



CIVIL AVIATION GUIDANCE MATERIAL – 8503

MANDATORY+
OCCURRENCE REPORTING
– AIRWORTHINESS
ASPECT

MOR – AIRWORTHINESS ASPECT

CIVIL AVIATION AUTHORITY OF MALAYSIA

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Introduction

This Civil Aviation Guidance Material 8503 (CAGM – 8503) is issued by the Civil Aviation Authority of Malaysia (CAAM) to provide guidance for Mandatory Occurrence Reporting – Airworthiness Aspect, pursuant to Civil Aviation Directives 1900 (CAD 1900 – Safety Reporting System), Civil Aviation Directives 6 Part 1 (CAD 6 Part 1 – Commercial Air Transport), Civil Aviation Directives 6 Part 2 (CAD Part 2 – General Aviation), Civil Aviation Directives 6 Part 3 (CAD 6 Part 3 – Helicopter) and Civil Aviation Directives 8 (CAD 8 – Airworthiness of Aircraft).

Organisations may use these guidelines to demonstrate compliance with the provisions of the relevant CAD's issued. Notwithstanding Regulation 204 and Regulation 205 of the Malaysian Civil Aviation Regulations 2016 (MCAIR 2016), when the CAGMs issued by the CAAM are used, the related requirements of the CAD's are considered as met, and further demonstration may not be required.



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Chief Executive Officer
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Civil Aviation Guidance Material Components and Editorial practices

This Civil Aviation Guidance Material is made up of the following components and are defined as follows:

Standards: Usually preceded by words such as “*shall*” or “*must*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where uniform application is necessary for the safety or regularity of air navigation and to which Operators must conform. In the event of impossibility of compliance, notification to the CAAM is compulsory.

Recommended Practices: Usually preceded by the words such as “*should*” or “*may*”, are any specification for physical characteristics, configuration, performance, personnel or procedure, where the uniform application is desirable in the interest of safety, regularity or efficiency of air navigation, and to which Operators will endeavour to conform.

Appendices: Material grouped separately for convenience but forms part of the Standards and Recommended Practices stipulated by the CAAM.

Definitions: Terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

Tables and Figures: These add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

Notes: Included in the text, where appropriate, Notes give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;

Attachments: Material supplementary to the Standards and Recommended Practices or included as a guide to their application.

It is to be noted that some Standards in this Civil Aviation Guidance Material incorporates, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

The units of measurement used in this document are in accordance with the International System of Units (SI) as specified in CAD 5. Where CAD 5 permits the use of non-SI alternative units, these are shown in parentheses following the basic units. Where two sets of units are quoted it must not be assumed that the pairs of values are equal and interchangeable. It may, however, be inferred that an equivalent level of safety is achieved when either set of units is used exclusively.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Throughout this Civil Aviation Guidance Material, the use of the male gender should be understood to include male and female persons.



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1 General

- 1.1 As part of the reporting process, it is essential for organisations to provide high quality and complete data & information to facilitate analysis on the occurrences.
- 1.2 Prior to submitting the required reports to CAAM, organisations should, based on information collected, analyse occurrences that could have an impact on safety, in order to identify safety hazards and take appropriate and timely safety actions.
- 1.3 This CAGM only addresses occurrences related to technical conditions, maintenance and repair of aircraft.



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2 Reporting time

- 2.1 The period of 48 hours is normally understood to start from when the occurrence took place or from the time when the reporter determined that there was, or could have been, a potentially hazardous or unsafe condition to the aircraft, its occupants or any other person.
- 2.2 Within the overall limit of 48 hours for the submission of a report, the degree of urgency should be determined by the level of hazard judged to have resulted from the occurrence:
- a) Where an occurrence is judged to have resulted in an immediate and particularly significant hazard, the CAAM expects to be notified immediately, either by calling or texting the respective organisation's Primary Maintenance Inspector (PMI) followed by an email to the PMI and copied to the Director of Airworthiness of whatever details available at the time. This initial notification should then be followed up by a report email to mor.airworthiness@caam.gov.my within 48 hours. Supplementary information (if any) can be provided after the 48 hours.
 - b) Where the occurrence is judged to have resulted in a less immediate and less significant hazard, report submission may be delayed up to the maximum of 48 hours in order to provide more details or more reliable information.



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3 Means of Reporting

- 3.1 Reports can be made and submitted through form CAAM/AW/8503-01 provided in the CAAM website. Every significant information in the form should be filled in. However, the amount of information in the report should commensurate with the severity of the occurrence.
- 3.2 For any occurrence involving a system or component, which is monitored or protected by a warning and/ or protection system (for example: fire detection/ extinguishing) the occurrence report should always state whether such system(s) functioned properly in the Problem Description column of the report.
- 3.3 Preliminary analysis report (to be submitted within 30 days from the date of occurrence) can be submitted through form CAAM/AW/8503-02 provided in the CAAM website.

Note.– If the risk assessment resulted in the Safety Risk Index being in the green range, then there will be no requirement for the Final Analysis Report. If the Safety Risk Index lies in the amber range, then the Final Analysis Report will only be required if there are further evidence and/or corrective action to be presented.

- 3.4 Final analysis report (to be submitted within 3 months from the date of occurrence) can be submitted through form CAAM/AW/8503-03 provided in the CAAM website if the final analysis results identify an actual or potential aviation safety risk.

Note.– Any additional information, evidence and/or documents that supports or provides clarity to the Preliminary Analysis or the Final Analysis reports should be attached together with the report respectively. All reports should be submitted through email to mor.airworthiness@caam.gov.my.



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4 Risk Assessment

4.1 Assessing severity and probability. Organisations should perform a risk assessment by using the probability and severity risk matrix for each of the occurrence.

4.2 CAAM realizes that the level of detail and complexity of tables and matrices used should be adapted to the particular needs and complexities of each organisation. Organisations may also have its own qualitative and quantitative criteria of risk assessment. However, for the purpose of MOR risk assessment, CAAM insist on standardising the scales, method of risk calculation, criteria for accepting risk and colour coding as stipulated below.

4.3 Safety risk probability.

4.3.1 Safety risk probability is the likelihood that a safety consequence or outcome will occur. Table 1 presents a typical safety risk probability classification table. It includes five categories to denote the probability related to an unsafe event or condition, the description of each category, and an assignment of a value to each category. This matrix uses qualitative terms and quantitative value are assigned to provide a more accurate assessment.

<i>Likelihood</i>	<i>Meaning</i>	<i>Value</i>
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely to occur, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Table 1

4.4 Safety risk severity.

4.4.1 Safety risk severity is defined as the extent of harm that might reasonably be expected to occur as a consequence or outcome of the identified hazard. The severity assessment should consider all possible consequences related to a hazard, taking into account the worst foreseeable situation. Table 2 presents a typical safety risk severity table. It includes five categories to denote the level of severity, the description of each category, and the assignment of a value to each category.

<i>Severity</i>	<i>Meaning</i>	<i>Value</i>
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Catastrophic	<ul style="list-style-type: none"> • Aircraft / equipment destroyed • Multiple deaths 	A
Hazardous	<ul style="list-style-type: none"> • A large reduction in safety margins, physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely • Serious injury • Major equipment damage 	B
Major	<ul style="list-style-type: none"> • A significant reduction in safety margins, a reduction in the ability of operational • personnel to cope with adverse operating conditions as a result of an increase in • workload or as a result of conditions impairing their efficiency • Serious incident • Injury to persons 	C
Minor	<ul style="list-style-type: none"> • Nuisance • Operating limitations • Use of emergency procedures • Minor incident 	D
Negligible	<ul style="list-style-type: none"> • Few consequences 	E

Table 2

4.5 Safety risk tolerability.

4.5.1 The safety risk index rating is created by combining the results of the probability and severity scores. It will be an alphanumeric designator. The respective severity/probability combinations are presented in the safety risk assessment matrix in Table 3. The safety risk assessment matrix is used to determine safety risk tolerability. Consider, for example, a situation where the safety risk probability has been assessed as Occasional (4), and the safety risk severity has been assessed as Hazardous (B), resulting in a safety risk index of (4B).

Safety Risk	Severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent 5	5A	5B	5C	5D	5E
Occasional 4	4A	4B	4C	4D	4E
Remote 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremely improbable 1	1A	1B	1C	1D	1E

Table 3

4.6 Safety risk matrix.

4.6.1 The safety risk index should then be assessed against the safety risk tolerability table that describes — in a narrative form — the tolerability criteria for the particular occurrence. Table 4 presents the safety risk tolerability table. Organisations should perform the recommended action as stipulated in the table.

<i>Safety Risk Index Range</i>	<i>Safety Risk Description</i>	<i>Recommended Action</i>
5A, 5B, 5C, 4A, 4B, 3A	INTOLERABLE	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	TOLERABLE	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk.
3E, 2D, 2E, 1B, 1C, 1D, 1E	ACCEPTABLE	Acceptable as is. No further safety risk mitigation required.

Table 4



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5 Reporting Between Organisations

- 5.1 The 'Organisation responsible for the design' is a general term, which can be any one or a combination of the following organisations—
- a) Holder of Type Certificate (TC) of an Aircraft, Engine or Propeller;
 - b) Holder of a Supplemental Type Certificate (STC) or Modification Approval on an Aircraft, Engine or Propeller; or
 - c) Holder of an Aeronautical Product Approval, e.g. Technical Standard Order Authorisation (TSOA), Parts Manufacturing Approval (PMA).
- 5.2 If it can be determined that the occurrence has an impact on or is related to an aircraft component which is covered by a separate design approval (TC, STC, TSOA or PMA), then the holders of such approval/authorisation should be informed. If an occurrence happens on a component which is covered by a TC, STC, TSOA or PMA (e.g. during maintenance), then only that TC, STC, TSOA or PMA holder needs to be informed.
- 5.3 The form and timescale for reports to be exchanged between organisations is left for individual organisations to determine taking into consideration its effect on the preliminary and final analysis that will be submitted to CAAM. CAAM emphasise the importance of relationships to exist between the organisations to ensure that there is an exchange of information relating to occurrences.
- 5.4 Paragraph 6 of this CAGM provides guidance as to what should be reported by an organisation to the CAAM. The list of criteria provided may be used as guidance for establishing which occurrences shall be reported to which organisation. For example, certain operational occurrences may not need to be reported by the CAMO to the design or production organisation.



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6 Reportable Occurrences

- 6.1 **General.** There are different reporting requirements for CAMO, AMO, DOA and POA. Moreover, there are not only requirements for reporting to the CAAM, but also for reporting to other (private) entities. The criteria for all these different reporting lines are not the same. For example, the CAAM will not receive the same kind of reports from a design organisation as from a CAMO. This is a reflection of the different perspectives of the organisations based on their activities.
- 6.2 **Continuing Airworthiness and Maintenance.** The list of examples of reportable occurrences offered below under paragraph 6.7 of this CAGM is established from the perspective of primary sources of occurrence information in the operational area (CAMO and maintenance organisations) to provide guidance for those persons developing criteria for individual organisations on what they need to report to the CAAM. The list is neither definitive nor exhaustive and judgement by the reporter of the degree of hazard or potential hazard involved is essential.
- 6.3 **Design.** The list of examples will not be used by design organisations directly for the purpose of determining when a report has to be made to the CAAM, but it can serve as guidance for the establishment of the system for collecting data. After receipt of reports from the primary sources of information, design personnel will normally perform some kind of analysis to determine whether an occurrence has resulted or may result in an unsafe condition and a report to the CAAM should be made.
- 6.4 **Production.** The list of examples is not applicable to the reporting obligation of production organisations. Their primary concern is to inform the design organisation of deviations. Only in cases where an analysis in conjunction with that design organisation shows that the deviation could lead to an unsafe condition, should a report be made to the CAAM (see also paragraph 6.3 of this CAGM).
- 6.5 **Customised list.** Each CAMO and maintenance organisation should develop a customised list adapted to its aircraft, operation or product. The list of reportable occurrences applicable to an organisation should be published within the organisation's expositions/ handbooks/ manuals.
- 6.6 **Internal reporting.** The perception of safety is central to occurrence reporting. It is for each organisation to determine what is safe and what is unsafe and to develop its reporting system on that basis. The organisation should establish an internal reporting system whereby reports are centrally collected and reviewed to establish which reports meet the criteria for occurrence reporting to the CAAM and other organisations, as required.
- 6.7 **List of examples of reportable occurrences.**

Appendix 1 of this CAGM is a generic list of reportable occurrences. Not all examples are applicable to each reporting organisation. Therefore, each organisation should define and agree with the CAAM a specific list of reportable occurrences or a list of

more generic criteria, tailored to its activity and scope of work (see also paragraph 6.5 of this CAGM). In establishing that customised list, the organisation should take into account the following considerations:

- a) Reportable occurrences are those where the safety of operation was or could have been endangered or which could have led to an unsafe condition. If in the view of the reporter an occurrence did not hazard the safety of the operation but if repeated in different but likely circumstances would create a hazard, then a report should be made. What is judged to be reportable on one class of product, part or appliance may not be so on another and the absence or presence of a single factor, human or technical, can transform an occurrence into a serious incident or accident.
- b) Specific operational approvals, e.g. RVSM, ETOPS, RNAV, or a design or maintenance programme, may have specific reporting requirements for failures or malfunctions associated with that approval or programme.

A lot of the qualifying adjectives like 'significant' have been deleted from the list. Instead, it is expected that all examples are qualified by the reporter using the general criteria that are applicable in his field, and specified in the requirement (e.g. for CAMO: 'hazards or could have hazarded the operation').

7 Appendices

7.1 Appendix 1 – Generic List of Reportable Occurrences

1 AIRCRAFT TECHNICAL

1.1 Structural

a) Not all structural failures need to be reported. Engineering judgement is required to decide whether a failure is serious enough to be reported. The following examples can be taken into consideration:

- 1) Damage to a Principal Structural Element that has not been qualified as damage tolerant (life limited element). Principal Structural Elements are those which contribute significantly to carrying flight, ground, and pressurization loads, and whose failure could result in a catastrophic failure of the aircraft.
- 2) Defect or damage exceeding admissible damages to a Principal Structural Element that has been qualified as damage tolerant;
- 3) Damage to or defect exceeding allowed tolerances of a structural element which failure could reduce the structural stiffness to such an extent that the required flutter, divergence or control reversal margins are no longer achieved;
- 4) Damage to or defect of a structural element, which could result in the liberation of items of mass that may injure occupants of the aircraft;
- 5) Damage to or defect of a structural element, which could jeopardise proper operation of systems. See paragraph 1.2 below; and
- 6) Loss of any part of the aircraft structure in flight.

1.2 Systems

a) The following generic criteria applicable to all systems are proposed:

- 1) Loss, significant malfunction or defect of any system, subsystem or set of equipment when standard operating procedures, drills etc. could not be satisfactorily accomplished.
- 2) Inability of the crew to control the system, e.g.:
 - i) Un-commanded actions;
 - ii) incorrect and/or incomplete response, including limitation of movement or stiffness;
 - iii) runaway; and
 - iv) mechanical disconnection or failure;
- 3) Failure or malfunction of the exclusive function(s) of the system (one system could integrate several functions).
- 4) Interference within or between systems.

- 5) Failure or malfunction of the protection device or emergency system associated with the system.
 - 6) Loss of redundancy of the system.
 - 7) Any occurrence resulting from unforeseen behavior of a system.
 - 8) For aircraft types with single main systems, subsystems or sets of equipment: Loss, significant malfunction or defect in any main system, subsystem or set of equipment.
 - 9) For aircraft types with multiple independent main systems, subsystems or sets of equipment: The loss, significant malfunction or defect of more than one main system, subsystem or set of equipment.
 - 10) Operation of any primary warning system associated with aircraft systems or equipment unless the crew conclusively established that the indication was false provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning.
 - 11) Leakage of hydraulic fluids, fuel, oil or other fluids which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.
 - 12) Malfunction or defect of any indication system when this results in the possibility of misleading indications to the crew.
 - 13) Any failure, malfunction or defect if it occurs at a critical phase of flight and relevant to the operation of that system.
 - 14) Occurrences of significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance calculation method) including braking action, fuel consumption etc., and
 - 15) Asymmetry of flight controls; e.g. flaps, slats, spoilers etc.
- b) Appendix 2 of this CAGM gives a list of examples of reportable occurrences resulting from the application of these generic criteria to specific systems.

1.3 Propulsion (including Engines, Propellers and Rotor Systems) and APUs

- a) Flameout, shutdown or malfunction of any engine;
- b) Overspeed or inability to control the speed of any high-speed rotating component (for example: Auxiliary power unit, air starter, air cycle machine, air turbine motor, propeller or rotor);
- c) Failure or malfunction of any part of an engine or powerplant resulting in any one or more of the following:
 - 1) non containment of components/debris;
 - 2) uncontrolled internal or external fire, or hot gas breakout;

- 3) thrust in a different direction from that demanded by the pilot;
 - 4) thrust reversing system failing to operate or operating inadvertently;
 - 5) inability to control power, thrust or rpm;
 - 6) failure of the engine mount structure;
 - 7) partial or complete loss of a major part of the powerplant;
 - 8) Dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers;
 - 9) inability, by use of normal procedures, to shut down an engine; and
 - 10) inability to restart a serviceable engine;
- d) An un-commanded thrust/ power loss, change or oscillation which is classified as a loss of thrust or power control (LOTIC):
- 1) for a single-engine aircraft;
 - 2) where it is considered excessive for the application;
 - 3) where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin-engine aircraft; or
 - 4) for a multi-engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical;
- e) Any defect in a life control parts causing retirement before completion of its full life;
- f) Defects of common origin which could cause an in-flight shut down rate so high that there is the possibility of more than one engine being shut down on the same flight;
- g) An engine limiter or control device failing to operate when required or operating inadvertently;
- h) Exceedance of engine parameters;
- i) FOD resulting in damage.

Propellers and transmission

- a) Failure or malfunction of any part of a propeller or powerplant resulting in any one or more of the following:
- 1) an overspeed of the propeller;
 - 2) the development of excessive drag;
 - 3) a thrust in the opposite direction to that commanded by the pilot;
 - 4) a release of the propeller or any major portion of the propeller;

- 5) a failure that results in excessive unbalance;
- 6) the unintended movement of the propeller blades below the established minimum in-flight low-pitch position;
- 7) an inability to feather the propeller;
- 8) an inability to command a change in propeller pitch;
- 9) an un-commanded change in pitch;
- 10) an uncontrollable torque or speed fluctuation; and
- 11) The release of low energy parts;

Rotors and transmission

- a) Damage or defect of main rotor gearbox/attachment which could lead to in-flight separation of the rotor assembly, and/or malfunctions of the rotor control;
- b) Damage to tail rotor, transmission and equivalent systems;

APUs

- a) Shut down or failure when the APU is required to be available by operational requirements, e.g. ETOPS, MEL;
- b) Inability to shut down the APU;
- c) Overspeed; and
- d) Inability to start the APU when needed for operational reasons.

1.4 Suspected Unapproved Parts (SUP)

- a) Unapproved part is a part or material intended for installation on a type certificated product/aircraft, which has neither been manufactured according to approved procedures, nor conforms to an approved type design; or it fails to conform to declared specifications or accepted industry standards (i.e. standard parts).
- b) Unapproved parts include, but are not limited to:
 - 1) Parts specified in the illustrated parts catalogues (IPC) of a type certificated aircraft, but which have been manufactured, reclaimed or reworked and then marked by an unauthorised source and provided with documents which indicate falsely that the part(s) are genuine and conform to the approved type design, or meet a particular industry standard and are offered for use as conforming with an aircraft manufacturer's authorised IPC.
 - 2) Parts shipped directly to users by, manufacturers, suppliers, or distributors who do not themselves hold appropriate production approvals for the parts, and have not been authorised to make direct shipments to users or stockists, by the type certificate holder, who alone has production approval, e.g. production overruns.

- 3) Parts which have not been maintained, overhauled or repaired in accordance with the requirements of approved airworthiness data and/or statutory requirements, or that have been maintained, overhauled or repaired by persons not authorised to perform and certify these functions.
- c) The user shall refer to “CAAM Unapproved Part Notification” for any information regarding SUP. Additionally, the user should also cross-refer with the state of design’s national aviation authority website for additional information on the Suspected Unapproved Part.
- d) At any time, a part is deemed to be suspected, the SUP and any accompanying documentation should be quarantined immediately and held until CAAM finalized the investigation and satisfied that the evidence is no longer required or until the authenticity of the part has been established.

1.5 Human Factors

- a) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.
- b) Any actions of individuals or teams which impacts the safe conduct of continuing airworthiness & maintenance of the aircraft, or where their ability to safely carry out duties might be hindered. This can include (but are not limited to) events related to experience or training, situational awareness, perception, task performance etc.”

1.6 Other Occurrences

- a) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.
- b) An occurrence not normally considered as reportable (for example, furnishing and cabin equipment, water systems), where the circumstances resulted in endangering of the aircraft or its occupants.
- c) A fire, explosion, smoke or toxic or noxious fumes.
- d) Any other event which could hazard the aircraft, or affect the safety of the occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.
- e) Failure or defect of passenger address system resulting in loss or inaudible passenger address system.
- f) Loss of pilot’s seat control during flight.

2 AIRCRAFT MAINTENANCE AND REPAIR

- 2.1 Incorrect assembly of parts or components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
- 2.2 Hot bleed air leak resulting in structural damage.
- 2.3 Any defect in a life-controlled-part causing retirement before completion of its full life.

- 2.4 Any damage or deterioration (i.e. fractures, cracks, corrosion, delamination, dis-bonding etc.) resulting from any cause (such as flutter, loss of stiffness or structural failure) to:
- a) primary structure or a principal structural element (as defined in the manufacturers' Repair Manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element;
 - b) secondary structure which consequently has or may have endangered the aircraft; or
 - c) the engine, propeller or rotorcraft rotor system.
- 2.5 Any failure, malfunction or defect of any system or equipment, or damage or deterioration found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority, when:
- a) it is detected for the first time by the reporting organisation implementing compliance;
 - b) on any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available; or
- 2.6 Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance or test purposes.
- 2.7 Non-compliance or significant errors in compliance with required maintenance procedures.
- 2.8 Products, parts, appliances and materials of unknown or suspect origin.
- 2.9 Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.
- 2.10 Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

7.2 Appendix 2 – Reportable Occurrences to Specific Systems

1 The following subparagraphs give examples of reportable occurrences resulting from the application of the generic criteria to specific systems listed in paragraph 1.2 of the Appendix 1 of this CAGM.

1.1 Air conditioning/ ventilation

- a) complete loss of avionics cooling,
- b) depressurisation.

1.2 Auto-flight system

- a) failure of the auto-flight system to achieve the intended operation while engaged,
- b) significant reported crew difficulty to control the aircraft linked to auto-flight system,
- c) functioning,
- d) failure of any auto-flight system disconnect device,
- e) Un-commanded auto-flight mode change.

1.3 Communications

- a) failure or defect of passenger address system resulting in loss or inaudible passenger address,
- b) total loss of communication in flight.

1.4 Electrical system

- a) loss of one electrical system distribution system (AC or DC),
- b) total loss or loss or more than one electrical generation system,
- c) failure of the back-up (emergency) electrical generating system.

1.5 Cockpit/ Cabin/ Cargo

- a) pilot seat control loss during flight,
- b) failure of any emergency system or equipment, including emergency evacuation signaling system, all exit doors, emergency lighting, etc.,
- c) loss of retention capability of the cargo loading system.

1.6 Fire protection system

- a) fire warnings, except those immediately confirmed as false,
- b) undetected failure or defect of fire/ smoke detection/ protection system, which could lead to loss or reduced fire detection/protection,
- c) absence of warning in case of actual fire or smoke.

1.7 Flight controls

- a) Asymmetry of flaps, slats, spoilers etc.,
- b) limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems,
- c) flight control surface run away,
- d) flight control surface vibration felt by the crew,
- e) mechanical flight control disconnection or failure,
- f) significant interference with normal control of the aircraft or degradation of flying qualities.

1.8 Fuel system

- a) fuel quantity indicating system malfunction resulting in total loss or erroneous indicated fuel quantity on board,
- b) leakage of fuel which resulted in major loss, fire hazard, significant contamination,
- c) malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel,
- d) fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution,
- e) inability to transfer or use total quantity of usable fuel.

1.9 Hydraulics

- a) loss of one hydraulic system (ETOPS only),
- b) failure of the isolation system to operate,
- c) loss of more than one hydraulic circuit,
- d) failure of the back-up hydraulic system,
- e) inadvertent Ram Air Turbine extension.

1.10 Ice detection/ protection system

- a) undetected loss or reduced performance of the anti-ice/ de-ice system,
- b) loss of more than one of the probe heating systems,
- c) inability to obtain symmetrical wing de-icing,
- d) abnormal ice accumulation leading to significant effects on performance or handling qualities,
- e) crew vision significantly affected.

1.11 Indicating/ warning/ recording systems

- a) malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system,
- b) loss of a red warning function on a system,
- c) for glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/ warning function.

1.12 Landing gear system/ brakes/ tires

- a) brake fire,
- b) significant loss of braking action,
- c) unsymmetrical braking leading to significant path deviation,
- d) failure of the L/G free fall extension system (including during scheduled tests),
- e) unwanted gear or gear doors extension/retraction,
- f) multiple tires burst.

1.13 Navigation systems (including precision approaches system) and air data systems

- a) total loss or multiple navigation equipment failures,
- b) total failure or multiple air data system equipment failures,
- c) significant misleading indication,
- d) Significant navigation errors attributed to incorrect data or a database coding error,
- e) Unexpected deviations in lateral or vertical path not caused by pilot input,
- f) Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

1.14 Oxygen

- a) for pressurised aircraft: loss of oxygen supply in the cockpit,
- b) loss of oxygen supply to a significant number of passengers (more than 10%), including when found during maintenance or training or test purposes.

1.15 Bleed air system

- a) hot bleed air leak resulting in fire warning or structural damage,
- b) loss of all bleed air systems,
- c) failure of bleed air leak detection system.



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7.3 Appendix 3 – ATA Code Table

- 1 Appendix 3 provides a breakdown of specific systems related to the occurrence according to the ATA Chapter. The list can be used as a guidance in developing Maintenance Organisation's and CAMO's customised list of reportable occurrences (see para 6.5). It is highly advisable that organisation fill in the MOR Form CAAMAW8503-01 with the related ATA and Sub ATA Chapter to facilitate indication and monitoring of trends to specific system or component.

ATA/ TITLE

11 PLACARDS AND MARKINGS

1100 PLACARDS AND MARKINGS

12 SERVICING

1210 FUEL SERVICING
1220 OIL SERVICING
1230 HYDRAULIC FLUID SERVICING
1240 COOLANT SERVICING

14 HARDWARE

1400 MISCELLANEOUS HARDWARE
1410 HOSES AND TUBES
1420 ELECTRICAL CONNECTORS
1430 FASTENERS
1497 MISCELLANEOUS WIRING

18 HELICOPTER VIBRATION

1800 HELICOPTER VIB/NOISE ANALYSIS
1810 HELICOPTER VIBRATION ANALYSIS
1820 HELICOPTER NOISE ANALYSIS
1897 HELICOPTER VIBRATION SYSTEM WIRING

21 AIR CONDITIONING

2100 AIR CONDITIONING SYSTEM
2110 CABIN COMPRESSOR SYSTEM
2120 AIR DISTRIBUTION SYSTEM
2121 AIR DISTRIBUTION FAN
2130 CABIN PRESSURE CONTROL SYSTEM
2131 CABIN PRESSURE CONTROLLER
2132 CABIN PRESSURE INDICATOR
2133 PRESSURE REGUL/OUTFLOW VALVE
2134 CABIN PRESSURE SENSOR
2140 HEATING SYSTEM
2150 CABIN COOLING SYSTEM
2160 CABIN TEMPERATURE CONTROL SYSTEM
2161 CABIN TEMPERATURE CONTROLLER
2162 CABIN TEMPERATURE INDICATOR
2163 CABIN TEMPERATURE SENSOR
2170 HUMIDITY CONTROL SYSTEM
2197 AIR CONDITIONING SYSTEM WIRING

22 AUTO FLIGHT

2200 AUTO FLIGHT SYSTEM
2210 AUTOPILOT SYSTEM
2211 AUTOPILOT COMPUTER
2212 ALTITUDE CONTROLLER
2213 FLIGHT CONTROLLER
2214 AUTOPILOT TRIM INDICATOR
2215 AUTOPILOT MAIN SERVO
2216 AUTOPILOT TRIM SERVO
2220 SPEED-ATTITUDE CORRECT. SYSTEM
2230 AUTO THROTTLE SYSTEM
2250 AERODYNAMIC LOAD ALLEVIATING
2297 AUTOFLIGHT SYSTEM WIRING

23 COMMUNICATIONS

2300 COMMUNICATIONS SYSTEM
2310 HF COMMUNICATION SYSTEM
2311 UHF COMMUNICATION SYSTEM
2312 VHF COMMUNICATION SYSTEM
2320 DATA TRANSMISSION AUTO CALL
2330 ENTERTAINMENT SYSTEM
2340 INTERPHONE/PASSENGER PA SYSTEM
2350 AUDIO INTEGRATING SYSTEM
2360 STATIC DISCHARGE SYSTEM
2370 AUDIO/VIDEO MONITORING
2397 COMMUNICATION SYSTEM WIRING

24 ELECTRICAL POWER

2400 ELECTRICAL POWER SYSTEM
2410 ALTERNATOR-GENERATOR DRIVE
2420 AC GENERATION SYSTEM
2421 AC GENERATOR-ALTERNATOR
2422 AC INVERTER
2423 PHASE ADAPTER
2424 AC REGULATOR
2425 AC INDICATING SYSTEM
2430 DC GENERATING SYSTEM
2431 BATTERY OVERHEAT WARN. SYSTEM
2432 BATTERY/CHARGER SYSTEM
2433 DC RECTIFIER/CONVERTER
2434 DC GENERATOR-ALTERNATOR
2435 STARTER-GENERATOR
2436 DC REGULATOR
2437 DC INDICATING SYSTEM
2440 EXTERNAL POWER SYSTEM
2450 AC POWER DISTRIBUTION SYSTEM
2460 DC POWER/DISTRIBUTION SYSTEM
2497 ELECTRICAL POWER SYSTEM WIRING



25 EQUIPMENT/FURNISHINGS

2500 CABIN EQUIPMENT/FURNISHINGS
2510 FLIGHT COMPARTMENT EQUIPMENT
2520 PASSENGER COMPARTMENT EQUIPMENT
2530 BUFFET/GALLEYS
2540 LAVATORIES
2550 CARGO COMPARTMENTS
2551 AGRICULTURAL SPRAY SYSTEM
2560 EMERGENCY EQUIPMENT
2561 LIFE JACKET
2562 EMERGENCY LOCATOR BEACON
2563 PARACHUTE
2564 LIFE RAFT
2565 ESCAPE SLIDE
2570 ACCESSORY COMPARTMENT
2571 BATTERY BOX STRUCTURE
2572 ELECTRONIC SHELF SECTION
2597 EQUIP/FURNISHING SYSTEM WIRING

26 FIRE PROTECTION

2600 FIRE PROTECTION SYSTEM
2610 DETECTION SYSTEM
2611 SMOKE DETECTION
2612 FIRE DETECTION
2613 OVERHEAT DETECTION
2620 EXTINGUISHING SYSTEM
2621 FIRE BOTTLE, FIXED
2622 FIRE BOTTLE, PORTABLE
2697 FIRE PROTECTION SYSTEM WIRING

27 FLIGHT CONTROLS

2700 FLIGHT CONTROL SYSTEM
2701 CONTROL COLUMN SECTION
2710 AILERON CONTROL SYSTEM
2711 AILERON TAB CONTROL SYSTEM
2720 RUDDER CONTROL SYSTEM
2721 RUDDER TAB CONTROL SYSTEM
2722 RUDDER ACTUATOR
2730 ELEVATOR CONTROL SYSTEM
2731 ELEVATOR TAB CONTROL SYSTEM
2740 STABILIZER CONTROL SYSTEM
2741 STABILIZER POSITION INDICATING
2742 STABILIZER ACTUATOR
2750 TE FLAP CONTROL SYSTEM
2751 TE FLAP POSITION IND. SYSTEM
2752 TE FLAP ACTUATOR
2760 DRAG CONTROL SYSTEM
2761 DRAG CONTROL ACTUATOR
2770 GUST LOCK/DAMPER SYSTEM
2780 LE SLAT CONTROL SYSTEM
2781 LE SLAT POSITION IND. SYSTEM
2782 LE SLAT ACTUATOR
2797 FLIGHT CONTROL SYSTEM WIRING

28 FUEL

2800 AIRCRAFT FUEL SYSTEM
2810 FUEL STORAGE
2820 ACFT FUEL DISTRIB. SYSTEM
2821 ACFT FUEL FILTER/STRAINER
2822 FUEL BOOST PUMP
2823 FUEL SELECTOR/SHUT-OFF VALVE
2824 FUEL TRANSFER VALVE
2830 FUEL DUMP SYSTEM
2840 ACFT FUEL INDICATING SYSTEM
2841 FUEL QUANTITY INDICATOR
2842 FUEL QUANTITY SENSOR
2843 FUEL TEMPERATURE INDICATOR
2844 FUEL PRESSURE INDICATOR
2897 FUEL SYSTEM WIRING

29 HYDRAULIC POWER

2900 HYDRAULIC POWER SYSTEM
2910 HYDRAULIC SYSTEM, MAIN
2911 HYDRAULIC POWER ACCUMULATOR, MAIN
2912 HYDRAULIC FILTER, MAIN
2913 HYDRAULIC PUMP, (ELECT/ENG), MAIN
2914 HYDRAULIC HANDPUMP, MAIN
2915 HYDRAULIC PRESSURE RELIEF VLV, MAIN
2916 HYDRAULIC RESERVOIR, MAIN
2917 HYDRAULIC PRESSURE REGULATOR, MAIN
2920 HYDRAULIC SYSTEM, AUXILIARY
2921 HYDRAULIC ACCUMULATOR, AUXILIARY
2922 HYDRAULIC FILTER, AUXILIARY
2923 HYDRAULIC PUMP, AUXILIARY
2925 HYDRAULIC PRESSURE RELIEF, AUXILIARY
2926 HYDRAULIC RESERVOIR, AUXILIARY
2927 HYDRAULIC PRESSURE REGULATOR, AUX.
2930 HYDRAULIC INDICATING SYSTEM
2931 HYDRAULIC PRESSURE INDICATOR
2932 HYDRAULIC PRESSURE SENSOR
2933 HYDRAULIC QUANTITY INDICATOR
2934 HYDRAULIC QUANTITY SENSOR
2997 HYDRAULIC POWER SYSTEM WIRING

30 ICE AND RAIN PROTECTION

3000 ICE/RAIN PROTECTION SYSTEM
3010 AIRFOIL ANTI/DE-ICE SYSTEM
3020 AIR INTAKE ANTI/DE-ICE SYSTEM
3030 PITOT/STATIC ANTI-ICE SYSTEM
3040 WINDSHIELD/DOOR RAIN/ICE REMOVAL
3050 ANTENNA/RADOME ANTI-ICE/DE-ICE SYSTEM
3060 PROP/ROTOR ANTI-ICE/DE-ICE SYSTEM
3070 WATER LINE ANTI-ICE SYSTEM
3080 ICE DETECTION
3097 ICE/RAIN PROTECTION SYSTEM WIRING



31 INSTRUMENTS

3100 INDICATING/RECORDING SYSTEM
3110 INSTRUMENT PANEL
3120 INDEPENDENT INSTRUMENTS (CLOCK, ETC.)
3130 DATA RECORDERS (FLT/MAINT)
3140 CENTRAL COMPUTERS (EICAS)
3150 CENTRAL WARNING
3160 CENTRAL DISPLAY
3170 AUTOMATIC DATA
3197 INSTRUMENT SYSTEM WIRING

32 LANDING GEAR

3200 LANDING GEAR SYSTEM
3201 LANDING GEAR/WHEEL FAIRING
3210 MAIN LANDING GEAR
3211 MAIN LANDING GEAR ATTACH SECTION
3212 EMERGENCY FLOTATION SECTION
3213 MAIN LANDING GEAR STRUT/AXLE/TRUCK
3220 NOSE/TAIL LANDING GEAR
3221 NOSE/TAIL LANDING GEAR ATTACH SECTION
3222 NOSE/TAIL LANDING GEAR STRUT/AXLE
3230 LANDING GEAR RETRACT/EXTEND SYSTEM
3231 LANDING GEAR DOOR RETRACT SECTION
3232 LANDING GEAR DOOR ACTUATOR
3233 LANDING GEAR ACTUATOR
3234 LANDING GEAR SELECTOR
3240 LANDING GEAR BRAKE SYSTEM
3241 BRAKE ANTI-SKID SECTION
3242 BRAKE
3243 MASTER CYLINDER/BRAKE VALVE
3244 TIRE
3245 TIRE TUBE
3246 WHEEL/SKI/FLOAT
3250 LANDING GEAR STEERING SYSTEM
3251 STEERING UNIT
3252 SHIMMY DAMPER
3260 LANDING GEAR POSITION AND WARNING
3270 AUXILIARY GEAR (TAIL SKID)
3297 LANDING GEAR SYSTEM WIRING

33 LIGHTS

3300 LIGHTING SYSTEM
3310 FLIGHT COMPARTMENT LIGHTING
3320 PASSENGER COMPARTMENT LIGHTING
3330 CARGO COMPARTMENT LIGHTING
3340 EXTERIOR LIGHTING
3350 EMERGENCY LIGHTING
3397 LIGHT SYSTEM WIRING

34 NAVIGATION

3400 NAVIGATION SYSTEM
3410 FLIGHT ENVIRONMENT DATA
3411 PITOT/STATIC SYSTEM
3412 OUTSIDE AIR TEMP. IND./SENSOR
3413 RATE OF CLIMB INDICATOR
3414 AIRSPEED/MACH INDICATOR
3415 HIGH SPEED WARNING
3416 ALTIMETER, BAROMETRIC/ENCODER
3417 AIR DATA COMPUTER
3418 STALL WARNING SYSTEM
3420 ATTITUDE AND DIRECTION DATA SYSTEM
3421 ATTITUDE GYRO AND IND. SYSTEM
3422 DIRECTIONAL GYRO AND IND. SYSTEM
3423 MAGNETIC COMPASS
3424 TURN AND BANK/RATE OF TURN INDICATOR
3425 INTEGRATED FLT. DIRECTOR SYSTEM
3430 LANDING AND TAXI AIDS
3431 LOCALIZER/VOR SYSTEM
3432 GLIDE SLOPE SYSTEM
3433 MICROWAVE LANDING SYSTEM
3434 MARKER BEACON SYSTEM
3435 HEADS UP DISPLAY SYSTEM
3436 WIND SHEAR DETECTION SYSTEM
3440 INDEPENDENT POS. DETERMINING SYSTEM
3441 INERTIAL GUIDANCE SYSTEM
3442 WEATHER RADAR SYSTEM
3443 DOPPLER SYSTEM
3444 GROUND PROXIMITY SYSTEM
3445 AIR COLLISION AVOIDANCE SYSTEM (TCAS)
3446 NON RADAR WEATHER SYSTEM
3450 DEPENDENT POSITION DETERMINING SYS
3451 DME/TACAN SYSTEM
3452 ATC TRANSPONDER SYSTEM
3453 LORAN SYSTEM
3454 VOR SYSTEM
3455 ADF SYSTEM
3456 OMEGA NAVIGATION SYSTEM
3457 GLOBAL POSITIONING SYSTEM
3460 FLT MANAGE. COMPUTING HARDWARE SYS
3461 FLT MANAGE. COMPUTING SOFTWARE SYS
3497 NAVIGATION SYSTEM WIRING

35 OXYGEN

3500 OXYGEN SYSTEM
3510 CREW OXYGEN SYSTEM
3520 PASSENGER OXYGEN SYSTEM
3530 PORTABLE OXYGEN SYSTEM
3597 OXYGEN SYSTEM WIRING

36 PNEUMATIC

3600 PNEUMATIC SYSTEM
3610 PNEUMATIC DISTRIBUTION SYSTEM
3620 PNEUMATIC INDICATING SYSTEM
3697 PNEUMATIC SYSTEM WIRING



37 VACUUM

3700 VACUUM SYSTEM
3710 VACUUM DISTRIBUTION SYSTEM
3720 VACUUM INDICATING SYSTEM
3797 VACUUM SYSTEM WIRING

38 WATER/WASTE

3800 WATER AND WASTE SYSTEM
3810 POTABLE WATER SYSTEM
3820 WASH WATER SYSTEM
3830 WASTE DISPOSAL SYSTEM
3840 AIR SUPPLY (WATER PRESS. SYSTEM)
3897 WATER/WASTE SYSTEM WIRING

45 CENTRAL MAINT. SYSTEM

4500 CENTRAL MAINT. COMPUTER
4597 CENTRAL MAINT. SYSTEM WIRING

49 AIRBORNE AUXILIARY POWER

4900 AIRBORNE APU SYSTEM
4910 APU COWLING/CONTAINMENT
4920 APU CORE ENGINE
4930 APU ENGINE FUEL AND CONTROL
4940 APU START/IGNITION SYSTEM
4950 APU BLEED AIR SYSTEM
4960 APU CONTROLS
4970 APU INDICATING SYSTEM
4980 APU EXHAUST SYSTEM
4990 APU OIL SYSTEM
4997 APU SYSTEM WIRING

51 STANDARD PRACTICES/STRUCTURES

5100 STANDARD PRACTICES/STRUCTURES
5101 AIRCRAFT STRUCTURES
5102 BALLOON REPORTS

52 DOORS

5200 DOORS
5210 PASSENGER/CREW DOORS
5220 EMERGENCY EXITS
5230 CARGO/BAGGAGE DOORS
5240 SERVICE DOORS
5241 GALLEY DOORS
5242 E/E COMPARTMENT DOORS
5243 HYDRAULIC COMPARTMENT DOORS
5244 ACCESSORY COMPARTMENT DOORS
5245 AIR CONDITIONING COMPART. DOORS
5246 FLUID SERVICE DOORS
5247 APU DOORS
5248 TAIL CONE DOORS
5250 FIXED INNER DOORS
5260 ENTRANCE STAIRS
5270 DOOR WARNING SYSTEM
5280 LANDING GEAR DOORS
5297 DOOR SYSTEM WIRING

53 FUSELAGE

5300 FUSELAGE STRUCTURE (GENERAL)
5301 AERIAL TOW EQUIPMENT
5302 ROTORCRAFT TAIL BOOM
5310 FUSELAGE MAIN, STRUCTURE
5311 FUSELAGE MAIN, FRAME
5312 FUSELAGE MAIN, BULKHEAD
5313 FUSELAGE MAIN, LONGERON/STRINGER
5314 FUSELAGE MAIN, KEEL
5315 FUSELAGE MAIN, FLOOR BEAM
5320 FUSELAGE MISCELLANEOUS STRUCTURE
5321 FUSELAGE FLOOR PANEL
5322 FUSELAGE INTERNAL MOUNT STRUCTURE
5323 FUSELAGE INTERNAL STAIRS
5324 FUSELAGE FIXED PARTITIONS
5330 FUSELAGE MAIN, PLATE/SKIN
5340 FUSELAGE MAIN, ATTACH FITTINGS
5341 FUSELAGE, WING ATTACH FITTINGS
5342 FUSELAGE, STABILIZER ATTACH FITTINGS
5343 LANDING GEAR ATTACH FITTINGS
5344 FUSELAGE DOOR HINGES
5345 FUSELAGE EQUIPMENT ATTACH FITTINGS
5346 POWERPLANT ATTACH FITTINGS
5347 SEAT/CARGO ATTACH FITTINGS
5350 AERODYNAMIC FAIRINGS
5397 FUSELAGE WIRING

54 NACELLES/PYLONS

5400 NACELLE/PYLON STRUCTURE
5410 NACELLE/PYLON, MAIN FRAME
5411 NACELLE/PYLON, FRAME/SPAR/RIB
5412 NACELLE/PYLON, BULKHEAD/FIREWALL
5413 NACELLE/PYLON, LONGERON/STRINGER
5414 NACELLE/PYLON, PLATE SKIN
5415 NACELLE/PYLON, ATTACH FITTINGS
5420 NACELLE/PYLON MISCELLANEOUS STRUCT.
5497 NACELLE/PYLON SYSTEM WIRING



55 STABILIZERS

5500 EMPENNAGE STRUCTURE
5510 HORIZONTAL STABILIZER STRUCTURE
5511 HORIZONTAL STABILIZER, SPAR/RIB
5512 HORIZONTAL STABILIZER, PLATE/SKIN
5513 HORIZONTAL STABILIZER, TAB STRUCTURE
5514 HORIZ STAB MISCELLANEOUS STRUCTURE
5520 ELEVATOR STRUCTURE
5521 ELEVATOR, SPAR/RIB STRUCTURE
5522 ELEVATOR, PLATES/SKIN STRUCTURE
5523 ELEVATOR, TAB STRUCTURE
5524 ELEVATOR MISCELLANEOUS STRUCTURE
5530 VERTICAL STABILIZER STRUCTURE
5531 VERTICAL STABILIZER, SPAR/RIB STRUCT.
5532 VERTICAL STABILIZER, PLATES/SKIN
5533 VENTRAL STRUCTURE
5534 VERT. STAB. MISCELLANEOUS STRUCTURE
5540 RUDDER STRUCTURE
5541 RUDDER, SPAR/RIB
5542 RUDDER, PLATE/SKIN
5543 RUDDER, TAB STRUCTURE
5544 RUDDER MISCELLANEOUS STRUCTURE
5550 EMPENNAGE FLT. CONT., ATTACH FITTING
5551 HORIZONTAL STABILIZER, ATTACH FITTING
5552 ELEVATOR/TAB, ATTACH FITTINGS
5553 VERT. STAB., ATTACH FITTINGS
5554 RUDDER/TAB, ATTACH FITTINGS
5597 STABILIZER SYSTEM WIRING

56 WINDOWS

5600 WINDOW/WINDSHIELD SYSTEM
5610 FLIGHT COMPARTMENT WINDOWS
5620 PASSENGER COMPARTMENT WINDOWS
5630 DOOR WINDOWS
5640 INSPECTION WINDOWS
5697 WINDOW SYSTEM WIRING

57 WINGS

5700 WING STRUCTURE
5710 WING, MAIN FRAME STRUCTURE
5711 WING SPAR
5712 WING, RIB/BULKHEAD
5713 WING, LONGERON/STRINGER
5714 WING, CENTER BOX
5720 WING MISCELLANEOUS STRUCTURE
5730 WING, PLATES/SKINS
5740 WING, ATTACH FITTINGS
5741 WING, FUSELAGE ATTACH FITTINGS
5742 WING, NAC/PYLON ATTACH FITTINGS
5743 WING, LANDING GEAR ATTACH FITTINGS
5744 WING, CONT. SURFACE ATTACH FITTINGS
5750 WING, CONTROL SURFACES
5751 AILERONS
5752 AILERON TAB STRUCTURE
5753 TRAILING EDGE FLAPS
5754 LEADING EDGE DEVICES
5755 SPOILERS
5797 WING SYSTEM WIRING

61 PROPELLERS/PROPULSORS

6100 PROPELLER SYSTEM
6110 PROPELLER ASSEMBLY
6111 PROPELLER BLADE SECTION
6112 PROPELLER DE-ICE BOOT SECTION
6113 PROPELLER SPINNER SECTION
6114 PROPELLER HUB SECTION
6120 PROPELLER CONTROLLING SYSTEM
6121 PROPELLER SYNCHRONIZER SECTION
6122 PROPELLER GOVERNOR
6123 PROPELLER FEATHERING/REVERSING
6130 PROPELLER BRAKING
6140 PROPELLER INDICATING SYSTEM
6197 PROPELLER/PROPULSORS SYSTEM WIRING

62 MAIN ROTOR

6200 MAIN ROTOR SYSTEM
6210 MAIN ROTOR BLADES
6220 MAIN ROTOR HEAD
6230 MAIN ROTOR MAST/SWASHPLATE
6240 MAIN ROTOR INDICATING SYSTEM
6297 MAIN ROTOR SYSTEM WIRING

63 MAIN ROTOR DRIVE

6300 MAIN ROTOR DRIVE SYSTEM
6310 ENGINE/TRANSMISSION COUPLING
6320 MAIN ROTOR GEARBOX
6321 MAIN ROTOR BRAKE
6322 ROTORCRAFT COOLING FAN SYSTEM
6330 MAIN ROTOR TRANSMISSION MOUNT
6340 ROTOR DRIVE INDICATING SYSTEM
6397 MAIN ROTOR DRIVE SYSTEM WIRING

64 TAIL ROTOR

6400 TAIL ROTOR SYSTEM
6410 TAIL ROTOR BLADES
6420 TAIL ROTOR HEAD
6440 TAIL ROTOR INDICATING SYSTEM
6497 TAIL ROTOR SYSTEM WIRING

65 TAIL ROTOR DRIVE

6500 TAIL ROTOR DRIVE SYSTEM
6510 TAIL ROTOR DRIVE SHAFT
6520 TAIL ROTOR GEARBOX
6540 TAIL ROTOR DRIVE INDICATING SYSTEM
6597 TAIL ROTOR DRIVE SYSTEM WIRING

67 ROTORS FLIGHT CONTROL

6700 ROTORCRAFT FLIGHT CONTROL
6710 MAIN ROTOR CONTROL
6711 TILT ROTOR FLIGHT CONTROL
6720 TAIL ROTOR CONTROL SYSTEM
6730 ROTORCRAFT SERVO SYSTEM
6797 ROTORS FLIGHT CONTROL SYSTEM WIRING



71 POWERPLANT

7100 POWERPLANT SYSTEM
7110 ENGINE COWLING SYSTEM
7111 ENGINE COWL FLAPS
7112 ENGINE AIR BAFFLE SECTION
7120 ENGINE MOUNT SECTION
7130 ENGINE FIRESEALS
7160 ENGINE AIR INTAKE SYSTEM
7170 ENGINE DRAINS
7197 POWERPLANT SYSTEM WIRING

72 TURBINE/TURBOPROP ENGINE

7200 ENGINE (TURBINE/TURBOPROP)
7210 TURBINE ENGINE REDUCTION GEAR
7220 TURBINE ENGINE AIR INLET SECTION
7230 TURBINE ENGINE COMPRESSOR SECTION
7240 TURBINE ENGINE COMBUSTION SECTION
7250 TURBINE SECTION
7260 TURBINE ENGINE ACCESSORY DRIVE
7261 TURBINE ENGINE OIL SYSTEM
7270 TURBINE ENGINE BYPASS SECTION
7297 TURBINE ENGINE SYSTEM WIRING

73 ENGINE FUEL AND CONTROL

7300 ENGINE FUEL AND CONTROL
7310 ENGINE FUEL DISTRIBUTION
7311 ENGINE FUEL/OIL COOLER
7312 FUEL HEATER
7313 FUEL INJECTOR NOZZLE
7314 ENGINE FUEL PUMP
7320 FUEL CONTROLLING SYSTEM
7321 FUEL CONTROL/TURBINE ENGINES
7322 FUEL CONTROL/RECEIPROCATING ENGINES
7323 TURBINE GOVERNOR
7324 FUEL DIVIDER
7330 ENGINE FUEL INDICATING SYSTEM
7331 FUEL FLOW INDICATING
7332 FUEL PRESSURE INDICATING
7333 FUEL FLOW SENSOR
7334 FUEL PRESSURE SENSOR
7397 ENGINE FUEL SYSTEM WIRING

74 IGNITION

7400 IGNITION SYSTEM
7410 IGNITION POWER SUPPLY
7411 LOW TENSION COIL
7412 EXCITER
7413 INDUCTION VIBRATOR
7414 MAGNETO/DISTRIBUTOR
7420 IGNITION HARNESS (DISTRIBUTION)
7421 SPARK PLUG/IGNITER
7430 IGNITION/STARTER SWITCHING
7497 IGNITION SYSTEM WIRING

75 AIR

7500 ENGINE BLEED AIR SYSTEM
7510 ENGINE ANTI-ICING SYSTEM
7520 ENGINE COOLING SYSTEM
7530 COMPRESSOR BLEED CONTROL
7531 COMPRESSOR BLEED GOVERNOR
7532 COMPRESSOR BLEED VALVE
7540 BLEED AIR INDICATING SYSTEM
7597 ENGINE BLEED AIR SYSTEM WIRING

76 ENGINE CONTROLS

7600 ENGINE CONTROLS
7601 ENGINE SYNCHRONIZING
7602 MIXTURE CONTROL
7603 POWER LEVER
7620 ENGINE EMERGENCY SHUTDOWN SYSTEM
7697 ENGINE CONTROL SYSTEM WIRING

77 ENGINE INDICATING

7700 ENGINE INDICATING SYSTEM
7710 POWER INDICATING SYSTEM
7711 ENGINE PRESSURE RATIO (EPR)
7712 ENGINE BMEP/TORQUE INDICATING
7713 MANIFOLD PRESSURE (MP) INDICATING
7714 ENGINE RPM INDICATING SYSTEM
7720 ENGINE TEMP. INDICATING SYSTEM
7721 CYLINDER HEAD TEMP (CHT) INDICATING
7722 ENG. EGT/TIT INDICATING SYSTEM
7730 ENGINE IGNITION ANALYZER SYSTEM
7731 ENGINE IGNITION ANALYZER
7732 ENGINE VIBRATION ANALYZER
7740 ENGINE INTEGRATED INSTRUMENT SYSTEM
7797 ENGINE INDICATING SYSTEM WIRING

78 ENGINE EXHAUST

7800 ENGINE EXHAUST SYSTEM
7810 ENGINE COLLECTOR/TAIPIPE/NOZZLE
7820 ENGINE NOISE SUPPRESSOR
7830 THRUST REVERSER
7897 ENGINE EXHAUST SYSTEM WIRING

79 ENGINE OIL

7900 ENGINE OIL SYSTEM (AIRFRAME)
7910 ENGINE OIL STORAGE (AIRFRAME)
7920 ENGINE OIL DISTRIBUTION (AIRFRAME)
7921 ENGINE OIL COOLER
7922 ENGINE OIL TEMP. REGULATOR
7923 ENGINE OIL SHUTOFF VALVE
7930 ENGINE OIL INDICATING SYSTEM
7931 ENGINE OIL PRESSURE
7932 ENGINE OIL QUANTITY
7933 ENGINE OIL TEMPERATURE
7997 ENGINE OIL SYSTEM WIRING



80 STARTING

8000 ENGINE STARTING SYSTEM
8010 ENGINE CRANKING
8011 ENGINE STARTER
8012 ENGINE START VALVES/CONTROLS
8097 ENGINE STARTING SYSTEM WIRING

81 TURBOCHARGING

8100 EXHAUST TURBINE SYSTEM (RECIP)
8110 POWER RECOVERY TURBINE (RECIP)
8120 EXHAUST TURBOCHARGER
8197 TURBOCHARGING SYSTEM WIRING

82 WATER INJECTION

8200 WATER INJECTION SYSTEM
8297 WATER INJECTION SYSTEM WIRING

83 ACCESSORY GEARBOXES

8300 ACCESSORY GEARBOXES
8397 ACCESSORY GEARBOX SYSTEM WIRING

85 RECIPROCATING ENGINE

8500 ENGINE (RECIPROCATING)
8510 RECIPROCATING ENGINE FRONT SECTION
8520 RECIPROCATING ENGINE POWER SECTION
8530 RECIPROCATING ENGINE CYLINDER SECTION
8540 RECIPROCATING ENGINE REAR SECTION
8550 RECIPROCATING ENGINE OIL SYSTEM
8560 RECIPROCATING ENGINE SUPERCHARGER
8570 RECIPROCATING ENGINE LIQUID COOLING
8597 RECIPROCATING ENGINE SYSTEM WIRING