International Aircraft Materials and Fire Test Working Group

Contamination/Aging Task Group

Contamination

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International Aircraft Materials and Fire Test Working Group

Contamination/Aging Task Group

Topics:

- Contamination Testing –

  Flammability Testing of Cleaners and CIC's
- Maintenance Review Board Report

  Overview of inspection and cleaning requirements during maintenance
- Contamination Roadmap – Ray Cherry

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Flammability of Cleaners and Corrosion Inhibiting Compound on Insulation Blankets

Cleaning Agents

Acetone	**Aliphatic Naphtha**	**Isopropyl Alcohol**	**Citra-Safe**

Corrosion Inhibiting Compounds

AV8	**AV30**	**Socopar 65**

In-Work

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Flammability of Cleaners

		Cleaning Agent				
	Test	**Uncoated**	**Acetone**	**Aliphatic Naphtha**	**Isopropyl Alcohol**	**Citra -Safe**
PET	Q-Tip	**P**	**F**	**P**	**P**	**F**
MPVF	Rad.Pan.	**P**	**P**	**P**	**P**	**P**
PEKK	Rad.Pan.	**P**	**F**	**P**	**P**	**F**
PVF	Rad.Pan.	**P**	**P**			

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Flammability Testing Results and Next Steps

- Naphtha and IPA appear to be benign. Further review with film manufactures is required, as well as airline maintenance groups to determine acceptability at the airplane level.
- Complete CIC testing.
- Develop test matrix for other contaminates such as hydraulic fluids, etc…

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Maintenance Review Board (MRB) Report

OVERVIEW

Document Purpose:

The Maintenance Review Board Report (MRBR) is model specific:

1) Defines the initial minimum scheduled maintenance/inspection requirements to be used in the development of an approved continuous airworthiness maintenance program.
2) Basis from which each operator may develop their own Continuous Airworthiness Maintenance Program.
3) Forms part of the instructions considered essential for proper maintenance as required by FAR 25.1529 and FAR 25 Appendix H (Instructions for Continued Airworthiness).

The Maintenance Review Board Report is developed from review & analysis of the industry proposal developed by the Industry Steering Committee representing airline operators, FAA, and OEM.

Derived through the MSG-3 process (Maintenance Steering Group).

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Maintenance Review Board Report

Inspection Intervals

A-Check: The Systems/Zonal A-Check Interval is 500 flight hours.

- 1A Tasks (500 flight hours)
- 2A Tasks (1,000 flight hours)
- 3A Tasks (1,500 flight hours), and so on.

C-Check: The Systems/Zonal C-Check Interval is 6,000 flight hours or 18 mo.

- 1C Tasks (6,000 flight hours/18 months)
- 2C Tasks (12,000 flight hours/36 months)
- 3C Tasks (18,000 flight hours/54 months), and
- 4C Tasks (24,000 flight hours/72 months).

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Systems Requirements

Tasks are defined through the MSG-3 Revision 2005.1 Enhanced Zonal Analysis Procedure (EZAP). These tasks (Restoration, Detailed Inspection and General Visual Inspection) are considered applicable and effective to …

1) minimize wiring contamination
2) detect wiring installation discrepancies which may not be reliably detected through a zonal inspection.
3) included under ATA Chapter 20 (Standard Practices).

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Maintenance Review Board Report

Standard Practices

Example

			APPLICABILITY		
MRB ITEM NUMBER	TASK	INTERVAL	APL	ENG	ZONAL INSPECTION REQUIREMENT
20-005	RS	4C	ALL	ALL	CLEAN THE MAIN EQUIPMENT CENTER (EZAP)
20-006	GV	4C	ALL	ALL	GENERAL VISULA INSPECTION OF POWERR FEEDERS AND EWIS IN BACK OF THE EE TRAYS (EZAP)
20-007	RS	4C	ALL	ALL	CLEAN THE AREA BEHIND THE SIDEWALL - LEFT HAND,ZONE 121 (EZAP)
20-008	RS	4C	ALL	ALL	CLEAN THE AREA BEHIND THE EQUIPMENT RACKS AND SIDEWALL,ZONE 122 (EZAP)
20-009	RS	4C	ALL	ALL	CLEAN THE AREAS BELOW THE FORWARD CARGO COMPARTMENT FLOOR (EZAP)
20-017	DI	4C	ALL	ALL	INSPECT (DETAILED) THE EXPOSED EWIS BUNDLES IN THE AREA BELOW THE AFT CARGO COMPARTMENT (EZAP
20-018	RS	4C	ALL	ALL	CLEAN THE AREA BELOW THE AFT CARRGO COMPARTMENT FLOOR (EZAP)
20-026	RS	4C	ALL	ALL	CLEAN THE AREAS UNDER THE RACEWAY COVER PLATES ON BOTH SIDES OF THE FLIGHT COMPARTMENT AND TAREA BEHIND P13, P6 RUDDER PEDALS AND CENTER CONSOLE (EZAP)

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Maintenance Review Board Report

Zonal Inspection Requirements

• Zonal Inspection Requirements assures that all systems/components/installations and structure contained in a zone receive adequate inspection to determine security of installation and general condition.

• Zones which contain systems/components/installations are assigned zonal general visual inspection tasks to be performed at specified intervals.

• An enhanced zonal analysis was performed for zones containing electrical wiring and having a potential for combustible materials being present. This enhanced zonal analysis provides a means to identify applicable and effective tasks to minimize contamination and to address wiring installation discrepancies that may not be reliably detected through a standard zonal inspection.

• All Zonal inspection requirements constitute Electrical Wiring Interconnection System (EWIS) Instructions for Continued Airworthiness (ICA).

• The term EWIS means any wire, wiring device, or combination of these, including termination devices, installed in the airplane for transmitting electrical energy between two or more termination points.

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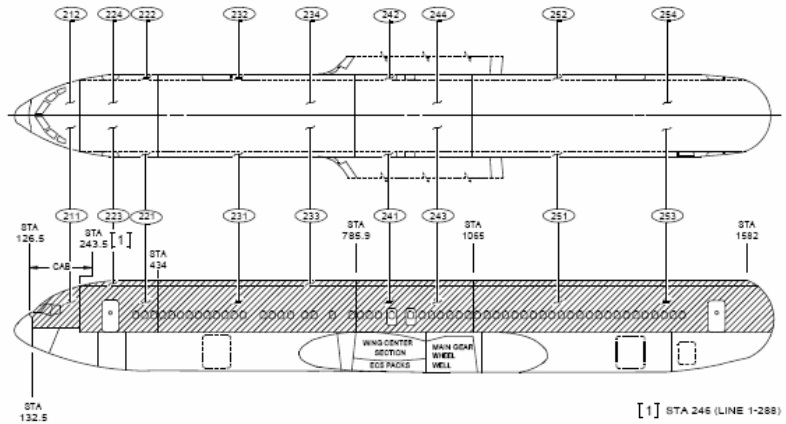
Maintenance Zones

100 Fuselage - Lower Half
200 Fuselage - Upper Half
300 Empennage
400 Powerplants and Struts
500 Wing - Left
600 Wing - Right
700 Landing Gear and Gear Doors
800 Doors (Passenger/Cargo)

MAJOR ZONE 200 - UPPER HALF OF FUSELAGE, 767-200

ZONE 210	BS 126.5 to BS 246 (BS 126.5 to BS 243.5, Line 289 and on)	ZONE 240	BS 785.9 to BS 1065
211	Control Cabin - Sect 41 - Left	241	Pass Cabin - Sect 45 - Left
212	Control Cabin - Sect 41 - Right	242	Pass Cabin - Sect 45 - Right
		243	Area above Ceiling - Pass Cabin - Sect 45 - Le
		244	Area above Ceiling - Pass Cabin - Sect 45 - Rig
ZONE 220	BS 246 to BS 434 (BS 243.5 to BS 434, Line 289 and on)	ZONE 250	BS 1065 to BS 1636
221	Pass Cabin - Sect 41 - Left	251	Pass Cabin - Sect 46 - Left
222	Pass Cabin - Sect 41 - Right	252	Pass Cabin - Sect 46 - Right
223	Area above Ceiling - Pass Cabin - Sect 41 - Left	253	Area above Ceiling - Pass Cabin - Sect 46 - Le
224	Area above Ceiling - Pass Cabin - Sect 41 - Right	254	Area above Ceiling - Pass Cabin - Sect 46 - Rig
ZONE 230	BS 434 to BS 785.9		
231	Pass Cabin - Sect 43 - Left		
232	Pass Cabin - Sect 43 - Right		
233	Area above Ceiling - Pass Cabin - Sect 43 - Left		
234	Area above Ceiling - Pass Cabin - Sect 43 - Right		



MAJOR ZONE 200 - FUSELAGE, UPPER HALF,

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Zonal Inspection

Example

		APPLICABILITY			
MRB ITEM NUMBER	**INTERVAL**	**APL**	**ENG**	**ZONE**	**ZONAL INSPECTION REQUIREMENT**
0600-119-01Z	1C	ALL	ALL	119	*** MAIN EQUIPMENT CENTER; PERFORM INTERNAL GENERAL VISUAL INSPECTION OF ZONES. ACCESS NOTE: REMOVAL OF INSULATION AND EQUIPMENT NOT REQURIED.
0600-200-01Z	1C	ALL	ALL	200	*** CONTROL CABIN; PERFORM INTERNAL GENERAL VISUAL INSPECTION OF ZONES.

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Contamination Roadmap

See Ray Cherry Presentation

http://www.fire.tc.faa.gov/pdf/materials/Dec06Meeting/Cherry-1206-routemap.pdf