

Development of Columbia Leading Edge Reconstruction System – Abstract

**Point of Contact: Dan Wegerif, ASRC Aerospace Corporation
(321) 867-1492**

After the loss of Columbia in 2003, the Columbia Accident Investigation Board and NASA KSC directed personnel at the Launch Equipment Test Facility to design and build high fidelity mock-ups of Columbia's left wing leading edges. These leading edge segments, constructed of reinforced carbon-carbon, were a major point of inquiry by the investigation team. The LETF engineers developed a concept of building a clear Lexan panel with an aluminum support structure ten percent larger than the original panel. The leading edge debris are attached to the Lexan panels and both the front and back side of each panel are visible for inspection. The entire assembly can be rotated, to provide visual access to the entire panel. Ten carts were fabricated to support the seventeen panels. These carts could be set up in order, next to each other, to provide the desired inspection access. The carts and attached debris are currently located in the Vehicle Assembly Building at KSC.