CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURE (CAMP)

Organisation	:	GALAXY AEROSPACE (M) SDN BHD
Approval No	:	DGTA CAMO 01/2023
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INTRODUCTION

I. FOREWORD

a. This Continuing Airworthiness Management Procedures (CAMP) defines the procedures and guidelines for CAMO personnel on managing the continuing airworthiness of the aircraft in accordance with the requirements defined in GAM CAME and DGTA TAO-M Regulations.

b. This CAMP shall fulfil the need for correct and concise information for a day-to-day work of every function under the CAMO relative to the continuing airworthiness activities.

c. Under certain circumstances, it may be necessary to deviate from the requirement procedure in the CAMP. The alternative solution shall fulfil the original purpose of this CAMP, when such a situation arises; deviation should be approved by the QM.

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Date: 27-12-2023	Date: 03 JAN 2024	Date: 03 JAN 2024
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IV. AMENDMENT RECORD

ISS. NO	REV NO	DATE	DETAILS	EFFECTIVE DATE
1	0	27-12-23	1) <u>All Pages</u> a. Initial issue	2 weeks from QM approval date in LOEP

V. DISTRIBUTION LIST

COPY NUMBER	HOLDER	FORMAT
GAM/CAMP/MASTER	Quality Manager GAM CAMO	Paper
GAM/CAMP/01	GAM CAMO Office, MMEA	Paper
GAM/CAMP/02	Galaxy Aerospace Management System (GAMS) portal	Electronic copy

VI. ABBREVIATION LIST

A/C	Aircraft
AD	Airworthiness Directives
AFM	Aircraft Flight Manual
AMM	Aircraft Maintenance Manual
AMO	Approved Maintenance Organisation
AMP	Aircraft Maintenance Programme
ARC	Authorised Released Certificate
ATL	Aircraft Technical Log
BT	Bollettino Tecnico (Technical Bulletins)
CAME	Continuing Airworthiness Management Exposition
CAM	Continuing Airworthiness Manager
CAMO	Continuing Airworthiness Management Organisation
CAMP	Continuing Airworthiness Management Procedure
CAMS	Continuing Airworthiness Management System
CAN	Continuing Airworthiness Notice
CDL	Configuration Deviation List
CMM	Component Maintenance Manual
DAR	Design Acceptance Representative
DCAM	Deputy Continuing Airworthiness Manager
DGTA	Directorate General Technical Airworthiness
EMM	Engine Maintenance Manual
FM	Flight Manual
GAM	Galaxy Aerospace (M) Sdn Bhd
GAMS	Galaxy Aerospace Management System
ICA	Instruction for Continuing Airworthiness
IETP	Interactive Electronic Technical Publication
IPC	Illustrated Parts Catalog
LBE	Log Book Entry
MEL	Minimum Equipment List

MMEA	Malaysian Maritime Enforcement Agency
MMEL	Master Minimum Equipment List
MRB	Maintenance Review Board
NTC	Notice To Crew
OEM	Original Equipment Manufacturer
POH	Pilot Operating Handbook
PSEAW	Product Support Engineering Agusta Westland
P/N	Part Number
QM	Quality Manager
RDAS	Repair Design Approval Sheet
RFM	Rotorcraft Flight Manual
S/N	Serial Number
SAO	State Aircraft Operator
SB	Service Bulletin
SFTP	Secure File Transfer Protocol
SL	Service Letter
SMI	Schedule Maintenance Inspection
STC	Supplemental Type Certificate
TAAC	Technical Airworthiness Advisory Circular
TAD	Technical Airworthiness Directive
TAO	Technical Airworthiness Orders
TC	Type Certificate
TIC	Technical Instruction Compliance
TSN	Time Since New
TSO	Time Since Overhaul
VPN	Virtual Private Network
WDM	Wiring Diagram Manual
WO	Work Order
WP	Workpack
WS	Worksheet

PART 0

GENERAL ORGANISATIONS

PART 0 GENERAL ORGANISATION

0.1 INTRODUCTION

a. This Continuing Airworthiness Management Procedures (CAMP) defines the procedures and guidelines for CAMO personnel on managing the continuing airworthiness of the aircraft in accordance with the requirements defined in GAM/DGTA/CAME and DGTA TAO-M Regulations.

0.2 SCOPE

a. This chapter covers the role and responsibilities of each personnel within the CAMO.

0.3 RESPONSIBILITIES

a. All CAMO personnel

0.4 DESCRIPTION OF THE ORGANISATION

a. Galaxy Aerospace Malaysia (GAM) Continuing Airworthiness Management Organisation (CAMO) is a Directorate General Technical Airworthiness (DGTA) approved organisation performing TAO-M M.A. Subpart G for State Registered aircraft.

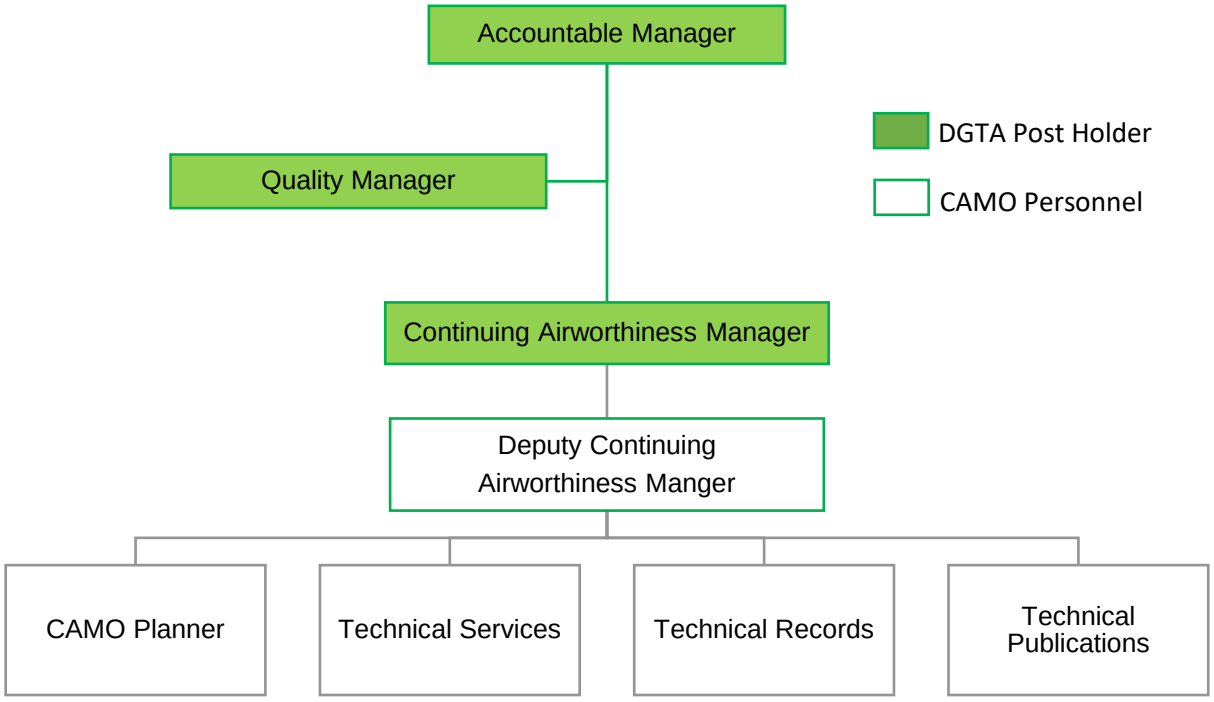
b. GAM CAMO utilise GAM-AMO as maintenance provider to meet the requirements of TAO-M to ensure that the aircraft managed are always within the controlled environment.

c. GAM CAMO office is located at:

   i. GAM CAMO Office,
   MMEA Subang Air Station,
   Malaysian Maritime Enforcement Agency,
   Jalan TUDM Subang,
   40150 Shah Alam,
   Selangor Darul Ehsan.

d. The scope of approval for GAM CAMO shall be referred to CAME Part 0.1.C.

0.5 CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION



0.5.1 DEPUTY CAM

a. The Deputy CAM is responsible to assist CAM with day-to-day activities as per CAME Part 0 Para. 0.2.D.2.

b. He/she shall also be additionally assigned with the following tasks:

   i. responsible for the development and amendment of Continuing Airworthiness Management Procedures;

   ii. responsible for the development and amendment of all form used by GAM CAMO;

   iii. review and monitor the CAMO manhours availability periodically;

   iv. review the training needs and schedule the training course for all CAMO personnel as necessary;

   v. perform competency assessment for all CAMO personnel and control the list of authorised CAMO personnel;

   vi. ensure each training and assessment conducted for each CAMO personnel is documented and stored;

vii. review the aircraft maintenance programme development and amendment;

viii. review the minimum equipment list development and amendment;

ix. Verify the TIC sentencing made by Technical Service and advise necessary action to be taken;

x. perform any other duties as assigned by CAM.

0.5.2 TECHNICAL SERVICES

a. The Technical Service personnel are responsible for the following functions:

i. development and amendment of Aircraft Maintenance Programme (AMP);

ii. development and amendment of Minimum Equipment List (MEL);

iii. evaluate and sentence TIC for Airworthiness Directives, Service Bulletins, and any other publications;

iv. coordinate Maintenance Review Board meeting;

v. to monitor the aircraft and component's reliability, recognize the need for corrective action and establish what corrective action is needed to maintain airworthiness and improve aircraft and components reliability through data collection, analysis, corrective action, and follow-up;

vi. manage and coordinate modification and repair process;

vii. provide engineering and technical support to address technical queries;

viii. perform any other duties as assigned by CAM or DCAM.

0.5.3 CAMO PLANNER

a. The CAMO Planner personnel are responsible for the following functions:

i. ensure that every aircraft inducted into GAM CAMO are registered in CAMS;

ii. ensure that all aircraft maintenance status is monitored and updated at all times;

iii. ensure that maintenance forecast is generated and distributed regularly to relevant parties (AMO, SAO, etc.);

iv. ensure that all maintenance required by the AMP are performed within the prescribed time limits;

v. ensure that all maintenance is properly coordinated with contracted AMO;

vi. ensure that all work package for scheduled maintenance inspections, AD and SB are registered and issued to contracted AMO;

vii. ensure that the completed ATL page is retrieved and reviewed;

viii. ensure the completed work package has been acquired, reviewed and verified and assist contracted AMO on all outstanding tasks;

ix. ensure that the AERONET System is updated for every flight and maintenance completed, and component removal and/or installation;

x. ensure that NTC is raised whenever there is an appropriate need as deem fit;

xi. gather and advise SAO of any additional requirement especially Airworthiness Directives or Service Bulletins;

xii. perform any other duties as assigned by CAM or DCAM.

0.5.4 TECHNICAL RECORDS

a. The Technical Record personnel are responsible for the following functions:

i. ensure that ATL is stored and filed accordingly;

ii. ensure that all aircraft, engine and/or propeller log book (if applicable) are updated as soon as practicable but no later than within 30 days from the date of maintenance completion;

iii. ensure that all service life limited component log cards are updated for any installation, removal or maintenance performed on the service life limited component;

iv. ensure that the Modification Record Book has been compiled and updated to show the current aircraft configuration status;

v. ensure that all certificates and documents to be carried on board the aircraft are updated;

vi. ensure all continuing airworthiness records are scanned, retained, and protected from damage, alteration, and theft;

vii. control all access to aircraft records and ensure that the import and export of aircraft records are registered;

viii. carry out general inspection of the continuing airworthiness record storage facilities regularly;

ix. ensure that a dedicated inventory or recording logbook are available and updated;

x. perform any other duties as assigned by CAM or DCAM.

0.5.5 TECHNICAL PUBLICATIONS

a. The Technical Publication personnel are responsible for the following functions:

i. ensure all airworthiness data for aircraft managed by GAM CAMO are available and kept up to date;

ii. establish and maintain a register of internal and external publication acquired and raise TIC for further evaluation of the publication;

iii. establish an effective system to replicate and distribute all publication to the relevant recipient;

iv. maintain and update the master set of internal and external publications used for the continuing airworthiness of aircraft managed by GAM CAMO;

v. control all access to technical publication in the technical library and ensure that the end user has access to the publication;

vi. perform any other duties as assigned by CAM or DCAM.

0.6 MANPOWER MANAGEMENT

a. This procedure is to ensure that sufficient appropriate staff is always available to perform the continuing airworthiness management activities within GAM CAMO.

b. The manpower availability is monitored by means of automation manpower management tool which display the balance ratio of manpower to tasks and its sufficiency.

c. The man hours availability is reviewed periodically in relation to increase number of aircraft and increase in work load.

d. The planning of man hours is calculated based on the available man hours against the required man hours.

i. Available Man Hours

These are the amount of man hours for personnel able to work (working hours). The working hours for GAM CAMO personnel are:

Time	:	0830 hours – 1730 hours
Break	:	1 hour
Duration	:	8 hours

Thus, the amount of work for a day is 8 hours for each personnel. Based on the company working days, 5 days a week, the available working hours for one personnel in a year, 52 weeks, is:

[52 (weeks/year) x 5 (days/weeks) x 8 (hours/day)] – [14 (Annual Leaves/year) x 8 (hours/day)] – [7 (Medical Leave/year (50% utilisation) x 8 (hours/day)] – [18 (Public Holiday/year) x 8 (hours/day)] – [260 (unproductive hours/year) = **1508 hours/year**

ii. Required Man Hours

These are the man hours for a CAMO personnel to complete a particular task. The man hours are then total up to achieve the required man hours for each personnel within GAM CAMO.

The required man hours are the amount of a personnel working hours that has to be provisioned in this department in order to accomplish all the work and functions as detailed in this chapter.

e. The current status of total man hours available in GAM CAMO can be referred to Manpower Resources and Management Tool Form (GAM/C-052).

0.7 TRAINING REQUIREMENT

a. The main purpose for training is to equip GAM CAMO personnel with the necessary skills, knowledge, and work etiquette to carry out the functions of, and satisfy the responsibilities associated with, the TAO-M Subpart G continuing airworthiness management functions.

b. CAM / DCAM shall be responsible to review the training needs yearly or when significant changes occur with the DGTA regulations, organisation procedures and/or the aircraft types managed by GAM CAMO and to schedule the training course for all CAMO personnel as necessary.

c. CAM / DCAM shall submit training request to Training Department. The Training Department shall formulate a Training Schedule monthly based on the training request. New course may be developed after appropriate Training Requirement analysis has been carried out.

d. CAM / DCAM shall submit any additional training proposal to Training Department for selection of Training Centres and budget application. Course that are not within the capability of GAM shall be outsourced to an organisation that is acceptable to DGTA. Training Department shall assist wherever possible in the out-sourcing of courses for CAMO personnel.

e. The type of training that is required for all CAMO personnel are listed in the following table:

No	Course	Position									Remarks	
		AM	QM	QA	CAM	Deputy CAM	Technical Service	CAMO Planner	Technical Record	Technical Publication	Initial	Continuous (Every 2 Years)
1	TAO-M – Continuing Airworthiness Management	O	M	M	M	M	M	M	M	M	/	
2	DGTA Continuing Airworthiness Management Exposition (CAME)	O	M	M	M	M	M	M	M	M	/	/
3	Continuing Airworthiness Management Procedure (CAMP)	O	O	M	M	M	M	M	M	M	/	/
3	Quality Procedure Manual (QPM)	O	M	M	O	O	O	O	O	O	/	/
4	Human Factor	O	M	M	M	M	M	M	M	M	/	/

No	Course	Position									Remarks	
		AM	QM	QA	CAM	Deputy CAM	Technical Service	CAMO Planner	Technical Record	Technical Publication	Initial	Continuous (Every 2 Years)
5	Safety Management System	O	O	O	O	O	O	O	O	O	/	
6	CAMS (AERONET)	O	O	O	M	M	M	M	M	M	/	
7	Aircraft General Familiarisation	O	O	O	O	O	O	O	O	O	/	
8	Audit Technique/Lead Auditor course	O	M	M	O	O	O	O	O	O	/	
9	Root course Analysis	O	M	M	M	M	O	O	O	O	/	

Legend

M	**Mandatory**
O	**Optional**

f. Initial training is provided to ensure that all personnel are equipped with the basic knowledge, skills and experience to enable them to perform continuing airworthiness management on aircraft.

g. Continuous training is also required to ensure that all personnel are continuously trained to familiarise on changes with the DGTA regulations, organisation procedures and/or the aircraft types managed by GAM CAMO.

h. Continuous Training may be given in the following forms:

i. Formal Classroom – formal classroom training to be conducted by qualified instructor every 2 years.

ii. Briefing Session – semi-formal training by appropriate instructor, using training video or other training aids, to provide update on changes to the organisation policy and procedures which may or may not be covered by the formal classroom training.

iii. Circulation – by circulation of Continuing Airworthiness Notices (CAN) through GAMS Portal. CAM / DCAM shall ensure that all CAMO personnel read and understood the content of the CAN.

i. DCAM shall ensure that each training conducted for CAMO personnel is documented and stored in their personal files.

0.8 COMPETENCY ASSESSMENT

a. The competency of staff performing the continuing airworthiness activities are established and control to a standard as agreed by the CAM.

b. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of human factors and human performance issues appropriate to that person's function in the organisation.

c. To attain the appropriate levels of competency, Job Competency Assessment form GAM/C-032A is used to conduct and record the competency assessment of all CAMO personnel.

d. Competency assessment shall be performed every two years by either CAM or his/her delegate, or by another appointed assessor and include analysis of the need for additional training or support to individuals according to the required task.

e. CAMO personnel that show unsatisfactory level of competency shall be re-assessed after 3 months from the date of last Job Competency Assessment conducted provided that all required training has been completed.

f. CAMO personnel that show a satisfactory level of competency shall be granted authorisation for signing and document validation in their respective work scope.

g. Once authorised by the assessor, a formal record of evaluation shall be kept in the CAMO personnel personal file.

h. List of authorised personnel shall be controlled in Form GAM/C-051.

0.8.1 AUTHORISATION STAMP

a. All CAMO personnel that have completed the job competency assessment to a satisfactory level shall be issued with authorisation stamps bearing their authorisation numbers for signing and document validation in their respective work scope. The stamp shall be circular in shape and inscribed with "GAM SA CAMO" and with alpha-numerical authorisation number.

b. Whenever the stamps are worn out or the stampings are not legible, the respective authorised CAMO personnel shall surrender the stamp to DCAM for replacement. The worn-out stamps are to be mutilated and discarded.

c. If the stamps are lost, all efforts to be made by the holder to trace it. If it is not traceable, the authorised CAMO personnel shall report and request to the CAM / DCAM for stamp replacement.

d. In the event an authorisation stamp holder leaves the company or change the job position, the authorisation stamp shall be returned to the CAM / DCAM. The returned stamp shall be removed from use.

e. The List of Authorised CAMO Personnel shall be updated from time to time with the revision to CAN 51.

PART 1

TECHNICAL PUBLICATION

PROCEDURES

PART 1 TECHNICAL PUBLICATION PROCEDURES

1.1 INTRODUCTION

This chapter defines the Technical Publication control procedures for all controlled maintenance data. This is inclusive of internally issued publications, Airworthiness Directives (AD), Service Bulletins (SB), Maintenance Manuals, Flight Manuals and those publications that are deemed relevant to the continuing airworthiness of the aircraft.

1.2 SCOPE

The process of publication control, distribution and updating the maintenance data within GAM CAMO.

1.3 RESPONSIBILITIES

a) Technical Publication Personnel

b) Publication Holder

1.4 PUBLICATION PURCHASE / RENEWAL / SUBSCRIPTION

a. Technical Publication shall ensure all airworthiness data are kept up to date by:

   i. subscribing to the applicable amendment scheme.

   ii. Checking that all amendment are being received.

   iii. Monitoring the amendment status of all data.

b. Aircraft publication subscription shall be provided by the owner of the aircraft or be subscribed by GAM as stipulated in the CAMO contract.

c. Technical Publication personnel shall subscribe to an email notification from Authority, TC Holder, and STC Holder to receive alert for any new/revised publications that had been issued.

d. Technical Publication personnel shall also periodically monitor the amendment status of the publication and ensure that all amendment/revision to the publication are being received.

e. A request for new publications subscriptions can be made to Technical Publication by providing the details required as per below:

   i. Publication reference/part number and description

   ii. Publisher/Vendor

   iii. Format of publication (hard copy/soft copy)

   iv. Subscription period

f. Technical Publication then shall liaise with the associated publishers and vendors on purchasing/renewing the required publications.

g. The newly acquired publications shall be controlled as per this chapter of the CAMP.

1.5 PUBLICATION REGISTER

a. Technical Publication personnel shall maintain a register of the following category of publication:

   i. Internal Publication

   ii. External Publication

b. Internal publication shall consist of minimum the following publication published by GAM CAMO:

   i. Continuing Airworthiness Management Exposition (CAME)

   ii. Continuing Airworthiness Management Procedure (CAMP)

   iii. Continuing Airworthiness Notices (CAN)

   iv. Aircraft Maintenance Programme

   v. Minimum Equipment List

c. External publication shall consist of minimum the following airworthiness data:

   i. Applicable requirement, procedures, standard or information issued by the Authority of State of Design

   ii. Applicable airworthiness directives issued by the Authority of State of Design

   iii. Applicable instructions for continuing airworthiness, issued by holders of the type certificate, restricted type certificate, supplemental type certificate, TSO authorisation, major modification approval, major repair approval or any other relevant approval issued by DGTA.

d. Internal publications that are published by CAMO Department shall be received by Technical Publication from the author of the publication.

e. Electronic publications issued by TC Holder such as IETP, AMM, EMM, AFM, RFM and SB's, shall be downloaded by Technical Publication from the TC Holder portal.

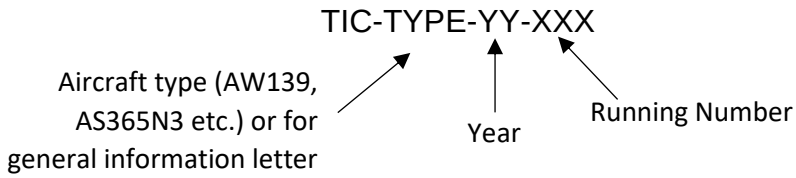
f. Publication issued by STC Holder such as ICA, Installation Manual / Instruction, shall be downloaded or obtained by Technical Publication from the STC Holder.

g. For Airworthiness Directives, Technical Airworthiness Directive (TAD), and Technical Airworthiness Advisory Circular (TAAC) issued by Authority, Technical Publication shall download directly from the respective Authority website. Biweekly AD issued by EASA and FAA shall also be monitored by Technical Publication to prevent any missed receipt notification of individual ADs.

h. Upon receipt of all publications, Technical Publication personnel shall then register using form GAM/CAMO-026 Publication Register.

i. Technical Instruction Compliance (TIC) form GAM/C-001A shall be raised by Technical Publication, not limited to AD, SB and MPD, for further evaluation of the publications via GAMS portal.

j. The TIC controlled number are formatted as below:



k. For aircraft type with more than one operator, Technical Publication may raise the separate TIC for similar aircraft type under different operator.

l. For every aircraft induction into GAM CAMO, either new or used, TIC shall be raised by Technical Publication for all Airframe and Engine AD for re-verification and re-evaluation by GAM. Refer to CAMP Chapter 4.6 for TIC procedure.

m. The Publication Register is filed yearly for record purposes.

1.6 PUBLICATION DISTRIBUTION

1.6.1 INTERNAL PUBLICATIONS

a. Internal publications are distributed according to the Distribution List of the publication. For those publications without Distribution List, Technical Publication shall consult with CAM or his/her delegate to determine the number of copyholders.

b. Technical Publication personnel shall make copies of the publication for each copyholder. The copy number and locations of the publication are registered in the Publication Master List form GAM/C-023.

c. For revised publications, copies of the amendment pages are distributed to the publication holder in accordance with the Publication Master List.

d. Technical Publication shall issue 2 copies of Document Acceptance Statement form GAM/C-016 with every distribution of hard copy of the publication to the relevant copyholders.

e. Once the publication had been updated by the copyholder, he/she shall sign both form and return to Technical Publications as an acknowledgement of receipt. One copies to be retained in front page of the publication and the other is returned to Technical Publication for record purposes.

f. The Document Acceptance Statement form shall be kept by Technical Publication as a means of record that the publication had been distributed.

1.6.2 EXTERNAL PUBLICATIONS

a. External Publication are distributed to the operator of the aircraft, and maintenance organisation responsible for the maintenance of the aircraft.

b. Technical Publication personnel shall make copies of the publication for each copyholder. The copy number and locations of the publication are registered in the Publication Master List form GAM/C-023.

c. For revised publications, copies of the amendment pages are distributed to the publication holder in accordance with the Publication Master List.

d. Technical publication shall send an email notification to recipient for acknowledgement.

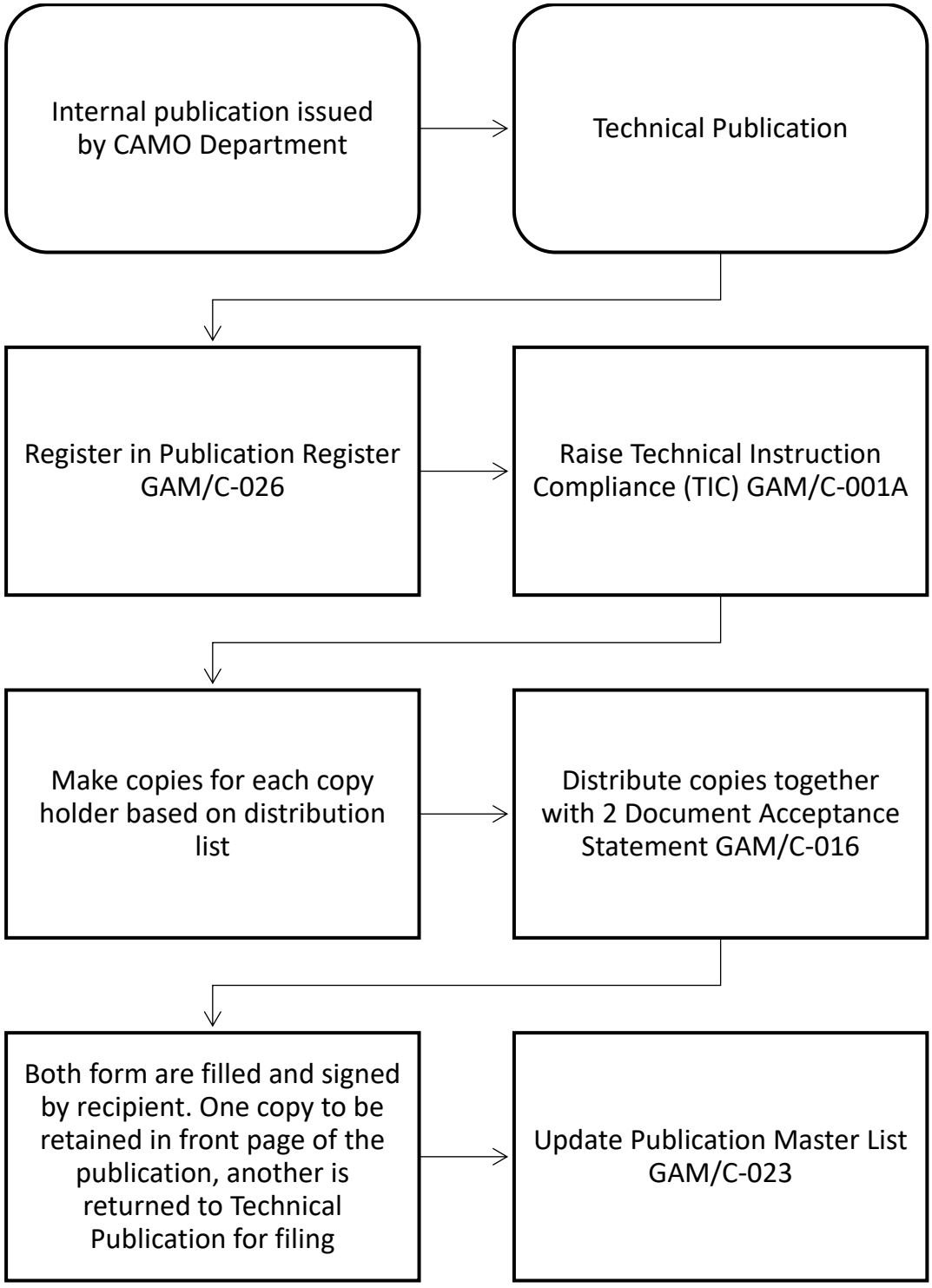


Figure 1 Internal Publications Control Workflow

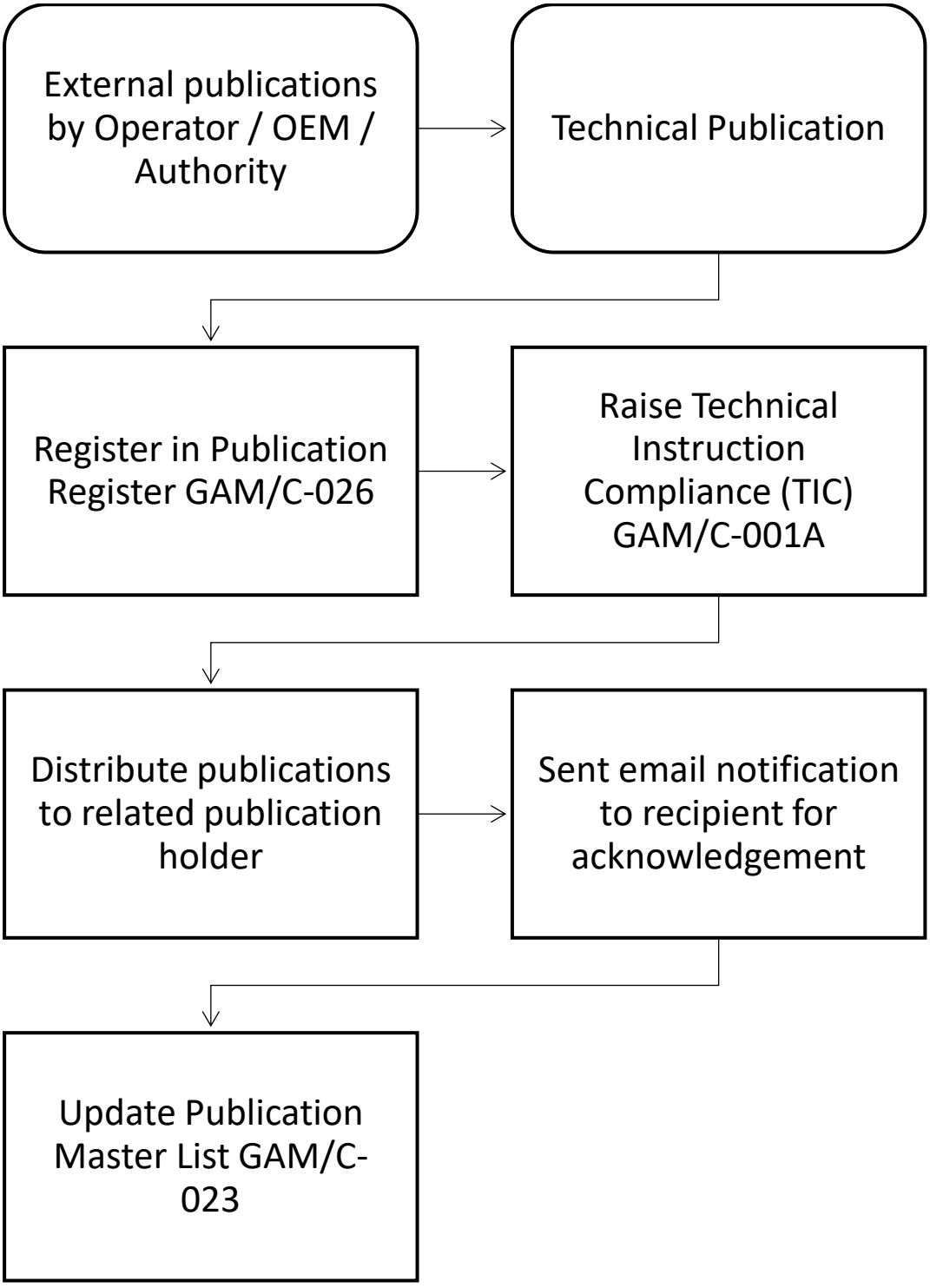


Figure 2 External Publications Control Workflow

1.7 PUBLICATION MASTER LIST

a. Technical Publication personnel shall be responsible for maintaining and updating the master set of internal and external publications used for the continuing airworthiness of the aircraft managed by GAM CAMO.

b. Technical Publication personnel shall generate a master listing every last week of the month using Publication Master List form GAM/C-023 showing the list of current publications controlled by GAM CAMO and the publication revision status.

c. The Master Listing shall records details of each internal and external publication including but not limited to the title, revision status, primary source, copy number and locations of the publications.

d. The list shall be checked for its latest revision and updated monthly. Publications that had been updated since the last issued master list shall be identified with a vertical bar.

e. For external publications issued by TC Holder, a master list shall be generated and controlled by each aircraft type.

f. For external publication issued by STC Holder, a separate master list shall be generated for STC/modification that have been incorporated to the aircraft managed by GAM CAMO.

g. Internal publications shall have a separate Master List from the external publications.

h. The master listing shall be made available to end users and circulated electronically every month.

i. All superseded publications must be promptly removed or guarded against inadvertent use.

j. All documents that are not being controlled and updated as per the master listing must be marked “UNCONTROLLED”. This also applies to obsolete documents retained legally.

k. All holders must segregate uncontrolled manuals and ensure all technical manuals of unknown status are destroyed.

l. All technical personnel must be aware that information in uncontrolled documents is not current and to be used only for reference.

m. Technical Publication shall keep a copy of each generated Master Listing into their respective file in the server.

1.8 PUBLICATION CONTROL AND ACCESS

a. Technical Publication personnel shall ensure that the end user has access to the publication.

b. The Internal Publications are uploaded into the server and stored in a hard disk as a means of backup and kept in a secure vault room.

c. The External Publications shall be uploaded into the server as the primary source of technical publication.

d. The publications are also uploaded into a controlled computer for end user to access the airworthiness data and stored in a hard disk as a means of backup and kept secured by the appointed Technical Publication personnel. Refer “CAN 42 – Designated Personnel for Administrator of CAMO Documents Access/Backup” latest revision.

e. The recipient shall have restricted access to the publications and can only view and download without modifying the contents.

f. For electronic manuals (IETP, EMM etc), the controlled computers shall also be updated with the latest revision of the publications.

g. Technical Publication personnel shall ensure the technical library cabinet for hard copy publication are properly labelled indicating the type of publication.

h. The label shall be affixed to the cabinet storage by appropriate means and shall be easily identified.

i. Technical Publication personal shall ensure that each individual binder or box can be properly identified of its contents and the attached decal is visible and readable.

j. Technical Publication personnel shall control all access to technical publication in the technical library. Any personnel other than Technical Publication shall register into a registry logbook and shall be escorted by a Technical Publication personnel to gain access to the requested publication. Any publication taken out from the cabinet shall be recorded in the registry logbook.

k. Technical Publication personnel shall ensure that all the publications as per Part 1 of this CAMP are also stored and/or updated into the server and hard disk every last week of the month as a means of backup and kept in a secured location.

1.9 FLIGHT MANUAL AMENDMENT AND SUPPLEMENT APPLICABILITY PROCEDURES

a. The FM is a primary document for flight operations of an aircraft. It contains the limitations, procedures, performance and other information and instructions required to operate the aircraft safely, plus all required FM supplements.

b. An aircraft may not conform exactly to the standard aircraft to which the available basic FM is applicable as aircraft may have a different configuration or modifications.

c. If these physical differences cause changes to the approved FM information, those changes must be accounted for by relevant FM supplements that provide the necessary extra FM information.

d. All FMs are identified by a part number like any other critical part of the aircraft. The primary source for identifying the FM applicable to a particular aircraft is the Type Certificate Data Sheet (TCDS). If there is uncertainty as to which FM is applicable to a particular aircraft, the Type Certificate (TC) holder or the manufacturer can provide that information based on the make, model and serial number of the aircraft.

e. It is important that, the FM to be compatible with the aircraft configuration at any time.

f. Failure to comply with the FM, including any changes made mandatory by DGTA may invalidate the Certificate of Airworthiness.

1.9.1 FLIGHT MANUAL AMENDMENT

a. When there is a flight manual amendment received, Technical Publication shall update the controlled copy of the Flight Manual as per the procedures in CAMP Chapter 1.5 to Chapter 1.8.

b. If the amendment of the FM arises from mandatory instructions or modifications e.g., Airworthiness Directives or Supplement Type Certificate, Technical Publication shall also need to update the List of Applicable Supplement Form (GAM/C-045) as per Chapter 1.9.2.

c. If the amendments of the FM originated from GAM CAMO e.g., Mass and Balance Report, Technical Publication shall update the approved documents into the Flight Manual of each respective aircraft registration.

d. Technical Publication shall update the Rotorcraft Flight Manual (RFM) Amendment Record Form (GAM/C-057) on the above amendments for record purposes.

1.9.2 FLIGHT MANUAL SUPPLEMENT APPLICABILITY

a. An aircraft may be issued with a FM that contains FM supplements available for the aircraft type, which have not been incorporated or are not applicable for the specific aircraft.

b. Technical publication shall prepare the List of Applicable Supplement Form (GAM/C-045) which contain the list of all FM Supplement available for the aircraft type from TC or STC Holder for each aircraft managed by GAM CAMO and submit to Technical Service for verification of applicable flight manual supplement as per CAMP Para 4.4.

c. Technical Publication shall forward the completed form GAM/C-045 to CAM for verification.

d. Technical Publication shall scan and upload the verified GAM/C-045 into the server.

e. Technical Publication shall then update the verified GAM/C-045 and all applicable supplement into the Flight Manual of each respective aircraft registration.

PART 2

TECHNICAL RECORD

PROCEDURES

PART 2 TECHNICAL RECORD PROCEDURES

2.1 INTRODUCTION

The Technical Records are responsible for updating and archiving of aircraft records following the requirements of CAME, Part 1 Continuing Airworthiness Procedure.

2.2 SCOPE

This section outlines the procedure of managing the aircraft continuing airworthiness records within the GAM organisation.

2.3 RESPONSIBILITIES

Technical Records Personnel

2.4 AIRCRAFT TECHNICAL LOG FILING

a. Technical Record personnel shall obtain the First copy of the ATL from CAMO Planner and scanned the copy and stored in the server and hard disk, as a means of backup.

b. The ATL shall then be filed in accordance with each aircraft registration for record keeping purposes.

c. When transferring between two ATL booklet, Technical Record shall ensure that a reference number between the two ATL booklet is available. The contracted AMO's approval holder shall enter a statement in the defect and rectification column by writing down the ATL Page Serial Number where the data is transferred to or from as applicable. Refer Figure 4 and 5.

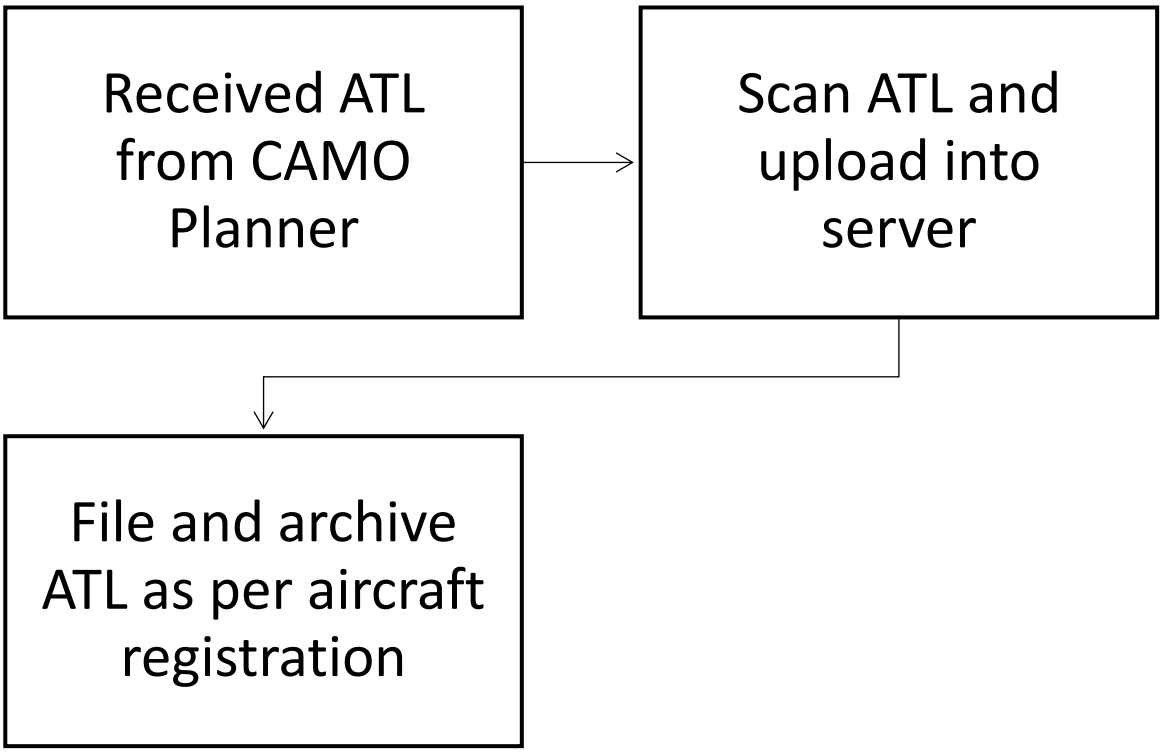


Figure 3 ATL Filing Workflow

AIRCRAFT TECHNICAL LOG

MALAYSIA MARITIME ENFORCEMENT AGENCY
(APMM/C-008/AW139)

AIRCRAFT TYPE	REGISTRATION NO

TECHNICAL LOG S/N: 00050

AIRCRAFT S/N	BASE	BASIC WEIGHT	FLIGHT DATE

FLT. NO	FUEL STATE (KG/LTRS)			ENGINE OIL (QT)		TRANSMISSION OIL (QT)			REPLENISH / PREFLIGHT / TURN AROUND / POST FLT INSP CERTIFICATE			PILOT PRE-FLIGHT / TURN AROUND	
	REMAINING	QTY UPLIFT	TOTAL FUEL ON DEPARTURE	#1 ENGINE	#2 ENGINE	MGB	IGB	TGB	LIC. / APP		TIME A/C READY FOR RELEASE TO FLIGHT	INDICATE A/C AS SERVICEABLE AND FUEL/OIL SUFFICIENT FOR FLIGHT INTENDED	
				UPLIFT	UPLIFT	UPLIFT	UPLIFT	UPLIFT	SIGN**	NO		NAME	INITIAL

FLT. NO	FROM	TO	TAKE OFF TIME	LANDING TIME	FLIGHT DURATION	ENGINE HRS		ENGINE START CYCLE		NO OF LANDING	HOIST CYCLE	CARGO HOOK	ROTOR BRAKE	FLIGHT CYCLE
						NO 1	NO 2	NO 1	NO 2					
ALL ELAPSED TIME TO BE ENTERED AND CALCULATED IN DECIMAL HOURS/ HOURS & MIN. REFER TO TABLE FOR DECIMALS HOURS CONVERSION. BRING FORWARD PREVIOUS PAGE TOTAL IN B/FWD ROW. TOTAL PAGE HOURS IN "TOTAL OF THIS PAGE", "TOTAL B/FWD" INTO TOTAL ROW. ENTRY METHOD ALSO APPLICABLE FOR CYCLE AND POWER.				TOTAL OF THIS PAGE										
				TOTAL B/FWD										
				TOTAL										

DAILY INSPECTION (LAME/APP HOLDER CERTIFICATION)

DATE	APP/LIC. NO	NAME	SIGNATURE**

NEXT MAINTENANCE DUE

INSPECTION	DUE DATE / HRS / CYCLE			
	DESCRIPTION	HRS	CYCLE	DATE

OUT OF PHASE SERVICING (OOP)

OOP INSPECTION	DUE HOURS	DUE DATE	DUE CYCLE	REMARKS

DEFERRED DEFECT (ENTER "NIL" IF NONE) BRIEF DEFECT/TECH. LOG REF

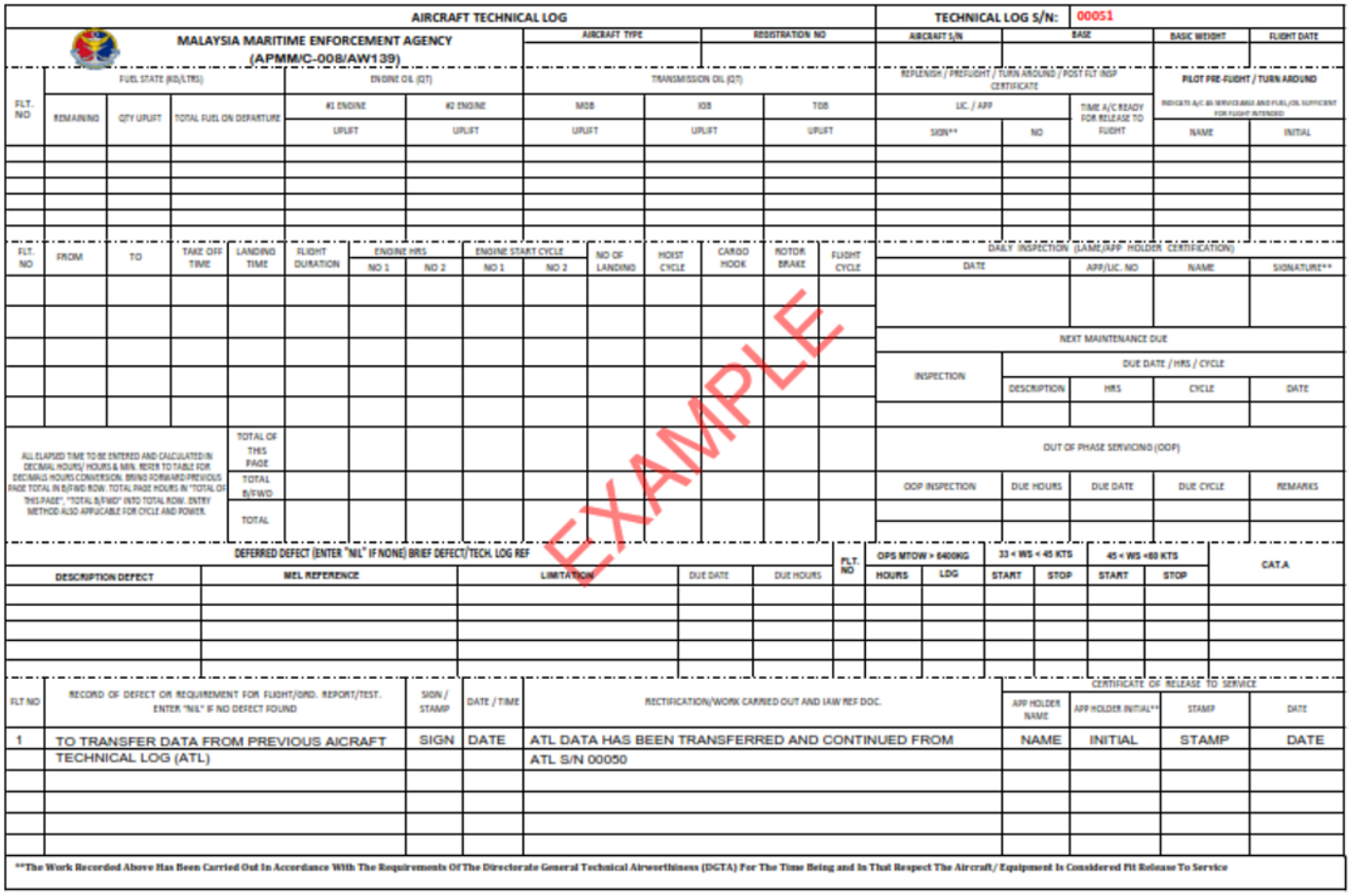
DESCRIPTION DEFECT	MEL REFERENCE	LIMITATION	DUE DATE	DUE HOURS	FLT. NO	OPS MTOW > 6400KG		33 < WS < 45 KTS		45 < WS <80 KTS		CAT.A
						HOURS	LDG	START	STOP	START	STOP	

FLT NO	RECORD OF DEFECT OR REQUIREMENT FOR FLIGHT/GRD. REPORT/TEST. ENTER "NIL" IF NO DEFECT FOUND	SIGN / STAMP	DATE / TIME	RECTIFICATION/WORK CARRIED OUT AND IAW REF DOC.	CERTIFICATE OF RELEASE TO SERVICE			
					APP HOLDER NAME	APP HOLDER INITIAL**	STAMP	DATE
1	TO TRANSFER DATA TO A NEW AICRAFT	SIGN	DATE	ATL DATA HAS BEEN TRANSFERRED AND CONTINUED TO A NEW	NAME	INITIAL	STAMP	DATE
	TECHNICAL LOG (ATL)			ATL S/N 00051				

****The Work Recorded Above Has Been Carried Out In Accordance With The Requirements Of The Directorate General Technical Airworthiness (DGTA) For The Time Being and In That Respect The Aircraft/ Equipment Is Considered Fit Release To Service**

EXAMPLE

Figure 4 Transferring Data to New ATL



AIRCRAFT TECHNICAL LOG

TECHNICAL LOG S/N: 00051

MALAYSIA MARITIME ENFORCEMENT AGENCY
(APMM/C-008/AW139)

AIRCRAFT TYPE | REGISTRATION NO | AIRCRAFT S/N | BASE | BASIC WEIGHT | FLIGHT DATE

FLT. NO | FUEL STATE (KG/LTRS): REMAINING | QTY UPLIFT | TOTAL FUEL ON DEPARTURE | ENGINE OIL (QT): #1 ENGINE UPLIFT | #2 ENGINE UPLIFT | TRANSMISSION OIL (QT): MGB UPLIFT | IGB UPLIFT | TGB UPLIFT | REPLENISH / PREFLIGHT / TURN AROUND / POST FLT INSP CERTIFICATE: LIC. / APP SIGN** | NO | TIME A/C READY FOR RELEASE TO FLIGHT | PILOT PRE-FLIGHT / TURN AROUND: NAME | INITIAL

FLT. NO | FROM | TO | TAKE OFF TIME | LANDING TIME | FLIGHT DURATION | ENGINE HRS: NO 1 | NO 2 | ENGINE START CYCLE: NO 1 | NO 2 | NO OF LANDING | HOIST CYCLE | CARGO HOOK | ROTOR BRAKE | FLIGHT CYCLE

DAILY INSPECTION (LAME/APP HOLDER CERTIFICATION): DATE | APP/LIC. NO | NAME | SIGNATURE**

NEXT MAINTENANCE DUE: INSPECTION | DUE DATE / HRS / CYCLE: DESCRIPTION | HRS | CYCLE | DATE

ALL ELAPSED TIME TO BE ENTERED AND CALCULATED IN DECIMAL HOURS/ HOURS & MIN. REFER TO TABLE FOR DECIMALS HOURS CONVERSION. BRING FORWARD PREVIOUS PAGE TOTAL IN B/FWD ROW. TOTAL PAGE HOURS IN "TOTAL OF THIS PAGE", "TOTAL B/FWD" INTO TOTAL ROW. ENTRY METHOD ALSO APPLICABLE FOR CYCLE AND POWER.

TOTAL OF THIS PAGE | TOTAL B/FWD | TOTAL

OUT OF PHASE SERVICING (OOP): OOP INSPECTION | DUE HOURS | DUE DATE | DUE CYCLE | REMARKS

DEFERRED DEFECT (ENTER "NIL" IF NONE) BRIEF DEFECT/TECH. LOG REF: DESCRIPTION DEFECT | MEL REFERENCE | LIMITATION | DUE DATE | DUE HOURS | FLT. NO | OPS MTOW > 6400KG: HOURS | LDG | 33 < WS < 45 KTS: START | STOP | 45 < WS <60 KTS: START | STOP | CAT.A

FLT NO	RECORD OF DEFECT OR REQUIREMENT FOR FLIGHT/GRD. REPORT/TEST. ENTER "NIL" IF NO DEFECT FOUND	SIGN / STAMP	DATE / TIME	RECTIFICATION/WORK CARRIED OUT AND IAW REF DOC.	CERTIFICATE OF RELEASE TO SERVICE: APP HOLDER NAME	APP HOLDER INITIAL**	STAMP	DATE
1	TO TRANSFER DATA FROM PREVIOUS AICRAFT TECHNICAL LOG (ATL)	SIGN	DATE	ATL DATA HAS BEEN TRANSFERRED AND CONTINUED FROM ATL S/N 00050	NAME	INITIAL	STAMP	DATE

**The Work Recorded Above Has Been Carried Out In Accordance With The Requirements Of The Directorate General Technical Airworthiness (DGTA) For The Time Being and In That Respect The Aircraft/ Equipment Is Considered Fit Release To Service

EXAMPLE

Figure 5 Transferring Data from Previous ATL

2.5 MAINTENANCE RECORDS UPDATING

a. All continuing airworthiness records shall be updated as soon as practicable but no later than within 30 days from the date of maintenance completion.

2.5.1 LOG BOOK UPDATING

a. A separate log book must be kept for each aircraft, engine/s, APU and Propeller (as applicable).

b. 'Instruction for Use' of the log book and particulars to be recorded can be found in the Log Book itself.

c. Technical Record personnel shall make an entry in the log book in ink or using pre-printed log book form and form GAM/C-014 Log Book Entry.

d. Instruction for Completing Form GAM/C-014 Log Book Entry can be found in CAN 01 latest revision.

e. Any error entry made in the log books shall be corrected with a single strikethrough, initialled, and stamped upon. The use of any other correction method on the logbooks is not allowed.

f. Only technical record personnel that have been assessed and authorised as per CAMP Part 0.8 shall validate with his/her signature and stamp on the LBE.

g. All entries in the log book using pre-printed log book form or LBE Form and attached to the Log Book shall be stamped between the attached entries and Log Book for traceability if any alteration was made.

h. In the event of transferring the data from previous CAMO's, operator's, or OEM's Log Book to GAM CAMO Log Book, the Technical Record personnel shall enter a statement in the previous Log Book, by writing down the new GAM CAMO Log Book reference number where the data is transferred.

i. Technical Record personnel shall ensure that the data are correctly entered and reference of the previous Log Book document reference number are available whenever Log Book data transferring from other Log Book into GAM CAMO Log Book take place.

2.5.1.1 AIRCRAFT LOG BOOK

a. Form GAM/C-018 Aircraft Log Book shall be identified by aircraft type and registration mark with the following reference format:

REG/AC TYPE/AC SN/XX

where;

REG: registration marks (e.g., M72-01)

AC TYPE: aircraft type (e.g., AW139, AS365N3)

AC SN: aircraft serial number

XX: running number (e.g., 01, 02)

b. It shall be used to record the following information:

i. The date, together with total flight time and/or flight cycles and/or engine cycles and/or landings, as appropriate.

ii. Particular of all maintenance work done on aircraft including reference to the relevant work pack.

iii. Particular of all overhauls, repairs, replacement, modification and mandatory inspections to the aircraft or its equipment including reference to the relevant work pack.

iv. Particular of any defect occurring in the aircraft or its equipment and the rectification of such defects, including reference to the relevant entries in the Journey Log.

v. The result of test performed i.e. engine power assurance check, ground run, track and balance reading etc.

vi. Approved AMP Variation (include copy of AMP Variation form).

vii. AD / SB / Modification compliance.

2.5.1.2 ENGINE LOG BOOK

a. OEM engine log book or Form GAM/C-019 shall be identified with the following reference format:

ENG TYPE/ENG SN/XX

where;

ENG TYPE: engine type (e.g., PT6C-67C, ARRIEL 2C)

ENG SN: engine serial number

XX: running number (e.g., 01, 02)

b. The engine log book shall be used to record the following information

i. The date, together with total flight time and/or flight cycles and/or engine cycles and/or landings and/or Time Since New (TSN), as appropriate.

ii. Particular of all maintenance work done on the engine including reference to the relevant workpack.

iii. Particular of all overhauls, repairs, replacements, modifications and mandatory inspections to the engine or its equipment.

iv. Particular of any defect occurring on the engine or its equipment and the rectification of such defects, including a reference to the relevant entries in the ATL.

v. Time Since New (TSN), Time Since Overhaul (TSO)

vi. The result of test performed i.e. engine power assurance check

vii. AD / SB Compliance

viii. ARC engine (include copy)

ix. Approved AMP Variation (include copy of AMP Variation form).

2.5.2 LOG CARDS UPDATING

a. A component log card is required for monitoring each hard time component with their respective interval as listed in OEM Section 4 and Section 5 Time Limits of the maintenance publication.

b. For aircraft that does not have the component log card issued by manufacturer, the Component Log Card Form (GAM/C-031) may be used.

c. The log card for components that are installed on the aircraft shall be in ATA chapter sequence compiled in the OEM Helicopter Log Book.

d. The replacements of component may be due to overhaul, scheduled/unscheduled inspections, and operational requirements.

e. The log cards shall be updated for:

   i. any installation/removal of components;

   ii. any maintenance inspection (including AD/SB/modification) that had been carried out on the component.

f. Instructions on filling up the log card can be referred to Figure 6 – Figure 15 and CAN 28 latest revision.

2.5.2.1 COMPONENT REMOVAL

a. Technical Record shall verify the correct P/N and S/N as per workpack raised and remove the log card from the logbook.

b. Technical Record shall then update the component log card for TSN and TSO hours during removal.

c. Log card for component removed from aircraft to be kept in store shall be removed and scanned before being kept in a separate quarantine file segregated by aircraft type and ATA Chapter.

d. Log card for component removed from aircraft for repair, replacement, or overhaul exchange shall be removed and scanned before sending to AMO for component processing.

2.5.2.2 COMPONENT INSTALLATION

a. Verify the correct P/N and S/N as per workpack raised.

b. Check the status of component (either new, overhaul, repair, inspected or etc.) from the EASA/FAA form 1.

c. Check the hours for TSN and TSO from the ARC and component log card.

d. Update the log card for component installation details if not already have been filled by AMO.

e. The log card is scan and update in the server before kept in the log book.

2.5.2.3 COMPONENT MAINTENANCE/MODIFICATION

a. The log card shall be updated should there be any maintenance performed or modification (SB) embodied on the component.

b. The data that are required for updating are the aircraft hours/cycles the maintenance performed and date.

c. Authorised Technical Record personnel shall sign the log card upon updating.

FINMECCANICA
HELICOPTER DIVISION

LOG CARD

NOTICE:THIS FORM, DULY UPDATED, MUST FOLLOW THE ASSY

Section 1

ATA Chapter .....

DESCRIPTION (1)	P/N (2)	S/N (3)	MANUFACTURER NAME (4)	ASSEMBLY/MANUFACTURING DATE (5)	RETIREMENT LIFE / TIME LIMITS (6)
	P/N (7)	S/N (8)	MANUFACTURER NAME (9)	DATE OF CHANGE (10)	RETIREMENT LIFE / TIME LIMITS (11)
	P/N (7)	S/N (8)	MANUFACTURER NAME (9)	DATE OF CHANGE (10)	RETIREMENT LIFE / TIME LIMITS (11)

NOTES

ASSEMBLY HISTORICAL RECORD

INSTALLATION						REMOVAL							
DATE (12)	A/C		ASSY		ORGANIZATION, STAMP AND SIGNATURE (18)	DATE (19)	A/C	ASSY			REASON FOR REMOVAL (24)	ORGANIZATION, STAMP AND SIGNATURE (25)
	R. MARKS (13)	TOTAL FLIGHT HOURS (15)	TOTAL HOURS (16)	TIME SINCE OH (17)			TOTAL FLIGHT HOURS (20)	ACTUAL TOTAL HOURS (21)	TOTAL HOURS WITH PENALTY FACTOR (22)	TIME SINCE OH (23)		
		TOTAL LANDINGS (15)	TOTAL LANDINGS (16)	LANDINGS SINCE OH (17)			TOTAL LANDINGS (20)	ACTUAL TOTAL LANDINGS (21)		LANDINGS SINCE OH (23)		
	S/N (14)	TOTAL LIFTS/CYCLES (15)	TOTAL LIFTS/CYCLES (16)	LIFTS/CYCLES SINCE OH (17)			TOTAL LIFTS/CYCLES (20)	ACTUAL TOTAL LIFTS/CYCLES (21)	TOTAL LANDINGS. WITH PENALTY FACTOR (22)	LIFTS/CYCLES SINCE OH (23)		

Figure 6 Component Log Card – Section 1

SECTION 1 - HEADER

1. P/N description
2. P/N
3. S/N
4. Manufacturer name (Vendor / Finmeccanica S.p.A. – Helicopter Division plant)
5. Assembly or manufacturing date
6. Approved data applicable time limits description: "RL": Retirement Life, "DT": Discard Time, "OH": Overhaul or "N/A": Not Applicable
7. New P/N replacing previous P/N
8. New S/N replacing previous S/N
9. New manufacturer name (Vendor / Finmeccanica S.p.A. – Helicopter Division plant)
10. Modification date
11. Approved data applicable time limits description: "RL": Retirement Life, "DT": Discard Time, "OH": Overhaul or "N/A": Not Applicable

SECTION 1 - ASSEMBLY HISTORICAL RECORD

12. Assy installation date
13. Helicopter registration
14. Helicopter S/N
15. Helicopter total flight hours / landings / lifts/cycles at the assy installation date
16. Assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the installation date (hours / landings / lifts at the date of the last removal + penallty factors, if applicable)
17. Assy hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles since last overhaul at the installation date
18. Organization that performed the installation, Stamp and signature of the technician that performed the installation
19. Assy removal date
20. Helicopter total flight hours / landings / lifts/cycles at the assy removal date
21. Assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the removal date
22. Total flight hours / landings calculated applying Penalty Factors, if applicable (refer also to Log Card Annex A for Penalty Factors data)
23. Assy hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles since last overhaul at the removal date
24. Reason for assy removal from the helicopter
25. Organization that performed the removal, Stamp and signature of the technician that performed the removal

Figure 7 Log Card Filling Instructions – Section 1

FINMECCANICA HELICOPTER DIVISION

LOG CARD

NOTICE:THIS FORM, DULY UPDATED, MUST FOLLOW THE ASSY

Section 2

ATA Chapter .....

COMPONENTS INSTALLED ON ASSY													
ASSY P/N (26)							ASSY S/N (27)						
COMPONENT DATA			INSTALLATION				REMOVAL						
			ASSY	COMPONENT			ASSY	COMPONENT					
DESCRIPTION (28)	P/N (29)	MANUFACTURING DATE (31)	TOTAL HOURS (33)	TOTAL HOURS (34)	TIME SINCE OH (35)	DATE (36)	TOTAL HOURS (38)	TOTAL HOURS (39)	TOTAL HOURS WITH PENALTY FACTOR (40)	TIME SINCE OH (41)	DATE (42)		
			TOTAL LANDINGS (33)	TOTAL LANDINGS (34)	LANDINGS SINCE OH (35)	STAMP AND SIGNATURE (37)	TOTAL LANDINGS (38)	TOTAL LANDINGS (39)	TOTAL LANDINGS WITH PENALTY FACTOR (40)	LANDINGS SINCE OH (41)	STAMP AND SIGNATURE (43)		
	S/N (30)	RETIREMENT LIFE / TIME LIMITS (32)	TOTAL LIFTS/CYCLES (33)	TOTAL LIFTS/CYCLES (34)	LIFTS/CYCLES SINCE OH (35)		TOTAL LIFTS/CYCLES (38)	TOTAL LIFTS/CYCLES (39)		LIFTS/CYCLES SINCE OH (41)			

Figure 8 Component Log Card - Section 2

SECTION 2 - COMPONENTS INSTALLED ON ASSY

26. Assy P/N (refer to box 2 or 7)
27. Assy S/N (refer to box 3 or 8)
28. Component description
29. Component P/N subject to time limits
30. Component S/N or batch number (**mark with * S/N with a dedicated Log Card**)
31. Manufacturing date for components with a calendar time limit
32. Approved data applicable time limits description: "RL": Retirement Life, "DT": Discard Time, "OH": Overhaul or "N/A": Not Applicable
33. Assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the component installation date
34. Component total hours (flight hours, operating hours, running hours, rotor hours, rotor hours) / landings / lifts/cycles at the installation date on the assy
35. Component hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles since last overhaul at the installation date
36. Component installation date
37. Stamp and signature of the technician that performed the installation
38. Assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the component removal date
39. Component total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the removal date from the assy
40. Total flight hours / landings calculated applying Penalty Factors, if applicable (refer also to Log Card Annex A for Penalty Factors data)
41. Component hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles since last overhaul at the removal date
42. Component removal date
43. Stamp and signature of the technician that performed the removal

Figure 9 Log Card Filling Instructions - Section 2

FINMECCANICA HELICOPTER DIVISION

LOG CARD

NOTICE:THIS FORM, DULY UPDATED, MUST FOLLOW THE ASSY

Section 3

ATA Chapter .....

ASSEMBLY ACTIVITY HISTORY

ASSY P/N (44)		ASSY S/N (45)	

DATE (46)	TOTAL HOURS (47) TOTAL LANDINGS (47) TOTAL LIFTS/CYCLES (47)	TASKS (48)	ACTIVITIES (49)	ORGANIZATION (50)	STAMP AND SIGNATURE (51)

Figure 10 Component Log Card - Section 3

SECTION 3 - ACTIVITY HISTORY

44. Assy P/N (refer to box 2 or 7)
45. Assy S/N (refer to box 3 or 8)
46. Activity date
47. Assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the date fo the activity
48. Specify the type of the activity (repair, overhaul, modification, test, inspection,…) to be performed on the assy or on components listed in Section 2
49. Detailed description of the activity
50. Organization that performed the installation
51. Stamp and signature of the technician that performed the activity

Figure 11 Log Card Filling Instructions - Section 3

FINMECCANICA HELICOPTER DIVISION

LOG CARD

NOTICE:THIS FORM, DULY UPDATED, MUST FOLLOW THE ASSY

Section 4

ATA Chapter .....

AIRWORTHINESS DIRECTIVES AND BULLETINS COMPLIANCE

ASSY P/N (52)		ASSY S/N (53)	

AIRWORTHINESS DIRECTIVES AND MANDATORY BULLETINS					OPTIONAL BULLETINS				
AIRWORTHINESS DIRECTIVE/ MANDATORY BULLETIN NUMBER (54)		ASSY TOTAL HOURS (57)	ORGANIZATION (58)	STAMP AND SIGNATURE (59)	OPTIONAL BULLETIN NUMBER (59)		ASSY TOTAL HOURS (57)	ORGANIZATION (58)	STAMP AND SIGNATURE (59)
ISSUE / REVISION (55)	DATE OF COMPLIANCE (56)	ASSY TOTAL LANDINGS (57) / ASSY TOTAL LIFTS/CYCLES (57)			ISSUE / REVISION (55)	DATE OF COMPLIANCE (56)	ASSY TOTAL LANDINGS (57) / ASSY TOTAL LIFTS/CYCLES (57)		

Figure 12 Component Log Card - Section 4

SECTION 4 - AIRWORTHINESS DIRECTIVES AND BULLETINS COMPLIANCE

52. Assy P/N (refer to box 2 or 7)
53. Assy S/N (refer to box 3 or 8)
54. Identification number of the applicable document (Airworthiness Directive, Bollettino Tecnico, Service Bulletin,...)
55. Document issue / revision index; in case of document composed of multiple sections applied separately, record compliance with each section on different rows
56. Document compliance date
57. Helicopter/assy total hours (flight hours, operating hours, running hours, rotor hours) / landings / lifts/cycles at the date fo the directive compliance
58. Organization that performed the installation
59. Stamp and signature of the technician that performed the activity

Figure 13 Log Card Filling Instructions - Section 4

FINMECCANICA HELICOPTER DIVISION

LOG CARD

NOTICE:THIS FORM, DULY UPDATED, MUST FOLLOW THE ASSY

Annex A

ATA Chapter .....

PENALTY FACTORS RECORD

ASSY/COMPONENT DESCRIPTION (60)		ASSY/COMPONENT P/N (61)		ASSY/COMPONENT S/N (62)	

FLIGHT ID / # (63)	DATE (64)	HOURS (65)	APPLICABLE PENALTY FACTOR									
			(66)		(68)		(70)		(72)		(74)	
		LANDINGS (65)	HOURS (67)	LANDINGS (67)	HOURS (69)	LANDINGS (69)	HOURS (71)	LANDINGS (71)	HOURS (73)	LANDINGS (73)	HOURS (75)	LANDINGS (75)

Figure 14 Component Log Card - Annex A

ANNEX A - PENALTY FACTORS RECORD

The use of Annex A is not mandatory. Any other method to track and record penalty factors data is acceptable.

60. Assy/Component description (if penalty factors are applicable to component installed on assy)
61. Assy/Component P/N (if penalty factors are applicable to component installed on assy)
62. Assy/Component S/N (if penalty factors are applicable to component installed on assy)
63. Identification of the flight affected by penalty factors
64. Date of the flight affected by penalty factors
65. Flight duration (hours) and number of landings performed during flight
66. Specify the applicable Penalty Factor
67. Flight hours / landings calculated applying penalty factor defined as per note (66)
68. Specify the applicable Penalty Factor
69. Flight hours / landings calculated applying penalty factor defined as per note (68)
70. Specify the applicable Penalty Factor
71. Flight hours / landings calculated applying penalty factor defined as per note (70)
72. Specify the applicable Penalty Factor
73. Flight hours / landings calculated applying penalty factor defined as per note (72)
74. Specify the applicable Penalty Factor
75. Flight hours / landings calculated applying penalty factor defined as per note (74)

Figure 15 Log Card Filling Instructions - Annex A

2.5.3 MODIFICATION RECORD BOOK

a. The modification record book is a document produced by GAM CAMO to show the current aircraft configuration status.

b. The document consists of a compilation of:

   i. TAO-M Subpart C Compliance Declaration

   ii. Technical Airworthiness Directive (TAD)

   iii. Technical Airworthiness Advisory Circular (TAAC)

   iv. Airframe, Engine and APU (if applicable) AD compliance status.

   v. Airframe, Engine and APU (if applicable) SB compliance status.

   vi. Aircraft Modification/De-modification.

c. The modification record book shall be identified with the following reference format (MRB/REG/YEAR/XX), where:

   i. REG: registration marks including prefix (e.g., M70-01)

   ii. YEAR: the year when the modification record book compiled

   iii. XX: revision number (e.g., 01, 02)

d. For repetitive ADs and SBs, only the last application should be recorded in the AD / SB compliance status.

e. The Airworthiness Directives, Service Bulletin, and Modification status report can be generated directly from AERONET for update in the Modification Record Book. The report generated needs to be verified and signed by the authorised Technical Record personnel.

f. The Airworthiness Directives, Service Bulletin and Modification Status Report shall be updated and generated in PDF format, verified and uploaded into the server monthly every first week of the following month. The status report shall be printed out from the server upon request.

g. Technical Record shall also list out all Airworthiness Directives and Service Bulletin issued within a month into Airworthiness Directives / Service Bulletin – Monthly Summary Form (GAM/C-056) every first week of the following month and forward to CAM or DCAM for verification and submission to DAR for endorsement.

2.5.4 AIRCRAFT CERTIFICATE FILE

a. Aircraft Certificate File consist of the required certificate to be carried on board and shall include the following:

   i. Copy of Certificate of Registration

   ii. Copy of Certificate of Airworthiness

b. The following additional documents shall also be carried on board and shall be included into the Aircraft Certificate File:

   i. Daily / Pre-Flight Inspection Checklist (if applicable)

   ii. Aircraft Deferred Defect Form (if approved MEL available for aircraft)

   iii. Notice to Crew Form

c. Technical Record personnel shall ensure that all certificates and documents listed above are carried on board and updated to the latest issuance or revision.

d. Another set of Aircraft Certificate File shall be kept in locked cabinet where applicable and shall include at least the following certificate and documents:

   i. All certificates listed in para 2.5.4.a.

   ii. Mass and Balance Report.

2.6 CONTINUING AIRWORTHINESS RECORDS FILING, RETENTION AND ARCHIVING

a. Continuing airworthiness records shall include the following:

   i. Aircraft logbook

   ii. Engine logbook(s)

   iii. Engine module log cards,

   iv. Service life limited component log cards

   v. Aircraft Technical Log

   vi. Modification record book

   vii. Complete work package

   viii. Aircraft Certificate File

   ix. Mass and Balance Report

b. Technical Records personnel shall ensure that the records listed above are retained for a period of at least 24 months after aircraft have been permanently withdrawn from service and ATL are retained for at least 36 months after the date of the last entry.

c. The aircraft records at GAM CAMO office are all kept securely in a cabinet. The cabinet is secured with a locked doors with a key controlled by the appointed Technical Record for any access to the records. Refer “CAN 42 – Designated Personnel for Administrator of CAMO Documents” latest revision.

d. Technical Record personnel shall ensure the aircraft records shelves/compartment storage of each aircraft are properly labelled indicating the aircraft registration and serial number to which the records belong to.

e. The label shall be affixed to the shelves/compartment storage by appropriate means and shall be easily identified the records for each aircraft.

f. Technical Record personal shall ensure that each individual binder or box can be properly identified of its contents and the attached decal is visible and readable.

g. Technical Records personnel shall control all access to aircraft records. Any personnel other than Technical Record shall register into a registry logbook

and shall be escorted by a Technical Record personnel to gain access to the requested records. Any records taken out from the cabinet shall be recorded in the registry logbook.

h. Technical Records personnel shall carry out a general inspection of the continuing airworthiness record storage facilities to ensure they are in a good condition and there is no damage due to weather or attacked and infested by pests.

i. The general inspection of the facilities shall be carried out monthly and must be duly recorded in Records Storage Facility Inspection Form GAM/C-050. All findings that arise during the inspection shall be reported through Safer Card for further action and highlighted to DCAM or CAM.

j. Technical Record personnel shall ensure that a dedicated inventory or recording logbook are available and updated monthly.

k. Technical Record personnel shall ensure that all the records as per Part 2 of this CAMP are also scanned, stored and updated into the server and hard disk every last week of the month as a means of backup and kept in a secure location.

l. The hard disk for all aircraft records shall be kept and stored in a locked cabinet.

PART 3

CAMO PLANNING PROCEDURES

PART 3 CAMO PLANNING PROCEDURES

3.1 INTRODUCTION

The CAMO planning personnel are responsible to ensure that the maintenance required for each aircraft are accomplished in a timely manner and to provide the optimum aircraft availability for operation while strictly adhering to the airworthiness requirements of the operator's aircraft.

3.2 SCOPE

The CAMO Planning personnel shall be responsible for monitoring, forecasting, and planning of the aircraft maintenance tasks based on but not limited to:

a. Approved Aircraft Maintenance Programme

b. Aircraft Maintenance Publication Tasks

c. Airworthiness Directives (AD's)

d. Service Bulletins (SB's)

e. Modification Document

3.3 RESPONSIBILITIES

CAMO Planner personnel

3.4 AIRCRAFT REGISTER

a. Every aircraft inducted into GAM CAMO, either used or new, shall be registered using the Continuing Airworthiness Management System (CAMS).

b. Initial aircraft setup in the CAMS shall be done in the Aircraft Configuration module. Refer Figure 16.

c. Each type of aircraft shall have their own aircraft configuration template.

d. The inspections and tasks templates, derived from the aircraft maintenance programme and the aircraft maintenance publications, are created in this module.

e. There are several tabs in the module which include for the creation of scheduled inspections and tasks, airframe and engine components and AD's and SB's template.

f. After completing the particular aircraft type configuration template, an aircraft of the same type later can be easily created and registered in the AERONET.

g. Aircraft Templates shall ensure consistency with individual aircraft data and make certain that inspections are not missed or overlooked.

h. Upon completion of the aircraft register, the Life Limited Parts and Airworthiness Directives AERONET status report shall be printed by CAMO Planner.

i. Then, the status report shall be signed and verified by CAM or DCAM.

j. The verified report shall be kept for archive and records.

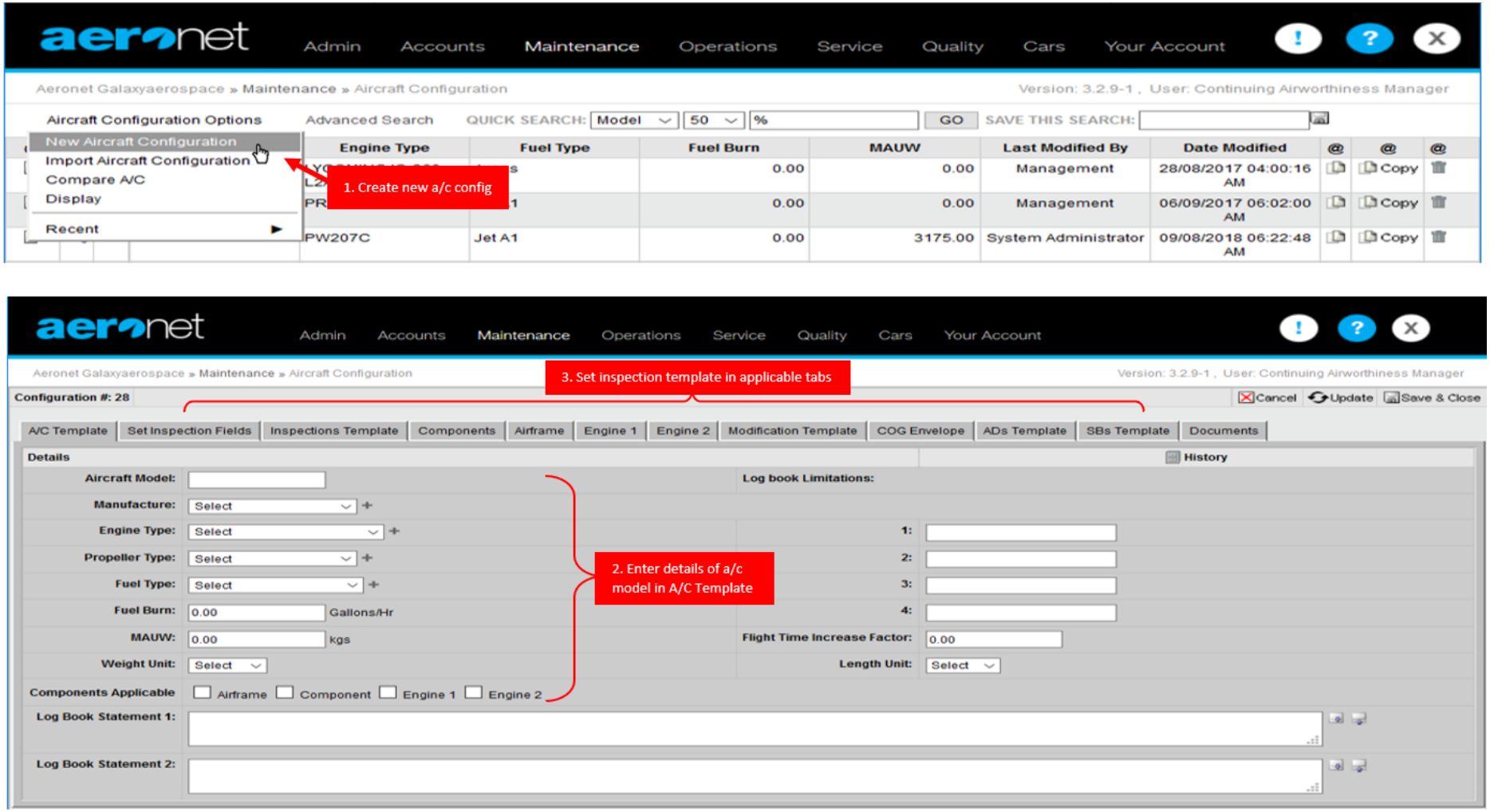


Figure 16 Aircraft Register in AERONET

3.5 AIRCRAFT MONITORING

a. The CAMO planner shall at all times monitor the aircraft maintenance status to ensure that all maintenance is performed within the prescribed limits.

b. The AERONET Aircraft Module are colour coded for quick reference:

   i. If text displays RED, the limitation is overdue.

   ii. If text displays BLUE, the limitation is within the warning period.

   iii. If text displays GREEN, the limitation has an extension applied.

c. The warning limit of inspections in the AERONET shall be set to:

   i. 50% of flight hours and calendar interval for inspection below 100 hours included and 6 months included,

   ii. 50 hours for inspections above 100 hours, and 90 days for inspections above 6 months.

   iii. 6 months for service life limit component identified as a Dangerous Good

   iv. 12 months for Engine Module

d. In addition to the aircraft monitoring, CAMO planner shall monitor all AMP Annual Review and MEL Annual Review.

e. CAMO Planner shall also monitor the remaining hours or calendar days for the following item:

   i. MEL Repair Interval for deferred defect item.

   ii. MEL Repair Interval Extension for deferred defect item.

   iii. Approved AMP Variation for inspection of aircraft or component.

3.6 MAINTENANCE FORECAST

a. A Maintenance Forecast can be generated through AERONET under Part 1 of Tech Log module. Refer Figure 17.

b. For forecast generated through AERONET, a range of values for limitation can be set and the AERONET shall automatically project the hours and landings based on the aircraft average burn rate calculated by the system.

c. These maintenance forecasts are able to be downloaded and save in a pdf format.

3.6.1 YEARLY FORECAST

a. A yearly (12 month) forecast shall be generated on annual basis.

b. This forecast shall display the major maintenance and component replacement tasks only.

c. The forecast is then distributed to the SAO and the contracted AMO for the planning of operations and maintenance.

3.6.2 QUARTERLY FORECAST

a. A quarterly (3 month) forecast is generated minimum once a month in advanced to show the predicted downtime of the aircraft for all maintenance required.

b. This includes for the line and base maintenance check, modification, airworthiness directives, service bulletin and etc.

c. The forecast shall be used as a planning tools for spares, manpower and downtime for maintenance.

3.6.3 WEEKLY FORECAST

a. This shows the nearest maintenance within the 100 hour and 3-month period interval.

b. The forecast shall be used by SAO for the planning of flight operations.

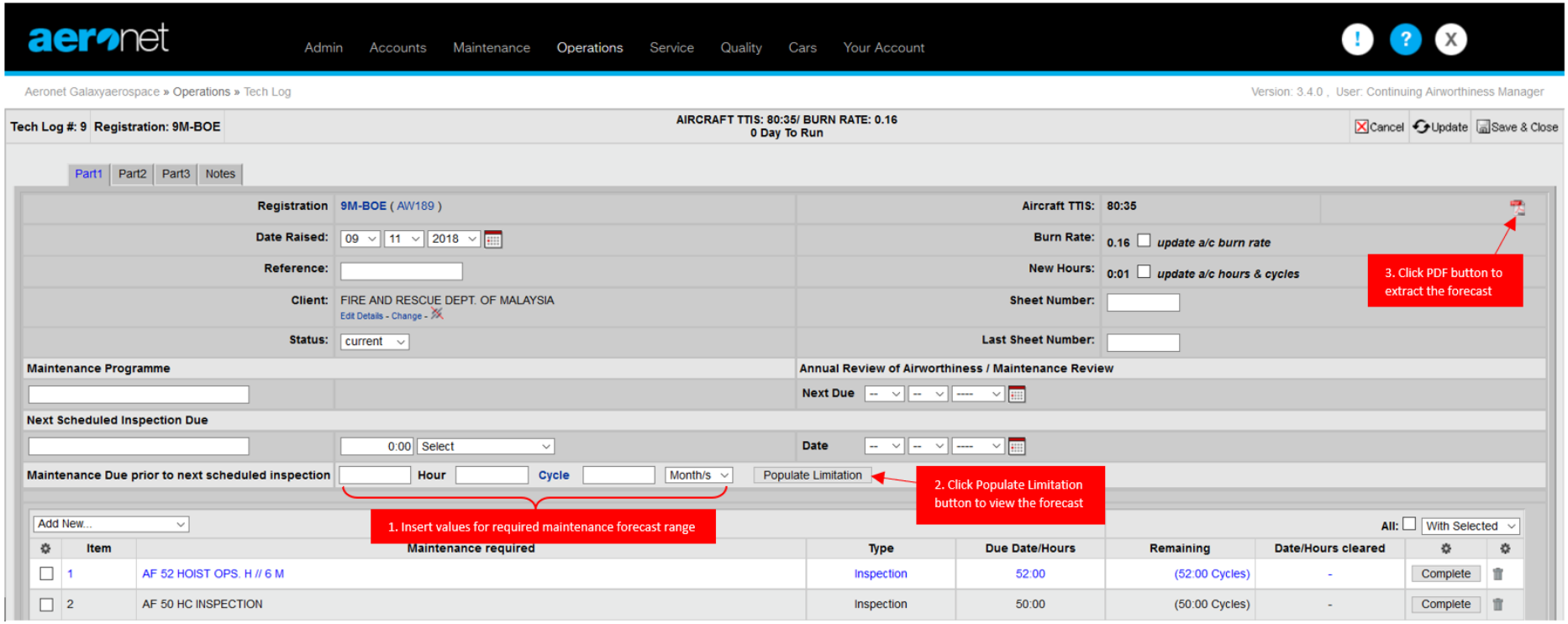


Figure 17 Generate Maintenance Forecast in AERONET

3.7 CAMO PLANNING

a. The CAMO Planner shall plan that all aircraft maintenance checks required by the approved aircraft maintenance programme are performed within the prescribed time limits.

b. Particular attention should also be paid on AD and SB requiring repetitive compliance. A maintenance check shall be performed within the required time limit. Additionally, out of phase maintenance requirement shall also be reviewed particularly those that are aligned within the scheduled maintenance.

c. Rectification of defects including deferred defect shall be planned to the nearest scheduled maintenance check except in the case of defect hazards seriously affect the flight safety, rectification shall be carried out before further flight.

d. Accomplishment of modifications shall be planned in such away it is aligned with a suitable scheduled maintenance check for optimum aircraft downtime.

3.8 AMO COORDINATION

a. CAMO Planner shall liaise with the contracted AMO organisation to ensure that all maintenance activities are properly coordinated.

b. For scheduled base maintenance / line maintenance / component replacement workpack, the CAMO planner shall initiate and call out for a pre-check work scope meeting with the AMO, one month prior to inspection / maintenance commencement.

c. The meeting shall encompass of the following matter:

   i. Maintenance timeline

   ii. Scope of work package

   iii. Spares availability

   iv. Manpower

   v. Or any other issue related to maintenance.

d. Minute of Meeting shall be issued and distribute to all related personnel.

e. For AD/SB Inspection, CAMO Planner shall advise AMO on the applicable AD/SB at the earliest opportunity with a view to establishing compliance and ensuring the required spares are being purchased prior to implementing the applicable AD/SB.

f. For SB Inspection with parts required to be ordered on free of charge basis for SB accomplishment, CAMO Planner shall request the parts directly to GAM Procurement team through “Demand” tab for “Jobs” created in AERONET.

g. Enter the part number required. If the part number has been registered in AERONET, click “Add Demand” and enter the required details. If the part number has not been registered in AERONET, CAMO Planner to register the part number directly in AERONET and proceed with the demand process.

h. Update the work pack status to “Part Request”.

i. All part requests in the AERONET are automatically notified to procurement team via email. Procurement team shall acknowledge the request and proceed with the purchase order.

j. The status of the parts can be tracked through “Demand” tab in AERONET to verify whether the order is still pending or completed and received at GAM warehouse.

3.9 WORK PACKAGE ISSUANCE

3.9.1 SCHEDULE MAINTENANCE

a. Work package issued by GAM CAMO shall consist of Workpack (GAM/E-001A, Worksheet (GAM/E-001B) and Parts Report (GAM/E-001D).

b. All worksheets must be accompanied with the necessary reference data for the accomplishment of the maintenance task. For other associated approved data such as AD, SB, ICA's and etc., it shall be printed and attached together with the Work Sheet.

c. Parts Report (GAM/E-001D) is required for any replacement of components and consumable materials used during the maintenance.

d. For complex maintenance tasks (e.g. task that require other components to be removed and reinstalled to access the main component to perform maintenance), CAMO Planner shall transcribe each task onto the Work Sheet and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

e. A column for independent inspection is required to be included in the Work Sheet for control system components that are disturbed during maintenance.

f. All worksheets must be provided with the special tools record at each column of applicable task. The details to be recorded including the special tools description, tools serial number, and calibration date due.

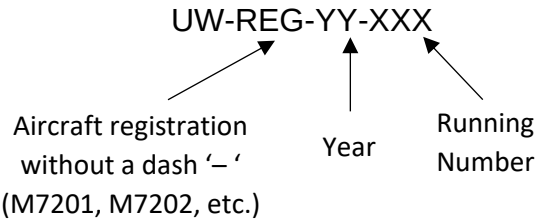
g. For additional maintenance instruction arising from Reliability Program (e.g., Reliability Report, HUMS, etc.), Technical Service shall verify the reference to the approved data before forwarding the instruction to CAMO Planner for work package issuance to contracted AMO.

3.9.2 UNSCHEDULE MAINTENANCE

a. For unscheduled maintenance for inspection, installation / removal of components, or defects rectification arising from maintenance or operations, additional worksheet shall be raised by the contracted AMO.

b. For worksheet raised by the contracted AMO, CAMO shall be informed prior task carried out and the Worksheet form (GAM/E-001B) may be used for rectifications and attached with Parts Report (GAM/E-001D).

c. The reference for unscheduled maintenance shall bear the following reference no.:



d. The task performed shall be stated in the unscheduled maintenance check (UMC) worksheet with reference to the approved data, such as maintenance manual, Minimum Equipment List (MEL), ICA, etc. and shall include the revision status of the publication.

e. The UMC worksheet shall be forwarded to GAM CAMO for records and archive.

f. For defect rectification that require further investigation and troubleshooting not covered by approved data, the contracted AMO shall raise a technical query to GAM CAMO Technical Service personnel.

g. Technical Service shall liaise with the TC Holder for further investigation and troubleshooting of the defect rectification.

h. All defect troubleshooting instruction issued by TC Holder that refer to the approved data shall be forwarded to CAMO Planner for work package issuance.

i. For defect troubleshooting instruction issued by TC Holder that refer to other technical document not considered as approved data, Technical Service shall follow the procedure in CAMP Chapter 4.11 for processing and approval before forwarding all approved documentation to CAMO Planner for work package issuance.

3.10 ATL REVIEW AND ACCEPTANCE

a. CAMO Planner personnel shall be responsible to retrieve the completed ATL page by any means either received from SAO/AMO or personally obtain from the ATL.

b. The ATL shall be reviewed by CAMO Planner to ensure that:

   a. the ATL are properly filled and closed.

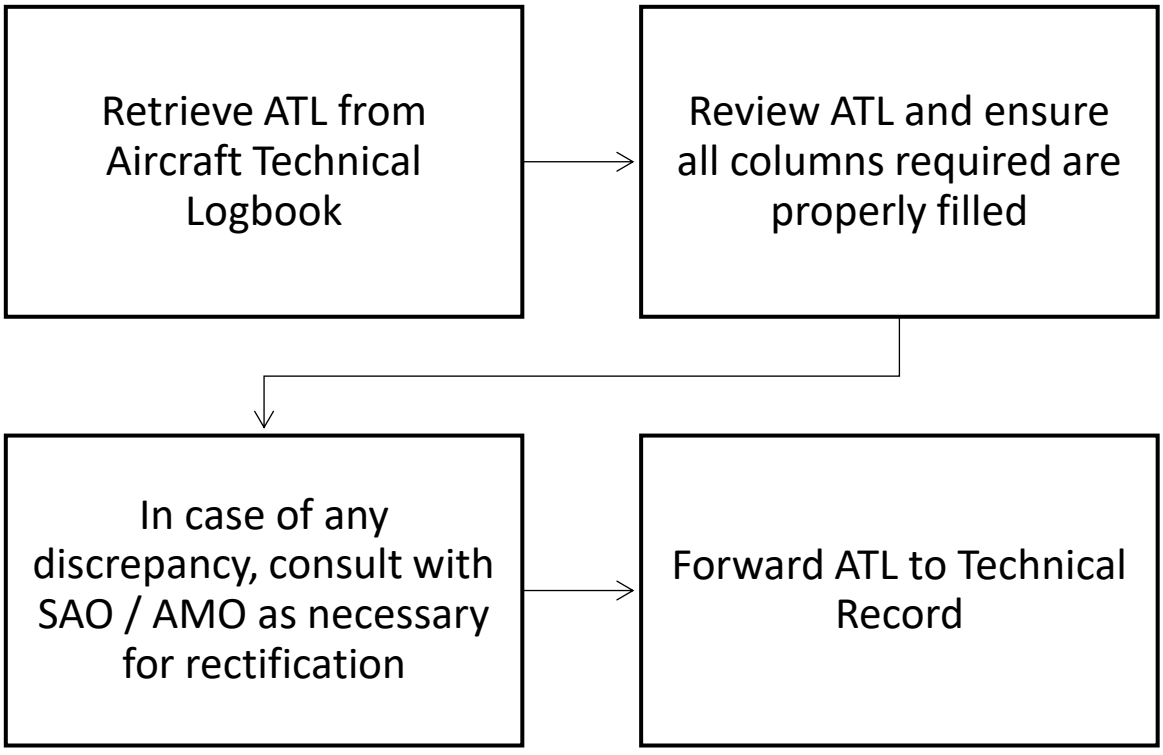
   b. the total flight hours, landing, start, cycle, etc. are correct.

   c. all open items in the ATL are closed with sign and stamp.

   d. all Deferred Defect are recorded/closed in accordance with MEL.

c. If any discrepancy is found within the ATL, CAMO Planner shall consult with the SAO or the AMO as applicable for correction.

d. CAMO Planner shall forward the reviewed ATL to Technical Record for record keeping.



3.11 WORK PACKAGE REVIEW AND ACCEPTANCE

a. CAMO Planner shall ensure that the scanned copy of the completed work package have been acquired from contracted AMO immediately upon completion of maintenance by contracted AMO.

b. Nevertheless, CAMO Planner shall ensure that the original hard copy submitted by contracted AMO to CAMO Planner no later than 3 days from the date of maintenance completion.

c. Upon receiving the completed work package, CAMO Planner shall review and verify the work package before acceptance and shall complete the process within 5 days after the date of maintenance completion.

d. CAMO Planner shall ensure that the completed work package shall consist of:

   i. Workpack that has been properly filled, signed, stamp and dated by AMO as per instruction for completing form (GAM/E-001Ai)

   ii. Worksheet that has been properly filled, signed, stamp and dated by AMO as per instruction for completing form (GAM/E-001Bi)

   iii. Parts report for all components replacement that had been properly filled, signed, and stamped as per instruction for completing form (GAM/E-001Di) and any unused column and row had been crossed off.

   iv. a minimum of ARC or CoC for any components/parts/ installation or CoC for consumable material used.

   v. Log cards for hard time component installation available and properly filled.

   vi. Test reports such as borescope inspection, battery servicing, maintenance flight test report etc.

   vii. ATL copies for ground run performed.

e. CAMO Planner shall also check for the completed work package for any outstanding task due to deferred work, spares availability or any other requirements.

f. CAMO Planner shall raise additional work orders or instructions to the contracted AMO where any inspection tasks are not completed and not in full compliance with the regulations.

g. Any work package with discrepancies shall be returned to contracted AMO for corrective action before the work package can be accepted by CAMO Planner.

h. All completed work package received and reviewed are signed for acceptance by the CAMO Planner and updated for maintenance completion in the CAMS (AERONET).

i. CAMO Planner shall then forward the accepted work package to Technical Record personnel for updating of the continuing airworthiness records.

3.12 AERONET SYSTEM UPDATING

a. CAMO Planner shall update AERONET system for every flight and maintenance completed, and component removal and/or installation to ensure all maintenance and component status can be always monitored effectively.

b. Addition and/or removal of inspection task and component shall be verified by CAM through his / her deputy. CAMO Planner shall print out Worksheet template and Component Status List, as applicable, from AERONET on the amendment. Deputy CAM shall sign as a verification and filed for record.

3.12.1 TECH LOG MODULE

a. The aircraft values recorded in ATL are updated in the Tech Log module of AERONET. This shall be done by entering the values in Part 2 of Tech Log module. Refer Figure 18.

b. Once the values had been saved in Part 2, tick the “update burn rate” and “update a/c hours and cycles” box and click the “Update” button in Part 1 of Tech Log module. This shall update the system to the new aircraft values. Refer Figure 19.

c. Ensure that the total aircraft values reflected in the AERONET are identical to those values recorded in the Aircraft Technical Log.

3.12.2 AIRCRAFT MODULE

a. Addition of new inspection due to amendment of the Aircraft Maintenance Programme (AMP) and inspections performed on the aircraft shall be done in the inspections tab in AERONET.

b. The aircraft maintenance shall be updated either in the Inspection, Modification, ADs, and/or SBs tab depending on the inspection performed.

c. A “Complete” button can be found aligned along each of the inspection. CAMO Planner shall update the maintenance that had been performed by clicking the button. Refer Figure 20.

d. A pop-up shall open as per Figure 21 and the user shall enter the date of the inspection performed and click the “Look up A/C values” button. The aircraft hours and cycles shall automatically be filled based on data from AERONET Tech Log module. Click “OK” to save the data.

e. The system shall then automatically calculate the next due for the inspection to be carried out.

f. The maintenance complete shall not be updated by editing the last inspection column and inserting the new values. Updating this way will erase previous data and thus, there will not be a history of the maintenance performed.

3.12.3 COMPONENT REMOVAL

a. The AERONET is also updated for the component removal by unlinking from the aircraft in the Airframe or Engine 1 / 2 tab of AERONET as applicable. Refer Figure 22.

3.12.4 COMPONENT INSTALLATION

a. Create and link the component in the AERONET to the applicable aircraft. Refer Figure 23. Ensure the hours/cycle/landing of component and the component life limit interval are entered correctly in the system.

3.12.5 AERONET SYSTEM BACKUP

a. The current policy of backups of AERONET system are performed daily by AERONET. The backup contains a copy of the current configurations, code, the database, data files and some additional files required to restore the production site elsewhere. All backup are sent to AERONET central Archive storage server located inside AERONET VPN and only accessible via a secure SFTP connection.

b. GAM AERONET Server shall automatically download full aircraft maintenance status in both excel and pdf format from the AERONET System daily.

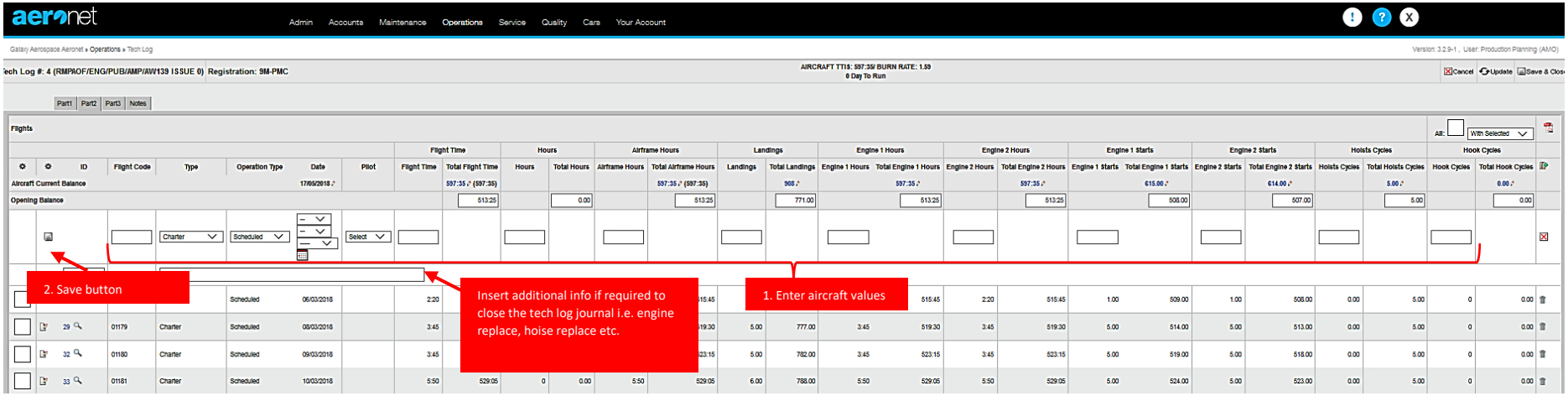


Figure 18 Aircraft Values Entry in AERONET Tech Log Module Part 2

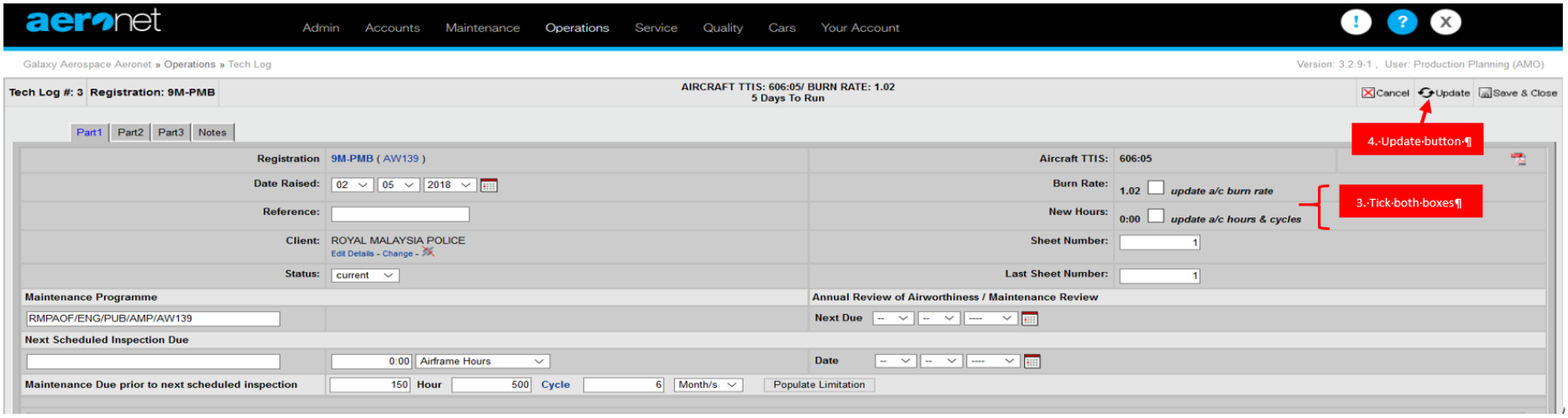


Figure 19 Aircraft Values Update in AERONET Tech Log Module Part 1

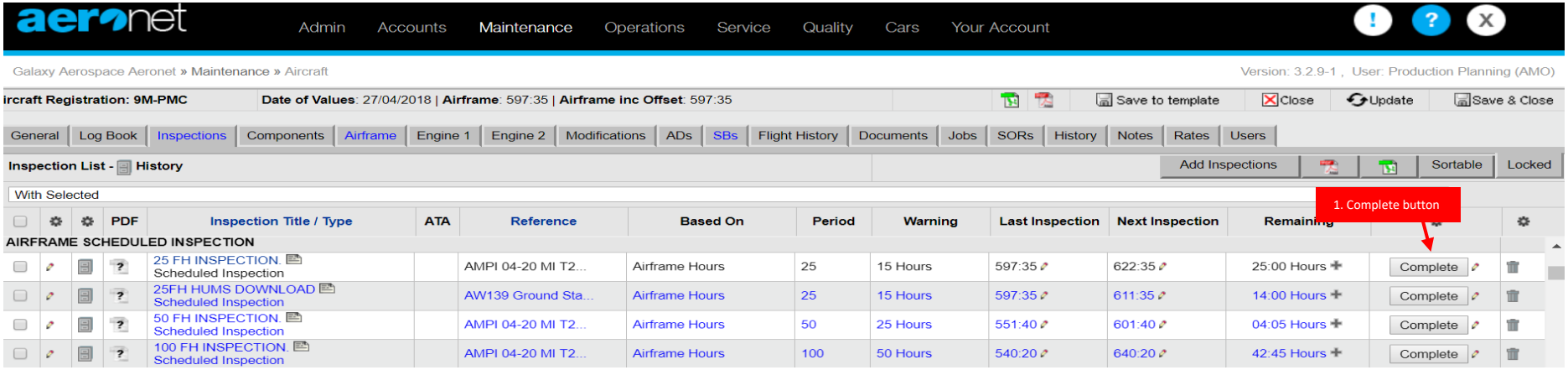


Figure 20 AERONET Inspection Completion Update

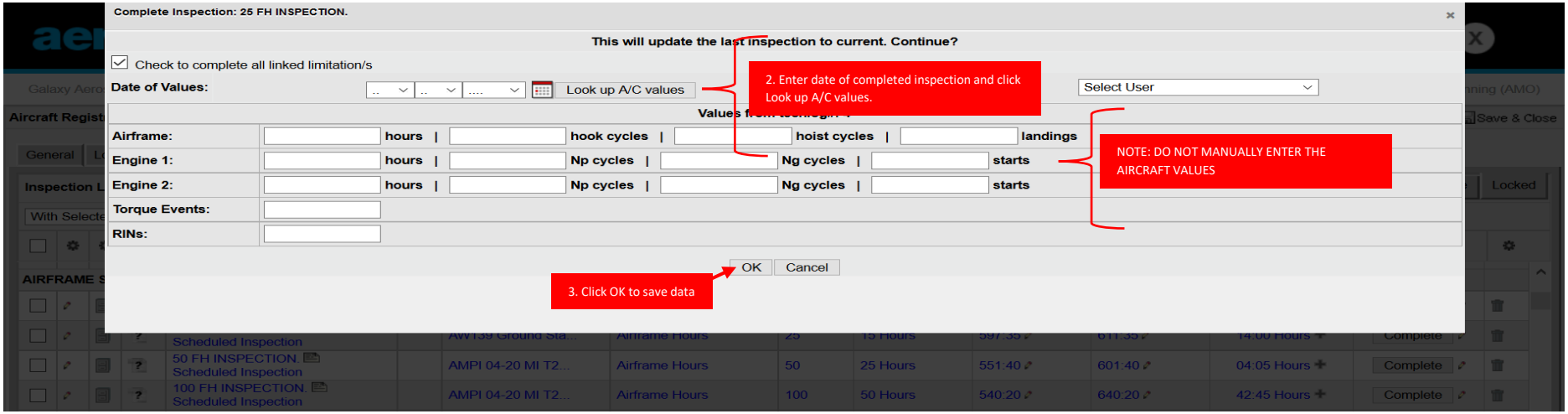


Figure 21 Aircraft Value Request from AERONET upon Inspection Completion Update

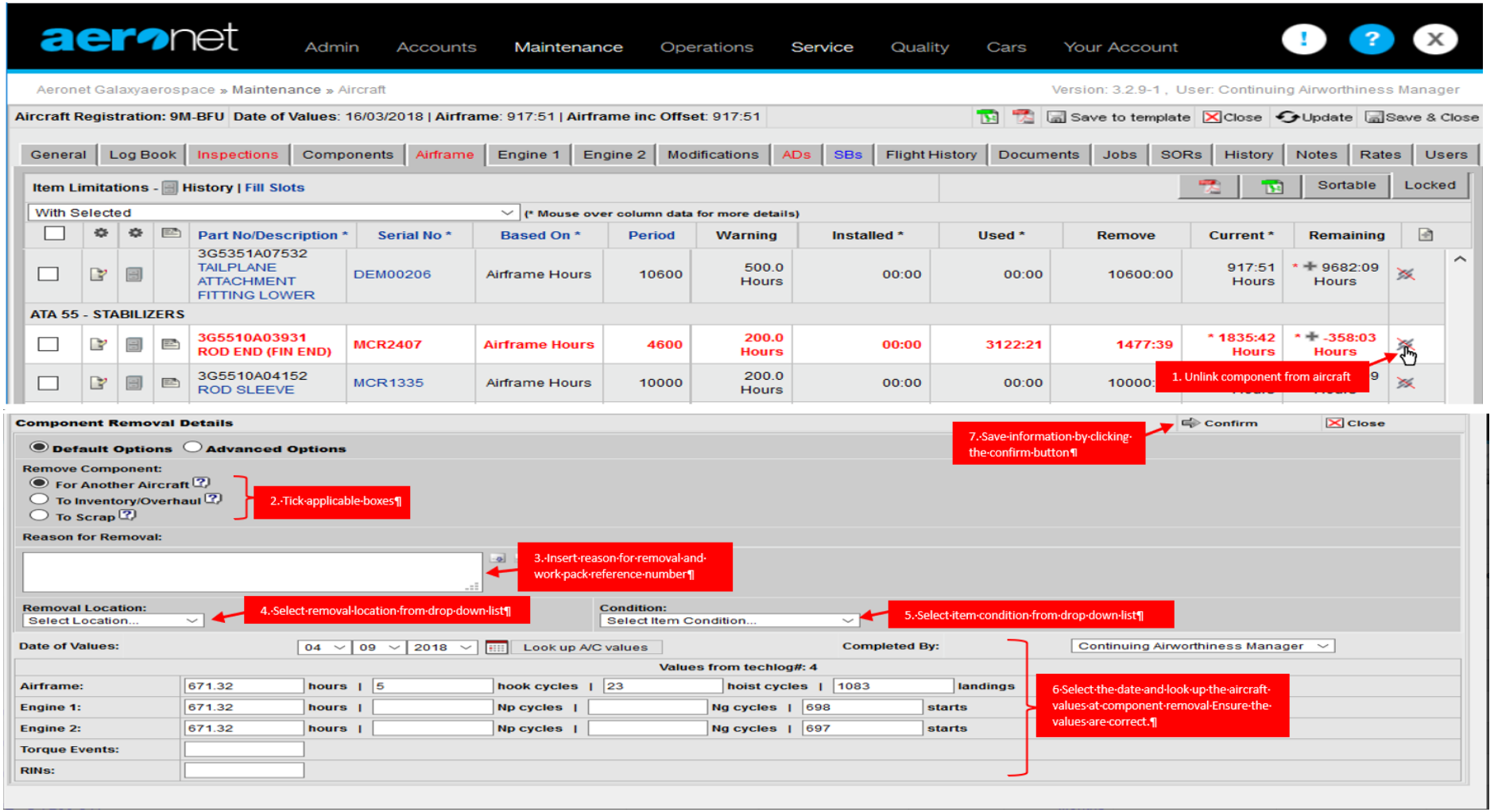


Figure 22 Component Removal in AERONET

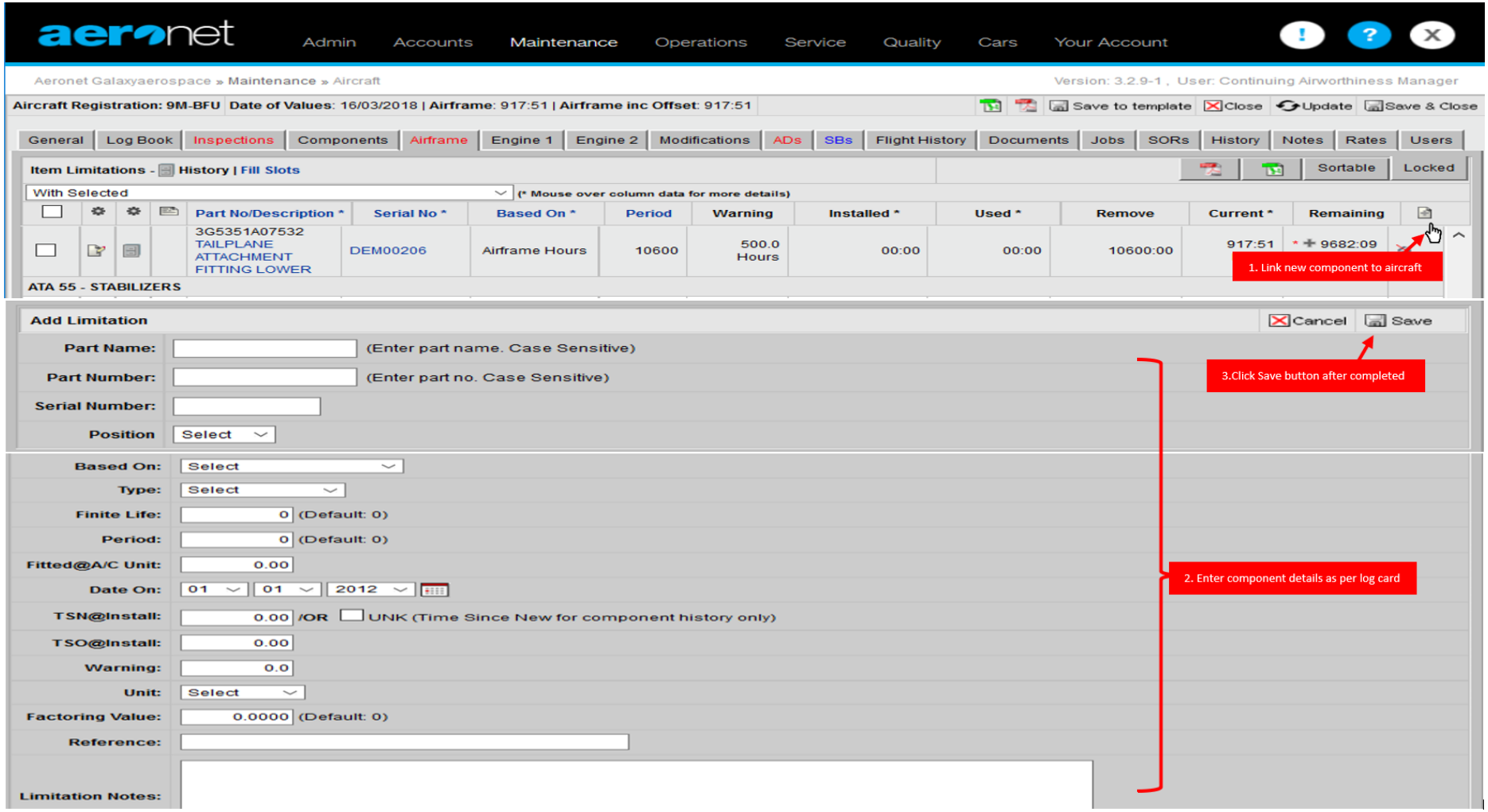


Figure 23 Component Installation in AERONET

3.13 NOTICE TO CREW AND MAINTENANCE ENGINEER

a. Notice to Crew (NTC) and Maintenance Engineer Form (GAM/C-041) shall be used for recording operating information other than MEL/CDL items relevant to flight safety and maintenance that the operating crew and maintenance engineer need to know.

b. CAMO Planner may raise the notice whenever there is an appropriate need as deem fit as a result of manufacturer (OEM) or GAM Source documents. Source Documents include AD, SB, CAN, Modification Document, etc.

c. NTC is not a certifying document, but it may be used to highlight maintenance work requirements.

d. When raising NTC, enter the originator's name and date in the appropriate column.

e. When closing NTC, draw a diagonal line across the NTC and write name and date in the appropriate column.

f. All Notice raised must include a termination action and remarks to close the notes.

g. The validity of the existing NTC shall be reviewed and updated by the Maintenance Manager (MM) or Maintenance Inspector / Supervisor (MI/S) of the contracted AMO during scheduled base maintenance.

h. The NTC shall be thoroughly reviewed prior to aircraft return to service after longer check by the MM or MI/S of the contracted AMO to ensure only current and applicable NTC and Source documents are retained.

i. Technical Record personnel shall ensure that all attachments to the NTC are to be kept in the plastic folder and clearly identified.

3.14 MEL DEFER DEFECT PROCEDURE

a. When an item of equipment is discovered to be inoperative, it is reported by making an entry in ATL.

b. When a defect has been raised in 'Defects' column of the ATL and is deemed to be within the allowance quoted in the MEL, then it may be subject to deferred defect action.

c. CAMO Planner shall fill all the required information in the Aircraft Deferred Defect Form GAM/C-059.

d. The requirement of the MEL shall only be applied following the agreement between the SAO (pilot in command) and the AMO through the Aircraft Deferred Defect Form GAM/C-059. After the agreement between SAO and AMO, CAM/DCAM then shall submit Aircraft Deferred Defect Form GAM/C-059 to DAR for approval.

e. It is recognised that the pilot may require a defect to be rectified after considerations of operational implications, or multiple unserviceable items affecting airworthiness and/or due increase in crew workload.

f. Where the MEL item has been entered by maintenance personnel, the decision to accept the deferred item allowed by the MEL/CDL remains the responsibility of the pilot in command.

g. Upon approval by DAR, AMO shall annotate an entry in the ATL for any deferred defect including the Deferred Defect No. where the defect was deferred.

h. Enter the required details of the defect deferred in the Aircraft Deferred Defect Record form (GAM/C-013).

i. The item deferred must be PLACARDED, a Stick-ON sticker or similar means acceptable shall be affixed to the instrument or next to the switch operating the system.

j. The deferred defect item shall be monitored by CAMO Planner using the CAMS for a timely rectification based on the specified repair intervals stated in the MEL. Refer Figure 24 for MEL Defer Defect Flow Chart.

k. CAMO Planner then shall coordinate with AMO in terms of spares, personnel, facilities, and schedules to ensure timely repair of the defect item.

l. After rectifying the defect, AMO shall records full details of action taken into the worksheet and enter the required details of the defect cleared in the Aircraft Deferred Defect Record and return to CAMO Planner for processing and updating of CAMS.

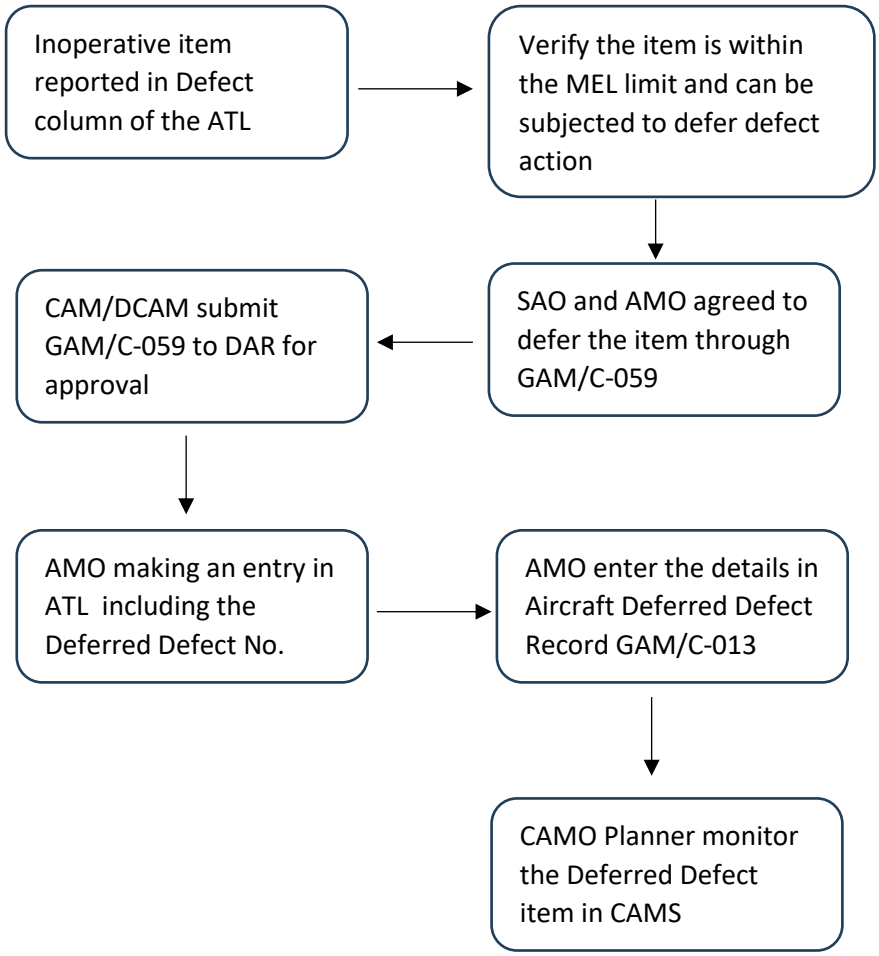


Figure 24 MEL Defer Defect Flow Chart

3.15 MEL REPAIR INTERVAL EXTENSION

a. AMO shall propose MEL extension prior to the expiration of existing approved interval for the particular item within 3 days before the expiry date and shall be agreed by SAO (pilot in command).

b. GAM CAMO shall request the extension approval from DAR using Minimum Equipment List Repair Interval Extension form (GAM/C-055A).

c. CAMO Planner shall fill the form with necessary information on the MEL item requested for repair interval extension.

d. The application shall be attached with the supporting documents below as applicable:

    i. Related section of approved MEL Item

    ii. Supporting technical note from OEM (if applicable)

e. The application shall then be supported/concurred by SMM.

f. CAM/DCAM shall submit the application to DAR for approval.

g. CAMO Planner shall advise AMO on the extension of the MEL Repair Interval once approved by DAR.

h. CAMO Planner shall monitor the extension in CAMS as per CAMP Chapter 3.5.

i. Defect rectification cannot be postponed unless agreed by the SAO and approved by DAR.

3.16 TECHNICAL INSTRUCTION COMPLIANCE/SENTENCING

a. Upon TIC verification by CAM/DCAM as per CAMP Para 4.7 (g), CAM/DCAM shall then advise CAMO Planner on the following action to be taken:
    i. If the AD/SB require AMP to be amended.
    ii. If the AD/SB require pre-planned worksheet to be created or updated in AERONET for monitoring and compliance.
    iii. If component need to be removed and send to authorised facilities for compliance of AD/SB.

b. CAMO planner shall include and update the AD/SB inspection and sentencing in the AERONET and monitor accordingly.

c. CAMO Planner shall advise AMO on the applicable AD/SB at the earliest opportunity with a view of establishing compliance and ensuring the required spares are being purchased prior to implementing the applicable AD.

d. CAMO Planner shall raise and issue a work package to AMO for implementation of AD/SB within its compliance time.

e. Repetitive AD/SB Inspections shall be incorporated into the affected Aircraft Maintenance Programme until full compliance is achieved.

f. After CAMO Planner has updated the status of AD/SB compliance together with the required supporting documents, the TIC form shall go through CAM for compliance verification as per CAMP Para 4.7 (i).

PART 4

TECHNICAL SERVICE

PROCEDURES

PART 4 TECHNICAL SERVICE PROCEDURES

4.1 INTRODUCTION

a. This section outlines the procedure to ensure that the operations of the aircraft remain adheres to the aircraft continuing airworthiness.

4.2 SCOPE

a. The CAMO Technical Services Department shall be responsible for the compliance with the approved aircraft maintenance programme, airworthiness directives, modification, and repairs for all of GAM CAMO aircraft.

4.3 RESPONSIBILITIES

a. Technical Services Personnel

4.4 FLIGHT MANUAL SUPPLEMENT APPLICABILITY

a. Technical Service personnel shall be responsible for the verification of the applicable supplement for an aircraft.

b. Upon received the List of Applicable Supplement Form (GAM/C-045) from Technical Publication as per CAMP Para 1.9.2.b, Technical Service shall verify which of the available flight manual supplement have been incorporated or applicable to the specific aircraft registration. FM supplement applicability may be verified through the statement at the front of the document clarifying the applicability of the information included in the supplement. Such statements may include listing FM part numbers, aircraft serial numbers, variants of the applicable aircraft model, year of manufacture, etc.

c. Technical Service shall tick all supplement that have been incorporated and applicable to the aircraft registration and returned it to Technical Publication for further action as per CAMP Para 1.9.2.c.

4.5 AIRCRAFT MAINTENANCE PROGRAMME

4.5.1 AMP DEVELOPMENT

a. Technical Service personnel shall be responsible for the preparation of the AMP.

b. The AMP is developed by extracting the information from the OEM aircraft and engine maintenance program along with the relevant ADs, SBs, modifications and any other requirements by the OEM, DGTA, SAO and other related regulatory bodies.

c. The AMP should normally be based upon:

   i. Maintenance tasks and intervals as recommended by the OEM.

   ii. Maintenance Review Board Report.

   iii. OEM Airworthiness Limitations & Inspections Requirements.

   iv. The requirements of Airworthiness Directives, Alert/Mandatory Service Bulletin, SIL's SL's, etc applicable to the aircraft.

   v. Relevant chapter of the Maintenance Manuals.

   vi. Vendor instructions for continued airworthiness including installed optional equipment, STC's etc.

   vii. Authority Requirements and results from operators AMP effectiveness analysis.

   viii. Requirements due to operating experiences.

   ix. When applicable, continuing structural integrity program and/or corrosion control program.

   x. When applicable, reliability programs for condition monitoring aircraft systems, components and power plants.

   xi. Mandatory maintenance task and interval as declared by the OEM shall be specified in the AMP.

d. The AMP shall be initially reviewed and signed by the DAR before submission by GAM CAMO to DGTA for approval.

e. Once approved by DGTA, it shall then be distributed according to the Distribution List page of the AMP.

4.5.2 AMP AMENDMENTS

a. The AMP shall be reviewed annually or more frequent to reflect the current operating experiences and the latest revisions of all relevant and applicable airworthiness data.

b. Type of Aircraft Maintenance Programme amendments are:

i. Minor Amendments – Amendments that are made internally by CAMO and approved by QM for the following changes and conditions:

1) amendments due to minor editorial changes/correction of typing errors.

2) amendments to include additional task cards resulting from maintenance planning document update or ICA inspections from modification embodiment.

3) amendments due to changes to part numbers.

4) amendments due to changes in document reference number and revision.

5) amendments that result in decrease in aircraft component life / cycle or increase in the degree/frequency of previously approved routine maintenance.

ii. Major Amendments – Any changes below shall be considered as Major Amendments and shall require approval from DGTA:

1) changes in the maintenance concepts used.

2) significant changes in the aircraft maintenance cycle: frequencies, nature of checks.

3) regulatory changes.

4) replacements of source documents for the aircraft maintenance program; this does not concern the evolutions nor the updates of the initial document amendments due to minor editorial changes/correction of typing errors.

4.5.3 AMP COMPLIANCE

a. GAM CAMO shall adhere to the maintenance requirements as defined in the AMP by means of maintenance planning procedures.

b. Under normal operating conditions, an established interval for accomplishment of scheduled maintenance cannot be exceeded.

c. However, circumstances may exist that justify, under controlled conditions, use of a tolerance or a maintenance interval configurable as a onetime extension of an interval for an individual aircraft.

d. These tolerances, subject to DAR approval, shall respect the following rules:

   i. The operator may vary the period described by the AMP provided that such a variation within the limits indicated in AMP.

   ii. Interval tolerances can be applied ONLY when the period prescribed by this Inspection Program cannot be complied with due to circumstances which could not reasonably have been foreseen by operator.

   iii. Interval tolerances cannot be assumed as maintenance planning tool.

   iv. Interval tolerances DO NOT apply to AD, authority requirement, interval specified in the Minimum Equipment List (MEL), mandatory airworthiness limitations task prescribed by the AMP.

e. When an interval tolerance is used, IT IS NOT CUMULATIVE, therefore the subsequent interval shall be computed as per the original scheduled interval. Example:

   i. Task interval: 100 FH, Maximum variation; 10 FH, if the task is conducted at 105 FH, the subsequent task must be performed as per original scheduled at 200 FH (+10 FH).

   ii. Task interval: 24 months, Maximum variation: 30 days. If the task is conducted at 25 months, the subsequent task must be performed as per original scheduled at 48 months (+ 30 days).

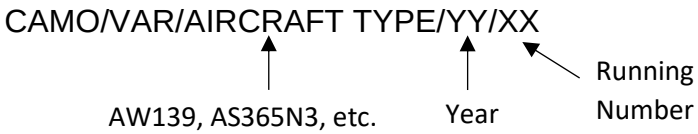
   iii. Task interval: 100 FH, Maximum variation; 10 FH, if the task is conducted at 85 FH, the subsequent task must be performed as per original scheduled at 185 FH (+10 FH).

   iv. Task interval: 24 months, Maximum variation: 30 days. If the task is conducted at 23 months, the subsequent task must be performed as per original scheduled at 47 months (+ 30 days).

f. For items controlled by more than 1 limit, i.e. items controlled by flying hours and calendar time, the more restrictive limit shall be applied.

4.5.4 AMP VARIATION

a. For circumstances defined in para. 4.4.3 (c) above, the variation to the interval can be requested to DAR using AMP Variation Request form GAM/C-033A. The controlled number are formatted as below:



b. CAM/DCAM shall fill the form with necessary information on the inspection/component requested for variation.

c. The application shall be attached together with the supporting documents below as applicable:

i. related section of approved AMP and/or the maintenance manuals;

ii. worksheet of mitigation inspections carried out; and

iii. supporting technical note from OEM (for airworthiness limitation components).

d. The application then shall be forwarded to QM for review.

e. Upon satisfactory review, the application shall be submitted to DAR for approval.

f. CAM shall advise CAMO Planner and AMO on the deviation from the AMP once approved by DAR.

g. CAMO Planner shall monitor the AMP variation in CAMS as per CAMP Chapter 3.5.

4.5.5 AMP INTERVAL ESCALATION

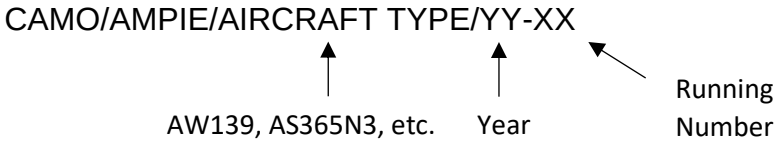
a. GAM CAMO may escalate the interval of previously approved routine maintenance based on results or output of the following:

i. Maintenance Review Board Report

ii. Reliability Program

iii. AMP effectiveness analysis

b. The escalation to the interval can be requested to DAR using AMP Interval Escalation form GAM/C-060. The controlled number are formatted as below:



c. CAM/DCAM shall fill the form with necessary information on the inspection requested for escalation.

d. The application shall be attached together with the supporting documents below as applicable:

i. related section of approved AMP and/or the maintenance manuals;

ii. minute of meeting on the inspection escalation (i.e., crisis management meeting, etc.); and

iii. trend analysis data for the intended inspections.

e. The application then shall be reviewed by QM.

f. After that, the application shall be submitted to Commanding Officer (CO), whenever applicable, and DAR for approval.

g. Upon approval from DAR, Technical Service shall amend the AMP accordingly.

4.6 MINIMUM EQUIPMENT LIST (MEL)

a. Technical Service department shall be responsible for the preparation of the MEL.

b. The MEL shall be based upon the following documents which is then suited to the aircraft configuration and operating environment:

   i. Master Minimum Equipment List

   ii. Rotorcraft Flight Manual

   iii. Aircraft Maintenance Manual

c. The MEL shall contain the following:

   i. List of Effective Pages (LOEP).

   ii. Preamble including statement on the incorporation of the latest MMEL revision.

   iii. Table of Contents.

   iv. Revision Index.

   v. Explanation of abbreviations/symbols.

   vi. Policy/Procedure to defer MEL defects.

   vii. Air Transport Association (ATA) specification numbering.

   viii. Repair categories/interval – Operator shall comply to the repair categories/interval as stated in the MEL Deviations and shall be approved by the DAR.

d. Any item which is related to the airworthiness of the aircraft which is not included in this MEL must be operative before a flight is dispatched.

e. The MEL prepared shall then be initially reviewed by a committee member of CAM, QM, AMO representative and SAO before submission to DAR for approval.

4.6.1 MEL AMENDMENT

a. The MEL shall be reviewed at least annually to ensure that it incorporates any changes to the operation, aircraft or to the regulation.

b. MEL shall be reviewed and amended as necessary when the following changes occurs:

   i. A revision to the MMEL that affect the content of the MEL.

ii. New airworthiness or operation requirement introduced that affect the content of the MEL.

iii. Embodiment of modification on the aircraft affecting the additional components introduced that are in relation with MMEL.

c. MEL amendment shall be prepared by Technical Service personnel and checked and verified by CAM, QM and SAO before submission to DAR for approval.

d. Where the MMEL revision affect the MEL Category and is more restrictive, the MEL amendment shall be submitted to DAR immediately upon receipt of MMEL revision for approval.

e. If the MMEL revision affect a procedure (M) or (O), the MEL amendment shall be submitted to DAR within 60 days for approval.

f. If the MMEL revision does not affects a procedure (M) or (O), the MEL amendment shall be submitted to DAR within 120 days for approval.

4.7 TECHNICAL INSTRUCTION COMPLIANCE/SENTENCING

a. Technical Instruction Compliance/Sentencing (TIC) form GAM/C-001A are used for the evaluation and sentencing of the AD's, SB's and any other technical publications by Technical Service for the aircraft contracted to CAMO.

b. Technical service personnel shall receive the TIC raised by Technical Publication through GAMS Portal.

c. Only Technical Service personnel that have been properly accessed and accepted as qualified per para. 0.8 are authorised to sentence the TIC's.

d. For AD and SB sentencing, Technical Service personnel shall evaluate the TIC and identified the following information:

   i. Type of AD/SB

      i. Time limit imposed

      ii. One time inspection

      iii. Repetitive Inspection

      iv. Modification required

      v. Optional requirement (for SB)

      vi. For information only

   ii. Applicability to aircraft type, engine type/model, and/or component model/part number.

   iii. Applicability to aircraft serial number, engine serial number, and/or component serial number.

   iv. The reason AD/SB issued.

   v. Compliance time either in flight hours and/or calendar days, or combination of both

   vi. Action required to be performed.

   vii. Spare and/or special tools required for compliance.

e. Supporting documents such as log card, worksheet, equipment list, etc., shall be attached to the TIC for evidence and reference as required.

f. The sentenced TIC shall then go through CAM/DCAM for verification and task delegation to CAMO Planner.

g. CAM/DCAM shall verify that:

   i. The sentencing made by Technical Service are correct.

   ii. The supporting documents attached justify the evaluation made by Technical Service personnel.

h. CAM/DCAM shall then advise CAMO Planner as per CAMP Para 3.16.

i. Upon completion by necessary action from CAMO Planner, the TIC shall go through CAM for compliance verification. CAM shall ensure that:

   i. For applicable AD/SB with one time inspection, a pre-planned worksheet created and/or evidence of AERONET updating for monitoring purpose has been attached to the TIC.

   ii. For applicable AD/SB with repetitive inspection, a pre-planned worksheet created and/or evidence of AERONET updating for monitoring purpose has been attached to the TIC and incorporated into the affected AMP.

   iii. For AD and SB with multi-part compliance, a pre-planned worksheet created and/or evidence of AERONET updating for monitoring purpose for each part of AD/SB has been attached to the TIC.

j. The TIC then shall be closed after DAR's approval/endorsement of the AD/SB or any other technical publication on the respective TIC column. For Optional SB, the compliance is subjected to DAR decision based on recommendation made by GAM CAMO and AMO.

k. Technical Publication personnel shall receive a notification of the TIC completion and shall extract the completed TIC forms together with all the supporting documents from GAMS portal and kept in the server for record and safekeeping.

4.8 MAINTENANCE REVIEW BOARD

a. The Maintenance Review Board (MRB) holds monthly meetings and constitutes of the following members:

i	Technical Services Engineer	Permanent member
ii	CAM or his/her delegate	Permanent member
iii	SMM or his delegate	Permanent member
iv	Logistic supervisor or his delegate	Permanent member
v	QM or his delegate	Permanent member
vi	Technical Services Engineer (Reliability)	Secretary

b. Other personnel or specialists (non-voting) shall be enlisted to provide expert advice as required, depending on the circumstances.

c. The MRB meeting must comprise of the five permanent members for the meeting to be conducted.

d. The followings shall be in the agenda but not limited to:

i. Reliability reports are evaluated, and a review of each delay and cancellation is carried out.

ii. Identify any adverse trends and associated technical problems for further investigation.

iii. Determine required actions to reduce recurring defect or significant event.

iv. Formulate actions that can rectify dispatch reliability being below set targets.

v. Review actions taken on PIREP Rate Alert's and high unscheduled removal rate components.

vi. Proposals for corrective and preventive actions and for Maintenance Program changes are evaluated from incident, decisions made by majority vote. The minutes of board meetings, administrative files and substantiating data for decisions are retained by Technical Services Department.

vii. To discuss any other matter related to aircraft current status and Maintenance operation activity in related to CAMO and Technical Services department.

viii. To discuss the current status of Airworthiness Directive and Service Bulletin implementation and consideration.

e. Technical Services shall carry out an annual review of the program for effectiveness which includes (but not limited to) the following areas:

i. Suitability of ALERTS (upper control limits) values for each ATA parameter being monitored.

ii. Completeness and integrity of data sources.

iii. Effectiveness of actions taken for ALERTS being investigated.

iv. Any corrective action issued and matter discussed in MRB meeting should be recorded in Minutes of Meeting.

4.9 AIRCRAFT RELIABILITY PROGRAM

4.9.1 SCOPE OF RELIABILITY PROGRAM

a. The primary objective of the Reliability Program is to collect and analyse data so as to monitor the aircraft and component's reliability, and to recognize the need for corrective action and to establish what corrective action is needed to maintain airworthiness.

b. Reliability Program is to:-

   i. continuous monitoring aircraft status and availability;

   ii. improve operational availability of major component;

   iii. reduce item demand for maintenance manpower and logistic support;

   iv. overall evolution of the engine average performance.

c. GAM CAMO applies a Reliability Program to the following aircraft managed by GAM CAMO:

   i. AW139

   ii. AS365N3

d. The effectiveness of the reliability program shall be determined during the Reliability or MRB Meeting schedule on annual basis with reference to CAMP Part 4.7.

4.9.2 RELIABILITY DATA COLLECTION

a. GAM CAMO Reliability Program shall cover both airframe and engine where data use to produce the reliability report are:

   i. flight hours

   ii. flight cycles

   iii. technical delays

   iv. technical cancellation

   v. pilot reports

   vi. technical staff reports

   vii. unscheduled component removals

   viii. component removals

ix. in-flight shutdown

x. unscheduled engine removals

xi. shop visits.

b. The information listed above can be obtained from the following source:

i. Pilot Reports

ii. Aircraft Technical Logs

iii. Aircraft Maintenance Access Terminal / On-board Maintenance System readouts.

iv. Maintenance Worksheets

v. Workshop Reports

vi. Functional Check Reports

vii. Special Inspection Reports

viii. Store Issues/Reports

ix. Reports on Technical Delays and Incidents

x. Other sources

c. Technical Service shall collect reliability data every month and the results collected are analysed and published in a reliability report which includes:

i. Aircraft Utilisation

ii. Defects

iii. Component Removals

iv. Engine Reliability

4.9.3 RELIABILITY DATA ANALYSIS

a. The reliability data collected shall be analysed using the following methods:

i. Aircraft utilisation

i. aircraft utilisation is categorised based on the number of parameters to indicate the accurate aircraft availability.

1. Operational – aircraft serviceable

2. Scheduled – Base Maintenance / Line Maintenance / Component Scheduled Replacement

3. Unscheduled – defect rectification

ii. Details of each parameter is further enhanced by hours to provide more information on the time required for scheduled and unscheduled maintenance.

iii. Based on the parameters, Reliability Report shall detail out factors contributing to Unscheduled maintenance.

ii. Defects

i. all associated defects within the report periods shall be recorded and reported in the Reliability Report. Summary of the defects shall include:

1. Source of the defect report
2. Date of occurrence
3. Description of the defects
4. Reason of defects
5. Summary of rectification action

iii. Component removals

i. Comparison of the Mean Time Between Unscheduled Removal (MTBUR) between similar aircraft type managed by GAM CAMO shall be made as reference.

ii. Additional information contributing to the MTBUR performance of GAM CAMO managed aircraft shall be identified by Technical Service.

iii. Detail of GAM CAMO managed aircraft Top Unscheduled component removals shall be included in the Reliability Report with item details, PN and the removal date for monitoring purposes.

iv. Based on the report, item with more than on removal within the report period shall be identified and analysed. Details of the occurrence including the reported occurrence, rectification action and conclusion to avoid the same occurrence shall be identified by Technical Service.

iv. Engine Reliability

i. Engine Reliability Report may be collected from OEM. The following details shall be included in the Reliability Report:

1. Engine Removal Event

2. In-flight shut down rate
3. Aborted take-off rate
4. Diversion & Air Turn back rate
5. Engine Dispatch Reliability

ii. Engine Trend Monitoring may be obtained from OEM or Power Assurance Check data and the following data shall be analyse and included into Reliability Report:

1. ITT Margin
2. NG Margin

b. Whenever information obtained from reliability monitoring indicates a degraded level of safety, a special evaluation should be performed by the CAMO. The result of such evaluation should be presented to DAR accordingly.

4.9.4 RELIABILITY REPORT

a. The reliability report is produced on monthly, quarterly and annually basis.

b. The reliability report must contain details on the reportable defects, such as the aircraft involved, date, finding and any other relevant details as follows but not limited to:

REPORT DATA	RELIABILITY INDICATOR
Aircraft Utilization • Number of AC • Total flight hour • Total flight cycles (landing)	• Aircraft and APU flight hours and cycle
Defects • PIREP (Pilot Report) • MAREP (Maintenance Report • MOR/OR • Repetitive defects(when same defect repeated 3 times within 1 month or 30 FH) • Structure Defects, Corrosion and Delamination	• defect count by ATA chapter
Component removals • Unscheduled component removals	• Component removal rates

REPORT DATA	RELIABILITY INDICATOR
	• Threshold exceedances
Engine Reliability • Engine removal event • In-flight Shut Down Rate • Aborted Take-off Rate • Diversion & Air Turn Back Rate • Engine Dispatch Reliability • Engine Trend Monitoring	• Engine flight hours • Power Assurance Check

c. Information displayed on GAM Reliability Report shall include both graph & table format for easier review, analysis & presentation during the MRB Meeting.

d. The reliability data and reliability indicator published in the reliability report shall be reviewed during the monthly MRB meeting for:

   i. identification of recurrence defects and unscheduled removal component trends;

   ii. adverse trend in reliability;

   iii. unreliable systems and components;

   iv. maintenance task and system resulting in high defect levels.

e. The reliability report is then distributed to at least the permanent member of MRB and to the appropriate type certificate holders if the aircraft is subscribed under their reliability data sharing program.

4.9.5 CORRECTIVE ACTION

a. Corrective action shall be based on the result of the MRB Meeting. Each corrective action agreed during the MRB Meeting shall be initiated and/or completed before the next MRB meeting. Previous minutes of meeting including all corrective action taken shall be presented before current Reliability Report is discussed.

b. The MRB meeting shall determine if further action is necessary to improve fleet reliability result from Reliability Report Review.

4.9.5.1 ESCALATION OF TASK INTERVAL

a. Technical Service shall communicate with the OEM on the necessary corrective and preventive action accordingly i.e., amend the maintenance programme or in-house procedure or seek for manufacture assistance to improve in the components, engine, and aircraft reliability.

b. Technical Service through the continuous data analysis process shall identify an opportunity to initiate a check interval escalation. Increased fleet size, scheduling requirements or available downtime may also initiate a review for a possible check interval escalation.

c. For any intended interval escalation of scheduled tasks as a result of the reliability program, the new interval needs to be submitted to DGTA for approval. Technical Service shall examine all mandatory maintenance tasks that are planned as part of the check programme for the aircraft, Certification Maintenance Requirements (CMR), Airworthiness Limitations (ALS), if applicable and physical check of time expiry dates and hard-time unit changes to ensure that they can withstand the interval escalation.

d. All mandatory tasks, which cannot withstand the interval escalation, shall be controlled individually at the current interval or accomplish them at a lower routine check.

4.9.5.2 SPARES PROVISIONING

a. The MRB Meeting shall also include the discussion of the aircraft spare arrangement as this is the contributing factor for aircraft dispatch reliability. OEM or contracted AMO to provide Technical Service personnel with mitigation action such as the component shop report for review to prevent multiple removal of the same component once installed.

4.9.5.3 MANPOWER AND EQUIPMENT PLANNING

a. Manpower and equipment planning shall be under the responsibility of contracted AMO. Technical Service shall communicate with contracted AMO to ensure maintenance can be performed in accordance with DGTA approved standards.

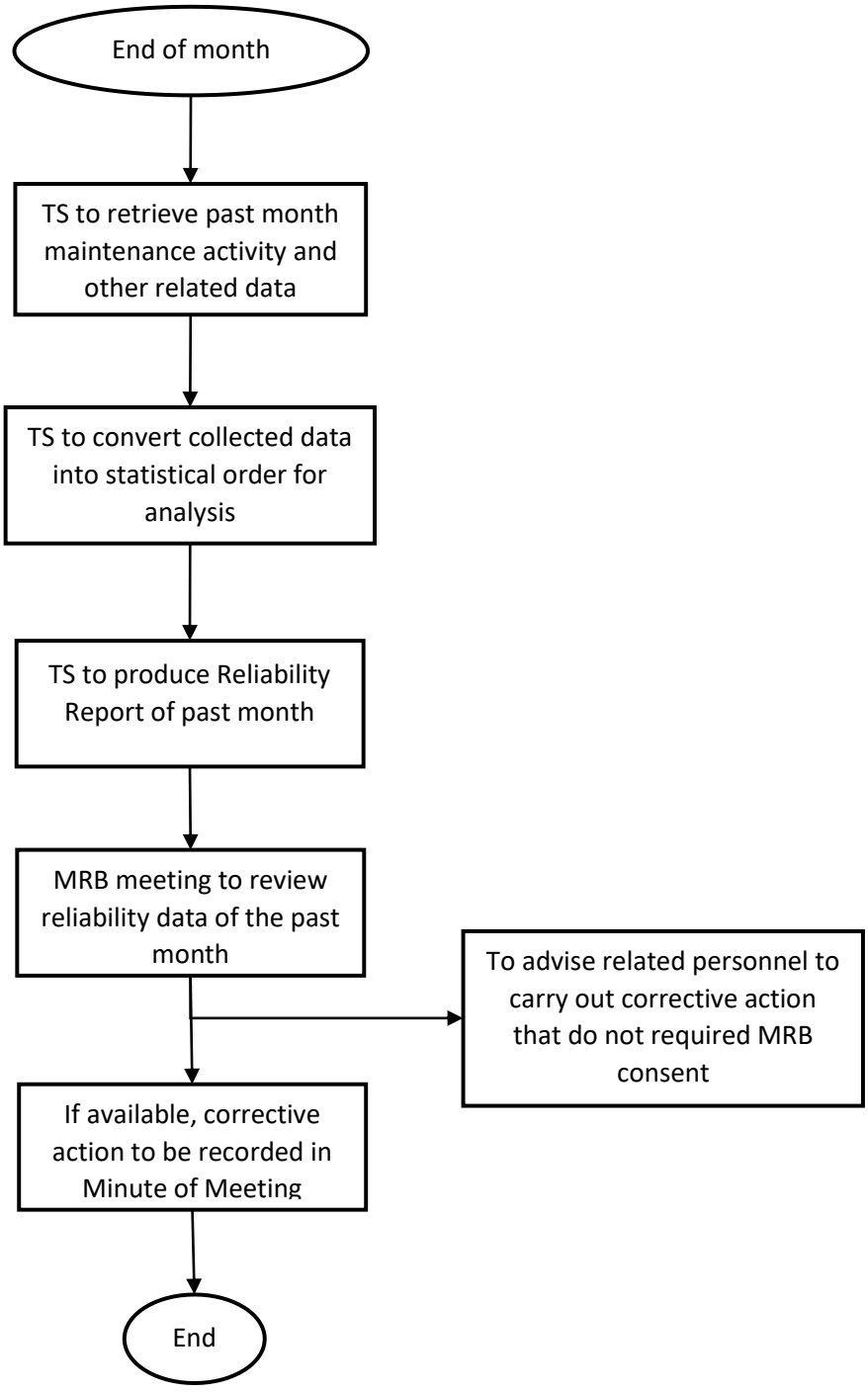


Figure 25 Reliability Program Process Flow

4.10 MODIFICATION PROCESS MANAGEMENT

a. Modification means a change to the type design of an aeronautical product which is not a repair.

b. When the SAO requests a modification to be implemented on their aircraft, Technical Service shall perform an assessment on the modification as follows:

   i. Is the new modification having a relevant approval?

   ii. Is the new modification applicable to the type/model of the aircraft?

   iii. Is the new modification affecting mass & balance of the aircraft?

   iv. Is the new modification affecting any manuals (IPC, AMM, WDM, CMM, AFM, POH, etc.)?

   v. Cost impact

c. Technical Service and the installer of the modification (AMO) shall then verify the compatibility of the new modification with other modification already installed or performed on the aircraft.

d. AMO shall survey the aircraft records and the aircraft itself to determine what other modification exist on the aircraft. Any questions of incompatibility with other modification arising from the survey shall be referred for resolution to Technical Service.

e. Technical Record personal shall provide the Technical Service and installer with information on all existing modification on the aircraft so that the compatibility may be verified. Any questions of modification incompatibility which may arise during installation or in service shall be thoroughly investigated by consultation with the modification design approval authority or modification design approval holder.

f. In every case of incompatibility between modifications, the problem shall be corrected, and it must be established to the satisfaction of the DAR that the modified aircraft continues to comply with the applicable standards of airworthiness.

g. Technical Service shall promptly report any modification incompatibilities detected during installation or in service to the modification design approval holder, to the installer and to CAM.

h. Technical Service shall conduct the risk assessment and present the assessment result to the SAO for their decision of implementation.

i. If the SAO decide to implement the modification:

i. CAMO Planner personnel shall issue a work order to the contracted AMO to perform the modification and order the required supply of parts and/or mod kit and send the parts to the contracted AMO.

ii. Technical Publication personnel shall order as required, all applicable airworthiness data and other required documentation and distribute the airworthiness data to the contracted AMO.

iii. Technical Service personnel shall amend the affected Aircraft Maintenance Programme to include the requirement for repetitive inspection if required by the airworthiness data.

j. After the modification has been implemented and before operation of the aircraft:

i. Technical Record personnel shall perform the necessary updates of the continuing airworthiness records.

ii. Technical Service personnel shall perform the necessary update on the mass and balance report if applicable.

iii. Technical Publication personnel shall perform the necessary update of flight manuals if applicable.

iv. CAMO Planner personnel shall inform the SAO regarding operational changes as applicable.

4.11 REPAIR PROCESS MANAGEMENT

a. Repair means the restoration of an aircraft, engine, propeller, or associated part to an airworthy condition in accordance with the appropriate airworthiness requirements after it has been damaged or subject to wear.

b. If the repair of damage is not covered by an existing repair solution according to the Repair Manual or other approved data, the damage details shall be forwarded by the AMO to the Technical Services Department.

c. Technical Service then shall liaise with the TC Holder by raising Technical Query (TQ) and/or Repair Instruction Query (RIQ), as applicable, for the repair procedure.

d. For Airbus Helicopter (AH) product repairs document, AH shall issue a Repair Design Approval Sheet (RDAS). Refer Figure 26 for a sample of Airbus Helicopter RDAS.

e. For Leonardo Helicopter (LH) product repairs document, LH shall issue PSEAW and/or Repair Scheme for the repair instruction. Refer Figure 27 for a sample of Leonardo Helicopter (PSEAW).

f. These documents contain the essential information for implementation of repair, including applicability, repair classification, reference of parts, damage description, related substantiation documents, impact on Maintenance Program and Operational Procedures (incl. limitations) and detailed repair procedure.

g. These documents then shall be passed to the CAMO Planner for the workpack issuance.

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Repair Design Approval Sheet

This form provides evidence of approved repair data in accordance with Part 21 Subpart M

DOA Reference: **EASA 21J.056**	**RDAS Ref N°:**		**Date :** **Issue :** **Page : 1 of**
Organisation operating H/C (Owner):	H/C Type :	S/N: Reg. N°:	Flight Hours:
	H/C Component:	P/N: S/N:	Flight Hours Flight Cycles:

Title:

Damage/Repair Description:

Repair Drawing N°:

Repair Classification : **MAJOR** / **MINOR** (*) according to EI 04-23

(*): Please delete as appropriate

Reasons for Classification as Major Repair: See Page 2	**Airworthiness Approval for repair classification** Name: Visa: Date:

TC/TCDS ref. & Regulations involved:
§29.301; §29.303, §29.305, §29.307, §29.309, §29.603, §29.605, §29.607, §29.609

Justification:

Fatigue Evaluation Document:

Other related substantiation (includes ref. to communication with TC/STC, ...)

Impact on Maintenance Program/Operational Procedures:

- ***Temporary Repair*** ~~YES /~~ **NO** (*)

If YES: Repair Life Limitation: Months/years/Flight Hours/Flights Cycles(*)

Details of impact on existing Maintenance Procedures

- Details of impact on Operational Procedures

(*): Please delete as appropriate

Design Function	Name: Visa: Date:
Specialised Department	Name: Visa: Date:
CVE Approval	DOA ref. no: **EASA 21J.056** Name: Visa: Date:
Airworthiness Approval for major repair	DOA ref. no: **EASA 21J.056** Name: Visa: Date:

External Distribution list:

This RDAS is based on a Eurocopter Group definition of the subject aircraft model. The RDAS may be incompatible with an aircraft which has been modified according to a non Eurocopter Group definition. For such an aircraft, it is your duty to check with the party responsible for the modification (and thus the change in the aircraft's definition) to ensure that this RDAS is still valid for this particular aircraft. Your failure to ensure this may result in aircraft performance or flight safety being compromised. If this RDAS is incompatible with the modified aircraft, Eurocopter Group shall not be liable for any damages, including consequential damages, resulting from or related to the use of this response/service. By using this response/service, you agree to be bound by this disclaimer.

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Figure 26 EUROCOPTER RDAS SAMPLE – PAGE 01

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Date :
Issue :
Page : 2 /
Aircraft:

RDAS N° |_|_|_|_|_|_|_|_|_|_|_|_|_|_| / |_| |_|

Reasons for Classification:

Criterion	Appreciable Effect? (*)
Limitations	~~YES~~/NO
Structural performance (including long term maintenance programme changes)	~~YES~~/NO
Fatigue behaviour if the new lifetime of the repaired part is below the lifetime published for the original part in the airworthiness limitations section (ALS) of the maintenance manual	~~YES~~/NO
Weight and balance (significant modification)	~~YES~~/NO
Aerodynamics	~~YES~~/NO
H/C performance	~~YES~~/NO
The repair has repercussions on the airworthiness limitations section of the maintenance manual	~~YES~~/NO
The repair constitutes the subject or impacts the content of an Airworthiness Directive	~~YES~~/NO
Analysis or calculation methods used to substantiate the repair of a critical part are innovative or concern new technology	~~YES~~/NO
Means of compliance with certification rules are unusual	~~YES~~/NO
Significant impact on a critical function	~~YES~~/NO
Noise	~~YES~~/NO

(*): Please delete as appropriate

Issues:

Issue	Page Modified	**Design Function**	Date /Visa	**CVE Approval**	Date /Visa	**Airworthiness Approval for major repair**	Date /Visa
Description							
Issue	Page Modified	**Design Function**	Date /Visa	**CVE Approval**	Date /Visa	**Airworthiness Approval for major repair**	Date /Visa
Description							

This RDAS is based on a Eurocopter Group definition of the subject aircraft model. The RDAS may be incompatible with an aircraft which has been modified according to a non Eurocopter Group definition. For such an aircraft, it is your duty to check with the party responsible for the modification (and thus the change in the aircraft's definition) to ensure that this RDAS is still valid for this particular aircraft. Your failure to ensure this may result in aircraft performance or flight safety being compromised. If this RDAS is incompatible with the modified aircraft, Eurocopter Group shall not be liable for any damages, including consequential damages, resulting from or related to the use of this response/service. By using this response/service, you agree to be bound by this disclaimer.

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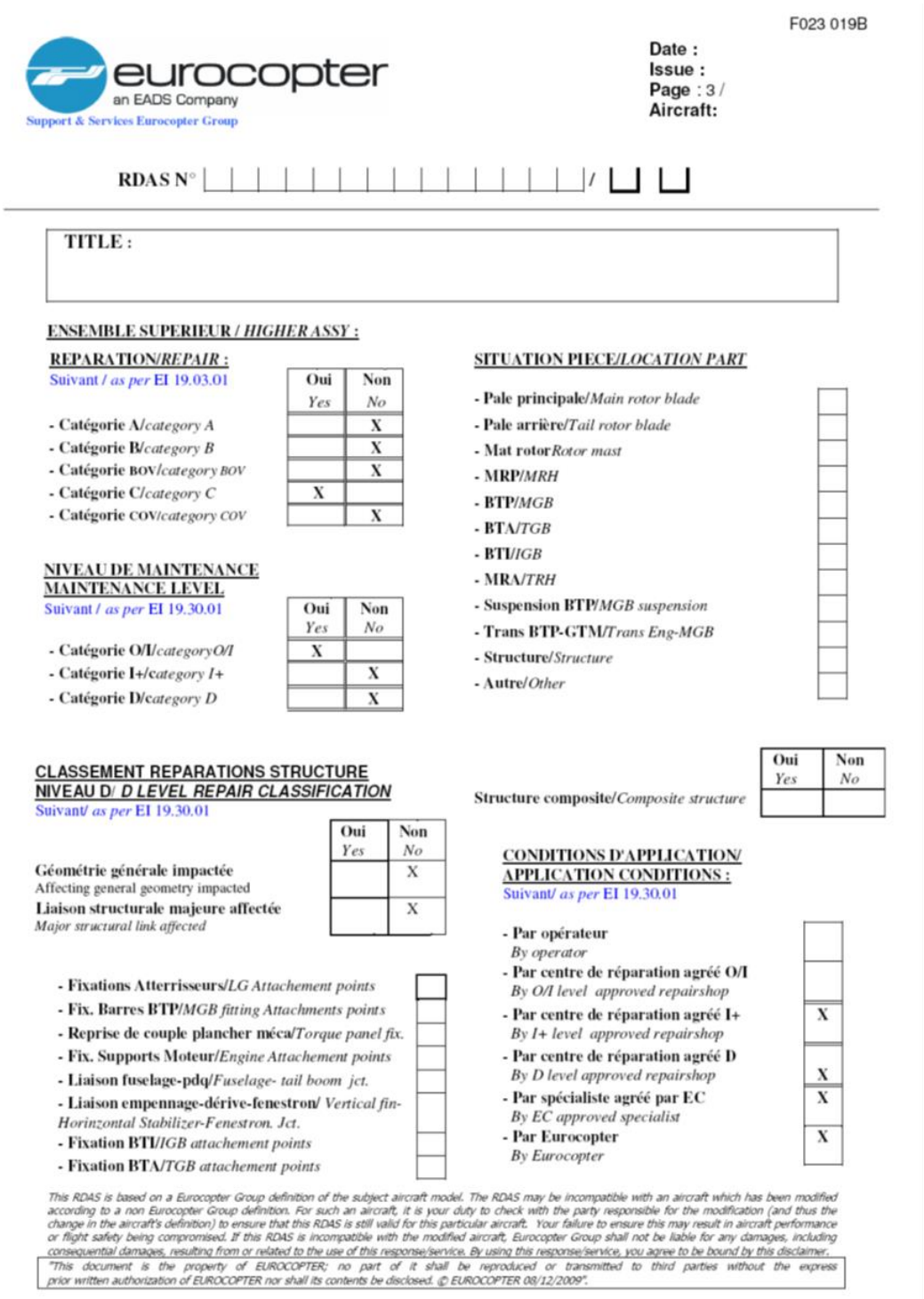
Figure 26 EUROCOPTER RDAS SAMPLE – PAGE 02



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Date :
Issue :
Page : 3 /
Aircraft:

RDAS N° ☐☐☐☐☐☐☐☐☐☐☐☐☐☐/ ☐☐

TITLE :

ENSEMBLE SUPERIEUR / *HIGHER ASSY* :

REPARATION/*REPAIR* :
Suivant / *as per* EI 19.03.01

	Oui *Yes*	Non *No*
- Catégorie A/*category A*		X
- Catégorie B/*category B*		X
- Catégorie BOV/*category BOV*		X
- Catégorie C/*category C*	X	
- Catégorie COV/*category COV*		X

NIVEAU DE MAINTENANCE
MAINTENANCE LEVEL
Suivant / *as per* EI 19.30.01

	Oui *Yes*	Non *No*
- Catégorie O/I/*categoryO/I*	X	
- Catégorie I+/*category I+*		X
- Catégorie D/*category D*		X

SITUATION PIECE/*LOCATION PART*

- Pale principale/*Main rotor blade*	
- Pale arrière/*Tail rotor blade*	
- Mat rotor*Rotor mast*	
- MRP/*MRH*	
- BTP/*MGB*	
- BTA/*TGB*	
- BTI/*IGB*	
- MRA/*TRH*	
- Suspension BTP/*MGB suspension*	
- Trans BTP-GTM/*Trans Eng-MGB*	
- Structure/*Structure*	
- Autre/*Other*	

CLASSEMENT REPARATIONS STRUCTURE
NIVEAU D/ *D LEVEL REPAIR CLASSIFICATION*
Suivant/ *as per* EI 19.30.01

	Oui *Yes*	Non *No*
Géométrie générale impactée Affecting general geometry impacted		X
Liaison structurale majeure affectée *Major structural link affected*		X

- Fixations Atterrisseurs/*LG Attachement points*	
- Fix. Barres BTP/*MGB fitting Attachments points*	
- Reprise de couple plancher méca/*Torque panel fix.*	
- Fix. Supports Moteur/*Engine Attachement points*	
- Liaison fuselage-pdq/*Fuselage- tail boom jct.*	
- Liaison empennage-dérive-fenestron/ *Vertical fin-Horinzontal Stabilizer-Fenestron. Jct.*	
- Fixation BTI/*IGB attachement points*	
- Fixation BTA/*TGB attachement points*	

Structure composite/*Composite structure*

Oui *Yes*	Non *No*

CONDITIONS D'APPLICATION/
APPLICATION CONDITIONS :
Suivant/ *as per* EI 19.30.01

- Par opérateur *By operator*	
- Par centre de réparation agréé O/I *By O/I level approved repairshop*	
- Par centre de réparation agréé I+ *By I+ level approved repairshop*	X
- Par centre de réparation agréé D *By D level approved repairshop*	X
- Par spécialiste agréé par EC *By EC approved specialist*	X
- Par Eurocopter *By Eurocopter*	X

This RDAS is based on a Eurocopter Group definition of the subject aircraft model. The RDAS may be incompatible with an aircraft which has been modified according to a non Eurocopter Group definition. For such an aircraft, it is your duty to check with the party responsible for the modification (and thus the change in the aircraft's definition) to ensure that this RDAS is still valid for this particular aircraft. Your failure to ensure this may result in aircraft performance or flight safety being compromised. If this RDAS is incompatible with the modified aircraft, Eurocopter Group shall not be liable for any damages, including consequential damages, resulting from or related to the use of this response/service. By using this response/service, you agree to be bound by this disclaimer.

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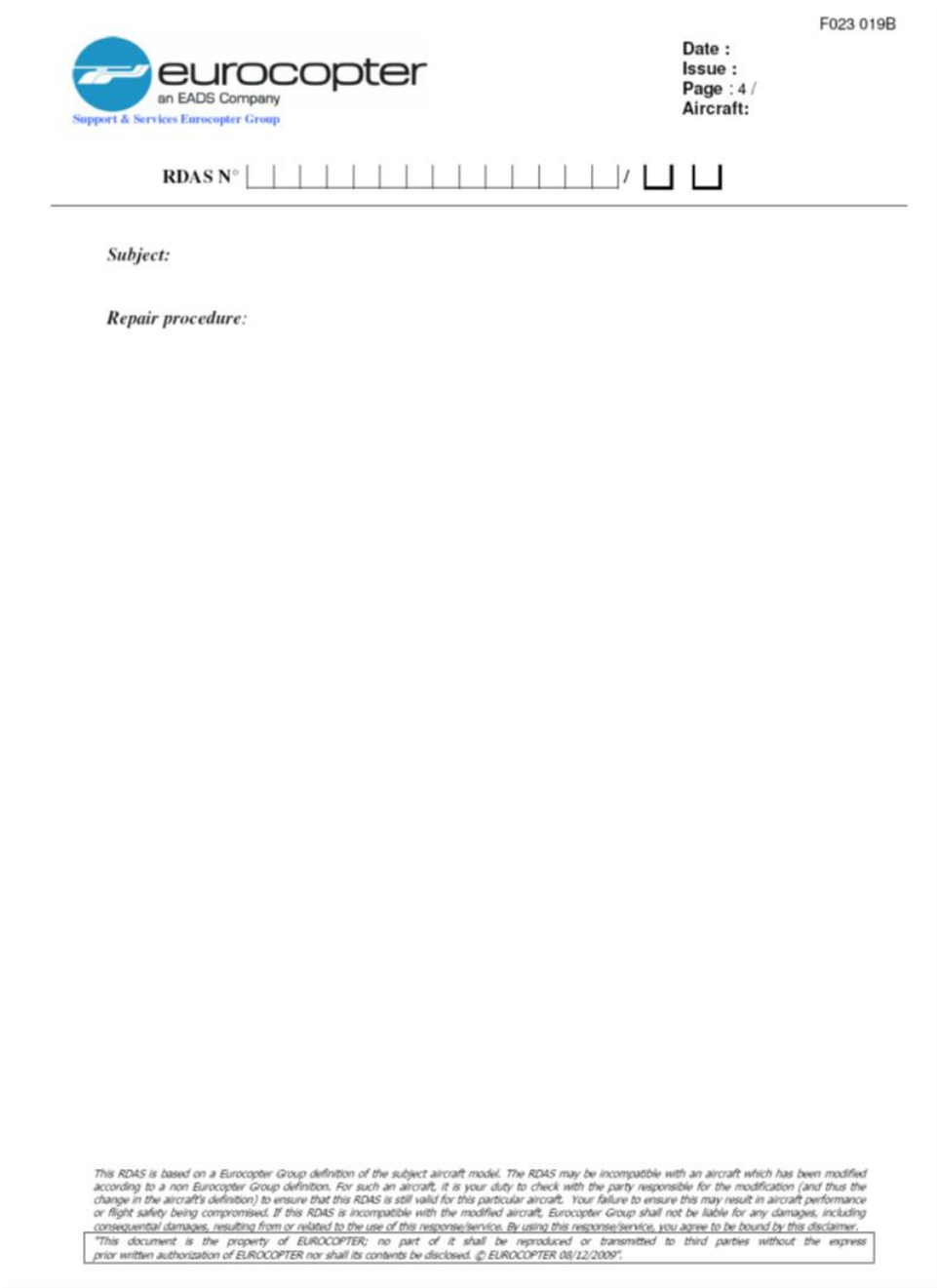
Figure 26 EUROCOPTER RDAS SAMPLE – PAGE 03



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Date :
Issue :
Page : 4 /
Aircraft:

RDAS N° |_|_|_|_|_|_|_|_|_|_|_|_|_|_|/ |_| |_|

Subject:

Repair procedure:

This RDAS is based on a Eurocopter Group definition of the subject aircraft model. The RDAS may be incompatible with an aircraft which has been modified according to a non Eurocopter Group definition. For such an aircraft, it is your duty to check with the party responsible for the modification (and thus the change in the aircraft's definition) to ensure that this RDAS is still valid for this particular aircraft. Your failure to ensure this may result in aircraft performance or flight safety being compromised. If this RDAS is incompatible with the modified aircraft, Eurocopter Group shall not be liable for any damages, including consequential damages, resulting from or related to the use of this response/service. By using this response/service, you agree to be bound by this disclaimer.

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Figure 26 EUROCOPTER RDAS SAMPLE – PAGE 04

LEONARDO HELICOPTERS

AgustaWestland Products

TO :	**Galaxy Aerospace**	Date:	25/07/2019
Attn. :	**Yussyuwari**	Pag. (incl.this page):	7
Email :	yussyuwari@galaxyaerospace.my	Our ref :	PSEAW189/2019/102936/302684
Ref. :	TQ20102936	From:	**AW189 Product Support Engineering**
		Phone:	+39 0331 664444
		e-mail:	dhanaraj.eliyathamby@leonardocompany.com
Copy to:	G. Tellone; H.Gliori		

☐ Urgent ☐ For review ☐ Please Comment ☐ RSVP ☒ For info

SUBJECT : AW189 S/N 49045 (TT 295:29 FH): Main Rotor Blade P/N 4F6210A00132 S/N 269 REPAIR

Dear Customer,

with reference to your request reported in Annex A, please be informed that Leonardo Helicopters Technical Advice is that it is possible to keep the Main Rotor Blade P/N 4F6210A00132 S/N 269 (TT 295:29 FH) installed, provided that the maintenance procedure reported in Annex B is performed before next flight. Take some pictures of the applied repair and send to AW189 Product Support Engineering for internal records purpose.

Please be also informed that the above prescriptions must be considered valid only if the aircraft has been maintained in accordance with all Leonardo Helicopters mandatory recommendations, in addition to local authority requirements.

For any additional information do not hesitate to contact AW189 Product Support Engineering.

Best Regards,

Emanuele Bianchi
AW189 Chief Project Engineer

Federica Tagarielli
AW189 Product Support Engineering Mgr.

Note: *The technical content of this document is approved under the authority of DOA no. EASA.21J.005. Please note that this document could be subject to approval from Local Airworthiness Authority, depending on the privileges granted to your organization.*

If this document is received incomplete or illegible, please call the phone number indicated in the "Phone" field.

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AgustaWestland Products
Leonardo – Società per azioni
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Ph. +39 06 324731 - Fax +39 06 3208621
Head Office:
Via Indipendenza, 2 - 21018 Sesto Calende(VA) - Italia
Tel. +39 0331 915011 - Fax +39 0331 915142
elicotteri@pec.leonardocompany.com

Company Share Capital € 2,543,861,738.00 fully paid up
Tax Code & Company Registered no. 00401990585
VAT no. 00881841001
R.E.A. n. 7031

Figure 27 LEONARDO HELICOPTER PSE SAMPLE – PAGE 01

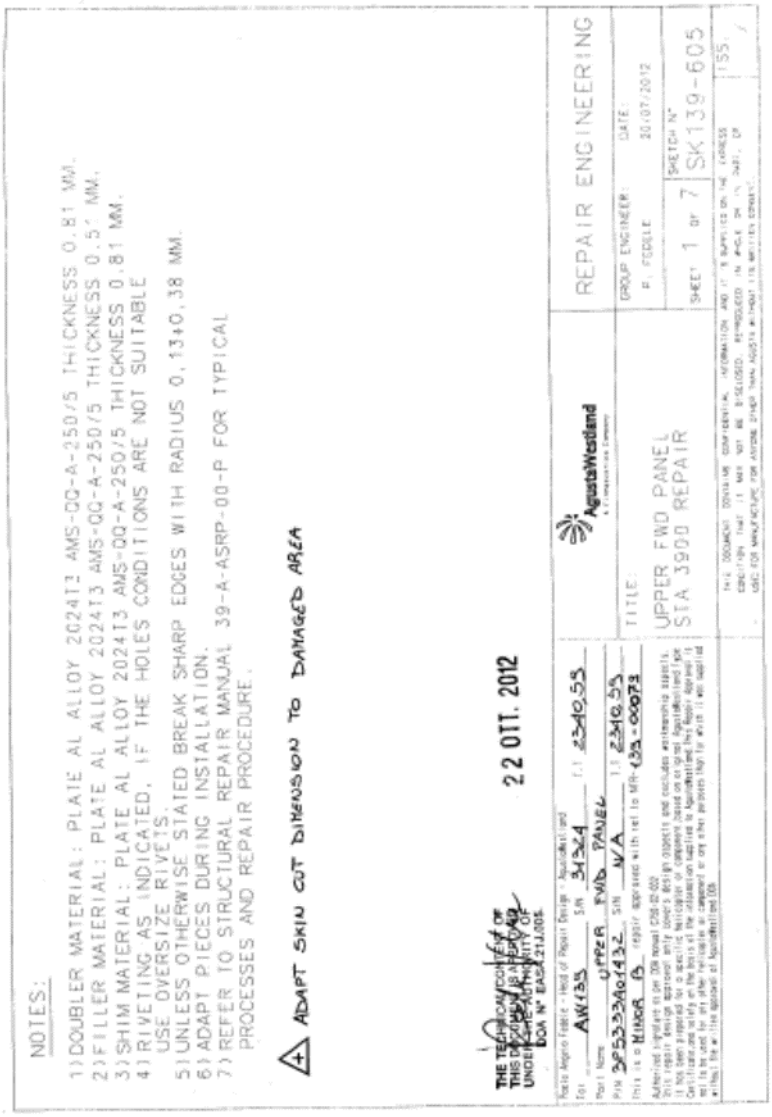


Figure 27 LEONARDO HELICOPTER PSE SAMPLE – PAGE 02

4.12 TECHNICAL NOTE

a. This paragraph outlines the process for providing an official response to all technical queries from other GAM departments, Suppliers and Customers.

b. Technical Note (TN) is used to address technical queries that require an extensive investigation by Technical Services department. It is also used to capture & record all technical investigations for future references.

c. In addition, it provides a means to check that all contents are verified before distribution.

d. This paragraph is applicable to all technical queries which are not related to design document change and requires extensive technical investigation.

e. The scope of technical queries includes but not limited to:

   i. Technical Proposal to Commercial department

   ii. Feasibility Report to Commercial department

   iii. Non-compliance Report to Quality department

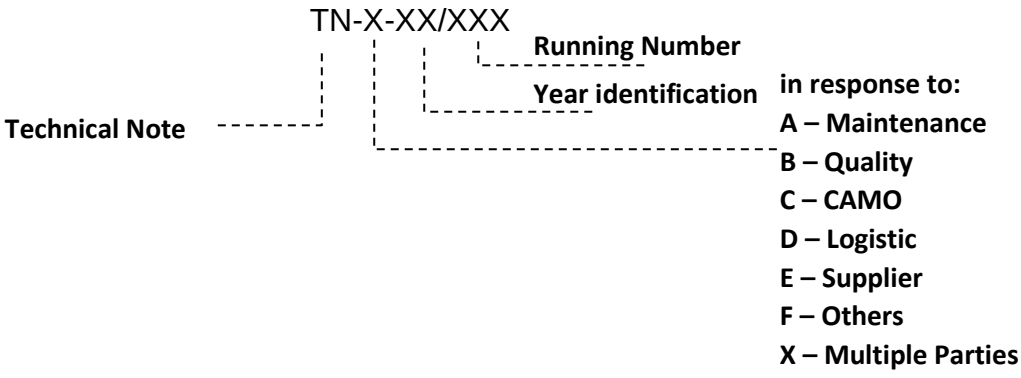
f. The technical queries shall be requested in the form of electronic mail which has been verified accordingly.

g. Technical query may be requested by any other GAM departments (including CAMO, Quality & Maintenance), suppliers or direct customers.

h. Technical Services personnel shall determine if this query is related to change of technical documents. If yes, an email shall be raised by the requestor.

i. Technical Services personnel shall determine if this query involves extensive investigation which a TN is necessary.

j. Upon confirmation of the need for Technical Note, Technical Services shall register the TN using form GAM/C-036 by assigning a new reference number as follows:



k. A summary of the request must be recorded to provide an overview of the technical query.

l. Consecutively, any assumption, condition and requirement shall be stated clearly to facilitate the investigation.

m. A full investigation report shall be detailed by the Technical Service. Upon finalization, the TN shall be checked by DCAM and verified by CAM.

n. If approved, the TN shall be archived and distributed to relevant parties. If not approved, proper definition of assumptions, requirements and conditions shall be re-checked.

PART 5

APPENDICES

PART 5 APPENDICES

5.1 INTERNAL FORMS CONTROL

a. All Internal forms issued by CAMO listed is this chapter shall be registered and controlled.

b. All forms shall be forwarded to QA Department for acceptance, registration, and control of form.

c. The forms are controlled by reference number “GAM/C-XXX Rev Z (MM/YY) whereby:

   a. X = form running number

   b. Z = revision running number

   c. MM = month in two digits

   d. YY = year in the last two digits

d. When intending to register or amend a form, DCAM shall submit a complete package of document comprising of the following to QA Department:

   a. Document Change Request Form (GAM/Q-070)

   b. Draft of document

   c. Instruction for filling up form (if new form)

e. Prior to submission to QA Department, the Document Change Request (GAM/Q-070), along with the draft of document and the instruction for filling up form (if applicable) shall be reviewed and approved by each immediate HOD, or his/her appointed delegate if the HOD is not available.

f. Upon submission of the complete package to QA Department, QM or his/her delegate shall review its compliance. Once found satisfactory, it shall then be registered in GAM Internal Publication Masterlist (GAM/Q-067)

g. QA Personnel shall upload the registered document to GAMS Portal, where it shall be made available to all GAM Personnel, A notification shall

be sent to the requestor via email to indicate the document has been accepted and registered by QA Department.

h. All form listed in Part 5.2 has been registered by QA Department and can be accessed and obtained from GAMS Portal.

5.2 LIST OF FORMS

1. Technical Instruction Compliance Form (GAM/C-001A)
2. Workpack Control (GAM/E-001A)
3. Worksheet (GAM/E-001B)
4. Aircraft Technical Log AW139 (APMM/C-008/AW139)*
5. Aircraft Technical Log AS365N3 (APMM/C-008/AS365N3)*
6. Parts Report (GAM/E-001D)
7. Aircraft Deferred Defect Record (GAM/C-013)
8. Aircraft Deferred Defect Form (GAM/C-059)
9. Logbook Entry (GAM/C-014)
10. Document Acceptance Statement (GAM/C-016)
11. Aircraft Logbook (GAM/C-018)
12. Engine Logbook (GAM/C-019)
13. Publication Master List (GAM/C-023)
14. Publication Register (GAM/C-026)
15. Modification Record Sheet – Service Bulletin (GAM/C-027)
16. Component Log Card (GAM/C-031)
17. Job Competency Assessment Form (GAM/C-032A)
18. AMP Variation Request Form (GAM/C-033A)
19. Technical Note (GAM/C-036)
20. Mass and Balance Report (GAM/C-037)
21. Notice to Crew and Maintenance Engineer (GAM/C-041)
22. List of Applicable Supplements (GAM/C-045)
23. Records Storage Facilities Inspection (GAM/C-050)
24. List of Authorised CAMO Personnel (GAM/C-051)
25. Manpower Resource and Management Tools (GAM/C-052)
26. MEL Rectification Interval Extension (GAM/C-055A)
27. Airworthiness Directives (AD) / Service Bulletin (SB) Monthly Summary (GAM/C-056)
28. Rotorcraft Flight Manual (RFM) Amendment Record (GAM/C-057)
29. AMP Interval Escalation (GAM/C-060)

** Forms reflected in CAME approved by DGTA*