



UTN  HAEDO

Gestión Aero comercial.

Operaciones de Ingeniería y Mantenimiento.

Contenidos

1. Programas de mantenimiento. Clase 1
2. Planificación del cumplimiento. Clase 1
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Docentes



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1. PROGRAMAS DE MANTENIMIENTO.

¿Qué es un programa de mantenimiento?

Es un documento en el que se describe en detalle todas las tareas que minimamente deben ser llevadas a cabo y su frecuencia, para asegurar la aeronavegabilidad continuada tanto de la estructura, como de los sistemas y componentes del avión.

Cada tipo de aeronave tiene su propio programa de mantenimiento, pudiendo incluso existir diferencias en el mismo en función de número de serie de avión (efectividad).

El programa de mantenimiento de cada avión lo elabora el operador, basado en el MPD (maintenance planning document) que elabora el fabricante y debe ser aprobado por la autoridad aeronáutica del país de matriculación.

El operador basado en su experiencia y conveniencia puede agregar tareas o modificar el intervalo de las tareas, pero nunca disminuyendo los intervalos de inspección determinados en el MPD.

¿Dónde nace un MPD?



MRBR: Documento elaborado en base a los lineamientos del MSG-3 (Maintenance Steering Group)

CMR: Requerimientos que surgen del proceso de certificación del avión

AL: Son requerimientos de inspección críticos tanto de la estructura, que son obtenidos durante los ensayos de resistencia, analisis de daño tolerado y fatiga de la estructura del avión, como así también de sistemas tales como los items críticos del sistema de combustible.

LIST OF CERTIFICATION MAINTENANCE REQUIREMENTS (CMR's)	
21 AIR CONDITIONING	
Maint Req ID	Title
21-25-03-001C	EMERGENCY RAM AIR CHECK VALVE
21-27-03-001C	FORWARD CARGO COMPARTMENT CHECK VALVE
21-30-01-003C	CPCS POWER SUPPLY AND PRESSURIZATION PANEL
21-32-00-001C	CABIN PRESSURE RELIEF COMPONENTS
21-32-04-001C	NEGATIVE PRESSURE RELIEF VALVE
21-33-00-001C	CARGO COMPARTMENT PRESSURE EQUALIZATION VALVE
24 ELECTRICAL POWER	
Maint Req ID	Title
24-23-00-004C	RAM AIR TURBINE (RAT) GENERATOR
24-61-00-001C	ESSENTIAL CONTACTORS (EC) AND ESSENTIAL TIE CONTACTORS (ETC)

FUEL SYSTEM LIMITATION ÍTEMS (FSL's)	
20 STANDARD PRACTICES-AIRFRAME	
Maint Req ID	Title
20-00-00-001F	WING MAIN BOX TANK UNIT WIRING AND TANK UNIT WIRING CONNECTIONS
20-00-00-002F	TANK UNIT WIRING AND TANK UNIT WIRING CONNECTIONS, INSIDE WING STUB MAIN BOX
20-00-00-003F	FUEL QUANTITY GAUGING SYSTEM HARNESS AND CONNECTORS
20-00-00-004F	FUEL PUMP CONNECTOR

¿Qué es el sistema MSG-3?

Maintenance Steering Group:

Se buscaba determinar el tiempo entre mantenimientos de todos los componentes sin considerar inicialmente si era o no necesario, concepto "Hard time".

A fines de 1960, se analiza desde el punto de vista de costo/eficiencia junto con el criterio "on condition maintenance" creando el **MSG-1**

Usando la experiencia obtenida en el MSG-1, en la década del 70 el documento evoluciona al **MSG-2**, dando lugar al concepto de "Condition monitoring".

Finalmente, en la década del 80 con análisis de fatiga, control de corrosión, confiabilidad de componentes e inspecciones zonales, se llega al **MSG-3** que es el utilizado actualmente.

Conceptos utilizados en mantenimiento

Hard Time: Límite de vida o intervalo máximo del componente hasta realizar tareas de mantenimiento en una pieza o unidad. Aplican al OVH, pero también a la vida útil total de la pieza.

On condition: Proceso de mantenimiento que tiene inspecciones o pruebas repetitivas para determinar la condición de unidades, sistemas o partes de la estructura con respecto a su capacidad de servicio continua (se toman medidas correctivas cuando lo requiere la condición del elemento).

Condition Monitoring: Proceso de mantenimiento que permite que una unidad funcione hasta que falle. El monitoreo de estado no está permitido en unidades cuya falla tenga efectos adversos sobre la seguridad operativa.

Zonal Inspection Programs: Inspecciones periódicas del componente de la aeronave de acuerdo con diferentes programas de inspección como: Programa de protección contra la corrosión CPP, programa de muestreo, etc. Estos programas reemplazan el monitoreo de condición en MSG3. Los programas de inspección zonal son muy importantes y deben realizarse con cuidado para que sean efectivos porque, de lo contrario, pueden afectar la seguridad.



EMBRAER 190 195 MAINTENANCE REVIEW BOARD REPORT

EFFECTIVITY: ALL

MRBR Task Number	Zones	Type Category	Title Description	Applicability	T: Threshold; I: Repetitive Interval
53 - 10 - 001 - 121	121 122	GVI AD	FORWARD-FUSELAGE CIRCUNFERENTIAL SKIN-SPLICES AND STRINGER SPLICES - LOW FREQUENCY EDDY-CURRENT <i>General Visual Inspection of the Circumferential Skin Splices and Stringer Splices below the Passenger Floor Level</i> NOTE: The performance of this task in conjunction with task 53 - 10 - 017 - 363 is an alternative for task 53 - 10 - 017 - 136.	ALL	T: 40000 FC I: 20000 FC

A

B

C

D

E

F

A - MRBR Task Number (as defined in the MSG-3 analysis)

B - Zones (if applicable)

C - Type

- Refer to Table 1

- Category

System and Powerplant Analysis Logic Path

- 5 - Evident Safety
- 6 - Evident Operational
- 7 - Evident Economic
- 8 - Hidden Safety
- 9 - Hidden Non-Safety

Structures Critical Source of Damage

- AD - Accidental Damage
- ED - Enviromenal Damage

Certification Maintenance Requirement Category

- ONESTAR
- TWOSTAR

Note: Only Appendix A - Part I

L/HIRF related equipment level (if applicable)

- A - Level A equipment
- B - Level B equipment

D - Title
- Description

E - Applicability

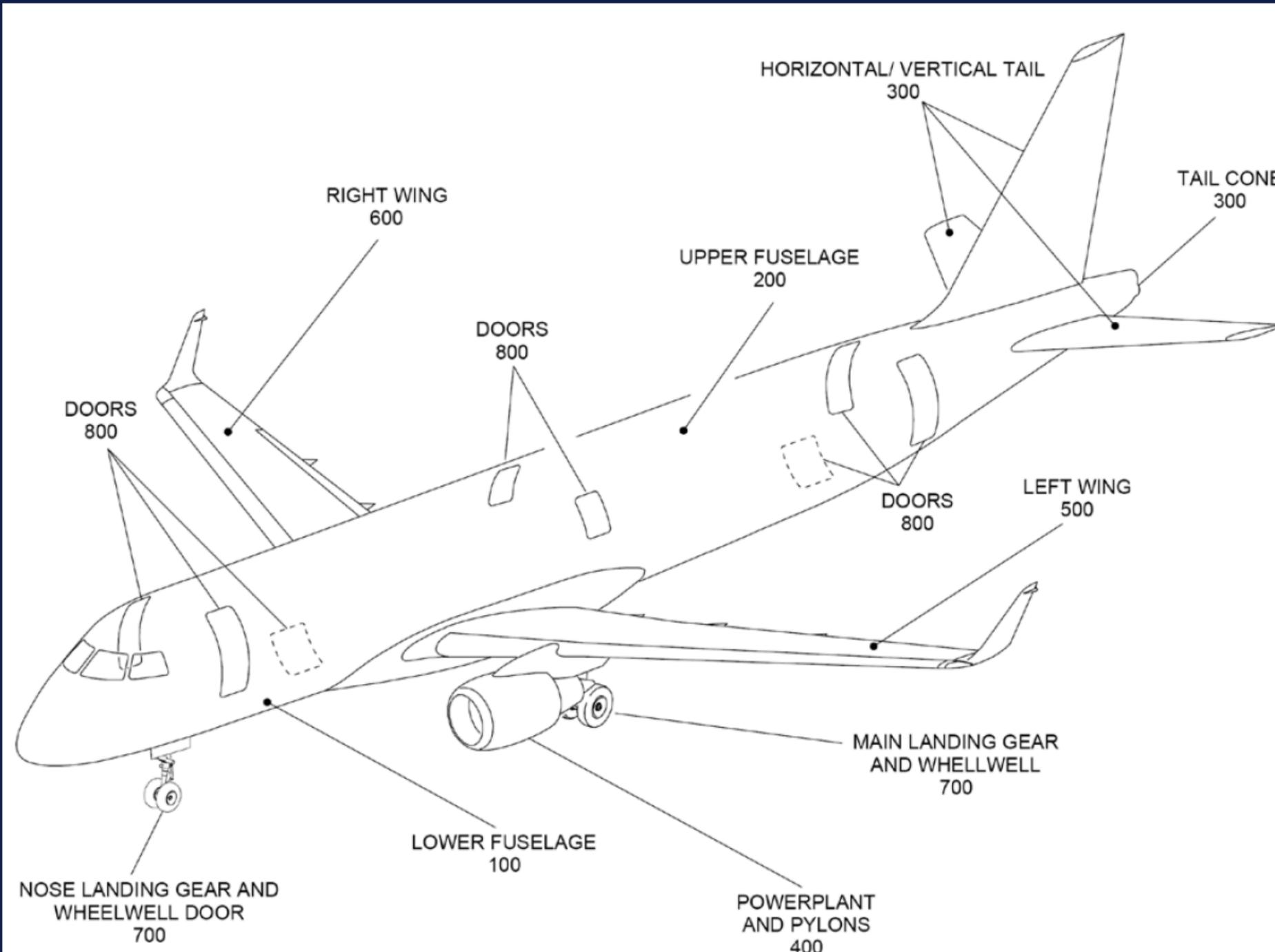
F T: Threshold;
I: Repetitive Interval

- I: means "Repetitive Interval"
- T: means "Threshold"
- The Units are defined as per Table 2

EM170MRB000006A.DGN

Maintenance Requirements Table
Figure 1

1. Programas de mantenimiento



AIRCRAFT MAJOR ZONE	
ZONE	DESCRIPTION
100	FUSELAGE - BELOW THE FLOOR LINE
200	FUSELAGE - ABOVE THE FLOOR LINE
300	EMPENNAGE AND TAIL CONE
400	POWERPLANT AND PYLON
500	LH WING
600	RH WING
700	LANDING GEAR AND LANDING-GEAR WHEELWELL DOORS
800	DOORS (PASSENGER, SERVICE AND CARGO) AND ESCAPE HATCH

Table 1 - Types of Requirements

Type	Acronym	Definition
Lubrication	LUB	Any act of lubricating for the purpose of maintaining inherent design capabilities.
Servicing	SVC	Any act of servicing for the purpose of maintaining inherent design capabilities.
Visual check	VCK	A visual check is an observation to determine that an item is fulfilling its intended purpose. The check does not require quantitative tolerances. This is a failure finding task.
Operational Check	OPC	An operational check is a task to determine that an item is fulfilling its intended purpose. The check does not require quantitative tolerances. This is a failure finding task.
Functional Check	FNC	A quantitative check to determine if one or more functions of an item performs within specified limits.
General Visual Inspection	GVI	A visual examination of an interior or exterior area, installation or assembly to detect obvious damage, failure or irregularity. This level of inspection is made from within touching distance, unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight or drop-light and may require removal or opening of access panels or doors. Stands, ladders or platforms may be required to gain proximity to the area being checked. Basic cleaning may be required to ensure appropriate visibility.

Table 1 - Types of Requirements (Continued)

Type	Acronym	Definition
Detailed Inspection	DET	An intensive examination of a specific item, installation or assembly to detect damage, failure or irregularity. This could include tactile assessment in which a component or assembly can be checked for tightness/security. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors and magnifying lenses may be necessary. Surface cleaning and elaborate access procedures may be required.
Special Detailed Inspection	SDI	An examination of a specific item, installation, or assembly making use of specialized inspection techniques such as Non Destructive Testing (NDT) and/or equipment (e.g. borescope, videoscope, tap test) to detect damage, failure or irregularity. Intricate cleaning and substantial access or disassembly procedures may be required. Classification of a task as an SDI does not define the required qualifications for the person performing the task.
Restoration	RST	That work necessary to return the item to a specific standard. Since restoration may vary from cleaning or replacement of single parts up to a complete overhaul, the scope of each assigned restoration task has to be specified.
Discard	DIS	The removal from service of an item at a specified life limit. Discard tasks are normally applied to so-called single celled parts such as cartridges, canisters, cylinders, engine disks, safe-life structural members, etc.

Fuentes para la generación de los trabajos de mantenimiento programados.

La Gerencia de Ingeniería genera los trabajos programables de cada flota y el origen de datos se puede clasificar inicialmente entre aquellos de origen **regulatorio** y aquellos de carácter **no mandatorio**.

Dentro de los de carácter regulatorio están las tareas emanadas del **MPD, ADs y requisitos específicos del RAAC**.

Por otro lado, en el grupo de no mandatorios, están aquellas EOs con origen en **campañas de confiabilidad, tareas de imagen exterior, tareas de imagen de cabina, relevamientos, etc.** Para este subgrupo de tareas el criterio de inclusión debe basarse en la conveniencia de la compañía en aspectos de confiabilidad, económicos, de imagen o de impacto comercial.

De las fuentes de documentos de trabajos de mantenimiento programables, **la principal y de origen regulatorio son los requisitos establecidos en los MPDs** de cada flota, los cuales se reflejan en sus respectivos los PMs.

Al ser un documento que requiere la aprobación de la autoridad aeronáutica, su contenido rige los intervalos de programación de las tareas allí enumeradas, así como también las políticas o definiciones incluidas.

1. Programas de mantenimiento

		<h2>Maintenance Program AIRBUS A330</h2>			Maintenance Program: 1D-331 Revision: 23 / 10.Apr.2023 Section: 2 /		
R	Taskcard / MP Item	Description	Zone	Threshold	Interval	Reference	Effectivity
	212800-05-1 212800-05-1	LOWER DECK CARGO COMPARTMENT HEATING, VENTILATION AND COOLING (FWD, AFT AND BULK) OPERATIONAL CHECK OF HARD WIRED BACKUP OF VENTILATION CONTROLLER (TO VERIFY CLOSING OF ISOLATION VALVES AND COLD AIR VALVE).	210		4C		ALL
	213000-01-1-ARG 213000-01-1-ARG	FWD OUTFLOW AND NEGATIVE PRESSURE RELIEF VALVES CHECK FOR SAFETY AND CONDITION	130		DY		ALL
	213000-01-2-ARG 213000-01-2-ARG	AFT OUTFLOW VALVE CHECK FOR SAFETY AND CONDITION	150		DY		ALL
	213100-01-1 213100-01-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF MANUAL MODE.	210		I: 20'000 H		ALL
	213100-02-1 213100-02-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF OUTFLOW VALVE CLOSING IN DITCHING CONFIGURATION.	210		I: 48 MT, 24'000 H		ALL
	213100-03-1 213100-03-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF OUTFLOW VALVE OPENING (50%) BY EMERGENCY RAM AIR SWITCH	210		I: 24'000 H		ALL
	213100-04-1 213100-04-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF LANDING FIELD ELEVATION SELECTOR BY MEANS OF INITIATED TEST (VIA MCDU).	210		I: 24'000 H		ALL
R	213100-05-2 213100-05-2	PRESSURE CONTROL AND MONITORING FUNCTIONAL CHECK OF POSITIVE AND NEGATIVE DELTA P PROTECTION OF SAFETY VALVES. NOTE: THIS TASK MAY BE ALTERNATIVELY ACCOMPLISHED AS AN OFF AIRCRAFT TASK. REFER TO AMM PROCEDURE FOR REMOVAL AND INSTALLATION 213152-000-801 AND 213152-400-801 Panels: 312AR	210, 270, 310		I: 2'190 D, 24'000 H		FVH, FVI, GHQ, GIF, GKO, GKP, KAN, KAO, KHT
	213100-06-1 213100-06-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF NEGATIVE PRESSURE RELIEF VALVE	130		4C		ALL
	213100-07-1 213100-07-1	PRESSURE CONTROL AND MONITORING OPERATIONAL CHECK OF POSITION INDICATION OF SAFETY VALVES	210, 270		4C		ALL
	213100-09-1 213100-09-1	PRESSURE CONTROL AND MONITORING REMOVE SAFETY VALVE FOR RESTORATION. NOTE: PLEASE REFER TO TCR SECTION IN APPENDIX OF THIS MP FOR AFFECTED P/N, RELATED INTERVALS AND EFFECTIVITY. NOTE- NO SHORT-TERM EXTENSION IS ALLOWED	210, 270	NOTE	NOTE	ALI 213100-00001-1-E, AD 2013-0201, AD 2014-16-22	ALL
	215000-01-1-ARG 215000-01-1-ARG	RAM AIR INLET AND OUTLET DOORS CHECK FOR SAFETY AND CONDITION	190		DY		ALL

		PROGRAMA DE MANTENIMIENTO SYSTEM AND POWERPLANT MAINTENANCE PROGRAM					Doc. AR: 1D-376 Página: S1-24-2 Revisión: Original Fecha: 31-Aug-2020
ATA 24 – ELECTRICAL POWER							
Maintenance Requirement ID	Task	TITLE Description Procedure Reference	Zone	Interval	ARSA Interval	Task Card	
24-23-00-004C CMR	FNC	RAM AIR TURBINE (RAT) GENERATOR Functional Check of RAT Generator System for proper voltage and frequency. Check RAT manual and automatic deploy. AMM TASK 24-23-00-720-801-A/500	124	2500 FH 12 MO	2500 FH 2000 FC 12 MO	24-23-00-004C-U	
24-23-11-001	GVI	RAM AIR TURBINE (RAT) ASSEMBLY Inspect (General Visual) for damage, corrosion and bending of RAT Cable Rod End Assembly. AMM TASK 24-23-11-210-801-A/600	124 222 221	2500 FH 12 MO	2500 FH 2000 FC 12 MO	24-23-11-001-U	
24-31-01-001	RST	TRANSFORMER RECTIFIER (TRU) Cleaning of TRU's Dust Accumulation. AMM TASK 24-31-01-840-801-A/200	123 147 124 148	1800 FH	1500 FH	24-31-01-001-U	
24-36-00-001	SVC	MAIN BATTERIES ELECTROLYTE LEVEL Servicing of Main Batteries by Checking Electrolyte Level. AMM TASK 24-36-01-610-801-A/300	123 252 124	750 FH	750 FH	Hard Time Component TCR 24-36-00-002/1	
24-36-00-002	RST	MAIN BATTERIES Restoration of Main Batteries. NOTE: From the manufacture date or last restoration. AMM TASK 24-36-01-840-801-A/200	123 252 124	1500 FH 12 MO	1500 FH 12 MO	Hard Time Component TCR 24-36-00-002/1	
24-61-00-001	OPC	ESSENTIAL CONTACTORS (EC) AND ESSENTIAL TIE CONTACTORS (ETC) Operational Check of Essential Contactors (EC) and Essential Tie Contactors (ETC). AMM TASK 24-61-00-710-801-A/500	221 222	1500 FH	1500 FH	Accomplished by Maint Req ID 24-61-00-001C	

		PROGRAMA DE MANTENIMIENTO STRUCTURAL MAINTENANCE PROGRAM			 EMBRAER 190		Doc. AR: 1D-376 Página: S2-53-69 Revisión: Original Fecha: 31-Aug-2020
ATA 53 – FUSELAGE							
Maintenance Requirement ID	Task	TITLE Description Procedure Reference	Zone	Threshold Interval	ARSA Interval	Task Card	
53-30-009-1028	GVI	HORIZONTAL STABILIZER CUTOUT STRUCTURE - INTERNAL General Visual Inspection of Horizontal Stabilizer Cutout Structure at Rear Fuselage, from FR 95 to FR 100 and from STGR 6 LH/RH to STGR 17A LH/RH - Internal Side of Sliding Plates and Fairings. NOTE: Sliding Plates and Fairings have to be removed. NDT PART 5 TASK 53-30-00-211-826-B	315 332 316 336 317 342 318 346	T: 120 MO I: 108 MO	T: 120 MO I: 108 MO	53-30-009-1028-U	
53-30-009-1029	GVI	HORIZONTAL STABILIZER CUTOUT STRUCTURE - INTERNAL General Visual Inspection of Stabilizer Cutout Structure, from Fr 97 to Fr 100 and from Str 6 LH/RH to Str 17 LH/RH - Internal Side of Fuselage. NDT PART 5 TASK 53-30-00-211-808-B	123 316 147 317 199 318 314 351 315	T: 96 MO I: 96 MO	T: 96 MO I: 96 MO	53-30-009-1029-U	
53-30-011-0001 ALI	DET	REAR FUSELAGE REAR PRESSURE BULKHEAD - INTERNAL Detailed Inspection of Rear Pressure Bulkhead Aft Face - Internal Side of Rear Fuselage. NDT PART 5 TASK 53-30-00-213-810-B	311 314 312	T: 20000 FC I: 15855 FC	T: 20000 FC I: 15855 FC	53-30-011-0001-U	
53-30-011-1030	GVI	REAR PRESSURE BULKHEAD FORWARD FACE - INTERNAL General Visual Inspection of Rear Pressure Bulkhead Fwd Face - Internal Side of Fuselage. NDT PART 5 TASK 53-30-00-211-809-B	252 312 311	T: 96 MO I: 96 MO	T: 96 MO I: 96 MO	53-30-011-1030-U	

2. PLANIFICACION DEL CUMPLIMIENTO.

En función del tipo de tarea a realizar y los intervalos a cumplir, el programa de mantenimiento se subdivide de la siguiente forma:

Elementos con vida límite LLP: Cambios periódicos para SV, OVH o descarte.

Mantenimiento mayor: Puede ser en intervalos de tiempo calendario o por actividad (FH/FC). Chequeos C, chequeos estructurales. Elevado nivel de desarme.

Mantenimiento menor: Inspección semanal e inspección A.

Mantenimiento de línea: Inspección tránsito e inspección diaria.

2. Planificación del cumplimiento

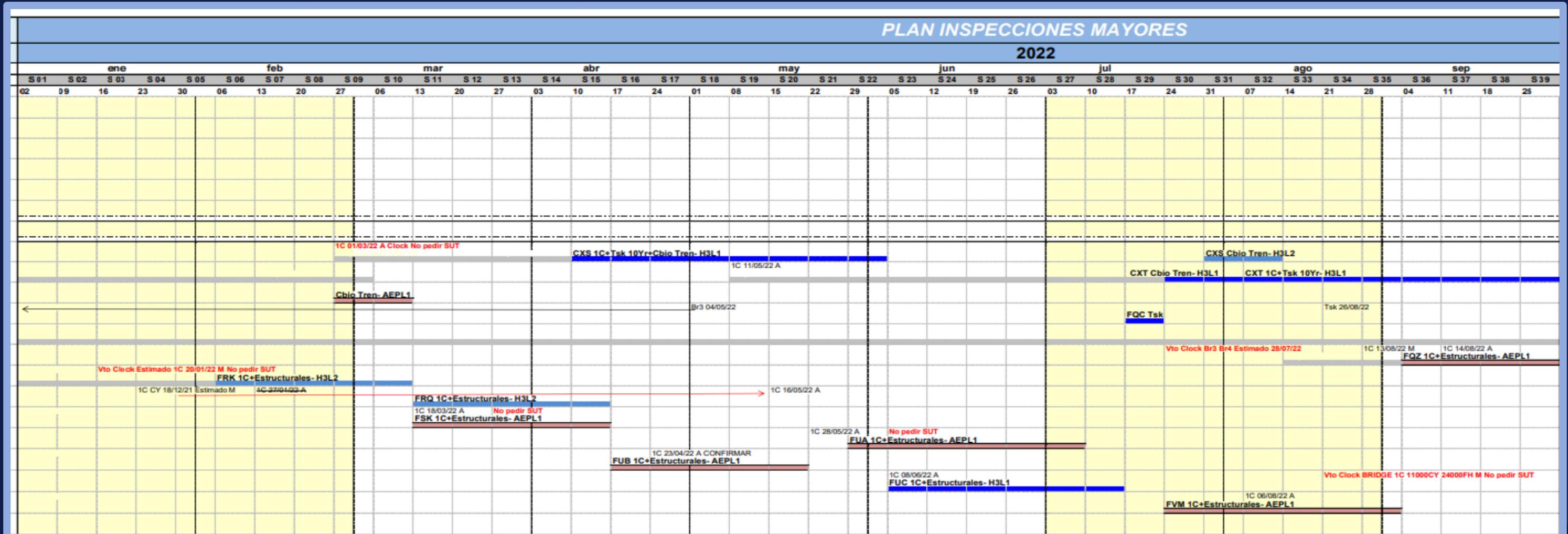
Elementos con vida límite LLP.

Cambios periódicos para SV, OVH o descarte. *Ej. IDG, Baterías, tobogán inflable, balsas, ELT, botellones extintores, NLG, MLG, generadores de oxígeno.*

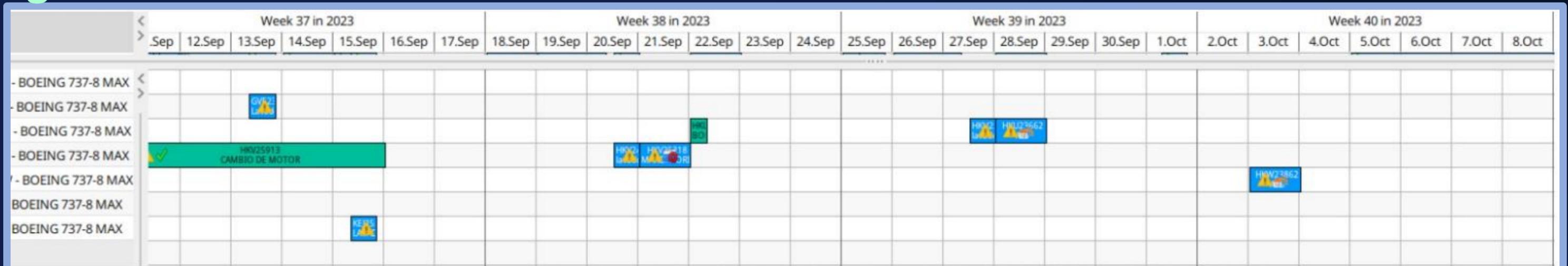
		 Maintenance Program AIRBUS A330				ARSA Publication N° 1D-331 SECTION: 8 Time Controlled Rotables	
Rev.	Item	Part Number	Eff.	Life Limit	Unit	Task	Remarks
1	2	3	4	5	6	7	8
32- 00 LANDING GEAR							
MAIN LANDING GEAR (LH & RH)							
R	321100-01-1	LH	201490001	351-352	10	YE	SPECIAL DETAILED INSPECTION (OVERHAUL) OF MLG (OFF AIRCRAFT). Note: For further information see MP Section 10 (Landing Gear Overhaul / Restoration and Interval Requirements)
		RH	201490002		or 20000	FC	
		LH	10-210101-007	390 -393			
		RH	10-210201-007				
		LH	10-210101-002	394-395			
		RH	10-210101-002				
		LH	10-210101-014	MSN 1191			
		RH	10-210201-014				
MLG RETRACTION ACTUATOR							
	321100-30-1	114256 Series	351-352	10 or 17000	YE FC	SDI	SPECIAL DETAILED INSPECTION (OVERHAUL) OF MLG RETRACTION ACTUATOR (OFF AIRCRAFT). Note: For further information see MP Section 10 (Landing Gear Overhaul / Restoration and Interval Requirements)
		10-211301 Series	390 -395				

2. Planificación del cumplimiento

Plan anual de inspecciones mayores



Programación semanal



2. Planificación del cumplimiento

Task Cards.

Son los documentos de trabajo que contienen información determinante para los procesos de planificación de Work Packages, abastecimiento de materiales y herramientas, recursos productivos y asignación de la infraestructura necesaria.

A su vez, el documento una vez ejecutado, es vehículo de importante información respecto de las HH y TAT realmente insumidos, discrepancias encontradas asociadas al trabajo, materiales utilizados y otras observaciones que permitan capitalizar experiencia para futuras ejecuciones.

TAIL NUMBER		CHECK	Structural Inspection	TRADE	RII
		THRESHOLD	INTERVAL	J, H	Yes
		11250 FC	11250 FC	ZONE	
STATION		PANEL		123 124	
		None			
CLOSE DATE					
NDT Part 5 Task					
53-10-00-212-801-B					
Description	Procedure to do a general visual inspection of the FWD avionics compartment access hatch cutout structure, from FR 4 to FR 6 and from STGR 25 LH to STGR RH, on the external side of the fuselage.				
BAR CODE					
Maintenance Data					
Remarks					
NON ROUTINE ASSOCIATED	Yes				
	No				
E-190 FLEET EFFECTIVITY		SOURCE		PAGE	
ALL		MPD 53-10-002-0921		1 OF 5	

2. Planificación del cumplimiento

Task Cards.

MSG3 TASK CARD		TAIL NUMBER	CLOSE DATE	TASK N° 53-10-002-0921-U Dec 01/20
Auxiliary Information				
Tools, Equipment and Auxiliary Items				
REFERENCE	DESIGNATION			
Commercially available	Flashlight			
Commercially available	Mirror - Inspection			
<p>NOTE: Prior to the accomplishment of this Task Card verify the required tools, equipment and/or auxiliary items as listed in the last revision of the AMM.</p>				
Materials				
None				
<p>NOTE: Prior to the accomplishment of this Task Card verify the required materials items as listed in the last revision of the AMM.</p>				
References				
AMM TASK 20-00-00-910-801-A/200;				
E-190 FLEET EFFECTIVITY ALL	SOURCE MPD 53-10-002-0921	PAGE 2 OF 5		

MSG3 TASK CARD		TAIL NUMBER	CLOSE DATE	TASK N° 53-10-002-0921-U Dec 01/20
TASK 53-10-00-212-801-B			MECH	INSP
Forward Avionics Compartment Access Hatch Door Cutout Structure - External				
Job Set-Up				
<p>WARNING: MAKE SURE THAT THE AIRCRAFT IS IN A SAFE CONDITION BEFORE YOU DO THE MAINTENANCE PROCEDURES. THIS IS TO PREVENT INJURY TO PERSONS AND/OR DAMAGE TO THE EQUIPMENT.</p> <p>A. Do the procedure to make the aircraft safe for maintenance (AMM TASK 20-00-00-910-801-A/200).</p>				
Procedure (Figure 1)				
A. Before you do the inspection, clean the area with water.				
B. If necessary, use a mirror and a flashlight to make the inspection easier.				
C. Do an external general visual inspection of the FWD avionics compartment access hatch cutout structure. Also, do an inspection of the attachments for damage protection, signs of chaffing, cracks, deterioration of sealant, corrosion and other signs of damage.				
Record structural findings				
A. Structural findings: Yes ___ No ___.				
B. If yes in Step A., record specific area of structural damage on a non-routine form and list the non-routine(s) identification number(s) here				
<p>NOTE: If you see signs of damage, refer to the SRM to find the specific information applicable to your case, if the SRM does not contain the information applicable to your case, contact to Engineering Department.</p>				
E-190 FLEET EFFECTIVITY ALL	SOURCE MPD 53-10-002-0921	PAGE 3 OF 5		

MSG3 TASK CARD		TAIL NUMBER	CLOSE DATE	TASK N° 53-10-002-0921-U Dec 01/20
Record corrosion findings			MECH	INSP
A. Corrosion findings: Yes ___ No ___ Level of corrosion _____.				
B. If yes in Step A., record specific area of corrosion on a non-routine form and list the non-routine(s) identification number(s) here				
<p>NOTE: If you see signs of damage, refer to the SRM to find the specific information applicable to your case, if this Manual does not contain the information applicable to your case, contact Engineering Department.</p>				
----- END OF TASK -----				
Job Close-Up				
A. Put the aircraft back to its initial condition (AMM TASK 20-00-00-910-801-A/200).				
E-190 FLEET EFFECTIVITY ALL	SOURCE MPD 53-10-002-0921	PAGE 4 OF 5		

Criterios de control de las Task Cards.

- ✔ Tiempo calendario.
- ✔ Horas de vuelo.
- ✔ Ciclos de vuelo.

MAINTENANCE PLANNING DOCUMENT SAMPLE TASK TABLE

Maintenance Requirement ID	Maintenance Requirement Effectivity	Description	Man-Hours Total Number of Persons	Source	Periodicity (T: Threshold, I: Interval) Procedure Ref./ Position (Man-Hours)/ Skill Qty. Related Zone/ Accesses	Effectivity
32-11-00-002	ALL	GVI - MAIN LANDING GEAR (MLG) SHOCK ABSORBER	0.8 2	MRB 8	T: 100 DY I: 14 DY OR I: 100 FH Whichever occurs first I: 5 DY	ALL ETOPS
		Servicing of MLG Shock Absorber. Check filling of shock absorber according to servicing chart on MLG Shock Strut. Replenish if necessary.			MPP 32-11-00-200-801-A LH (0.4), RH (0.4) AF (1), EA (2)	
		NOTE: The interval must be based on the aircraft flight hours.			220, 223 220AZ, 223BH 221AZ, 223BH	

Concepto “Yield” de las Task Cards:

Es la relación porcentual entre su intervalo de control y la actividad realmente consumida.

Ejemplo)

Una aerolínea tiene una utilización diaria proyectada para los aviones en servicio de: 8,69 FH / 4,69 FC.

Para las letter checks con los intervalos definidos en la siguiente tabla, el driver de control terminará siendo el parámetro calendario porque es el que se alcanzaría primero, lo cual generará una pérdida de yield por su inclusión en un bloque de inspección A o C.

	A1			C1			C3		
	Interval	Dy driver	Yield	Interval	Dy driver	Yield	Interval	Dy driver	Yield
FH	1200	1043	87%	12000	9513	79%	40000	28540	71%
FC	700	562	80%	5500	5132	93%	18000	15397	86%
Dy	120			1095			3285		

Muchas gracias