 4 miles from the runway during the approach. There was a post crash fire.

American Connection is owned and operated by Corporate Airlines, a small commuter airline based in Smyrna, Tennessee.

C. Parts submitted for inspection

Two parts recovered from the accident aircraft were submitted for inspection. Both samples were prepared in the field and packaged in metal cans. One of the parts is the logo light located on the upper surface of the left horizontal stabilizer (Figure 1). The light was found in its originally installed location. The other part is a portion of aircraft skin recovered from the lower surface of the left elevator. The sample was removed from the elevator assembly using tin snips. The locations of these parts are shown in Figure 1.

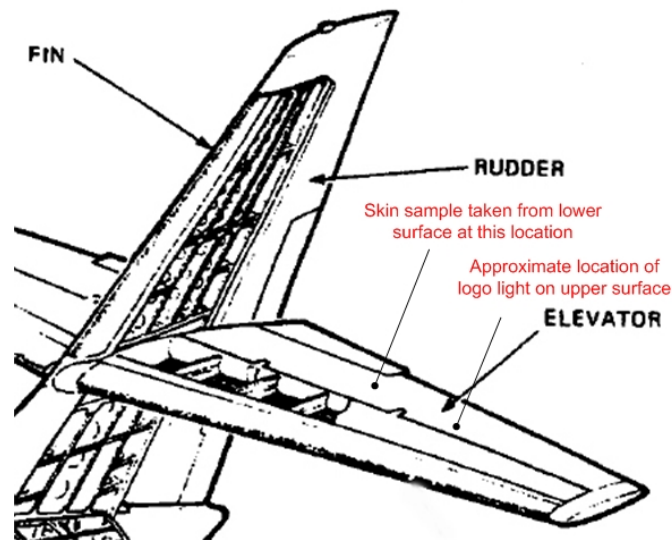


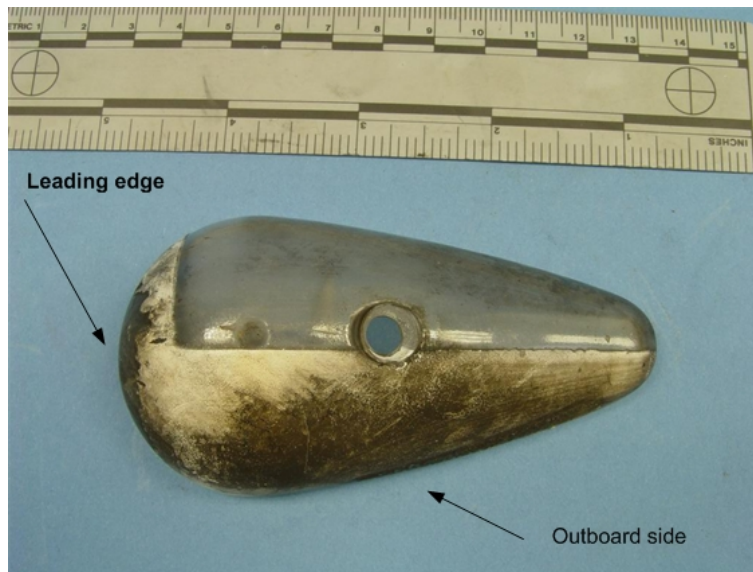
Figure 1 (Locations of parts submitted for inspection)

The left horizontal stabilizer was found lying upside down at the accident site.

D. Documentation of condition of parts

Logo light

The logo light (Photograph 1) was found at the accident site in its original location of installation (Photograph 2). The approximate size of the light is 10cm long by 5cm wide and 2.5cm tall. The light is made of glass with a ceramic coating applied to the leading edge and outboard side. The surface of the logo light is scratched and gouged. The leading edge shows significantly more mechanical damage than the rest of the surface. The outboard side of the light (opaque part) shows more soot on the surface than the inboard side. There is no distinguishable thermal damage to the light on either the external or internal surface.



Photograph 1 (Logo light)



Photograph 2 (Logo light at accident site)

Aircraft skin sample

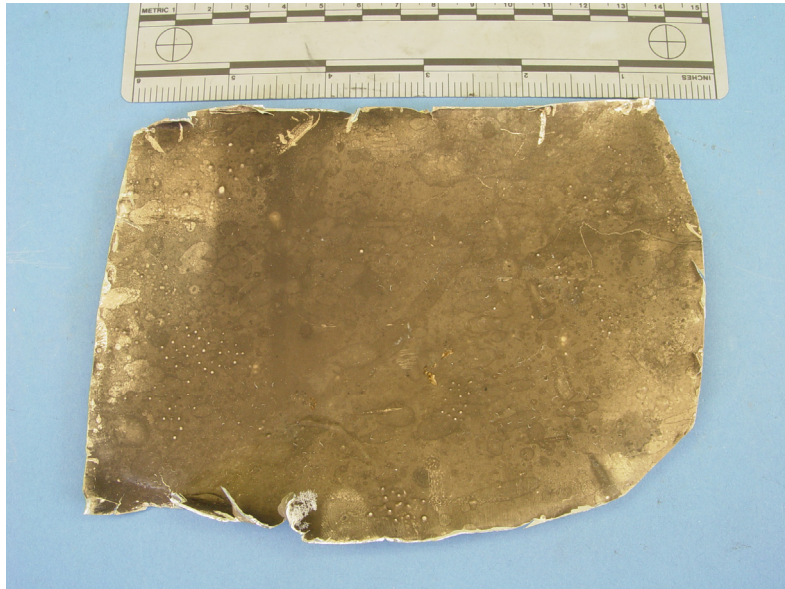
The skin sample (Photographs 3, 4, 5) was taken from the lower surface of the left elevator (Photographs 6, 7). The size of the sample is approximately 14cm by 10cm. The external surface of the skin sample shows generally uniform soot deposition without distinguishable flow patterns. The soot is easily removed using a damp swab. Removing the soot reveals a slight discoloration to the paint underneath. Originally, the paint was white. The discoloration is indicative of a surface temperature approximately 315°C^{1,2}. Additionally some

¹ Aircraft Mishap Fire Pattern Investigations, Joseph M. Kuchta, Robert G. Clodfelter. U.S Department of Commerce, NTIS, ADA 161 094

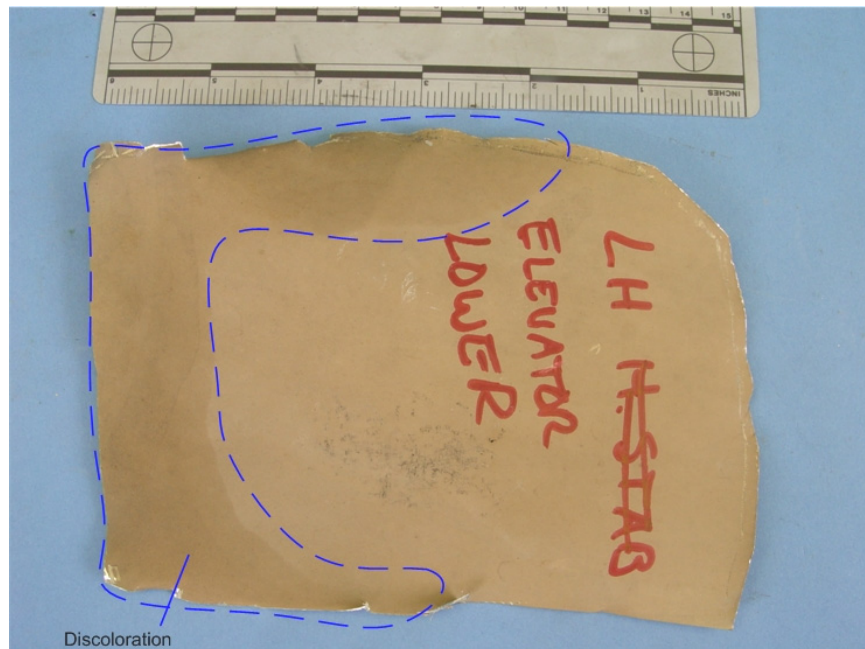
² Aircraft Fire Investigator's Manual, NFPA

light blistering can be seen on the painted surface (Photograph 5). The blistering indicates a temperature at the surface in the range of 425°C - 450°C^{1,2}.

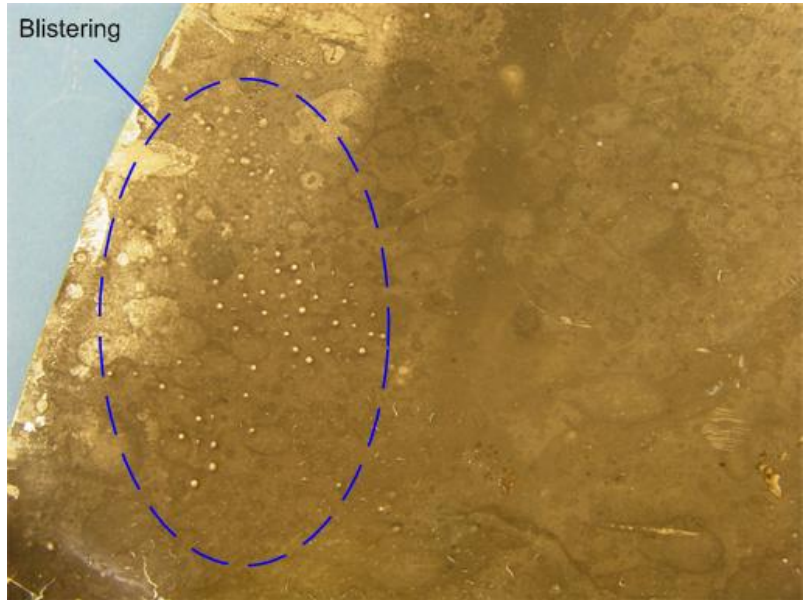
On the internal side (Photograph 4) the primer paint also shows some discoloration. Specifically there are regions where the tan primer has taken on a brown color. The regions where the color of the primer has changed are consistent with the regions showing blistering on the exposed side. The change in color, from tan to brown suggests a surface temperature of 260°C^{1,2}. Besides the soot and thermal degradation there are no other notable signs of damage.



Photograph 3 (External surface of skin sample)



Photograph 4 (Internal surface of skin sample)



Photograph 5 (Close-up of blistering on external surface)



Photograph 6 (Left elevator before sample cut out)



Photograph 7 (Left elevator after sample cut out)