PREFACE

01 The Maintenance Plan is effective for the following aircraft:

You may list one or multiple aircraft here.

Aircraft Type	Aircraft Model	Aircraft Registration	Aircraft MSN	Aircraft Engine	Aircraft APU	EASA TCDS
A330	343	EI-MYT	0389	Trent772B60	331-350	A.0004

02 The Part CAMO details and contact managing airworthiness of the above noted aircraft:

IALTA CAMO

Shannon Industrial Estate,

Shannon,

Co. Clare,

Ireland

Nominated Person: Mr John McGrath

Nominated Contact: info@ialta.aero

Nominated Contact: +353 123456789

03 AMP Reference: IAL/330/T

Revision 00 Dated 30 January 2022

04 Aircraft Utilisation for Current Maintenance Programme

This Maintenance Programme is based upon the following aircraft utilisation over a period of 12 months:

- Flight Hour envelope: 1667 FH to 5667 FH
- Flight Cycle envelope: 367 FC to 2200 FC

The aircraft is currently being operated on a standard MPD as part of a sampling programme and in the event an aircraft's utilisation differs significantly (more than ±25%) from the above range, necessary adjustment shall be made to the Maintenance Programme to cater for the new condition with the approval of CAA.

04 CAMO Statement:

In preparation of this Maintenance Programme to meet the requirements of EASA Part CAMO the recommendations made by the airframe manufacturers and engine and equipment manufacturers have been evaluated and, where appropriate, have been incorporated.

This Maintenance Programme lists the tasks and identifies the practices and procedures, which form the basis for the scheduled maintenance of the aeroplane(s) listed in section 01.

IALTA CAMO undertakes to ensure that these aeroplanes will continue to be maintained in accordance with this programme.

The data contained in this maintenance programme will be reviewed for continued validity at least annually in the light of operating experience considering new/modified ICA by the TC and/or STC holders along with any other relevant data in accordance with Part 21 to regulation (EC) No 1702/2003.

It is accepted that this programme does not prevent the necessity for complying with any new or amended regulation published by the EASA where these new or amended regulations may override elements of this programme.

It is understood that compliance with this programme does not discharge IALTA camo from the need to ensure that the programme reflects the maintenance needs of the aeroplane, such that continuing safe operation can be assured. It is further understood that EASA reserves the right to suspend, vary or cancel approval of the maintenance programme if EASA has evidence that requirements of the maintenance programme are not followed, or standards not upheld.

05 Contents:

Preface							
Page	**Revision**	**Page**	**Revision**	**Page**	**Revision**	**Page**	**Revision**
Page 01	Nov 2021						
Page 02	Nov 2021						
Page 03	Nov 2021						
Page 04	Nov 2021						

05 Contents: (continued)

AMP Section	Document Title	Total Page Count	Revision Date	Revision	Comments
00	Preface	25	01 Nov 2021	00	Initial Issue
01	General	4	23 Sept 2021	00	Initial Issue
02	Systems, APU & Power Plant Tasks	4	23 Sept 2021	00	Initial Issue
02	Systems, APU & Power Plant Tasks	133	30 Jan 2022	00	Initial Issue
03	Structures Introduction	23	23 Sept 2021	00	Initial Issue
03	Structures Tasks	115	30 Jan 2022	00	Initial Issue
04	Zonal Introduction	7	23 Sept 2021	00	Initial Issue
04	Zonal Tasks	23	30 Jan 2022	00	Initial Issue
05	ALS Part 1 Safe Life Items Introduction	8	23 Sept 2021	00	Initial Issue
05	ALS Part 1 Safe Life Items Introduction	63	30 Jan 2022	00	Initial Issue
06	Customisable Equipment	6	30 Jan 2022	00	Initial Issue
07	Repair Repeat Inspections	1	30 Jan 2022	00	Initial Issue
08	ICA Modifications & STC	1	30 Jan 2022	00	Initial Issue
09	Airworthiness Directives	1	30 Jan 2022	00	Initial Issue
10	Service Bulletins	1	30 Jan 2022	00	Initial Issue
11	Reliability Programme	1	30 Jan 2022	00	Initial Issue
12	Operator Tasks	1	30 Jan 2022	00	Initial Issue
13	Life Limited Parts Introduction	7	30 Jan 2022	00	Initial Issue
13	Life Limited Parts Tasks	11	30 Jan 2022	00	Initial Issue
14	Aircraft Storage	5	30 Jan 2022	00	Initial Issue
Annex 1	Daily Check	3	10 May 2021	1.2	Revised 1.2
Annex 2	Weekly Check	4	5 May 2021	1.0	Revised 1.0
Annex 3	Pre-flight	7	6 June 2022	1.0	Revised 1.0

06 Check Periods

This is taken directly from the MPD PDF document Section 4 removing any notes for operators to contact authorities to change etc.

All task intervals are expressed in terms of usage parameters, i.e., FH, FC or calendar time (years, months, days).

The basic initial inspection check intervals stated below.

The C and 2C letter check intervals have been cancelled in MRBR rev 13 and replaced with intervals stated in terms of usage parameters, FH, FC or calendar time (years, months).

However, since it was considered important to have "guidance" intervals, target values were used when defining appropriate intervals. These values were used by the Working Groups during the maintenance task development as a guideline:

Systems, APU and Power Plant Section

The 'A' and multiple 'A' letter check intervals have been cancelled in MRBR rev 19 and replaced with intervals stated in usage parameter (FH).

For former A-Check interval the equivalent interval values are:	1000 FH and multiples
For the former C Check interval, the equivalent interval values are:	24 MO or 12000 FH
For the former 2C Check interval the equivalent interval values are:	48 MO or 24000 FH
For the former 4C Check interval, the equivalent interval value is	6 Years
For the former 8C Check interval, the equivalent interval value is:	144 MO

NOTE: Some former C and 2C check interval tasks will have more than one parameter stated. The above intervals were not achieved for all tasks, so some tasks have lower values.

NOTE: The 4C letter check interval still exists in MRBR rev 19 but a significant number of 4 C task intervals have been converted to 72 MO.

The '8C' letter check intervals have been cancelled in MRBR rev 19 and rev 20 and replaced with intervals stated in calendar time (months).

For safety related tasks, intervals are given in the appropriate usage parameter (e.g., flight hours, flight cycles, calendar time). For non-safety tasks, intervals may be quoted in terms of letter check unless degradation is predominantly dependent on a particular usage parameter or in service experience did not support escalation.

Structure Section:

For the Structure section, the basic initial thresholds and intervals for environmental deterioration related items are as follows:

Thresholds:	6 Years and 12 Years
Intervals:	6 Years and 12 Years

NOTE: Some calendar thresholds and intervals remain at 5 Years or 10 Years, pending further evolution.

Thresholds and intervals for fatigue damage related items are given in Flight Cycles (and Flight Hours for range sensitive items).

Zonal Section:

The 'A' and multiple 'A' letter check intervals have been cancelled in MRBR rev 19 and replaced with intervals stated in calendar time (MO).

The '4C' letter check intervals have been cancelled in MRBR rev 19 and replaced with intervals stated in calendar time (months).

The '8C' letter check intervals have been cancelled in MRBR rev 19 and replaced with intervals stated in calendar time (months).

For the former A Check interval, the equivalent interval values are:	6 MO and multiples
For the former C Check interval, the equivalent interval value is:	24 MO
For the former 2C Check interval, the equivalent interval value is:	48 MO
NOTE: The above intervals were not achieved for all tasks, so some tasks have lower values.	
For the former 4C Check interval, the equivalent interval value is:	72 MO
For the former 8C Check interval, the equivalent interval value is:	144 MO

Maintenance/inspection tasks with intervals more frequent than 1000 FH / 6 MO found in this MPD were developed through the MSG-3 analysis process.

NOTE: The 4C letter check definitions are based on the original “C” letter check interval value of 18 months.

INTERVAL/THRESHOLD PARAMETERS

The following interval parameters are used in this MPD:

Operational units (usage parameters)

–"FH" (Flight hours) : Elapsed time between wheel lift off and touchdown.

–"FC" (Flight cycle) : A complete take off and landing sequence.

–“CRR FH” (Crew Rest Room Flight Hours)

: CRR operating flight hours

Calendar units

"HR" (Hour)	One Calendar hour elapsed.
"DY" (Day)	24 Calendar hours elapsed.
"MO" (Month)	One Calendar month.(can be calculated as 1/12 calendar year). E.g.: Task with 9 MO interval is performed 12 July 2014. The next due date is then 11 April 2015 23:59.
"YE" (Year)	One Calendar year (can be calculated as 365.25 days). E.g.: Task with 6YE interval is performed 12 July 2014. The next due date is then 11 July 2020 23:59.
CRR MO” (Crew Rest Room Month)	CRR operating months

NOTE: “DY” interval may be counted from 00:00 o'clock of next day (has not to include remaining day time since task completion).

Other codes

– "NOTE"

Refer to the note in the task description.

IALTA Reader Information only – As another example you might see value differ a little such as the below table and you may also have additional considerations such as ETOPS.

1A (Line)	*800 FLYING HOURS.*
2A (Base)	*1600 FLYING HOURS.*
4A (Visit 1 & 2) (Base)	*3200 FLYING HOURS.*
8A (Base)	*6400 FLYING HOURS.*
1C	*24 Months*
2C	*42 Months*
3C	*54 Months*
4C	*72 Months*
8C	*144 Months*

ETOPS critical system tasks will be accomplished on No. 1 Engine 40 FH prior to accomplishment on No. 2 Engine. This is to preclude action being applied to multiple similar elements on an.

ETOPS Tasks are identified within the AMP in the Task Description Effectivity Notes.

1. Only one sector is flown prior to the ETOPS departure.

2. A maximum of Twelve hours elapsed time is allowed from the certification of the ETOPS Check to the commencement of the ETOPS sector.

07 Escalation Procedures

Escalation if the maintenance programme will not occur without prior approval from the competent authority.

08 Date/ Revision of Amendments

Revision Number	AMP Reference	Description
00	IAL/330/T	Initial Issue
01	IAL/330/T	AMP updated to latest MPD release

09 Pre-flight Maintenance

The Maintenance Programme includes details of all pre-flight maintenance tasks accomplished by maintenance staff and not those included in the Operations Manual for action by the flight crew.

Any tasks marked as “pre-flight” intervals are included in the prefight tasks appendix.

09 Tasks and Periods

The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APU’s, propellers, components, accessories, equipment, instruments, electrical and radio apparatus, together with the associated systems are covered in the maintenance plan in the following 3 sections:

- Systems & Powerplant
- Structures
- Zonal

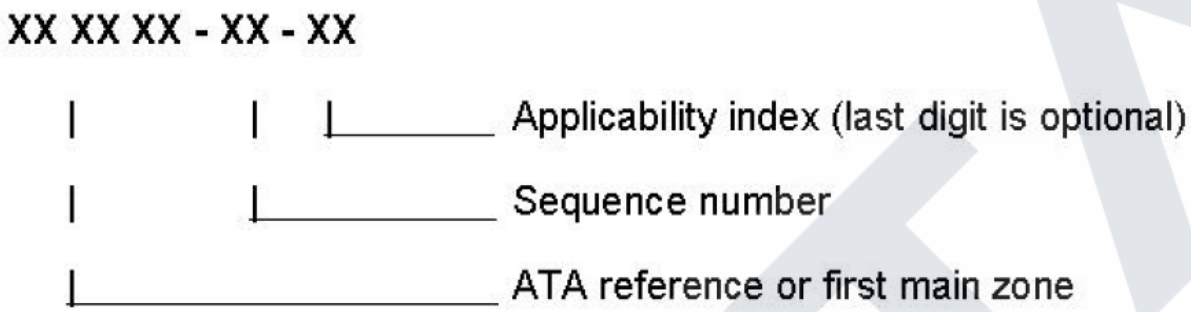
Within each we will use the ATA 100 numbering system to sort the tasks.

01 INTRODUCTION	27 FLIGHT CONTROLS	53 FUSELAGE
05 PERIODIC INSPECTIONS	28 FUEL	54 NACELLES / PYLONS
06 DIMENSIONS AND AREAS	29 HYDRAULIC POWER	55 STABILIZERS
07 LIFTING AND SHORING	30 ICE AND RAIN PROTECTION	56 WINDOWS
08 LEVELLING AND WEIGHING	31 INDICATING / RECORDING SYSTEMS	57 WINGS
09 TOWING AND TAXIING	32 LANDING GEAR	70 STANDARD PRACTICES - ENGINE
10 PARKING, MOORING, STORAGE AND RETURN TO SERVICE	33 LIGHTS	71 POWER PLANT - GENERAL
11 PLACARDS AND MARKINGS	34 NAVIGATION	72 ENGINE
12 SERVICING - ROUTINE MAINTENANCE	35 OXYGEN	73 ENGINE - FUEL AND CONTROL
20 STANDARD PRACTICES - AIRFRAME	36 PNEUMATIC	74 IGNITION
21 AIR CONDITIONING	38 WATER / WASTE	75 BLEED AIR
22 AUTO FLIGHT	45 CENTRAL MAINTENANCE SYSTEM (CMS)	76 ENGINE CONTROLS
23 COMMUNICATIONS	46 INFORMATION SYSTEMS	77 ENGINE INDICATING
24 ELECTRICAL POWER	49 AIRBORNE AUXILIARY POWER	78 EXHAUST
25 EQUIPMENT / FURNISHINGS	51 STANDARD PRACTICES AND STRUCTURES - GENERAL	79 OIL
26 FIRE PROTECTION	52 DOORS	80 STARTING

Task number

Each task is identified by a specific MPD task number. When a task applies to two specific main zones located symmetrically to either side of the aircraft centreline, the task is assigned a single task number, but both LH and RH zones are indicated in "ZONE" column.

The task number comprises 9 or 10 digits organized as follows :



- ATA reference or zone

– Systems, APU and Power Plant section:

The ATA reference identifies the system/sub system or component on which the task is to be accomplished.

– Structure section: The ATA reference identifies the structural significant item on which the task is to be accomplished (reference identical to that used in the MRB report).

– Zonal section: The zone number is preceded by the letter code "ZL". For task to be repeated in several main zones, the first main zone or LH zone number is used (aircraft zoning is provided in customized AMM Chapter 06).

- Sequence number

– Apart from a few cases, the sequence number is used to discriminate between different tasks relating to the same hardware.

– In Section 2 on APU and Power Plant related tasks, the first digit identifies the APU/engine type concerned:

- “0” for GTCP 331-350 C
- “G” for General Electric
- “P” for Pratt & Whitney
- “R” for Rolls Royce Trent 700
- “N” for Rolls Royce Trent 7000
- Applicability index

– The applicability index identifies successive developments of a task, introduced by modifications or specific requirement. However, in a few cases, the sequence number may be used for that purpose, when referenced documentation requires to do so.

The technical status or specific requirement associated with each applicability index is specified in the applicability column. As a general rule, tasks with the same first 8 digits in task number, have same work description in the AMM.

Zone column

The 'Zone' column shows the position(s) where the task has to be accomplished (repeated) according to the description. Quoting several positions means that the task has to be repeated in each zone.

Each position is identified by one zone number or one sub-major zone number or one major zone number.

When a major zone (e.g., 100) or sub-major zone (e.g., 140) or specific zone (e.g., 141) number is quoted to identify a unique position of a task, the more precise zone numbers are quoted in the description in case such an additional information is estimated useful.

Description column

This column provides the following information:

- Task title

Identifies the system/sub system/component/zone/structural significant item concerned by the task.

- Task description

Gives a concise description of the work to be performed.

- Task preparation (where applicable)

Specifies the preliminary steps (from a pre-established list) to be performed prior the maintenance task itself.

- Access (where applicable)

Specifies the identifiers of the access panels, linings or doors to be opened or removed for accomplishment of the task.

Floor panels of passenger cabin and cargo holds are not designated by their identifiers but by the frame numbers between which the floor panels have to be removed are quoted.

- Task code

Specifies the type of task to be carried out

TASK CODE	DEFINITION	TASK CODE	DEFINITION
CHK	Check for condition, leaks, circuit continuity, Check fluid reserve on item, Check tension and pointer, Check fluid level, Check detector, Check charge pressure, Remove and check, Check torque, Leak Check	OPC	Operational Check
DIS	Discard	RST	Remove for restoration
DET	Detailed Inspection	SDI	Special detailed inspection
FNC	Functional check	SVC	Drain, Servicing, Replenishment (fluid change)
GVI	General Visual Inspection	VCK	Visual Check
LUB	Lubrication		

- Skill Code

Specifies the type of skill required for task accomplishment:

SKILL CODE	DEFINITION	SCOPE
AF	AIRFRAME	Hydro-mechanical, environmental, fuel, oxygen and cargo systems. Associated servicing requiring a certain qualification such as: Flaps/Slats. Landing Gear. THS actuator. Structure Visual Inspection. General cleaning and cleaning prior inspection. Greasing and oil replenishment not requiring system knowledge or certain qualification.
AV	INSTRUMENT	Autopilot. Instruments. Digital equipment. Fire protection. Lighting, windscreen ice and rain.

SKILL CODE	DEFINITION	SCOPE
EN	ENGINE	Engines and APU accessories. Associated services.
RA	RADIO	Radio and radio navigation. Audio interphone, CVR, Pax address.
CA	CABIN	Furnishing, galleys.
EL	ELECTRICAL	Electrical generation, distribution and associated services.
NDT	NON DESTRUCTIVE TESTING	All Non-destructive test inspection and boroscope inspection.
UT	UTILITY	Toilets water, waste water.

- TPS (where applicable)

Specifies the type of Temporary Protection System (TPS) to be applied as indicated below:

"1" : Type 1 Grade 2 or Grade 3 TPS is to be applied.
"1+2" : Type 1 TPS plus a subsequent application of Type 2 TPS is to be applied.
“2” : Type 2 TPS is to be applied
“3” : Type 3 TPS is to be applied
"No" : TPS must not be applied in the area (example: inside fuel tank, pylon).

NOTE: If “1+2” is stated in the TPS column, it is at the discretion of the operator to apply either

“Type 1 TPS plus Type 2 TPS” or “Type 3 TPS”.
If “3” is stated in the TPS column, it is at the discretion of the operator to apply either “Type 3 TPS” or “Type 1 TPS plus Type 2 TPS.

Specifications for TPS are available in AMM chapter 20-31-00 / Materials list / Storage Preservation.

Time Controlled Items (TCI) column

TCI markers are set in order to provide assistance in planning removable assets installed on the A/C.

Maintenance plan tasks marked as TCI are connected to the removal/installation of components/parts, which are to be restored/overhauled/tested in a workshop and then may be re-installed on a different A/C (rotables).

This does not include components removed, cleaned and put back on the same A/C without going into a workshop.

The utilisation and selection of TCI is left completely to the discretion of the operator.

Operator specific TCI selection could e.g., reflect components, which often (or likely) rotate between A/C due to unscheduled and scheduled replacements.

NOTE: TCI markers are to be seen as a planning help. They are neither demanded by any source document nor any certification authority.

Threshold/interval column

This column provides the following information:

- 100% Inspection Threshold

This information preceded by the letter "T" gives a specific value of an operational parameter or of a letter code defining the first accomplishment deadline of the task. When threshold is equal to the interval, the letter "T" may not show.

When the threshold is expressed in several units, the conjunction "OR" separate the different indications.

- 100% Inspection Interval

This information, preceded by the letter "I", gives a specific value defining the maximum time that can separate two complete accomplishments of the task.

When the interval is equal to the threshold, the letter "I" may not show.

When the interval is expressed in several units, the conjunction "OR" separates the different indications.

- Sample Inspection Threshold

This information, preceded by the letters "ST", gives a specific value of an operational parameter or of a letter code defining the first accomplishment deadline of the task. When the threshold is equal to the interval, the letters "ST" may not show.

When the threshold is expressed in several units, the conjunction "OR" separates the different indications.

- Sample Inspection Interval

This information, preceded by the letters "SI", gives a specific value of an operational parameter or of a letter code defining the maximum time that can separate two complete accomplishments of the task.

When the interval is equal to the threshold, the letters "SI" may not show.

When the interval is expressed in several units, the conjunction "OR" separates the different indications.

NOTE: Structure section: For task which are range-sensitive:

FH OPTIMIZED:

Threshold/Interval values or Sample Threshold/Sample Interval values (FH optimized requirements).

FC OPTIMIZED:

Threshold/Interval values or Sample Threshold/Sample Interval values (FC optimized requirements).

NON-RANGE SENSITIVE columns:

provides Threshold/Interval values or Sample Threshold/Sample Interval values for non-range sensitive task (FH-OPTIMIZED and FC-OPTIMIZED columns are empty).

FH-OPTIMIZED/FC-OPTIMIZED columns:

provides Threshold/Interval values or Sample Threshold/Sample Interval values for range sensitive task (NON-RANGE SENSITIVE columns are empty).

Source column

Specifies the source document.

ALI, ALI WFD : Task originated by Airworthiness Limitation Section (ALS) Part 2 - Airworthiness Limitation Items arising from fatigue and damage tolerance evaluation of damage tolerant structural elements whose failure could contribute to catastrophic failure of the aircraft (FAR/JAR 25.571) and Airworthiness Limitation Items arising from an initial evaluation of Widespread Fatigue

Damage.

MRB : Task originated from the MRB Report.

For tasks resulting from a system/power plant analysis, the three letters "MRB" are followed by the corresponding Functional Failure Effect category (5 – 9).

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

CMP : Task originated by CMP (Configuration Maintenance and Procedures) . This document lists the standards for ETOPS.

CMR** : Task is a Certification Maintenance Requirement (ALS Part 3). Its interval may be changed in accordance with an approved reliability program. Cannot be deleted from operator maintenance program.

CMR* : Task is a Certification Maintenance Requirement (ALS Part 3). Its interval cannot be escalated by an Operator. Cannot be deleted from operator maintenance program.

SEMR : Task originated by System Equipment Maintenance Requirements document (ALS Part 4).

FAL : Task originated by Fuel Airworthiness Limitations document

(ALS Part 5).

FMP : Task that contributes to the Fatigue Monitoring Program. The Fatigue Monitoring Program (FMP) is defined to indicate unpredictable early occurrence of fatigue related deterioration on metallic structure. Tasks are listed in a dedicated non MRB approved Appendix of the MRB Report.

CPCP : Task originating from Corrosion Prevention and Control Program.

* For structure tasks, the type of governing program (100%, CPCP) is indicated in regard with applicable threshold/interval value.

Reference column

This column provides :

- The AMTOSS reference of the task in the A330 Aircraft Maintenance Manual.
- References to technical publications where accomplishment instructions can be found.
- The MRB reference of the task.

– MPD tasks in the Systems, APU and Power Plant section provide the MSI reference task number of the covered MRBR task.

– MPD tasks in the Structure section provide the MSI or SSI number of the covered MRBR task.

Nevertheless, they indicate if a zonal task covers the requirements of the SSI inspection (Note: In this case the zonal task does not cover TPS application).

– MPD tasks in the Zonal section provide the MSI number or SSI reference task number of the covered MRBR task.

- The ALI reference of the task in Structure section.
- The SEMR reference of the task in Systems, APU and Power Plant section.
- The CMR reference of the task in Systems, APU and Power Plant section.
- The CMP reference of the task in Systems, APU and Power Plant section.

Men — M/H (Manhours) Columns

Task Man-Hours:

This field contains the sum of man-hours required to perform the task per zone. Man-hours only apply for on-aircraft maintenance. Off-aircraft maintenance, performed in the workshop, is not considered.

NOTE: MPD man-hours are not to be mistaken with elapsed time.

Man-hours are expressed in industrial hours. Where “TBD” is quoted, the man-hours are still to be defined. Where “N/A” is quoted, man-hours are not applicable, e.g., shop maintenance. For tasks where different configurations are possible, e.g., in the cabin, the task man-hours based on the configuration defined in the „Airbus Standard Specification“.

For the calculation of MPD man-hours, the following assumptions apply:

1. The aircraft is in general maintenance condition as described in the AMM.
2. Maintenance personnel is adequately skilled and experienced to perform the task.
3. Airbus recommended equipment is used.
4. Tanks are defueled where tank opening required.
5. Standard safety devices and warning notes are in position.
6. The aircraft is in a clean condition for inspections.

Man-hours quoted in the MPD do not consider:

1. Non-routine work, e.g., repair, troubleshooting, shop overhaul.
2. Preparatory work such as aircraft cleaning, positioning work stands, connecting ground power carts.
3. One-time actions, e.g., de-greasing, stripping, painting.
4. Embodiment of modifications, cabin (galley, lavatory, furnishings) refurbishment.
5. Non-productive time, e.g., shift-change, set-up of tools, waiting for sealant or paint drying.
6. Planning and establishment of procedures.

The task man-hours quoted in the MPD are provided for guidance only and should be adjusted to the specific operator conditions and efficiency.

Access Man-hours:

This field contains the man-hours for opening and closing of access panels, nacelles and doors.

Either removal/installation or opening/closing is reflected, depending on access panel type. Some panels may be grouped and quoted as preparations, for easier presentation and planning, especially among the cabin linings. The number of men for the access work is not given.

Preparation Man-hours:

This field contains the man-hours to perform the preparation for a task. Removal and installation are included in the preparation man-hours. For preparations where different configurations are possible, e.g., in the cabin, the preparation man-hours based on the configuration defined in the „Airbus Standard Specification“. Adjustment of the preparation men-hours to the operator’s cabin configuration and optional equipment may be necessary. The number of men for the preparation work is not given.

Men:

This field contains the minimum number of men necessary to perform the task.

Applicability Column

The information given in this column defines the technical status of the aircraft on which the task is applicable.

07 The periods at which components should be checked, cleaned, lubricated, replenished, adjusted and tested.

This Maintenance Programme includes the requirements of the MPD & recommendations by the manufacturer regarding periods at which components should be checked, cleaned, lubricated, replenished, adjusted and tested. A simple statement of the same in the preface will meet the requirement to clarify this.

08 Ageing aircraft system requirements

The maintenance programme uses the System Equipment Maintenance Requirements (SEMR) (previously referred to as Ageing Systems Maintenance (ASM)) – ALS Part 4 to accomplish inspections and sampling where relevant in order that the aircraft remain airworthy. The ALS Part 4 transmittal details will advise an appropriate compliance time for first time accomplishment on aircraft where the task is already overdue or will become overdue within the quoted threshold / interval.

09 Structural Inspection Programme

This Maintenance Programme includes the requirements of the structural inspection programme and any associated sampling programme recommended by the manufacturer. Section 3 of the programme contains the Structural Inspection Programme.

10 CDCCL statement

The MPD source document incorporates the OEM CDCCL recommendations, and these are applied throughout the AMP.

11 Intended limit of AMP Structural Inspections

This is noted scope in the MPD and typically you will be either Design Service Goal or Extended Service Goal. You can create a statement to that effect, or you can also refer to the Structural inspections section as a reference and define this there.

12 Overhaul and part replacement periods

We refer here to how we will deal with items which are noted regarding maintenance as to be dealt with as “components”; this in effect means we need to deal with their related manual for ICA and how to effectively implement this. Examples will include life jacket’s or escape slides.

13 Reliability Programme impact

The reliability programme can be referred to in Annex X where the details are noted accordingly.

14 Glossary of Terms Used

Term	Definition
Airworthiness Limitations	A section of the Instructions for Continued Airworthiness that contains each mandatory replacement time, structural inspection interval and related structural inspection task. This section may also be used to define a threshold for the fatigue related inspections and the need to control corrosion to Level 1 or better. The information contained in the Airworthiness Limitations section may be changed to reflect service and / or test experience or new analysis methods.
AMTOSS Reference	Aircraft Maintenance Task Oriented Support System reference is link to the specific task description in the AMM.
APU Change (APU CNG)	The interval term "APU Change" means the opportunity arising at some time between initiating removal of an APU and completing installation of an APU, irrespective of whether the same APU is reinstalled or a new or overhauled one replaces it.
APU Cycle(s) (AC)	A complete APU cycles.
APU Hour (s) (AH)	The APU operating time from start-up to shut down.
Accidental Damage (AD):	Physical deterioration of an item caused by contact or impact with an object or influence which is not a part of the aircraft, or by human error during manufacturing, operation of the aircraft, or maintenance practices.
Bench Check	A functional check of item in shop to determine whether the item may be returned to service or whether it requires adjustment, repair, or overhaul.
Borescope Inspection	A detailed inspection using remote viewing apparatus in which a probe and light is inserted into hard-to-reach places
Check (CHK)	Task performed to ensure that a system or component is still serviceable (check of bottle weight, check of firing circuit continuity, etc or that pressures or fluid levels are correct (See also visual check).
Clean	To remove debris, depositions, spills, and coatings using suitable materials to enable inspection, improve appearance and / or sanitary condition

Term	Definition
Corrosion Level 1	Corrosion damage that does not require structural reinforcement or replacement, or corrosion occurring between successive inspections exceeds allowable limit but is local and can be attributed to an event not typical of operator usage of other aircraft in the same fleet (e.g., mercury spill).
Detailed Inspection (DET)	An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses etc. may be necessary. Surface cleaning and elaborate access procedures may be required.
Damage Tolerant	qualification standard for aircraft structure. An item is judged to be damage tolerant if it can sustain damage and the remaining structure can withstand reasonable loads without structural failure or excessive structural deformation until the damage is detected
Day	Twenty-four calendar hours elapsed.
Discard (DIS) / Service life / Ultimate Life / Scrap / Life Limit	The removal from service of an item at a specified life limit, not to be used again
Engine Change (ENG CNG)	"Engine Change" means the opportunity arising at some time between initiating removal of an Engine and completing installation of an Engine, irrespective of whether the same Engine is reinstalled or a new or overhauled one replaces it.
Enhanced Zonal Analysis Programme (EZAP)	EZAP involves detailed visual inspections of aircraft wiring, zone-by-zone in the airplane
Environmental Deterioration (ED):	Physical deterioration of an item's strength or resistance to failure because of chemical and / or thermal interaction with its climate or environment.
Failure Effect	The result of a functional failure
Fatigue Damage (FD)	The initiation of a crack or cracks due to cyclic loading and subsequent propagation.
Functional Check (FNC)	A quantitative check to determine if one or more functions of a system / sub-system or component perform within specified limits. This is a potential failure finding task. This task may call for the use of special test equipment.
Inspection	An examination of an item against a specific standard to detect irregularities and discrepancies such as wear deterioration, damage, corrosion, cracking, etc…

Term	Definition
Inspection - General Visual (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 ensure visual access to all surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight or droplight 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
Inspection – Special Detailed (SDI)	An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. The examination is likely to make extensive use of specialised Inspection Techniques and / or equipment. Intricate cleaning and substantial access or disassembly procedure may be required. When such inspections are required, detailed NDT procedures are described in the Non- destructive Testing Manual (NTM).
Interval- Repeat	The interval between successive accomplishments of a specific maintenance task after reaching the threshold interval.
Lightning / High Intensity Radiation Field (L/HIRF)	The intent of the L/HIRF dedicated maintenance tasks is to avoid the possibility of significant loss of the wiring protection
Lubrication (LUB)	Term covering all types of lubrication by grease gun, squirt can, spray, brush, or hand application for the purpose of Maintaining the inherent design operating capabilities of an item.
Maintenance Task	An action or set of actions, including corresponding planning data, required achieving a desired outcome, which maintains an item (component, system / sub-system, structure) in or restores an item to serviceable condition. This term includes inspection and determination of condition.
Maintenance Significant Item (MSI)	Item identified by the manufacturer, whose failure: - • Could affect safety (ground or flight), and / or • Is undetectable during operation, and / or • Could have significant operational impact, and / or • Could have significant economic impact.
Month	A period of one calendar month.
NDT -Inspection	Non-destructive inspection procedure, e.g., eddy current, ultra-sonic. Detailed NDT procedures are described in the Non-destructive Testing Manual (NTM)

Term	Definition
Operating	This is defined as the time interval during which passengers and crew are on board for the purpose of flight.
Operational Check (OPC)	A task to determine that an item is fulfilling its intended purpose. This task may include the reading of the aircraft instruments but does not require the measurement of tolerances. This is a failure finding task.
Regulatory Authority	Applicable government agency that regulates civil aviation, CAA
Replacement	The action whereby an item is removed, and another new or restored item is installed in its place
Restoration (RST)	Term covering all actions (on / off the aircraft) necessary to return the item to a specific standard. Restoration may vary from cleaning or replacement of single parts up to a complete overhaul.
Sampling	The monitoring and / or withdrawal of selected devices from service to permit determination of their condition at predetermined progressive intervals.
Servicing	Consumable replenishment by servicing i.e., Means replenishing of fuel, hydraulic fluids oil, gas. It also includes drainage, sampling, aircraft protection, contamination, detection, and system line flushing.
Structure Significant Item (SSI)	A structural detail, structural element or structural assembly which is judged significant by the manufacturers because of the reduction in aircraft residual strength or loss of structural function which are consequences of its failure.
Threshold	Limit deadline for all tasks not performed on a sampling basis at which the task must be accomplished for the first time (subsequent accomplishment deadlines are obtained by adding the repeat interval and its multiples to the threshold).
Visual Check (VCK)	An observation to determine that an item is fulfilling its intended purpose. Does not require quantitative tolerances. This is a failure finding task.
Year	A period of 12 consecutive months.
Zonal Inspection	A collective term comprising selected general visual inspections and visual checks that is applied to each zone, defined by access and area to check system and power plant installations and structure for security and general condition

15 Abbreviations

Acronym	Abbreviation
AAPS	Ambient Absolute Pressure Sensor
A/C	Aircraft
AC	Alternating Current
ACARS	Aircraft Communications Addressing & Reporting System
ACMS	Aircraft Condition Monitoring System
ACP	Audio Control Panel
ACT	Additional Centre Tank
ACMS	Aircraft Condition Monitoring System
AD	Airworthiness Directive
ADF	Automatic Direction Finder
ADIRU	Air Data / Inertial Reference Unit
ADR	Air Data Reference
AEVC	Avionics Equipment Ventilation Computer
AFT	Average Flight Time
AH	APU Hours
ALI	Airworthiness Limitation Item
ALNA	Airline Network Architecture
AMM	Aircraft Maintenance Manual
AOA	Angle Of Attack
AP	Autopilot
APPL	Applicability
APU	Auxiliary Power Unit
ARO	Anti-Roll Out
ASPU	Autonomous Standby Power Supply Unit
ATC	Air Traffic Control
A/THR	Auto-thrust
ATIMS	Air Traffic and Information Management System
ATT	Attitude

Acronym	Abbreviation
BAT	Battery
BAC	Bulk Avionics Compartment
BCRC	Bulk Crew Rest Compartment
BITE	Built In Test Equipment
CBB	Connexion by Boeing
CPCP	Corrosion Prevention and Control Programme
CDU	Centre Drive Unit
CIDS	Cabin Intercommunication Data System
CLG	Centre Landing Gear
CMR	Certification Maintenance Requirement
CMS	Central Maintenance System
CRR(C)	Crew Rest Room (Cabin)
CRR(U)	Crew Rest Room (Underfloor)
CSM/G	Constant Speed Motor / Generator
CSU	Command Sensor Unit
CVR	Cockpit Voice Recorder
CY	Cycles (Engine)
DAR	Digital ACMS Recorder
DC	Direct Current
DCR	Dock on Crew Rest
DEU	Decoder / Encoder Unit
DET	Detailed Inspection
DFDR	Digital Flight Data Recorder
DIS	Discard
DMC	Display Management Computer
DME	Distance Measuring Equipment
DIS	Discard
DY	Days
EASA	European Union Aviation Safety Agency
ECAM	Electronic Centralised Aircraft Monitoring
ECAS	Emergency Cabin Alert System

Acronym	Abbreviation
ECU	Engine Control Unit
ED	Environmental Deterioration
EDP	Engine Driven Pump
EEC	Engine Electronic Controller
EFCS	Electrical Flight Control System
EFIS	Electronic Flight Instrument System
EG	Entrance Guide
ELT(AF)	(Automatic Fixed) Emergency Transmitter Locator
ELT(S)	Survival Emergency Locator Transmitter
EMCD	Electric Magnetic Chip Detector
ENT	Enterprise
EPSU	Emergency Power Supply Unit
ERP	Enhanced Runaway Protection
ESM	Engine Shop Manual
ESS	Essential
EVAC	Evacuation
EWIS	Electrical Wiring Interconnection System
FAA	Federal Aviation Administration
F-BCRC	Full Bulk Crew Rest Compartment
FADEC	Full Authority Digital Engine Control
FANS	Future Air Navigation System
FAR	Federal Aviation Regulation
FC	Flight Cycles
FCC	FWD Cargo Compartment
FCRC	Flight Crew Rest Compartment
FDU	Fire Detection Unit
FEC	Failure Effect Category

Acronym	Abbreviation
FH	Flight Hours
FCMC	Fuel Control and Monitoring Computer
FCMS	Fuel Control and Monitoring System
FCPC	Flight Control Primary Computer
FCSC	Flight Control Secondary Computer
FD	Fatigue Damage
FIN	Functional Identification Number
FM	Flight Management
FMCU	Flow Metering Compact Unit
FMS	Flow Metering System
FNC	Functional Check
FPI	Fluorescent Dye Penetrant Inspection
FR	Frame
FWC	Flight Warning Computer
FWD	Forward
GAC	Galley Air Cooler
GCU	Generator Control Unit
GE	General Electric
GPWC	Ground Proximity Warning Computer
GPWS	Ground Proximity Warning System
GRP	Group
GVI	General Visual Inspection
HAPS	Hydrostatic Absolute Pressure Sensor
HDG	Heading
HF	High Frequency
HFEC	High Frequency Eddy Current
HIRF	High Intensity Radiated Fields
HP	High Pressure
HPT	High Pressure Turbine
HRS	Hours (Elapsed Time)
I	Interval
IDG	Integrated Drive Generator
IFE	In Flight Entertainment
IFEC	In Flight Entertainment Centre
ILS	Instrument Landing System

Acronym	Abbreviation
IN	Inspection
IP	Intermediate Pressure
IR	Inertial Reference
JAA	Joint Airworthiness Authorities
JAA	Joint Aviation Authorities
JAR	Joint Airworthiness Requirement
JAR	Joint Aviation Requirement
KTS	Knots Nautical Miles Per Hour
LDL	Lower Deck Lavatories
LDF	Lower Deck Facilities
LDMCR	Lower Deck Mobile Crew Rest
LED	Light Emitting Diode
LFEC	Low Frequency Eddy Current
LGCIU	Landing Gear Control and Interface Unit
LH	Left Hand PDU Power Drive Unit
LP	Low Pressure
LPT	Low Pressure Turbine
LUB	Lubrication
LUR	Low Utilisation Recommendation
MCD	Magnetic Chip Detector
MCDU	Multi Control Display Unit
MIS	Maintenance Information System
MLG	Main Landing Gear
MO	Months
MPD	Maintenance Planning Document
MPI	Magnetic Particles Inspection
MPPT	Maintenance Programme Publication Trigger
MRB	Maintenance Review Board
MRBR	MRB Report

Acronym	Abbreviation
MSI	Maintenance Significant Item
MSN	Manufacturers Serial Number
MTHS	Months
N/A	Not Applicable
ND	Navigation Display
NLG	Nose Landing Gear
No	Number
NR	National Requirement
NT	Note
NTM	Non-Destructive Testing Manual
OANS	Onboard Airport Navigation System
OPC	Operational Check
PA	Public Address
P/B SW	Pushbutton Switch
P-BCRC	Partial Bulk Crew Rest Compartment
PCU	Power Control Unit
PDU	Power Drive Unit
PFD	Primary Flight Display
P/N	Part Number
POB	Pressure-OFF Brake
PTT	Press to Test
PUA	Air Pressurisation Unit
PW	Pratt & Whitney
PWS	Predictive Wind-shear
QAR	Quick Access Recorder
RA	Radio Altimeter
RAT	Ram Air Turbine
RCC	Remote Control Centre
RCT	Rear Centre Tank
REV	Revision
RH	Right Hand
RMP	Radio Management Pane
RR	Rolls Royce
RST	Restoration
RSVR	Reservoir
RTA	Rudder Trim Actuator
RTLU	Rudder Travel Limitation Unit
RVSM	Reduced Vertical Separation Minima

Acronym	Abbreviation
SB	Service Bulletin
SDI	Special Detailed Inspection
SECT	Section
SIU	Server Interface Unit
SMR	Scheduled Maintenance Report
SRM	Structure Repair Manual
SRPSU	Slide Release Power Supply Unit
SSA	System Safety Assessment
SSI	Structural Significant Item
ST	Sample Threshold
STR	Stringer
SVC	Servicing
T	Threshold
TS	Technical Services
TBO	Time Between Overhaul
TCAS	Traffic Collision Avoidance System
THS	Trimmable Horizontal Stabilizer
THSA	Trimmable Horizontal Stabilizer Actuator
TOT	Transfer of Title
TPIS	Tyre Pressure Indication System
TPS	Temporary Protection System
ULB	Underwater Locator Beacon
US	Ultrasonic

Acronym	Abbreviation
VCK	Visual Check
VCC	Video Control Centre
VHF	Very High Frequency
VOR	VHF Omni-bearing Range
VR	Vendor Recommendation
WDM	Wiring Diagram Manual
WGL-QAR / DAR	Wireless Ground Link – Quick Access Recorder / Digital ACMS Recorder
WTB	Wing Tip Brake
WV	Weight Variant
YE	Years
ZIP	Zonal Inspection Programme
VCC	Video Control Centre
VHF	Very High Frequency

16 Reference Sources

The below indicates the documentation used in creating the maintenance plan.

Document	Revision No. / Date
A330 MRBR	Revision 20, 26 Mar 2021
A330 MRBR TR	Revision 20.1, Jan 2022
A330 MPD	Revision 27, 01 July 2021
A330 ALS Part 1	Revision 11, 01 Jul 2021
A330 ALS Part 2	Revision 04 Issue 01, 01 Jul 2021 Revision 04 Issue 02, 10 Nov 2021
A330 ALS Part 3	Revision 05, 01 Jul 2021
A330 ALS Part 4	Revision 07, 01 Jul 2021
A330 ALS Part 5	Revision 03, 01 Jul 2021
ETOPS, Configuration, Maintenance, Procedure (CMP) document	Revision 34.
TRENT 700 Engine Time Limit Manual - Chapter 05	Rev 50, Issue No. 2021/01, 08 Oct 2021
Honeywell Engine Manual 331-600(A) ATA 49- 22-25	Rev 09, 11 Mar 2020
CAME	Rev 07, 10 Apr 2022

Note that the reference in yellow is added in later and you will see where this comes from as we create our AMP, if you are only considering creating the Preface document now in the course, we do not cover this yet.

The refence material that IALTA CAMO shall use in addition shall be comprised of:

- Airworthiness Directives (AD).
- Service Bulletin (SB).
- Operators Information Transmission, Service Letters or any other OEM technical transmission.
- STC holder documentation and technical transmissions.
- Vendor technical transmissions and associated CMM.
- National Authority regulations.

Where applicable the latest revision shall be used.

17. AMP Ownership, Oversight and Updates.

The Continuing Airworthiness Manager of IALTA CAMO shall be responsible for the development and subsequent update / oversight of this Maintenance Programme for the aircraft including amendments and submission to the relevant authority for approval.

Amendments and revisions shall note changes / updates in the Type Certificate Holders recommendations, MPD and MRBR report revisions, modifications, service experience National Authority or any other reference noted in the Reference Sources.

18 Permitted Variations to Maintenance Periods

IALTA CAMO may vary the periods prescribed by this Programme provided that such variations are within the limits of the below table:

ITEMS CONTROLLED BY FLYING HOURS	
Period Involved	**Maximum Variation of Prescribed Period**
5000 Flying Hours or Less	10%
More than 5000 Flying Hours	500 Flying Hours
ITEMS CONTROLLED BY CALENDAR TIME	
Period Involved	**Maximum Variation of Prescribed Period**
1 Year or Less	10% or 1 Month whichever is the lesser
More than 1 Year but NOT Exceeding 3 Years	2 Months
More than 3 Years	3 Months
ITEMS CONTROLLED BY LANDINGS / CYCLES	
Period Involved	**Maximum Variation of Prescribed Period**
500 Landings / Cycles or Less	5% or 25 Landings / Cycles whichever is lesser
More than 500 Landings / Cycles	5% or 250 Landings / Cycles whichever is lesser
ITEMS CONTROLLED BY MORE THAN ONE LIMIT	
For items controlled by more than one limit, e.g., items controlled by flying hours and calendar time or flying hours and landings / cycles, the more restrictive limit shall be applied.	

Variations shall be permitted only when the periods prescribed by this Programme (or documents in support of this Programme) cannot be complied with due to circumstances which could not reasonably have been foreseen by the operator.

The decision to vary any of the prescribed periods shall be made only by the operator.

Particulars of every variation so made shall be entered in the appropriate Logbook(s).

19 Additional UK Maintenance Requirements

Aircraft Battery Capacity Checks

Batteries are maintained as detailed in the schedule in Section X of this Maintenance Programme.

Emergency Equipment

The required emergency equipment will be maintained to a programme based on the equipment manufacturer's recommendations.

In addition, in Section X the following requirements are complied with in the Maintenance Programme. a) Emergency equipment is to be checked for correct complement, stowage, installation and expiry date(s) at suitable periods.

b) First aid kit(s) contents are checked at periods not exceeding 12 months.