Flight Deck Smoke Penetration Testing

Federal Aviation Administration

Presented to: International Aircraft Systems Fire Protection
Working Group. Koeln,. Germany

By: Dave Blake, FAA Technical Center Fire Safety

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- **Testing was requested by the FAA Transport Airplane Directorate.**

- **Objective is to determine if current flight deck smoke penetration certification testing is adequate.**

- **Tests will be conducted in both the forward, aft, and main deck of the 747SP aircraft. (If representative airflow conditions can be achieved)**

- **Test conditions will include smoke penetration tests using only pack1, pack2, and pack 3.**

- **Additional tests will be conducted under the above conditions but with varied areas of cargo liner removed for the below floor tests.**

747SP

Aft below floor cargo compartment

Flight deck

Stairs from main deck

Front of main deck and stairs

Flight deck smoke penetration testing has previously been conducted in the Tech Center's 747SP and 727 freighter (DOT/FAA/AR-TN03/36). This testing was in support of new regulations to address aircraft security concerns. The testing did not include the specific conditions included in this current project.