Hidden Fire Testing



Federal Aviation Administration



Presented to: International Aircraft Systems Fire Protection Working Group. London UK

By: Dave Blake. FAA Technical Center. Atlantic City, NJ. Email: Dave.Blake@faa.gov

Date: April 2-3, 2008



Hidden Fire Testing





727 Interior cabin ceiling mockup

Hidden Fire Testing

International Aircraft Systems Fire Protection Working Group

April 2-3, 2008



727 Instrumentation in area of cabin ceiling mockup



Hidden Fire Testing International Aircraft Systems Fire Protection Working Group April 2-3, 2008





Higher capacity air compressor operational.



NEA capacity 17 CFM @ 5.6% Oxygen

Hidden Fire Testing

International Aircraft Systems Fire Protection Working Group

April 2-3, 2008



2 Inner NEA Inlets, Average Oxygen From Probes 2,3,4



Hidden Fire Testing



2 Inner NEA Inlets, Average Oxygen From Probes 2,3,4



Hidden Fire Testing



4 NEA Inlets, Average Oxygen from Probes 1-4



Hidden Fire Testing



4 NEA Inlets, Average Oxygen from Probes 1-4



Hidden Fire Testing



Summary

•Inert atmosphere can be produced in a 13 foot section above the cabin ceiling of this fuselage using 2 NEA insertion points in times between 1.8 to 3.1 minutes (plus system lag time)*.

•Inert atmosphere can be produced in a 22 foot section above the cabin ceiling of this fuselage using 4 NEA insertion points in times between 1 to 1.7 minutes (plus system lag time)*.

•Inert atmospheres can be produced with a wide variety of high nitrogen purity/ low flow rate or low nitrogen purity/higher flow rates combinations*.

*Ground tests without aircraft ventilation system operating.

Hidden Fire Testing



Future Plans

Project has been suspended due to higher priority testing requested. Testing will resume when resources are available.

Hidden Fire Testing International Aircraft Systems Fire Protection Working Group April 2-3, 2008

