

MMPDS
2nd Coordination Meeting

MIL-HDBK-5
102nd Coordination Meeting



Handout

October 7-10, 2002
Cocoa Beach, FL

F-16C Falcon

A 482nd Fighter Wing (93rd Fighter Squadron) F-16C Fighting Falcon near the southern Florida coastline over Homestead Air Reserve Base. The aircraft carries AIM-120 and AIM-9 air-to-air missiles, a single GBU-12, ALQ-131 jamming pod and a lighting targeting pod. (USAF photo by Master Sgt. Joe Cupido) 010611-F-0073C-003

Schedule of Meetings

Monday, 7 October

8:00am - 8:15am	Registration
8:30am - 12:00pm	Industry Steering Group (ISG members only)
1:15pm - 4:30pm	Industry Steering Group (open meeting, all welcome)
2:00pm - 3:00pm	Government Steering Group (GSG members only)
3:15pm - 4:00pm	Joint Industry/Government Steering Group meeting
4:15pm - 5:30pm	Airframer Steering Group (ASG members only)

Tuesday, 8 October

8:00am - 8:15am	Registration
8:30am - 12:00am	Statistics Working Group
1:15pm - 5:30pm	Guidelines Task Group

Wednesday, 9 October

8:00am - 8:15am	Registration
8:30am - 12:00am	Joint Fastener Industry Working Group and Fastener Task Group
1:15pm - 4:30pm	
8:30am - 12:00pm	Materials Task Group
1:15pm - 3:00pm	
3:15pm - 5:30pm	Laser Additive Manufacturing Working Group

Thursday, 10 October

8:30am - 12:00pm	MIL-HDBK-5 General Coordination Group Meeting
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**Schedule of Meetings for the 102nd MIL-HDBK-5, 2nd MMPDS, and 10th ISG
Coordination Meetings, October 7-10, 2002 – Cocoa Beach, Florida**

Time Period	Monday, 10/7		Tuesday, 10/8	Wednesday, 10/9		Thursday, 10/10
	Steering Groups		Guidelines Task Groups	Materials Task Groups		General Coordination
8:30am – 10:00	10th ISG* (Limited to ISG 2002 members only)		SWG*	MTG*	Joint FIWG/FTG*	GCC*
10:00 – 10:15						
10:15 – 12:00						
12:00pm – 1:15	Lunch Break (individual responsibility)					
1:15 – 3:00	GSG (2:00pm start)	10th ISG * (Open to all interested meeting participants)	GTG*	MTG	Joint FIWG/FTG*	
3:00 – 3:15	Break			Break		
3:15 – 4:00	Joint ISG/GSG			LAMWG		
4:15 – 5:30	ASG					

* Catered break during meeting

ASG Airframer Steering Group
 FIWG Fastener Industry Working Group
 FTG Fastener Task Group
 GCC General Coordination Committee
 GSG Government Steering Group
 GTG Guidelines Task Group
 ISG Industrial Steering Group
 LAMWG Laser Additive Manufacturing Working Group
 MTG Materials Task Group
 SWG Statistics Working Group

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**2nd MMPDS and 102nd MIL-HDBK-5
GENERAL COORDINATION COMMITTEE
(GCC) MEETING**

DATE: October 11, 2002
PLACE: Cocoa Beach, FL
TIME: 8:30 a.m.

- I. Introduction of Attendees
- II. Chairman's Remarks
- III. Approval of 101st Meeting Minutes
- IV. General Discussion Items
 - A. ISG Status Report
 - B. Publication Schedule for MMPDS-01 and MIL-HDBK-5J
- V. Chapter 1 General Items and GCC Special Presentations
- VI. Summary Review of MIL-HDBK-5 Agenda Items
- VII. MIL-HDBK-5 Wrap Up Discussions
 - A. Selection of Next Meeting Location & Time
 - B. Closing Comments

**Revised Agenda
for
2nd MMPDS and 102nd MIL-HDBK-5 Coordination Meetings
in
Cocoa Beach, FL
October 7-10, 2002**

Note: For the sake of simplicity the traditional terminology of MIL-HDBK-5 or MIL-5 is maintained throughout this agenda. However, unless otherwise noted, actions taken on these agenda items will also apply to the new MMPDS Handbook, which will be issued by the FAA in early 2003.

CHAPTER 1. GENERAL

- No Item No. **AMS Coordination. (GCC)** J. Jackson, Battelle, will provide a status report on relevant AMS material specifications that were approved or initiated between the 1st and 2nd MMPDS coordination meetings. The Fall AMS meeting will be held September 30th - October 4th in Seattle, WA.
- No Item No. **Meetings of Potential Interest to MIL-HDBK-5 Coordination Members. (GCC)** R. Rice, Battelle, will review the enclosed list of meetings. Note that the current list contains relevant technical society websites.
- No Item No. **Cancellation of Government Specifications and Subsequent Replacement Specifications. (GCC)** J. Jackson will provide a status report on the most recent information available from SAE/AMS. She will also review the recent specification actions of the AIA Early Warning Group.
- No Item No. **Special Presentation. (SWG)** J Goodman, Alcoa, will give a special presentation Tuesday morning in the SWG on Development of Statistical Design Limits on Crack Growth Data.
- No Item No. **Special Presentation. (SWG)** R Rice will give a special presentation presented on behalf of A. Quilter, ESDU, Tuesday morning in the SWG. The topic will be: Overview of Metallic Materials Data Handbook (European equivalent to MIL-HDBK-5).
- No Item No. **Special Presentation. (GTG)** S. Thompson, AFRL/MLSC, will give a special presentation Tuesday afternoon in the GTG on Determination and Presentation of Stress Corrosion Threshold Values.
- No Item No. **Special Presentation. (MTG)** M Niedzinski, Pechiney, will give a special presentation Wednesday on The McCook Buy-Out and Its Effect on Their Emerging Aircraft Alloys.

- No Item No. **Special Presentation. (LAMWG)** W Roy and D Snoha, Army, will give a special presentation Wednesday afternoon in the LAMWG on Army Experience with Laser Additive Manufacturing.
- No Item No. **Special Presentation. (LAMWG)** S Thompson, AFRL, will give a special presentation Wednesday afternoon in the LAMWG on Air Force Experience with LAM.
- No Item No. **Special Presentation. (LAMWG)** S Fantle and Brian Sova, Boeing, will give a special presentation Wednesday afternoon in the LAMWG on Boeing's Experience with LAM. An abstract is included.
- No Item No. **Special Presentation. (GCC)** R Brazill, Alcoa, will give a special presentation on Plane-Stress Fracture Toughness Testing and Analysis – Complications and Possible Solutions. An abstract is included.
- No Item No. **Special Presentation. (GCC)** R Rice, Battelle, will give a special presentation on Demonstration of Proposed New Statistical Analysis Procedure for Fasteners. Refer to Item 99-27.
- No Item No. **Government Steering Group. (GSG)** S. Thompson, AFRL/MLSC, will provide a GSG status report at the General Coordination Committee (GCC) meeting on Thursday morning. A closed meeting of the GSG will be held on Monday, October 7th, beginning at 3:15pm.
- No Item No. **Airframer Steering Group. (ASG)** J.T. Amin, Lockheed, will provide a ASG status report at the General Coordination Committee (GCC) meeting on Thursday morning. A closed meeting of the ASG will be held on Monday, October 7th, beginning at 1:15pm.
- No Item No. **Industrial Steering Group. (GCC)** R. Rice will give a status report at the GCC meeting on current ISG-supported technical activities.
- The 10th ISG meeting will be held on Monday, October 7th. The morning session, which will begin at 8:30am, will be limited to representatives of ISG 2002 member companies. However, the afternoon session, which will be scheduled to begin at 1:15pm, will be open to other Handbook coordination-meeting attendees who would like to attend. The preliminary agenda for the ISG meeting is included as an attachment.
- No Item No. **Guidelines Task Group. (GTG)** R. Rice will lead discussion of current Chapter 9 items in the Guidelines Task Group meeting, which will take place on Tuesday, October 8th. A copy of the GTG meeting agenda is attached.

- No Item No. **Materials Task Group. (MTG)** J. Jackson will lead discussion of the new and continued materials items for Chapters 2 through 7 in the Materials Task Group meeting, which will be held on Wednesday, October 9th. A copy of the MTG meeting agenda is attached.
- No Item No. **Statistics Working Group. (SWG)** H. Tsai, Battelle, will lead a discussion of new and continued statistics items at the Statistics Working Group meeting, which will be held on Tuesday, October 8th. A copy of the SWG meeting agenda is attached.
- Item 02-21 **Update of Government MIL Specifications. (MTG)** J. Jackson will present the enclosed agenda item.
- No Item No. **Trademark Identification (GCC)** J. Jackson will lead discussion on the enclosed agenda item.

CHAPTER 2. STEEL ALLOYS

- Item 02-22 **A- and B-Basis Properties for Custom 465 H950 & H1000 Bars, Wires, and Forgings (MTG)** J. Jackson will present the enclosed agenda item.

CHAPTER 3. ALUMINUM ALLOYS

- Item 00-9 **Including EXCO Ratings in MIL-HDBK-5. (MTG)** R. Rice will present a status report on this item.
- Item 00-10 **Reference for Weldability of Aluminum in Section 3.1.3.4. (MTG)** J. Jackson will review this brief agenda item.
- Item 00-6 **A and B-Basis Properties for 2297-T87 Plate. (MTG)** J. Jackson will present the enclosed agenda item and handout. This item was put on hold at the fall meeting due to the transition from McCook to Pechiney. Additional data was supplied and analyzed.
- Item 01-09 **Derived Properties for 2297-T87. (MTG)** J. Jackson will present this agenda item and handout on 2297-T87, which focuses on the collection and analysis of derived property data in connection with the above Agenda Item 00-06.
- Item 01-08 **Update Test Methods for Plane-Stress Fracture Toughness Data. (MTG)** R. Rice will present a status report. R. Brazill will give a special presentation at the GCC on this subject.
- Item 01-11 **A- and B-Basis Properties for 7250-T7451 Aluminum Alloy Plate. (MTG)** J. Jackson will present the enclosed data proposal. The draft AMS specification is being prepared for ASC. This item was also held open due

to the transition to Pechiney. Bearing and shear properties were only tested in the LT direction. No additional testing has been submitted.

- Item 01-15 **S-Basis Properties for 7055-T76511 Aluminum Extrusions (MTG).** J. Jackson will present the enclosed data proposal. AMS 4336 was published in March 2002. Additional data were received and analyzed.
- No Item No. **A- and B-Basis Properties for 7055-T76511 Aluminum Extrusions (MTG).** J. Jackson will present a handout.
- Item 01-16 **A- and B-Basis Tensile Properties for 7249-T76511 Aluminum Alloy Wide Extrusions. (MTG)** J. Jackson will present the enclosed agenda item from the 101st meeting and a handout. Additional testing is near completion and will be analyzed for A- and B-basis. Additional bearing and shear testing have not been completed. The draft AMS specification is being prepared for ASC.
- Item 02-02 **Reduced Beryllium Replacement for D357-T6. (MTG)** J. Jackson will present the enclosed brief data proposal.
- Item 02-03 **Reduced Beryllium Replacement for A357-T6. (MTG)** J. Jackson will present the enclosed brief data proposal.
- Item 02-10 **Design Minimum Properties for 7055-T74511 Extrusions. (MTG)** J. Jackson will present the enclosed data proposal on this new item. A draft AMS specification has been prepared and sent to Aerospace Council. (just needed 3 LT lots for derived properties)
- Item 02-14 **Design Minimum Properties for 7150-T77511 Extruded Wide Panels (MTG).** J. Jackson will present a status report of the draft AMS specification (D01-AD). This item was approved at the 101st MIL-5 meeting pending specification approval.
- Item 02-16 **A- and B-Basis Properties for 7050-T7651 Aluminum, 1.0 – 1.5 Inch Thick Plate (MTG).** R. Rice will present an agenda item of the results of the reanalysis of strength data on this alloy using the recently accepted Pearson method. This was shown as a handout at the 101st MIL-5 meeting.

CHAPTER 4. MAGNESIUM ALLOYS

No items for review.

CHAPTER 5. TITANIUM ALLOYS

- Item 99-11 **A- and B-Basis Design Mechanical Properties for Ti-6-4 Castings. (MTG)** J. Jackson and R. Rice will review the enclosed agenda item. The draft AMS specification is waiting for approval by ASC.

No Item No. **Shear Modulus Correction of Ti-6-4. (MTG)** J. Jackson will review this brief handout.

CHAPTER 6. HEAT RESISTANT ALLOYS

No Item No. **Additional Stress-Strain Curves for Haynes 230. (MTG)** J. Jackson will review the enclosed agenda item.

CHAPTER 7. MISCELLANEOUS ALLOYS AND HYBRID MATERIALS

No items for review.

CHAPTER 8. STRUCTURAL JOINTS

No Item No. **Fastener Task Group. (FTG)** As the acting chair of the Fastener Task Group, N. Ontko, AFRL, will lead discussions at the Fastener Task Group meeting, which will be held on Wednesday, October 9th. The primary focus of discussion will be on Items 99-27 and 00-13.

No Item No. **Fastener Industry Working Group. (FIWG)** The Fastener Industry Working Group will meet jointly with the Fastener Task Group on Wednesday, October 9th.

CHAPTER 9. GUIDELINES FOR THE PRESENTATION OF DATA

Item 94-26 **Production Methods and Their Impact on Design Allowables. (GTG)**
R. Rice will provide a status report on this long-standing agenda item.

No Item No. **Update and Expansion of Table 9.6.4.7 (Table 9.10.6 in revised Chapter 9). (GTG)** R. Rice will present this agenda item, which resulted from Agenda Item 94-26.

Item 98-3 **Procedure for Analyzing Lower Tail Censoring. (SWG)** H. Tsai will present a status report.

Item 98-7 **Complete Restructuring of Chapter 9 Guidelines to Improve Usability. (GTG)** R. Rice will review the enclosed agenda item, which covers the proposed new structure for Chapter 9.

Item 99-27 **Revised Analytical Techniques for Analysis of Fastened Joints. (FIWG)**
H.C. Tsai, Battelle, will review an agenda item covering the latest enhancements to the proposed new statistical procedure for analyzing fastened joints.

Item 00-13 **Rewrite of Section 9.4 Properties of Joints and Structures. (FTG)** R. Yano will present the enclosed agenda item.

- Item 01-01 **Regression for Skewed Data. (SWG)** H.C. Tsai will present a status report. This item includes the basic elements of a proposed procedure for statistically analyzing skewed data. It also details the plans for refining, validating and implementing the new procedure.
- Item 01-02 **Proposal to Change Backoff Limit to Percentage of Standard Deviation in the Sequential Weibull and Sequential Pearson Procedures. (SWG)**
H.C. Tsai will present a handout.
- Item 01-04 **Reevaluation of Statistical Procedures for Calculations of S-Basis Design Values. (SWG)** R. Rice and H.C. Tsai will review this agenda item.
- Item 01-05 **Revise Section 9.1.6.8 in Coordination with SAE/AMS. (GTG) J.**
Jackson will provide a status report on this new item, which will cover the modification of Section 9.1.6.8 of MIL-HDBK-5, "Guideline Requirements for Specification Minimum Design Mechanical Properties". Development of the proposed new procedure will be done under Item 01-04 in close coordination with the SAE/AMS committee. A formal proposal for revision of Section 9.1.6.8 of the Handbook will await approval of the Item 01-04 statistical procedures by the SAE/AMS committee.
- Item 01-06 **Historical Review of MIL-HDBK-5 Round-off Procedures. (GTG) J.**
Jackson will present the enclosed agenda item.
- No Item No. **Define Lower Bound Properties for Elongation. (SWG)** R. Rice will lead discussion on this item.
- No Item No. **Removal of the Word "Precision" in Reference to Modulus. (GTG) J.**
Jackson will present this brief agenda item.
- No Item No. **Review of Off-Axis Mechanical Property Testing Requirements. (GTG)**
R. Rice will lead in a discussion on this topic.
- No Item No. **Derived Property Requirements for 45° Orientation. (GTG) J.** Jackson will present this brief agenda item.
- No Item No. **Clarification of Required Test Direction for Derived Properties. (GTG)**
J. Jackson will present this brief agenda item and lead in discussion.
- No Item No. **Addition of References for the Pearson type III Distribution. (SWG) R.**
Rice will present this brief agenda item.
- No Item No. **Corrections to Table 9.6.4.4 (GTG) R.** Rice will present this brief agenda item.
- No Item No. **Determination of A- and B-Basis Allowables for Cases Where the Calculated T₉₉ Value is Greater Than the Specification Minimum Value (GTG) S.** Fantle, Boeing, will present the enclosed agenda item.