2006 FAA Workshop for Composite Damage Tolerance & Maintenance

The FAA and Wichita State University invite you to participate in a 2006 workshop on Composite Damage Tolerance & Maintenance. This workshop will be held in Chicago, IL, on July 19-21, 2006 immediately following the 50th MIL-HDBK-17 meetings. As a recognized industry expert, you are being personally invited to participate in this technical review.

Workshop participants will include selected experts from industry, regulatory agencies, academia and other government organizations that are familiar with composite damage tolerance and maintenance practices from the field.

An increasing number of aircraft are using composite materials in structures critical to flight safety. Engineers and inspectors involved in certification and continued airworthiness assessments must be familiar with the principles of composite damage tolerance and the related maintenance practices of inspection and repair. The current workshop will help benchmark damage considerations, design criteria, methods, structural test issues, inspection, repair and other procedures that ensure composite structural integrity. This workshop will help guide future FAA Composite Safety & Certification Initiatives (CS&CI) to develop related training, guidance and policy. These initiatives will include aviation industry participation.

The FAA damage tolerance and maintenance initiatives started several years ago. Recently, the FAA has been working with industry experts on training standards for awareness of critical safety issues in composite maintenance. A working group, which includes Airbus, Boeing, FAA and EASA, has addressed composite damage tolerance and maintenance engineering issues over the last eight months. This workshop will be used to review and expand these CS&CI efforts to include the perspectives of other experts.

Since the 1990's, SAE Commercial Aircraft Composite Repair Committee (CACRC), MIL-HDBK-17, and the American Society for Testing & Materials (ASTM Committee D-30) have made progress in documenting practical composite educational materials, engineering guidelines and standards for damage tolerance and maintenance. With expanding applications of composite materials to many aircraft products, the FAA wants to assist these standards organizations accelerate their efforts. The FAA Joint Advanced Materials & Structures (JAMS) Center of Excellence has supported these efforts by benchmarking industry practice. The 2006 workshop will provide a basis for future JAMS training and research in composite damage tolerance and maintenance. As efforts progress, additional workshops will be held with composite experts so they can periodically review progress.

Agenda Items: The topics currently scheduled for review at the workshop are listed below.

- Damage tolerance of sandwich and stiffened-skin constructions
- Structural test protocols
- Damage tolerance criteria & methods for airframe structure
- Damage resistance, environment, growth rate and statistical considerations
- Substantiation of maintenance procedures (inspection and repair)
- Maintenance training standards
- Open discussions to recommend future developments in each of these areas

Critical safety and certification issues face the industry for each of these topics. The workshop is organized per the agenda shown below. The FAA will open the workshop with a synopsis of active CS&CI for composite damage tolerance and maintenance, which will yield future guidelines, standards and training materials. In the five sessions that follow invited speaker's will present information that will benchmark the industry practices for each subject area. Finally, an interactive session will be used to collect additional expert insights in up to four technical areas. The FAA and JAMS want to listen to your perspectives on these subjects. In order to maintain proper balance in workshop participants and to pre-assign the associated breakout session groups, you will be asked to select technical areas where you can contribute most to the workshop forum when you register. Please reply promptly, the workshop has limited space and registration order will establish preference for attendance.

The workshop has been planned to minimize the time away from other work activities. We will begin the workshop on the afternoon of Wednesday, July 19, 2006 to allow you to travel that morning. The workshop will conclude on Friday, July 21, 2006 at noon so you can return home that afternoon. The schedule will help your travel planning.

In order to participate in the workshop, you must pre-register. Your registration must be accepted before you will receive logistical information. An email confirming your acceptance into the workshop will be sent after the attendance list is finalized. If you need logistical information prior to receiving the acceptance email, please contact us via the Contact link on the website. To register online, visit http://www.niar.wichita.edu/chicagoworkshop/.

We look forward to seeing you!

Agenda for 2006 Composite Damage Tolerance & Maintenance Workshop

<table>
<tr><th></th><th>Wednesday, July 19</th><th>Thursday, July 20</th><th>Friday, July 21</th></tr>
<tr><td>8 a.m.</td><td></td><td rowspan="2">Session 2*
Substantiation of Structural
Damage Tolerance</td><td rowspan="2">Session 6
Technical Breakout Sessions
(*Separate working meetings covering technical subjects from Sessions 2 - 5)</td></tr>
<tr><td>9 a.m.</td><td></td></tr>
<tr><td>Break (15 min.)</td><td></td><td></td><td></td></tr>
<tr><td>10:15 a.m.</td><td></td><td rowspan="2">Session 3*
Structural
Test Protocols</td><td rowspan="2">Session 7
Summary from Breakout Teams
Recap/Actions/Closure/Adjourn</td></tr>
<tr><td>11:15 a.m.</td><td></td></tr>
<tr><td>12:15 p.m.</td><td></td><td></td><td></td></tr>
<tr><td>1:15 p.m.</td><td rowspan="2">FAA Initiatives
Safety Management
Airbus/Boeing/EASA/FAA WG
Maintenance Training Update</td><td rowspan="2">Session 4*
Substantiation of Maintenance
Inspection and Repair Methods</td><td rowspan="2"></td></tr>
<tr><td>2:15 p.m.</td></tr>
<tr><td>Break (15 min.)</td><td></td><td></td><td></td></tr>
<tr><td>3:30 p.m.</td><td rowspan="2">Session 1
Applications & Service Experiences</td><td rowspan="2">Session 5*
Detail Subject (TBD)</td><td rowspan="2"></td></tr>
<tr><td>4:30 p.m.</td></tr>
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