

Minutes of the 44th MMPDS Coordination Meeting

Held in:

Lynnwood, WA September 9 - 12, 2024

Compiled by:

Battelle 505 King Avenue Columbus, OH 43201-2693

Prepared for:

FAA William J. Hughes Technical Atlantic City, NJ 08405

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44th MMPDS Coordination Meeting

Introduction of Attendees

A list of 44th Coordination Meeting attendees, indicating the meetings they attended, has been incorporated into this document.

Approval of the 44th MMPDS Meeting Minutes

Per the Foreword of MMPDS-2024, with a few exceptions, items are considered approved if no technical comments are received by Battelle within 30 days after these Final Minutes are circulated. This review period ends on December 12, 2024.

The following four items were placed on 60-Day approval:

Item 23-44. Restructuring of Data Requirements Tables in 9.2.4 Item 23-53. Load Control Fatigue Analysis of Open Hole Ti 6-2-4-2 Sheet Item 23-60. Definition of S-Basis for Volume I Item 24-15. Correction to 718 Alloy Bar and Forging Tables

Attendees have until January 11, 2025, to notify Battelle of technical objections to those items. If no comments are received, the items will be closed.

44th MMPDS Coordination Meeting

Chairman's Remarks - Walter Sippel

Thanks to everyone who participated in the 44th MMPDS General Coordination Committee meetings held in Lynnwood, WA between September 9 and September 12. The Battelle team did an excellent job of preparing the Agenda, Handout, and meeting arrangements to keep the program moving forward. It was a record turnout for a face-to-face with 117 individuals from 46 organizations participating for at least one session.

As described in the Foreword to MMPDS, the standard review period for Final Minutes is 30 days after posting. Four items are designated for 60 day reviews. These Final Minutes are being sent to registered attendees and are available to Industry and Government Steering Group organizations through the member SharePoint site. If no negative technical comments are received by December 12 (regular items) or January 11 (60 day items), the items are formally approved. If negative technical comments are received before these deadlines, that item will be held open for discussion at the 45th MMPDS GCC meeting. Please advise Battelle as soon as possible if you have a technical comment.

Great progress has been made as demonstrated by the release of MMPDS, Volume II last July 1. At this 44th meeting, Item 24-49: Additions to Microstructure Requirements for Volume II was Approved with Changes and Closed. This was the last item required before Agenda Items with proposals could be submitted to the GCC to approve a material allowables entry in Volume II. As of this writing, Battelle has been notified of ten material characterization test programs being planned or executed with the intent to submit data to Battelle for analysis.

The 45th MMPDS is scheduled to take place in North Charleston, SC from March 24 through March 27. We look forward to seeing you there.

Thanks again for attending the 44th MMPDS GCC meeting. Your commitment, dedication, and donation of your valuable time to maintain MMPDS is most appreciated. I look forward to seeing everyone in North Charleston.

Best Regards, Walter Sippel MMPDS Chairman Aerospace Engineer, Airframe Section, AIR-622 Technical Policy Branch, AIR-620



SUMMARIES

		44th MMPDS Meeti	ng Attendance				Septe	mber 9			Septen	nber 10	Se	ptember 11	Septen	nber 12
Last Name	First Name	Company	Email	Committee Chair, Co- Chair, Vice Chair	ISG	GSG	ISG/GSG	MATSSG	ASG	FTG	ETTG PSG		GTG	Working Groups	MTG	GCC
Ahn	Doohong	Hanwha Aerospace	doohong.ahn@hanwha.com								х		х			
Ainsworth	Paul	Nanshan Aluminum	paul.ainsworth@nanshaneuro.com		х		х						x			
Ananthasayanam	Balajee	Honda Aero Inc.	bananthasayanam@na.honda.com													
Anderegg	David	Defense Logistics Agency	david.anderegg@dla.mil				х			х	х		x		х	x
Anderson	Neil	The Boeing Company	neil.o.anderson@boeing.com		х		х			x	х		x		х	x
Bach	Andreas	Novelis	andreas.bach@novelis.adityabirla.com		х		х	x			х		х	x	х	x
Baker	Andrew	Spirit AeroSystems	j.andrew.baker@spiritaero.com		х		х			х	х	х	х		х	x
Bakuckas	John	Federal Aviation Administration	john.bakuckas@faa.gov			x	х									
Bassi	Simarpaul	The Boeing Company	simarpaul.s.bassi@boeing.com		х		х			х	х		х		х	x
Bennett	Jay	NASA	jay.e.bennett@nasa.gov			x	х				х	x	х		х	x
Bennett	Russell	The Boeing Company	russell.p.bennett@boeing.com		х		х						х		х	x
Bien-Aime	Dona	The Boeing Company	dona.bien-aime@boeing.com							х	х				х	
Bittner	Peter	Constellium	peter.bittner@constellium.com	MATSSG (Chair)	х		x	x			x	x	x		x	x
Bodensteiner	Jarod	Textron Aviation (Cessna)	jbodensteiner@txtav.com		х		x			x	x		x		x	
Bray	Gary	Westmoreland	gary.bray@wmtr.com										x		x	x
Buchwald	Scott	Constellium	scott.buchwald@constellium.com										x		x	x
Burgner	Abby	Blue Origin	asmeltzer@blueorigin.com		x		x			x	x	x	x		x	x
Busse	Jesse	Textron Aviation (Cessna)	JBusse01@txtav.com				х				х		х		х	
Cho	Junghyun	Testcor	jison@testcor.co.kr		x		x									
Conlon	Benjamin	Ansys	benjamin.conlon@ansys.com		~		~									<u> </u>
Cordner	Sam	NASA	samuel.m.cordner@nasa.gov	ETTG		x	x				x	x	x		x	x
Coronado	Peter	The Boeing Company	peter.a.coronado@boeing.com		x	~	x			x	~	~	~		~	
Crill	Matthew	Barnes Global Advisors	matt@barnesglobaladvisors.com		~		~			~		x	x		x	x
Cunha	Mauricio	Embraer	mccunha@embraer.com.br		x		x			x	x	~	x		x	x
Davis	Joel	Rolls-Royce	joel.davis2@rolls-royce.com		x		x		x	~	x	x	x		x	x
Davis	Ryan	Arconic	ryan.davis@arconic.com		~		~		~		~	~	x		x	~
Dunstan	Matt	IperionX	mdunstan@iperionx.com										x		~	
Elwell	Abram	The Boeing Company	abram.b.elwell@boeing.com	ASG (Chair)	x		x		x	x	x	x	x		x	x
Eveleth	Jacob	US Air Force	jacob.eveleth.1@us.af.mil		~	x	x		^	x	x	x	x		x	x
Freisthler	Mark		mfreisthler6@q.com			^	^			^	x	^	^		~	
Garcia Avila	Matias	ATI Materials	matias.garcia-avila@atimaterials.com	MATSSG (Vice-Chair)	x		x				x	x	x		x	x
Giblin	Tinsae	The Boeing Company	tinsae.k.giblin@boeing.com		x		x			x	^	^	x		~	
Gill	Joseph	Collins Aerospace	joseph.gill@collins.com		x		x			^	x		x		x	x
Guerrero	Steve	Spirit AeroSystems	steve.s.guerrero@spiritaero.com		x		x				~		^		~	
Hahn	Michael	Northrop Grumman	michael.t.hahn@ngc.com		x		x			x	x		x		x	x
Hall	Doug	Battelle Memorial Institute	halld@battelle.org	ETTG, GTG	x		^			x	x	x	x		x	x
Hall	Gary	Bell Helicopter	gdhall@bellflight.com	2110,010	x		x			^	x	^	^		x	^
Havpor	Aisha	OUSD (R&E)	aisha.s.haynes.civ@mail.mil			x	x				×		x			
Haynes Haynes	Kyle	Norsk Titanium	kyle.haynes@norsktitanium.com				~	+	-		x		x			<u>├───</u> ┤
Heiden	Michael	Sandia National Laboratories	mheiden@sandia.gov					+			x		- *		x	├
Henry	Chad	GKN Aerospace	chad.henry@usa.gknaerospace.com		x		x	+			x		x		^	┠────┤
Henry Hirsch	Michael	US Air Force	michael.hirsch.3@us.af.mil		X		x				*		~			
Jeon	Minwoo	Korea Testing & Research Institute					×		~	x	x	x	~		~	
		Korea Testing & Research Institute	mwejon@ktr.or.kr					v	X	X	X	X	x	x	x x	x
Jeong	Hyeonggeun		jhg@ktr.or.kr froud107@korocoorc.com					x	X		X	X	X		X	×
Jeong	Yooin	Korea Aerospace Industries Parker LORD	freud197@koreaaero.com		x		x									<u>├───</u> ┤
John	Peter		peter.john@Parker LORD.com								x		x		х	<u> </u>
Johnson	Chloe	Elementum3D	chloe@elementum3d.com		х		х				х		х			1

		44th MMPDS Meet			Septe	mber 9			Septer	nber 10	Se	ptember 11	September 12			
Last Name	First Name	Company	Email	Committee Chair, Co- Chair, Vice Chair	ISG	GSG	ISG/GSG	MATSSG	ASG	FTG	ETTG	PSG	GTG	Working Groups	MTG	GCC
Johnson	Dwight	Textron Aviation (Cessna)	DJohnson01@txtav.com								х		х			
Jones	Lindsay	The Boeing Company	lindsay.l.jones@boeing.com										х			
Jones	Marshall	US Navy	marshall.t.jones.civ@us.navy.mil			x	х						х		х	x
Kane	Sean	US Navy	sean.t.kane7.civ@us.navy.mil				х						x		х	x
Kim	Bohee	Hanwha Aerospace	bohee.kim@hanwha.com								х		x			
Kim	Hee-Seong	Korea Aerospace Industries	vvvsinji@gnu.ac.kr		х		х			x	x		x		х	x
Kim	Sangshik	Testcor	jison@testcor.co.kr		х		х									
Krile	Bob	Battelle Memorial Institute	krile@battelle.org										x			
Kwon	Yong-Nam	Korea Institute of Material Science	kyn1740@kims.re.kr				x						x		x	
Lamas	Jose Eduardo	Embraer SA	jose.lamas@embraer.com.br		х		x									
Lamb	Justin	Universal Alloy	justin.lamb@universalalloy.com		x		x						x		x	
Larsen	Hilde Løken	Norsk Titanium	hilde.loken.larsen@norsktitanium.no		~		~				x		~		~	·
LeBrun	Tyler	Sandia National Laboratories	tclebru@sandia.gov								x		x			<u> </u>
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Lengerich	Ben	Kaiser Aluminum	Ben.Lengerich@kaiseraluminum.com								x		x		x	
Lengerich	Ivan	Federal Aviation Administration	ivan.li@faa.gov				x				^		×		^	·'
Liou	Richard	Collins Aerospace	richard.liou@collins.com		x		x				x	x	x		x	x
					*		*						x			×
Lipinski	Dorothy	Northrop Grumman	dorothy.miller@ngc.com								X	X			x	
Liu	George	US Army	george.g.liu.civ@army.mil				x				x		x		х	x
Maciejewski	Kimberly	Arconic	Kimberly.Maciejewski@arconic.com		х		x	x			x		x	x	х	x
Mantione	John	ATI Materials	john.mantione@atimaterials.com		х		x	x			x	x	x		х	
Martin	John	America Makes, NCDMM	john.martin@ncdmm.org								X					
Martin	Todd	US Army	todd.e.martin.civ@army.mil			x	x				x	x	x		х	x
McKeegan	Jennifer	NASA	jennifer.l.mckeegan@nasa.gov			x	x					x	x		х	x
McVicker	Nate	Blue Origin	nmcvicker@blueorigin.com				Х				Х					
Minwoo	Jeon	Korea Testing & Research Institute	mwejon@ktr.or.kr								x					ļ'
Miyazaki	Marcos Hideki	Embraer SA	marcos.miyazaki@embraer.com.br		х		х			х	x		х		x	x
Mohaghegh	Mohssen	The Boeing Company	mohssen.mohaghegh@boeing.com		х		Х			Х						
Mohan	Sabarrish	Northrop Grumman	sabarrish.mohan@ngc.com		х		Х			х	х		х		х	
Morton	Todd	Supernal	todd.morton@supernal.aero		х		х			х	х					
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Ofsthun	Mark	Honda Aircraft Company	mark_ofsthun@haci.honda.com		х		х								х	
Olsen	Kirk	Parker LORD	Kirk.Olsen@Parker LORD.com		х		х			х		х	х		х	x
Piché	Marie	Bombardier	marie.piche@aero.bombardier.com		х		х		х	х	х		х		х	
Pujar	Vijay	Collins Aerospace	vijay.pujar@collins.com		х		х				х	х	х			
Pun	Simon	Divergent	spun@divergent3d.com								х	х	х		х	x
Quihuiz	Gabriel	Supernal	gabriel.quihuiz@supernal.aero	ASG (Vice-Chair)	х		х				х		х		х	x
Rackliffe	Moriah	Norsk Titanium	moriah.rackliffe@norsktitanium.com				х				x		x		х	
Ramaswamy	Nagarajan	Parker LORD	nramaswamy@parker.com								х	x	x		х	x
Reakes	Clay	Battelle Memorial Institute	reakes@battelle.org	FTG (Chair)	х		x	x	х		x	x	x	FatWG	х	x
Recchia	Stephen	US Army	Stephen.S.Recchia.civ@army.mil										x			
Reed	Jonathan	Blue Origin	jreed2@blueorigin.com										x		х	
Rocha	Elisa Gombio	Embraer SA	elisa.rocha@embraer.com.br		х		х			x	x		x		х	x
Roepke	Caleb	Blue Origin	croepke@blueorigin.com								x		x		х	x
Rubadue	Jana	Battelle Memorial Institute	rubaduej@battelle.org		x		x	1			x		x		x	x
Roepke	Caleb	Blue Origin	croepke@blueorigin.com								x				x	x

		44th MMPDS Meeti	ng Attendance		September 9					Septen	nber 10	September 11		September 12		
Last Name	First Name	Company	Email	Committee Chair, Co- Chair, Vice Chair	ISG	GSG	ISG/GSG	MATSSG	ASG	FTG	ETTG	PSG	GTG	Working Groups	MTG	GCC
Sabo	Ken	Lockheed Martin	ken.r.sabo@lmco.com												х	
Saunders	Matt	Howmet Aerospace	matt.saunders@howmet.com		х		х			х			x			x
Scalf	Cyndee	Battelle Memorial Institute	scalf@battelle.org		х		х			х	x		x			
Scheuring	Jason	Kaiser Aluminum	jason.scheuring@kaiseraluminum.com	ISG (Chair)	х		x	х			x		x		х	x
Shannon	Carinne	Battelle Memorial Institute	shannon@battelle.org	MTG (Chair)	х		x	х	х		x	х	x		х	x
Shaw	Mark	NIAR	mark.shaw@idp.wichita.edu									х	x			
Sheffels	Christopher	Honda Aircraft Company	christopher sheffels@haci.honda.com		x		x		x	x	x		x		x	x
Shinde	Sachin	Blue Origin	sshinde@blueorigin.com				х									
Sippel	Walter	Federal Aviation Administration	walter.sippel@faa.gov	GSG (Chair)		x	x				x		x		х	x
Smith	Ryan	Honda Aero Inc.	ryan smith@na.honda.com	PSG (Co-Chair)							x	x	x	x		
Snyder	Donald	Bell Textron	dsnyder2@bellflight.com	, , ,							x		x			<u> </u>
Snyder	Matthew	Battelle Memorial Institute	snydermd@battelle.org		x		x	x	х	x	x	x	x		x	x
Sodouri	Pedrum	Nikon Advanced Manufacturing Inc.	pedrum.sodouri@nikonamsynergy.com								x					<u> </u>
Son	Jinil	Testcor	jison@testcor.co.kr		x		x						x			
Steevens	Andrew	The Boeing Company	andrew.j.steevens@boeing.com		x		x				x		x		x	x
Stepanova	Mariia	Norsk Titanium	mariia.stepanova@norsktitanium.com		x		x				x		x	FatWG	x	x
Stonaker	Kevin	Federal Aviation Administration	kevin.stonaker@faa.gov				x				x		x		x	
Тау	Neville	NIAB	Neville.Tay@idp.wichita.edu								x		x			
Tian	Yongzhe	Federal Aviation Administration	yongzhe.tian@faa.gov			x	x				x		x			x
Toivonen	Paul	Spirit AeroSystems	paul.r.toivonen@spiritaero.com		х	~	x				x		x		х	~
Torgerson	Tyler	Bell Textron	ttorgerson@bellflight.com		~		~				x		x		x	
Toscano	Luis	Embraer SA	luis.toscano@embraer.com.br							x	~		^			
Tuleja	Taylor	Blue Origin	ttuleja@blueorigin.com							~	x		x		x	
Tummons	David	The Boeing Company	david.tummons@boeing.com	ISG (Vice Chair)	x		x				x		x		x	x
Tylenda	Jeremy	GKN Aerospace	Jeremy.Tylenda2@usa.gknaerospace.com		x		x				~		^		~	<u> </u>
Vogel	Bret	Textron Aviation (Cessna)	bvogel@txtav.com	WWG (Chair)	x		x		x	x	x		x		x	x
Vu	Jenny	Blue Origin	jvu@blueorigin.com	wwo (chair)	~		^		^	×	^		×		~	<u>^</u>
Watanabe	Jennifer	The Boeing Company	jennifer.s.watanabe@boeing.com		x		x			x	x		x		x	x
Wertz	Katelun	US Air Force	katelun.wertz@us.af.mil		x		×			x	x	x	x		×	x
Wheelock	Paul	Rolls-Royce	paul.wheelock@rolls-royce.com	PSG (Chair)	x		x		x		x	x	x		x	x
Williams	Brady	NIAR brady.wileiock@rolls-royce.com PSG (chair) x x			X		x	*	x		X	<u> </u>				
	Will	Battelle Memorial Institute						+				<u> </u>	*			┨────┤
White			whitew@battelle.org							x	X					
Wrenn	Katy	The Boeing Company	katy.m.wrenn@boeing.com										X			
Yee	Joshua Keng Aklilu	Sandia National Laboratories	jkyee@sandia.gov								X					
Yohannes	-	Federal Aviation Administration	aklilu.yohannes@faa.gov			x	x	-			x		x		х	x
Yongzhe	Tian	Federal Aviation Administration	yongzhe.tian@faa.gov	FTG (Co-Chair)						х	x				х	

OBSERVERS

44th MMPDS Coordination Meeting

	New Item Numbers Assigned in 2024
24-01	7140-T7451 Plate: Review 8-10 Inch Tensile Minimums
24-02	Update to Indirect Method to Reduce the Occurrence of T99 > T90
24-03	Equations for Normal Distribution k-factors
24-04	Ti-6AI-4V JMADD Test Plan
24-05	Ti-6AI 4V GAMAT Test Plan
24-06	Update to Section 9.3 Data Submission Guidelines
24-07	Review Appendix A.3 Definitions - Format
24-08	Update Table 2.6.4.0(b) per AMS 5578
24-09	Update Sections 9.1-9.3 in Volume I to be consistent with the reorganized content in Volume II.
24-10	Bearing Edgewise Clarifications in Ch. 3 & 5
24-11	Section 1.4.6 Corrections
24-12	2124 Aluminum Alloy FCGR Corrections
24-13	Definition of Bulk Material
24-14	Correction to 718 AMS 5664 Minimums
24-15	Correction to 718 Alloy Bar and Forging Tables
24-16	Section 9.2.3.5 for Volume II
24-17	Updates to the OSAT method
24-18	Use of the Term "Allowable" for Fatigue and "Allowables" from Various Sources
24-19	719 FCGR Corrections
24-20	Update Use of Proportional Limit and Ftp in V1 and V2
24-21	Update High Strength Steel Tables per AMS 2700
24-22	Correction to 7050 FCGR Tables and Figures
24-23	Correction to 7075 FCGR Tables and Figures
24-24	AMS 4413 Thickness Range Expansion
24-25	Friction Stir Welding
24-26	Corrections to 2024 Property Tables
24-27	V1 Table Format Revision
24-28	Purpose of A/B vs C/D Material Allowables
24-29	Update Figure 9.4.2(a)
24-30	Consent Agenda - 43rd MMPDS GCC
24-31	Section 9.7 Restructure and Clean-Up
24-32	AMS Coordination - Volume II
24-33	Correction to 7475 FCGR Tables and Figures
24-34	Consolidation of Stress-Strain Analysis Information
24-35	Correction to Table 9.6.1.12(b)
24-36	Correction to Strain Rate in Table 9.2.4
24-37	Corrections to Titanium FCG Figures and Tables
24-38	Bearing Edgewise Requirements
24-39	Corrections to FCG in Chapter 2
24-40	Ti 6-4 AM Test Plan per xxx
24-41	Stabilization of AMS 6900 for Ti-5AI-2.5Sn Bar
24-42	Addition of Strip Product Form to Tables 5.4.1.0(b1) and (b3)
24-43	Fastener Specification Review (Active/Cancelled)

44th MMPDS Coordination Meeting

	New Item Numbers Assigned in 2024
24-44	Combinability Flowchart for Section 9.5.3
24-45	Update Section 9.9.5 Mechanically Fastened Joints
24-46	Preliminary Material Properties Handbook
24-47	V1 Table Format Revision Guidelines
24-48	Feedstock Reuse in AM Processes
24-49	Additions to Microstructure Requirements for Volume II
24-50	Remote Observer Options
24-51	D-Basis without C-Basis in Volume II
24-52	Use of Weibull Method for Direct Analysis of Negatively Skewed Data
24-53	Definition of Process Intensive Material
24-54	Change from FCP for FCG
24-55	7175-T7X Hand Forging Cross-Sectional Area
24-56	7175-T73511 Extrusion Cross-Sectional Area
24-57	Stabilization of AMS 4298
24-58	Similar Stress States for AM Shear and Bearing Test Specimens
24-59	Legacy Review Process for Solid Rivets
24-60	A- and B-Basis Ftu and Fty for 304L per AMS 5511
24-61	Revision of Effect of Exposure on Elongation for WE43C
24-62	V2: Section 1.3 Process Intensive Materials
24-63	Definition(s) Related to Feedstock Heat in V2
24-64	Correction to Skewness Adjustment in Indirect Method with Regression
24-65	Update to Table 9.10.1. One-Sided Tolerance Limit Factors
24-66	Correction to Figure 3.2.19.2.1(b) for 2219-T8X Plate
24-67	Addition of 7140-T7351 Aluminum Alloy Plate
24-68	Addition of 2074-T84 Aluminum Alloy Sheet
24-69	Consent Agenda - 44th MMPDS GC
24-70	Weight Density Clarification
24-71	MIL-HDBK-5 Method Footnote for Fastener Tables
24-72	15-5PH AM Test Plan per AMS 7073
24-73	S/N Curves for 15-5PH
24-74	Ti-6Al-4V
24-75	Corrections to Effect of Temperature for 2024 Aluminum Alloy
24-76	Fracture Toughness Data Requirements
24-77	Revisions to Table 9.2.4 Data Requirements for V1 and V2
24-78	Test Matrix
24-79	MMPDS Bylaws Revisions
24-79	Definition of Specification Minimum
24-80	Addition of Engineering Judgement Language
24-81	Investigation on Ultimate and Yield Stresses in Shear Equation 1.4.6.2
24-82	FCG - Use of Stress Ratio vs Force Ratio
24-03	
24-85	Table Format Options for Engine vs Airfame Alloys Legacy Review Process for Solid Fasteners
24-85	· · ·
24-80	Skewness Adjustment for Regression Indirect Analysis Method
24-01	Data Requirement Table for PSG Alloys

44th MMPDS Coordination Meeting

	New Item Numbers Assigned in 2024										
24-88	GKN'S Test Plan for Ti-6-4 per AMS7009										
24-89	Update of Section 9.2 in Volume I Consistent with Volume II										
24-90	Expansion of Thickness Range Without Derived Properties										
24-91	EPRI Test Plan for AM ABD900 Ni-based superalloy										
24-92	Blanking Shear vs Punch Shear										
24-93	Updating Shear and Bearing Grain Directions to Test Orientations										
24-94	Review Appendices Organization										

Item No	Respons	ible Group	HDBK Vol.	Chpt	Title	Туре	Action	Meeting Description
	Final	Initial						
23-14	MTG		1	5	Revision of Ti-6Al-4V Die Forging Property Table	Agenda	Approved and Closed	Approve all. NEW ITEM 24-76 opened to better describe fracture toughness data requirements and when they apply.
23-16	MTG		1	3	2050 SCC Test Data	Agenda	Approved and Closed	C. Shannon presented this item. There were no objections to the additon of the SCC table.
23-44	GTG	MATSSG	1, 2	9	Restructuring of Data Requirements Tables in 9.2.4	Agenda	60 Day Approval	M. Snyder presented this item. This item was also discussed during the MATSSG and ASG. Both groups liked the proposed reformatting and are in favor of ignoring the alternate format in Appendix A. The purpose of this item is only to reformat for clarity. Approved editorial comments/changes are noted in the pdf and will be shown in the minutes. NEW ITEM 24-77 will be opened to address suggested changes to guidelines captured in the pdf comments. NEW ITEM 24-78 to understand Table 9.2.4.1 Test Matrix that was in MMPDS-17 and if new version is needed.
23-46		PSG			NIMS/NEDO Intro Presentation	Status	Closed w no Action	No data are expected at this time.
23-52	GTG-F	FTG	1	9	Clarification of Typical Yield Joint Curve	Agenda	Approved w Changes and Closed	C. Reakes presented this item. FTG recommended approve with changes and close. Change was to remove B-Basis from title of Figure 9.7.1.4(d).
23-53	MTG		1	5	Fatigue Curve for Ti-6-2-4-2	Agenda	60 Day Approval	C. Reakes presented this item. The Committee agreed with going with the no-runout option. Proposal to include Figure 1 approved. After the meeting Battelle noticed an error in the proposal. The selected figure was intended to be a replacement for Figure 5.3.3.1.8, not added as Figure 5.3.3.1.8(b). For this reason, this item was changed from Approved and Closed to a 60 Day Approval. A corrected proposal will be shown in the final minutes.
23-54	MTG		1	3	Review of Fracture Toughness Tables	Agenda	Approved and Closed	C. Reakes presented this item. No objections to proposal to delete all highlighted rows.

Item No	Respons	ible Group	HDBK Vol.	Chpt	Title	Туре	Action	Meeting Description
	Final	Initial					5	
23-57	GTG				MMPDS Bylaws: Clarify GCC roles and responsibilities.	Agenda	Approved w Changes and Closed	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes. NEW ITEM 24-79 to add information about abstentions from votes in the next revision.
23-60	GTG		1, 2		Definition of S-Basis for Volume I	Agenda	60 Day Approval	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes. J. Rubadue found some additional information suggesting 30/3/3 was the established requirement in 2001 or earlier. Battelle will confirm a date, modify, and document in the Final Minutes. NEW ITEM 24-80 to define specification minimum.
24-07	GTG		1, 2		Review Appendix A.3 Definitions - Format	Agenda	Approved w Changes and Closed	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes.
24-09	GTG		1, 2	9	Update Sections 9.1-9.3 in Volume I Consistent with Volume II	Agenda	Approved w Changes and Closed	D. Hall presented this item. Editorial changes are captured in the pdf and will be shown in the minutes. Proposals in #1 approved with changes. Proposals #2 and #3 continued and will be worked in NEW ITEM 24-89. Include in NEW ITEM 24-77 to standardize use of Young's Modulus/Elastic Modulus/Modulus of Elasticity in the Handbook.
24-11	GTG	ASG		1	Section 1.4.6 Corrections	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposed replacement figure. NEW ITEM 24-82 opended to investigate Equation 1.4.6.2.
24-13	GTG	ETTG/MT G	2	9	Definition of Bulk Material	Agenda	Approved w Changes and Closed	D. Hall presented this item. No objections to intent of definition but suggestion to add "(e.g., surface conditions on fatigue specimens) " after "specific conditions" and change "conditions" to "influence factors" No objections from MTG.
24-15	MTG		1	6	Correction to 718 Alloy Bar and Forging Tables	Agenda	60 Day Approval	C. Shannon presented this item. No objections to any proposals but suggested 60 day approval to review all of the changes. New item was requested to better define how S-Basis adjustments get documented. Battelle advises against a new item at this time.
24-20	GTG		1, 2	1	Update Use of Proportional Limit and Ftp in V1 and V2	Consent Agenda	Closed w no Action	This consent agenda included information on proportional limit and proposed no changes be made.

Item No	Responsi Final	ible Group Initial	HDBK Vol.	Chpt	Title	Туре	Action	Meeting Description
24-24	MTG		1	3	AMS 4413 Thickness Range Expansion	Agenda	Approved and Closed	C. Shannon presented this item. There were no objections to approving the 6.5001-7.000 inch A and B-Basis properties. Question on approving S-Basis for 7-8 inch. Jana said we do not have derived properties which is why we did not included it. Airframers indicated there is no benefit to them in adding S-Basis without secondary properties.
								NEW ITEM 24-90 for expanding thickness range with S-Basis values.
24-37	MTG		1	5	Corrections to Titanium FCG Figures and Tables	Agenda	Approved and Closed	C. Reakes presented this item. There were no objections to any of the proposed tables and flgures. Will confirm the orientations on table c. Table c approved. Will check axis titles on all the figures.
24-39	MTG		1	2	Corrections to FCG in Chapter 2	Agenda	Approved w Changes and Closed	C. Reakes presented this item. No objections to approving Table 1 or Figure 1. No objections to Figure 3 or Table 2. Will strike 12.59 editorially on Table 2. No objections to Figure 7 or Table 3. No objections to Figure 10 or Table 4. NEW ITEM 24-83 to address stress ratio vs. force ratio.
24-42	MTG		1	5	Addition of Strip Product Form to Tables 5.4.1.0(b1) and (b3)	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposals.
24-43	FTG		1	8	Fastener Specification Review (Active/Cancelled)	Agenda	Closed w no Action	C. Reakes presented this agenda item. Item was for information only.
24-44	GTG		1, 2	9	Combinability Flowchart for Section 9.5.3	Agenda	Approved w Changes and Closed	M. Snyder presented this item. Changes are documented in the pdf.
24-48	GTG	ETTG	2	9	Feedstock Reuse in AM Processes	Agenda	Approved w Changes and Closed	D. Hall presented this item. Section 9.2.2.4 heading will be changed to "Powder Reuse". Editorial change to spell out PCD where it is used earlier in the paragraph and strike "process control document" later in the paragraph. These changes will be shown in the minutes. "Recycling" will be changed to "Powder Reuse" in the Subject Index.
24-49	GTG	ETTG	2	9	Additions to Microstructure Requirements for Volume II	Agenda	Approved w Changes and Closed	D. Hall presented this item in ETTG and GTG. See minutes item for full changes. Anisotropy and other "strongly recommended" items will be addressed in Item 24-84.

Item No	Responsi	ible Group	HDBK Vol.	Chpt	Title	Туре	Action	Meeting Description
	Final	Initial]				
24-52	GTG		1, 2	9	Use of Weibull Method for Direct Analysis of Negatively Skewed Data	Agenda	Closed w no Action	M. Snyder presented this item. No further action needed.
24-54	GTG		1, 2	multi	Change from FCP to FCG	Agenda	Approved and Closed	C. Reakes presented this item. "Fatigue crack propagation will be changed to "fatigue crack growth" to avoid confusion with fracture control plans.
24-55	MTG		1	3	7175-T7X Hand Forging Cross- Sectional Area	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposals.
24-57	MTG		1	3	Stabilization of AMS 4298	Consent Agenda	Approved w Changes and Closed	Discussed briefly in MTG. 2056 alloy was also listed in some additional tables as identified in the minutes.
24-60	MTG			2	A- and B-Basis Ftu and Fty for 304L per AMS 5511	Agenda	Approved w Changes and Closed	D. Hall presented this item. Will add a disclaimer that a lot release test data should be used. Document as T99 and T90.
24-61	MTG		1	4	Revision of Effect of Exposure on Elongation for WE43C	Agenda	Approved and Closed	C. Reakes presented this item. There were no objections to the replacement figures.
24-64	GTG		1, 2	9	Correction to Skewness Adjustment in Indirect Method with Regression	Agenda	Approved w Changes and Closed	M. Snyder presented this item. Changes are captured in the pdf and will be shown in the minutes. NEW ITEM 24-86 to investigate whether the skewness adjustment is necessary for the regression case of the indirect method.
24-65	GTG		1, 2	9	Update to Table 9.10.1. One- Sided Tolerance Limit Factors	Agenda	Approved w Changes and Closed	M. Snyder presented this item. Changes are captured in the pdf and will be shown in the minutes.
24-66	MTG		1	3	Correction to Figure 3.2.19.2.1(b) for 2219-T8X Plate	Consent Agenda	Approved and Closed	The changes in the agenda item will be implemented in MMPDS- 2025
24-69	GCC				Consent Agenda - 44th MMPDS GCC	Consent Agenda	Approved and Closed	The Consent Agenda item list was approved by the GCC.
24-70	GTG		1, 2	9	Weight Density Clarification	Handout	Approved and Closed	D. Hall presented this handout. This an editorial change that has been made for MMPDS-2025.
24-NIN	MTG		1		MMPDS Handbook Table Order	Handout	Closed w no Action	D. Hall presented this handout.

ltem No	Responsi	ible Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
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04-21	FTG		1	8	Fastener Tables of Sunset Review Interest	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23-29
08-23	FTG		1	8	Sunset Review of Table 8.1.3.2.2(c), NAS1921C	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23-29
09-13	FTG		1	8	Sunset Review of Table 8.1.3.2.3(a), MS21140	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23-29
11-05	MTG		1	1	AMS Coordination - Volume I	Status	Continue	C. Shannon provided a status update. A summary of relevant activites will be provided in the minutes.
11-38	FTG		1	8	Sunset Review of Flush Head, Mechanical Lock Spindle Blind Rivet Table 8.1.3.2.2(e) NAS 1921 M	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23- 29
12-89	MTG	PSG	1, 2		Target Materials for Propulsion Applications	Handout	Continue	This handout was covered during the PSG.
13-34	MTG		1	5	Addition of AMS 4919 Ti-6-2-4-2 Plate Properties	Status	Continue	No effort at this time.
13-50	GTG	ETTG MTG	1, 2	9	ASTM Coordination	Status	Continue	D. Hall and K. Maciejewski provided an update on ASTM activities. A summary will be provided with minutes.
14-28	FTG		1	8	Sunset Review of Table 8.1.4.2(i), LGPL2SC- V Pin, 3SLC-C Collar in Clad 7075-T6	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23-29

Item No	Responsi	ible Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
	Final	Initial	Vol.			Type		
15-13	MTG		1	multi	Clarification of Shear Orientation for Legacy Alloys	Agenda	Continue	 C. Shannon presented this item. #1-3. Approved with changes. Agreed to modify "blanking" footnote. Need to investigate punch vs. blanking. #5-6. Approved with changes. Modify 3.2.4.0 table footnotes per the PDF. Note to clarify older bearing test identification wrt grain direction and test orientation. #7. Approved with change to punch shear for sheet and unknown for plate. Update title to reflect plate. #24. Approved. No Comments #26. Approved. No Comments Approved changes will be made to MMPDS-2025 and documented in the minutes. This item is continued to continue research on the other tables
15-38	GTG	PSG	1	9	Reevaluation of Degrees of Freedom Calculation for Regression with Effect of Temperature	Handout	Continue	D. Hall presented this item in the PSG. NASA and AFRL to send available effect of temperature data to Battelle to assist in the analysis. Suggestion to review boiler and pressure vessels codes to investigate how they fit effect of temperature data. Suggestion to investigate cubic spline or multiple-polynomials with tie-points. Put tie- points at phase changes. Could also separate curves by phase change and calculate 2 fits.
16-12	FTG		1	8	Identifying Basis of Fastener Shear Strength on Remaining Tables	Agenda	Continue	Howmet continues to collect data. Battelle to continue attempts to reach out to other parties.
16-13	FTG		1	8	Corrections to Table 8.1.3.2.2(c) NAS 1921C	On Hold	Not Covered	This item is on hold, pending items 23-27, 23-28, and 23-29

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16-23	GTG	PSG	1	6	Re-evaluate Guidelines for Effect of Temperature Curves	Handout	Continue	See 15-38.
17-23	GTG	MTG	1	9	Legacy Alloy Review Strategy – Near Term	Handout	Continue	D. Hall and K. Sabo (Lockheed) presented this item . Ken gave an update on the ongoing task to institute a new General Agreement. Jay would like 316 added to the handbook. Doug clarified that you can't create an MMPDS entry on lot release only. J. Mantione noted that it is important to ensure the generated data is getting used. P. Bittner noted that some data responsibility should be shared with OEMs. This item is related to Item 21-48.
17-45	MTG		1	3	Effect of Temperature Curves for 2395-T84 Extrusion	On Hold	Not Covered	This item is on hold pending revision of the effect of temperature method. There may be an agenda for a future meeting.
17-52	GTG	FatWg	1	9	Review Section 9.6.1 - Load and Strain Control Fatigue	Status	Continue	D. Hall provided a status update. C. Sheffels (Honda Aero) and M. Ofsthun (Honda Aero) will draft an updated section.
17-61	GTG	FatWg	1	9	Revising R-curve Requirement in Table 9.2.4	Status	Continue	C. Reakes provided a status update. Coordinate with Constellium, K. Maciejewski (Arconic), and G. Bray (WMTR).
17-62	GTG	FatWg	1	u	Revising Fatigue Requirement in Table 9.2.4	Status	Continue	C. Reakes provided a status update.
17-63	GTG	FatWg	1	g	Use of Box-Cox Transformation in the Fitting of Fatigue Data	Status	Continue	C. Reakes provided a status update.
19-19	GTG	FatWg	1	y y	Consideration of a new Equivalent Stress model for Load-Controlled Fatigue	Status	Continue	C. Reakes provided a status update.

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19-25	GTG	ASG	1	9	Guidelines for Derived Properties for Legacy Alloys	On Hold	Not Covered	On hold pending resolution of Item 17-23 Legacy review. Decisions will be made on a case-by-case basis.
19-34	GTG	PSG	1	9	Waive Requirement for Bearing Properties When Appropriate	Status	Continue	This item was covered during the PSG and GTG. Status updates requested for materials that meet this criteria. Review list with ASG to determine which materials they do not use. Create a NEW ITEM 24-87 to develop a separate table that lists data requirements for PSG materials.
19-37	GTG-F	FTG	1	9	Establish a Guideline for Reinserting Chapter 8 Tables. (Solid Fasteners)	Status	Continue	C. Reakes presented this item for discussion. The FTG briefly discussed this item, verifying that the goal for reinserting tables would be to perform a fastener legacy review, when those methods get added to the handbook.
19-38	ETTG		2		Process Intensive Materials & Technologies SDO Coordination	Status	Continue	D. Hall provided a status update. A list of activities will be included in the minutes.
20-10	MTG		1	3	Upgrade of Secondary Properties of 7075- T76511 Aluminum Alloy Extrusions	Status	Continue	C. Shannon provided a brief status update. Data were received and an Agenda will be prepared for the Spring meeting.
20-13	ETTG		2		CMH-17/MMPDS Coordination & Collaboration	Status	Continue	D. Hall gave a status update on collaboration with CMH- 17. Battelle & CMH-17 continue to exchange information about data analysis methods. Battelle is analyzing JMADD data and has provided some additional backgroun on the justification for the current choices for probability distributions.

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20-16	GTG	ETTG	2		MMPDS & Additive Metals - Program Plan	Handout	Continue	D. Hall gave an updated on the program plan for V2. The last item needed to be approved to complete Phase I is Item 24-49 Additions to Microstructure Requirements for Volume II. Once this item is approved by the GTG, agenda items can be written to propose data entries for V2. For Phase II, there are currently 7 items open for additively manufactured data packages for V2. For Phase III, friction stir welding may be an area of interest. NEW ITEM 24-88 NEEDED FOR GKN'S TEST PLAN FOR TI64 AMS7009
20-30	GTG	ETTG	2	9	Components of Variance Analysis of AM, Cast, & Wrought Ti 6-4	Status	Continue	M. Snyder provided a status update on this item and progress on the analysis. More data needed. May revive the statistics working group to work on this task.
20-35	MTG		1	multi	Alloys Requested for Analysis	Status	Continue	No effort at this time. A table of requested materials has been provided in the minutes for the last couple MMPDS meetings. Battelle will continue to request data.
20-36	MTG		1	multi	Request for Secondary Property Data	Status	Continue	No effort at this time. A table of requested materials has been provided in the minutes for the last couple MMPDS meetings. Battelle will continue to request data.
21-02	GTG	ETTG	2	9	Section 9.5 & 9.6 for Volume II	Status	Continue	D. Hall provided a status update.
21-18	ETTG		2		Updates from V2WG Sub-teams	Status	Continue	D. Hall provided a status update on V2WG subteams. New volunteer needed fill L. Crisler's position on the Certification & Qualification Subteam. C. Johnson (Elementum3D) is willing to help A. Yohannes (FAA).

ltem No	Responsi	ble Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
	Final	Initial	Vol.	Chpt	inte	Type	Action	
21-40	GTG	ETTG	2	4	Impact of Powder Re-use on AMS7000 625 LPBF	Status	Not Covered	No updates at this time.
21-42	MTG	PSG	1	6	Update for Haynes 230 Strength vs. Temperature curves	Handout	Continue	No effort at this time. Request for the ISG to vote to prioritize this item, Item 15-38, and Item 16-23
21-48	GTG	MTG	1	9	Periodic Testing Options for Specifications	Handout	Continue	D. Hall and K. Sabo (Lockheed) presented this item . Ken gave an update on the ongoing task to institute a new General Agreement. J. Bennett (NASA) would like 316 added to the handbook. Doug clarified that you can't create an MMPDS entry on lot release only. J. Mantione (ATI) noted that it is important to ensure the generated data is getting used. P. Bitner (Constellium) noted that some data responsibility should be shared with OEMs. This item is related to item 17-23.
21-53	ETTG		2	6	Analysis of 718 Laser Powder Bed Fusion per AMS 7024	Status	Continue	No effort at this time. Have not been able to get responses from the group sponsoring the specification. May close with no action.
22-03	FTG	ASG	1	8	Fasteners Requested for Analysis	Status	Continue	C. Reakes provided a status update.
22-15	FTG		1	8	Test Plan for Fastener MS20426AD in 2024- T42	On Hold	Continue	The FTG discussed this item at the Virtual Session on 3/12/24. A. Baker (Spirit Aerosystems) to check if coupons can be provided. If not, a separate fastener/sheet combination may be pursued.
22-33	GTG	ETTG	2	9	Microstructure Information Accessibility for MMPDS, V2	Status	Continue	D. Hall provided a status update. MMPDS has received its first example of microstructure data and can now start talking to licensees on options for storing/distributing a database for MMPDS V2 microstructure information.

Item No	Responsi	ble Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
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22-38	GTG-F	FTG	1	9	Guidelines for Re-Inserting Chapter 8 Tables (Blind Fasteners)	On Hold	Continue	The FTG discussed this item at the Virtual Session on 2/27/24. The FTG is investigating lot release data as a method of returning tables to the handbook that were removed due to not receiving sunset confirmation data. Item 24-43 was created to determine if sunset fastener specifications are still active.
22-46	MTG		1	3	Update Stress Corrosion Data for Tables in 3.1.2	Status	Continue	Contellium has provided additional SCC data. An agenda will be prepared for the Spring meeting.
23-04	GTG	ETTG	2	10	V2, 10.3 Overview of Qualification	Status	Continue	This item was not covered due to time constraints.
23-11	GTG	ETTG	2	10	Section 10.6 Consensus Standards	Status	Continue	This item was not covered due to time constraints.
23-14	MTG		1	5	Revision of Ti-6Al-4V Die Forging Property Table	Agenda	Approved and Closed	Approve all. NEW ITEM 24-76 opened to better describe fracture toughness data requirements and when they apply.
23-16	MTG		1	3	2050 SCC Test Data	Agenda	••	C. Shannon presented this item. There were no objections to the additon of the SCC table.
23-19	GTG-F	ETTG, FTG	2	9	Review of 9.7 for Volume II	Status	Continue	C. Reakes provided a status update. FTG willing to move welding to V2. This will be a task for the Welding Working Group.
23-20	GTG	ETTG	2	9	Section 9.8 & 9.9 for Volume II	Status	Continue	D. Hall gave a status update.
23-22	ETTG		2	3	6061-RAM2 per AMS 7054	Status	Continue	C. Johnson (Elementum3D) provided a status update. They have started printing and collecting data.
23-27	GTG-F	FTG	1	9	Modification of Sunset Procedures for Swaged Collar / Threaded Fasteners	On Hold	Continue	The FTG discussed this item at the Virtual Session on 2/27/24. Possibility of adding a "legacy review" that uses lot release data. See minutes for Item 23-28 for more information.

ltem No	Responsi	ble Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
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23-28	GTG-F	FTG	1	9	Modification of Sunset Procedures for Solid Rivets	Handout	Continue	C. Reakes presented this agenda item. FTG would like to investigate if typical curves can be compared instead of a T90 curves. Battelle will prepare examples of both cases.
23-29	GTG-F	FTG	1	9	Modification of Sunset Procedures for Blind Fasteners	On Hold	Continue	The FTG discussed this item at the Virtual Session on 2/27/24. C. Reakes to check old Howmet sunset data against new multiple regression method. Possibility of adding a "legacy review" that uses lot release data. See minutes for Item 23-28 for more information.
23-30	GTG-F	FTG	1	9	Minimum Spec Content Requirements for Fasteners (like 9.2.2)	Status	Continue	C. Reakes provided a status update. This item will be discussed further during telecons with fastener suppliers.
23-33	GTG			9	FCGR Variable Load Analysis Methods	Status	Continue	This item was not covered due to time constraints. A status update will be provided with the minutes.
23-34	GTG		2	9	Role and Documentation of Specimen Location Used in Indirect Analysis	Agenda	Continue	M. Snyder presented this item. Will add language about how the specimen location is used in the averaging for the correlation calculation. Results show that there is a statistical benefit of specifying specimen location. NEW ITEM 24-76 will be opened to address J. Mantione's (ATI) comment on the location of tensile specimen for determination of K1C/KQ validity.
23-36	GTG-F	FTG	1	9	Ch. 8 A-Basis Static Allowables Requirement for Fastener Fatigue Figures	Status	Continue	C. Reakes provided a status update. Need to discuss with the ASG and GSG to determine what requirements should be in MMPDS to comply with regulator requirements.

ltem No	Responsi	ible Group	HDBK	Title	Туре	Action	Meeting Description	
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23-42	MTG		1	5	Upgrade and Expansion of CP-70 Ti per AMS 4921	Agenda	Continue	C. Shannon presented this item. AMS 4921 has not been balloted. Suggestion to modify footnote a. to say "Mechanical properties for round bar were updated under AMS 4921". Kim confirmed that the spec does have ST elongation for round bar without tensile. Pending draft may have been updated. M. Crill (TBGA) believes it should be T instead of ST. C. Shannon to review "Other" in Table 5.2.1.0(c) and discuss ST elongation with the AMS Committee.
23-43	MTG		1	3	Correction to 7349-T76511 Extrusion Mechanical Properties	Status	Continue	C. Shannon gave a brief status update. At 42nd meeting, agreed to not remove derived properties for 0.500- 0.750 inch but wait until Constellium can send additional data. Shear requested per ASTM B769 for 0.250-0.750 inch. Constellium is collecting material.
23-44	GTG	MATSSG	1, 2	9	Restructuring of Data Requirements Tables in 9.2.4	Agenda	60 Day Approval	M. Snyder presented this item. This item was also discussed during the MATSSG and ASG. Both groups liked the proposed reformatting and are in favor of ignoring the alternate format in Appendix A. The purpose of this item is only to reformat for clarity. Approved editorial comments/changes are noted in the pdf and will be shown in the minutes. NEW ITEM 24-77 will be opened to address suggested changes to guidelines captured in the pdf comments. NEW ITEM 24- 78 to understand Table 9.2.4.1 Test Matrix that was in MMPDS-17 and if new version is needed.

Item No	Responsible Group HDBK Chpt Title Type Action	Action	Meeting Description					
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23-46	·	PSG			NIMS/NEDO Intro Presentation	Status	Closed w no Action	No data are expected at this time.
23-48	ETTG		2	5	Ti-6Al-4V per AMS 7004/7005	Status	Continue	M. Stepanova (Norsk) provided a status update that included a preliminary metallography report with examples of the three magnifications. Requested feedback on submission. Update on fatigue analysis was provided during the FatWG. The FatWG indicated that there was no need to collect additional FCG data since the provided data captures the Paris region well. Additional LCF testing was recommended to better develop curvature. Copies of both Norsk presentations are included with the minutes.
23-52	GTG-F	FTG	1	9	Clarification of Typical Yield Joint Curve	Agenda	-	C. Reakes presented this item. FTG recommended approve with changes and close. Change was to remove B-Basis from title of Figure 9.7.1.4(d).
23-53	MTG		1	5	Fatigue Curve for Ti-6-2-4-2	Agenda	60 Day Approval	C. Reakes presented this item. The Committee agreed with going with the no-runout option. Proposal to include Figure 1 approved. After the meeting Battelle noticed an error in the proposal. The selected figure was intended to be a replacement for Figure 5.3.3.1.8, not added as Figure 5.3.3.1.8(b). For this reason, this item was changed from Approved and Closed to a 60 Day Approval. A corrected proposal will be shown in the final minutes.

Item No	Responsi	Responsible Group HDBK Vol. Chpt Title	Туре	Action	Meeting Description			
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23-54	MTG		1	3	Review of Fracture Toughness Tables	Agenda	Approved and Closed	C. Reakes presented this item. No objections to proposal to delete all highlighted rows.
23-56	GTG	ETTG	2		Use of Columns in Volume II	Status	Continue	D. Hall gave a status update. Looking into how to incorporate modulus of rupture analysis method.
23-57	GTG				MMPDS Bylaws: Clarify GCC roles and responsibilities.	Agenda	Approved w Changes and Closed	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes. NEW ITEM 24-79 to add information about abstentions from votes in the next revision.
23-59	GTG		1, 2	9	Scenarios for Upgrading from S-Basis to C/D-Basis	Status	Continue	This item was not covered due to time constraints.
23-60	GTG		1, 2		Definition of S-Basis for Volume I	Agenda	60 Day Approval	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes. J. Rubadue found some additional information suggesting 30/3/3 was the established requirement in 2001 or earlier. Battelle will confirm a date, modify, and document in the Final Minutes. NEW ITEM 24-80 to define specification minimum.
23-61	ETTG				V2WG Coordination & Direction	Status	Continue	D. Hall and S. Cordner provided a status update.

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24-01	MTG	ASG, MATSSG	1	3	7140-T7451 Plate: Review 8-10 Inch Tensile Minimums	Handout	Continue	Interest in opening NEW ITEM 24-81 to add in engineering judgement language to legacy alloy adjustment rules. K. Wertz (USAF), R. Bennett (Boeing) mentioned that some materials may have that dip. Consensus that this dip is not realistic for this material. J. Bennett (NASA) requested telecon to review final decision. D. Tummons (Boeing) stated that the A- and B- Basis being the same is statistically ok. Option to decrease A-Basis by 1 ksi.
24-03	GTG		1, 2	9	Equations for Normal Distribution k-factors	On Hold	Continue	D. Hall presented this item. The content of this item will be included in the ongoing reorganization of Section 9.5. If you are interested in the Mathcad spreadsheet tool for normal distribution, please let Battelle know. Estimating equations published in Experimental Statistics by Natrella, were reviewed after the last meeting. Those estimating equations are a few years older than the two equations included with Table 9.10.1
24-04	ETTG		2	5	Ti-6Al-4V JMADD Test Plan	Status	Continue	D. Hall and N. Tay (NIAR) provided a status update on the test. Plan and progress on the preliminary analysis. The handout was approved for public release after the MMPDS meeting occured and is attached to the minutes.
24-05	ETTG		2	5	Ti-6Al 4V GAMAT Test Plan	Status	Continue	A. Steevens (Boeing) provided a status updated. 4/5 machines have successfully printed. 5th machine is in progress. Data expected late October.

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24-06	GTG		1, 2	9	Update to Section 9.3 Data Submission Guidelines	Status	Continue	This item was not covered due to time constraints. Anyone submitting data should contact Battelle for data templates.
24-07	GTG		1, 2		Review Appendix A.3 Definitions - Format	Agenda	Approved w Changes and Closed	D. Hall presented this item. Comments and changes are captured in the pdf and will be shown in the minutes.
24-09	GTG		1, 2	9	Update Sections 9.1-9.3 in Volume I Consistent with Volume II	Agenda	•	D. Hall presented this item. Editorial changes are captured in the pdf and will be shown in the minutes. Proposals in #1 approved with changes. Proposals #2 and #3 continued and will be worked in NEW ITEM 24- 89. Include in NEW ITEM 24-77 to standardize use of Young's Modulus/Elastic Modulus/Modulus of Elasticity in the Handbook.
24-11	GTG	ASG		1	Section 1.4.6 Corrections	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposed replacement figure. NEW ITEM 24-82 opended to investigate Equation 1.4.6.2.
24-13	GTG	ETTG/MT G	2	9	Definition of Bulk Material	Agenda	Approved w Changes and Closed	D. Hall presented this item. No objections to intent of definition but suggestion to add "(e.g., surface conditions on fatigue specimens) " after "specific conditions" and change "conditions" to "influence factors" No objections from MTG.

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24-15	MTG		1	6	Correction to 718 Alloy Bar and Forging Tables	Agenda	60 Day Approval	C. Shannon presented this item. No objections to any proposals but suggested 60 day approval to review all of the changes. New item was requested to better define how S-Basis adjustments get documented. Battelle advises against a new item at this time.
24-16	GTG	ETTG	2	9	Section 9.2.3.5 for Volume II	Status	Continue	D. Hall gave a status update.
24-17	GTG		1, 2		Updates to the OSAT method	Status	Continue	M. Snyder gave a brief status update. Agenda will be prepared for next meeting to incorporate OSAT method in Chapter 9.
24-18	ETTG		1, 2		Use of the Term "Allowable" for Fatigue and "Allowables" from Various Sources	Status	Continue	This item was not covered due to time constraints.
24-20	GTG		1, 2	1	Update Use of Proportional Limit and Ftp in V1 and V2	Consent Agenda	Closed w no Action	This consent agenda included information on proportional limit and proposed no changes be made.
24-24	MTG		1	3	AMS 4413 Thickness Range Expansion	Agenda	Approved and Closed	C. Shannon presented this item. There were no objections to approving the 6.5001-7.000 inch A and B- Basis properties. Question on approving S-Basis for 7-8 inch. Jana said we do not have derived properties which is why we did not included it. Airframers indicated there is no benefit to them in adding S-Basis without secondary properties. NEW ITEM 24-90 for expanding thickness range with S- Basis values.

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24-25	GTG	ETTG	2	8, 9	Friction Stir Welding	Status	Continue	C. Reakes provided a status update. Previous draft submitted by R. Reinmuller (Lockheed) has been found and will be circulated for review. J. Bennett (NASA) and S. Cordner (NASA) will lead this effort with help of Blue Origin.
24-31	GTG-F	FTG	1	9	Section 9.7 Restructure and Clean-Up	Handout	Continue	C. Reakes presented this item. Comments were captured in the PDF and will be included in the final minutes. Agenda will be prepared for the 45th Meeting.
24-32	ETTG		2		AMS Coordination - Volume II	Status	Continue	D. Hall provided a status update. MMPDS is working on the data analysis for multiple new AM material specifications. The next AMS AM Metals meeting is in Littleton, CO Oct 15-18th.
24-34	GTG		2	9	Consolidation of Stress-Strain Analysis Information	Agenda	Continue	C. Shannon presented this item. Comments and suggestions are captured in the pdf.
24-37	MTG		1	5	Corrections to Titanium FCG Figures and Tables	Agenda	Approved and Closed	C. Reakes presented this item. There were no objections to any of the proposed tables and figures. Will confirm the orientations on table c. Table c approved. Will check axis titles on all the figures.
24-38	GTG	MATSSG	1	9	Bearing Edgewise Requirements	Agenda	Continue	C. Shannon presented this item. Will continue to think about this as MMPDS recieves the next data packages. Need to see how the new indirect method will behave.
24-39	MTG		1	2	Corrections to FCG in Chapter 2	Agenda	Approved w Changes and Closed	C. Reakes presented this item. No objections to approving Table 1 or Figure 1. No objections to Figure 3 or Table 2. Will strike 12.59 editorially on Table 2. No objections to Figure 7 or Table 3. No objections to Figure 10 or Table 4. NEW ITEM 24-83 to address stress ratio vs. force ratio.

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24-40	ETTG		2	5	Ti 6-4 AM Test Plan per xxx	Status	Continue	Korea Aerospace provided a status update on their test plan and preliminary test results. A copy of the presentation is included in the minutes.
24-42	MTG		1	5	Addition of Strip Product Form to Tables 5.4.1.0(b1) and (b3)	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposals.
24-43	FTG		1	8	Fastener Specification Review (Active/Cancelled)	Agenda	Closed w no Action	C. Reakes presented this agenda item. Item was for information only.
24-44	GTG		1, 2	9	Combinability Flowchart for Section 9.5.3	Agenda	Approved w Changes and Closed	M. Snyder presented this item. Changes are documented in the pdf.
24-45	GTG-F	FTG	1	9	Update Section 9.9.5 Mechanically Fastened Joints	Status	Continue	C. Reakes provided a status update. Agenda will be prepared for 45th Meeting.
24-46	GTG				Preliminary Material Properties Handbook	Agenda	Continue	D. Hall presented this item. Suggestion in PSG to review and see how many data sets could make it into the handbook if a PSG data requirement table was added. Need to ensure that there is active work on creating the spec, or the spec exists. Don't want PMP to have MMPDS label on it. NEW ITEM 24-84 to propose airframe table and engine table.
24-47	GTG		1	9	V1 Table Format Revision Guidelines	Agenda	Continue	D. Hall presented this item. Editorial changes are captured and will be incorporated into an agenda for the next meeting.

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24-48	GTG	ETTG	2	9	Feedstock Reuse in AM Processes	Agenda		D. Hall presented this item. Section 9.2.2.4 heading will be changed to "Powder Reuse". Editorial change to spell out PCD where it is used earlier in the paragraph and strike "process control document" later in the paragraph. These changes will be shown in the minutes. "Recycling" will be changed to "Powder Reuse" in the Subject Index.
24-49	GTG	ETTG	2	9	Additions to Microstructure Requirements for Volume II	Agenda	Approved w Changes and Closed	D. Hall presented this item in ETTG and GTG. See minutes item for full changes. Anisotropy and other "strongly recommended" items will be addressed in Item 24-84.
24-51	GTG	ETTG	2		D-Basis without C-Basis in Volume II	Agenda	Continue	C. Shannon presented this item in the ETTG. Feedback and comments have been captured and will be incorporated into an agenda item with proposal for the next meeting.
24-52	GTG		1, 2	9	Use of Weibull Method for Direct Analysis of Negatively Skewed Data	Agenda	Closed w no Action	M. Snyder presented this item. No further action needed.

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24-53	GTG	ETTG	2		Definition of Process Intensive Material	Agenda	Continue	D. Hall presented this item. Agreement could not be reached. Suggestions that came up during the discussion are as follows: After feedback from GSG and ISG, decided not to try to define process intensive materials. A proposal for 60 Day approval was rejected. Suggestions to change title of V2 from "Process Intensive Materials" to "Nonconventional Materials" and Change title of Section 1.3 to "Nonconventional Materials". Alternatively could change to "Materials and Joints Produced by Nonconventional Processes" and change Section 1.3 to "Nonconventional Materials, Processes, and Joints". Another idea as to change the title of V2 to "Materials Requiring Further Showing"

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24-53	GTG	ETTG	2		Definition of Process Intensive Material	Handout	Continue	D. Hall presented this item. Agreement could not be reached. Suggestions that came up during the discussion are as follows: After feedback from GSG and ISG, decided not to try to define process intensive materials. A proposal for 60 Day approval was rejected. Suggestions to change title of V2 from "Process Intensive Materials" to "Nonconventional Materials" and Change title of Section 1.3 to "Nonconventional Materials". Alternatively could change to "Materials and Joints Produced by Nonconventional Processes" and change Section 1.3 to "Nonconventional Materials, Processes, and Joints". Another idea as to change the title of V2 to "Materials Requiring Further Showing" or "Additive Manufacturing". Another suggestion is to not provide a subtitle and describe each volume in an intro.
24-54	GTG		1, 2	multi	Change from FCP to FCG	Agenda	Approved and Closed	C. Reakes presented this item. "Fatigue crack propagation will be changed to "fatigue crack growth" to avoid confusion with fracture control plans.
24-55	MTG		1	3	7175-T7X Hand Forging Cross-Sectional Area	Agenda	Approved and Closed	C. Shannon presented this item. No objections to proposals.
24-56	MTG	MATSSG	1	3	7175-T73511 Extrusion Cross-Sectional Area	Agenda	Continue	C. Shannon presented this item. No proposals at this time. Battelle is waiting on additional data and will continue working with the AMS Committee on the issue.

Item No	Responsi	ble Group	HDBK Vol.	Chpt	Title	Туре	Action	Meeting Description
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24-57	MTG		1	3	Stabilization of AMS 4298	Consent Agenda	Approved w Changes and Closed	Discussed briefly in MTG. 2056 alloy was also listed in some additional tables as identified in the minutes.
24-58	GTG	ETTG	2	9	Similar Stress States for AM Shear and Bearing Test Specimens	Agenda	Continue	C. Shannon presented this item. There were comments that this will be need to be handled on a case by case basis and will depend on the additive process being used. Guidance and examples needed to be added to Chapter 9. This will be evaulated as MMPDS starts to recieve data. An agenda will be prepared for the next meeting.
24-59	GTG-F	FTG	1	9	Legacy Review Process for Solid Rivets	Agenda	Continue	C. Reakes presented this item. Changes documented in the PDF file. Create NEW ITEM 24-85 for Solid Fasteners.
24-60	MTG			2	A- and B-Basis Ftu and Fty for 304L per AMS 5511	Agenda	Approved w Changes and Closed	D. Hall presented this item. Will add a disclaimer that a lot release test data should be used. Document as T99 and T90.
24-61	MTG		1	4	Revision of Effect of Exposure on Elongation for WE43C	Agenda	Approved and Closed	C. Reakes presented this item. There were no objections to the replacement figures.

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24-62	GTG	ETTG	2	1	V2: Section 1.3 Process Intensive Materials	Status	Continue	D. Hall gave a status update. The title of this section will be changed according to agenda/handout for Item 24- 53. See this item's comments. This section will have descriptions for nonconventional processes such as LPBF, DED, etc. A telecon will be scheduled for this discussion. Norsk volunteered to draft DED paragraph and ATI volunteered to draft LPBF paragraph.
24-63	GTG	ETTG	2	9	Definition(s) Related to Feedstock Heat in V2	Status	Continue	D. Hall gave a status update
24-64	GTG		1, 2	9	Correction to Skewness Adjustment in Indirect Method with Regression	Agenda	-	M. Snyder presented this item. Changes are captured in the pdf and will be shown in the minutes. NEW ITEM 24- 86 to investigate whether the skewness adjustment is necessary for the regression case of the indirect method.
24-65	GTG		1, 2	9	Update to Table 9.10.1. One-Sided Tolerance Limit Factors	Agenda	Approved w Changes and Closed	M. Snyder presented this item. Changes are captured in the pdf and will be shown in the minutes.
24-66	MTG		1	3	Correction to Figure 3.2.19.2.1(b) for 2219- T8X Plate	Consent Agenda	Approved and Closed	The changes in the agenda item will be implemented in MMPDS-2025
24-67	MTG		1	3	Addition of 7140-T7351 Aluminum Alloy Plate	Present.	Continue	S. Buchwald (Constellium) gave a presentation on this new material.
24-68	MTG		1	3	Addition of 2074-T84 Aluminum Alloy Sheet	Present.	Continue	S. Buchwald (Constellium) gave a presentation on this new material.

Item No	Responsi	ible Group	HDBK	Chpt	Title	Туре	Action	Meeting Description
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24-69	GCC				Consent Agenda - 44th MMPDS GCC	Consent Agenda	Approved and Closed	The Consent Agenda item list was approved by the GCC.
24-70	GTG		1, 2	9	Weight Density Clarification	Handout	Approved and Closed	D. Hall presented this handout. This an editorial change that has been made for MMPDS-2025.
24-71	GTG-F	FTG	1	8	MIL-HDBK-5 Method Footnote for Fastener Tables	Handout	Continue	C. Reakes presented this handout. An agenda item will be prepared for the 45th meeting.
24-72	ETTG		2	2	15-5PH AM Test Plan per AMS 7073	Handout	Continue	N. Ramaswamy (Parker Aerospace) provided an update on their test plan and build layout. Feedback will be incorporated into an agenda for the next meeting.
24-73	MTG	FatWG	1	2	S/N Curves for 15-5PH	Status	Continue	K. Olsen (Parker-Lord) provided a status update on preliminary fatigue curves for 15-5PH.
24-74	ETTG				Ti-6Al-4V Recyling Processes	Present.	Continue	M. Dunstan (IperionX) gave a presentation on their Hydrogen Assisted Magnesiothermic Reduction (HAMR) and Hydrogen Sintering Phase Transformation (HSPT) technologies.
24-75	MTG		1	3	Corrections to Effect of Temperature for 2024 Aluminum Alloy	Handout	Continue	C. Shannon presented this handout for awareness. These figures will be corrected editorially in MMPDS- 2025, but the item will be kept open to include history for Figure 3.2.4.5.3(b) in a consent agenda for Spring meeting.
24-76	GTG		1, 2	9	Fracture Toughness Data Requirements		New	From discussions in Items 23-14 and 23-34. Discuss data requirements and when they apply (spec. minimum vs informational tables). Also discuss location of fracture testing in relation to lot release testing.

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24-77	GTG		1, 2	9	Revisions to Table 9.2.4 Data Requirments in V1 and V2		New	From comments on Item 23-44 and 24-09 regarding changes to data requirements.
24-78	GTG		1, 2	9	Test Matrix		New	From Item 23-44. Discuss if a Test Matrix should be added similar to Table 9.2.4.1 of MMPDS-17.
24-79	GTG				MMPDS Bylaw Revisions		New	From Item 23-57 add information about abstentions from votes in the next revision.
24-80	GTG		1, 2	9	Definition of Specification Minimum		New	From Item 23-60.
24-81	GTG		1, 2	9	Addition of Engineering Judgement Language		New	From Item 24-01. Add language for engineering judgement to legacy review.
24-82	GTG		1, 2	1	Investigation on Ultimate and Yield Stresses in Shear Equation 1.4.6.2		New	From Item 24-11. Investigate Equation 1.4.6.2
24-83	GTG		1, 2	9	FCG - Use of Stress Ratio vs Force Ratio		New	From Item 24-39. Discuss changing stress ratio to force ratio for FCG.
24-84	GTG		1, 2	9	Table Format Options for Engine vs Airfame Alloys		New	From Item 24-46. Discuss table formats for Engine and Airframe alloys.
24-85	GTG-F	FTG	1	9	Legacy Review Process for Solid Fasteners		New	From Item 24-59 which became focused on solid fasteners.
24-86	GTG		1, 2	9	Skewness Adjustment for Regression Indirect Analysis Method		New	From Item 24-64. This item is to investigate whether the skewness adjustment is necessary for the regression case of the indirect method.
24-87	GTG	PSG	1, 2	9	Data Requirement Table for PSG Alloys		New	From Item 19-34. Propose a data requirement table for PSG alloys.
24-88	ETTG		2	5	Test Plan for Ti-6-4 per AMS7009		New	From Item 20-16.
24-89	GTG		1	9	Update of Section 9.2 in Volume I Consistent with Volume II		New	From Item 24-09. Continue work on Proposals #2 and #3 of Item 24-09, Sections 9.2 of V1 and 9.2.3 in V1.
24-90	GTG		1	9	Expansion of Thickness Range Without Derived Properties		New	From Item 24-24. Clarification Section 9.2.4, paragraph 5 of when to expand thickness ranges. Paragraph does not clearly indicate if it can be expanded for S-Basis.

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24-91	ETTG		2	6	Test Plan for AM ABD900 Ni-based superalloy		New	EPRI plan to present their test plan for this America Makes sponsored project at the next MMPDS GCC meeting.
24-92	GTG		1	1, 9	Blanking Shear vs Punch Shear		New	From Item 15-13. D. Tummons (Boeing) sent information on blanking shear. This new item will review that information and update MMPDS 1.4.6 and footnotes as needed.
24-93	GTG		1	multi	Updating Shear and Bearing Grain Directions to Test Orientations		New	From discussions in Item 15-13. D. Tummons (Boeing) requested that shear and bearing grain directions be revised to the ASTM test orientations.
24-94	GTG		1, 2		Review Appendices Organization		New	
24-NIN	MTG		1		MMPDS Handbook Table Order	Handout	Closed w no Action	D. Hall presented this handout.
24-NIN	MTG				Discuss NASGRO/MMDPS collaboration	Status	Continue	Concern that only doing NASGRO would lock users into one code. Need to also ensure that an equation fit can be to Walker.