AIRWORTHINESS NOTICE

NOTICE 8301

Issue 2
16 April 2019

CERTIFICATE OF AIRWORTHINESS

IN exercise of the powers conferred by section 240 of the Civil Aviation Act 1969 [Act 3], the Chief Executive Officer makes this Airworthiness Notice ("Notice") – Certificate of Airworthiness.

This Notice provides the requirement pertaining to the Certificate of Airworthiness and for any matters connected herewith.

This Notice is published by the Chief Executive Officer under section 240 of the Civil Aviation Act 1969 [Act 3] and come into operation on 16 April 2019.

Non-compliance with this Notice

Any person who contravenes any provision in this Notice commits an offence and shall on conviction be liable to the punishment under section 240 of the Civil Aviation Act 1969 [Act 3].

(Ahmad Nizar Zolfakar)
Chief Executive Officer
Civil Aviation Authority of Malaysia
16 April 2019
1.0 CITATION

This Notice may be cited as the Airworthiness Notice – Certificate of AIRWORTHINESS [Notice 8301].

2.0 APPLICATION

2.1 The following persons shall be subject to this Notice—

(a) holder of a Certificate of Airworthiness issued under MCAR; and

(b) an organisation approved to manage continuing airworthiness.

3.0 INTERPRETATION

In this Notice, unless the context otherwise requires—

“aircraft” shall have the same meaning assigned to it under the MCAR;

“Authority” means the Civil Aviation Authority of Malaysia;

“component” means any engine, propeller, part or appliance of an aircraft;

“certificate of airworthiness” means a certificate issued under regulation 26 of the MCAR;

“large aircraft” means—

(a) an aeroplane with a maximum certificated take-off mass exceeding 5,700 kg;

(b) an aeroplane equipped with turbojet engine(s) or more than one turboprop engine;

(c) a rotorcraft with a maximum certificated take-off mass exceeding 3,175 kg; or

(d) a rotorcraft with more than one engine; and

“MCAR” means Civil Aviation Regulations 2016.
4.0 APPLICATION FOR THE ISSUANCE OF A CERTIFICATE OF AIRWORTHINESS

4.1 The Authority may issue a certificate of airworthiness, if the Authority is satisfied that the applicant has fulfilled the following requirements and any other requirements under this Notice—

(a) submission of an application form DCA/AW/8301-01 to the Authority together with an airworthiness review report in accordance with paragraph 13.0 of Notice 6102 and accompanied by the prescribed fee;

(b) holds a valid certificate of registration issued under the MCAR or in the case of lease, the applicant is stipulated on the registration document or detailed in the leasing contract;

(c) comply with the identification plate and markings requirements as specified in Notice 7201;

(d) the flight manual for that aircraft is compatible with the aircraft configuration;

(e) comply with all applicable Airworthiness Directives issued by the Authority and certifying authority of the State of Design of the aircraft;

(f) comply with all applicable requirements issued by the Authority including Notices and Circulars;

(g) evidence on the appointment of organisation managing the: -

(i) continuing airworthiness; and

(ii) maintenance

of its aircraft and component;

(h) a maintenance programme for that aircraft has been approved by the Authority;

(i) a weight and balance report and weight schedule for that aircraft has been approved by the Authority or any organisation approved by the Authority under regulation 21 or 31 of MCAR;

(j) the assigned Mode S code, as applicable, has been installed;

(k) in the case of—

(i) new aircraft, a production test flight report or any flight test report which is issued by the manufacturer is satisfactory; or

(ii) imported used aircraft, a flight test report is satisfactory;
(l) in the case of—

(i) new aircraft, a statement of attestation by the manufacturer for the Flight Data Recorder and Cockpit Voice Recorder is satisfactory; or

(ii) imported used aircraft, the Flight Data Recorder and Cockpit Voice Recorder data readout is satisfactory;

(m) in the case of imported used aircraft, a used aircraft report is acceptable to the Authority (refer to Appendix 1 of this Notice);

(n) in the case of imported used aircraft and imported new aircraft, a certificate of airworthiness for export has been submitted to the Authority; and

(o) in the case of new aircraft which is designed, manufactured and constructed by an organisation which holds a valid certificate of approval under regulation 21 of MCAR, a Statement of Conformity has been submitted to the Authority.

4.2 For the purpose of paragraphs 4.1(m) and 4.1(n) of this Notice, the applicant shall submit a certificate of airworthiness for export and Statement of Conformity, respectively to the Authority no more than sixty days from the date of its issue, unless otherwise agreed.

5.0 APPLICATION FOR RENEWAL OF A CERTIFICATE OF AIRWORTHINESS

The Authority may renew a certificate of airworthiness if the Authority is satisfied that the applicant has fulfilled the applicable requirements in paragraph 4.1(a) to 4.1(j) of this Notice.

6.0 ADDITIONAL REQUIREMENTS FOR CERTIFICATE OF AIRWORTHINESS

6.1 The operator shall make available the aircraft and aircraft records for inspection at the agreed date, time and place.

6.2 The operator shall provide the necessary personnel and equipment to facilitate the inspections by the Authority.

6.3 In the case of operations of single engine turbine-powered aeroplane at night and/or in instrument meteorological conditions, the operator shall—

(a) comply with the appropriate airworthiness certification of the aeroplane and the level of safety intended by the provisions of Annexes 6 and 8 to the Chicago Convention by—

(i) the reliability of the turbine engine;
(ii) the operator’s maintenance procedures; and

(iii) equipment and other airworthiness requirements provided in Appendix 2 of this Notice.

(b) ensure the aeroplane shall have an engine trend monitoring system; and

(c) ensure the aeroplane for which the certificate of airworthiness is first issued on or after 1 January 2005 shall have an automatic trend monitoring system.

6.4 In the case of operations of helicopter in instrument meteorological conditions Class 3, except visual flight rules, the operator shall—

(a) operate the flight over a surface environment acceptable to the competent authority of the State over which the operations are performed;

(b) ensure the helicopter is certificated for flight under instrument flight rules and the level of safety intended by the provisions of Annexes 6 and 8 to the Chicago Convention is provided by—

(i) the reliability of the engines;

(ii) the operator’s maintenance procedures, operating practices and crew training programmes; and

(iii) equipment and other airworthiness requirements in accordance with Appendix 3 of this Notice.

(c) establish a programme for engine trend monitoring and shall utilize the engine and helicopter manufacturers’ recommended instruments, systems and operational/maintenance procedures to monitor the engines; and

(d) ensure the helicopter utilize vibration health monitoring for the tail-rotor drive system.

7.0 VALIDITY OF A CERTIFICATE OF AIRWORTHINESS

7.1 The certificate of airworthiness shall be valid for a period as specified in the certificate.

7.2 The validity period of a certificate of airworthiness is subject to-

(a) regulation 27 of MCAR; and

(b) the certificate of airworthiness not being surrendered, suspended, varied or revoked under MCAR.
8.0 REVOCATION

This Notice revokes Airworthiness Notice No. 8301 Issue 1 dated 15 April 2016.
APPENDIX 1 PRODUCTION OF USED AIRCRAFT REPORT FOR IMPORTED USED AIRCRAFT

1.0 INTRODUCTION

1.1 Applicant is required to provide a comprehensive report declaring the technical status of the aircraft (including all modifications, alterations, design changes and repairs) and to certify that the airworthiness and design standard of a particular aircraft conforms to a standard approved by the Authority, for the issuance of a certificate of airworthiness, for that aircraft type, or, differs in a defined manner from that approved standard.

NOTE: The report regarding the condition of an aircraft shall reflect the information detailed in this Notice and include a declaration that, apart from any exceptions stated, compliance with the approved standard has been established.

1.2 The records of technical investigations performed shall be such as to provide proper correlation with the aircraft technical records and an adequate record of the basis and substantiation of the report and Certificates of Design Conformity issued. An example of the format of such a report is given in this Notice.

2.0 PURPOSE OF AN AIRCRAFT REPORT

2.1 Series aircraft: an aircraft, including engines and equipment, the design of which is similar in every essential respect to the design of an aircraft for which a Malaysian certificate of airworthiness has previously been issued. Such an aircraft is eligible for a certificate of airworthiness.

2.2 Series modified aircraft: an aircraft that incorporates modifications or repairs classified as major, relative to the Malaysian certified aircraft build standard, that require Authority approval for the issue of a certificate of airworthiness.

2.3 The aircraft report will assist the applicant in recording the approval status of the aircraft build standard, and hence in substantiating to Authority a series or series modified classification for the aircraft according to the above definitions. It will also assist the applicant in recording details on the continued airworthiness of the aircraft and the inspection of the aircraft, and hence in providing to Authority a Certificate of Design Conformity for series aircraft.
2.4 The report will propose and substantiate the series/series modified classification, and will assist the Authority when conducting an appropriate survey of the aircraft and its records, for the purposes of issuing a certificate of airworthiness.

NOTE: Reference to ‘aircraft’ herein, includes its engines, auxiliary power unit (APU), transmission, propellers, systems and equipment, etc. (as applicable), and its documentation, such as its records, logs, maintenance documents, and operational documents, etc.

3.0 DEVELOPMENT OF THE AIRCRAFT REPORT

3.1 In order to classify whether the aircraft is series or series modified, the approval status of the aircraft build standard must be determined. This can be achieved by identifying whether any modifications or repairs have been embodied relative to the Authority certified aircraft build standard. The repairs should be considered against applicable Airworthiness Notice relating to repairs which provides guidance for identifying any repairs that require Authority approval.

3.2 When this process is complete, the applicant may then propose a series/series modified classification and provide the report to Authority for agreement.

3.3 Details on the continued airworthiness of the aircraft and the inspection of the aircraft should be incorporated in Section B of the report.

3.4 The Certificate of Design Conformity should be provided to Authority for series aircraft in the final report, when the applicant has completed its investigations.

NOTES: a) The report should address the power plant, APU, transmission, and propellers, in addition to the airframe, systems, and equipment.

b) Modifications may include additional requirement for import or additional national design requirements embodied during build.

c) The aircraft inspection should confirm that the aircraft build standard conforms with its documented build standard.

d) The report will be considered to be part of the inspection records, and as such must not be destroyed unless authorised by the Authority.
4.0 SUBMISSION OF AIRCRAFT REPORT TO AUTHORITY

4.1 The report must be provided to the Authority to enable the series/series modified classification to be agreed.

5.0 AIRCRAFT REPORT

5.1 This section provides guidance on the expected format and content of the aircraft report, as follows:

   NOTE: This shall not be considered as a definitive check list of the issues to be addressed during the investigations.
Aircraft Report

Organisation:

Organisation Approval Reference:

Report Reference No.:

Aircraft Type:

Type Certificate Data Sheet:

Aircraft Serial Number:

Flight Hours:

Flight Cycles:

Current Aircraft Registration:

Allocated Aircraft Registration:

Section B of the Aircraft Report is included.

Author:

Date:

Approved:

Date:
Aircraft Report – Contents

Introduction

Section A: Status of the Aircraft Build Standard
1 Build Standard
   1.1 General
   1.2 Additional Requirements for Validated Aircraft
   1.3 Additional Requirement for Import or Additional National Design Requirements embodied during build for Validated Aircraft
2 Modifications relative to the CAAM Certified Build Standard
3 Repairs relative to the CAAM Certified Build Standard
4 Equipment Fit
5 Flight Manual
6 List of Deviations

Section B: Continued Airworthiness
1 Aircraft Maintenance Programme
2 Airworthiness Limitations
3 Civil Aviation Regulations
4 Airworthiness Directives
5 Airworthiness Notices
6 Aircraft Inspection
7 Airworthiness Flight Test
8 Continued Airworthiness

Section C: Conclusions

Attachment 1: Proposed Series/Series Modified Classification.
Attachment 2: Certificate of Design Conformity.
Introduction

This section should include:

- A brief statement outlining the objectives of the report.
- The current Type Certificate Holders.
- The aircraft manufacturer.
- The countries in which the aircraft has previously been registered along with the Certificate of Airworthiness category under which it operated.
- Basic aircraft details as follows:

Aircraft Type: ........................ Manufacturer's Serial Number: .........................

Engine Type: ........................ Manufacturer's Serial Number: ........................

APU Type: ........................ Manufacturer’s Serial Number: ........................

Propeller Type: .................... Manufacturer’s Serial Number: ........................

Certificate of Airworthiness: ............................................................
Section A: Status of the Aircraft Build Standard

1 Build Standard

1.1 General

This section should include:

a) A reference to the Type Certificate Data Sheet numbers (Airframe, Engine and Propeller as applicable) issued by the State of Design.

b) The Type Acceptance / Type Validation number issued by the Authority under which the Aircraft Type was certified.

1.2 Additional Requirements for Validated Aircraft

This paragraph should incorporate a statement against the applicable Additional Requirement for type certification and the certificate of airworthiness. The statements should identify how compliance with each of the additional requirement has been achieved. When a modification previously approved by the Authority is embodied as the means of compliance with an additional requirement, the modification title, number, and approval reference should be included in the statement. If a modification which is not approved by the Authority is embodied as the means of compliance with the additional requirement, the modification should be referenced in the statement and addressed in paragraph 2 below.

Additional requirement is specified for type certification, certificate of airworthiness, and operational approval. Additional requirements for type certification are not currently published, so this information should be obtained from the Authority.

NOTE: Confirmation of compliance with the Airworthiness Notices, as specified in the additional requirement, can be provided in section B paragraph 5 of the report.

2 Modifications relative to the Certified Build Standard approved by the Authority

This section should provide details on each modification, including minor modifications, which should include the following, as applicable.

- The modification title.
- The modification design organisation.
• The modification installation organisation *

• The modification reference number or Service Bulletin number.

• A brief description of the modification *

• The approval reference, e.g. DCA SOC number or Service Bulletin number, under which the modification was approved.

• The Foreign National Airworthiness Authority that approved the modification, and their approval reference, e.g. FAA Supplemental Type Certificate number, or Field Approval e.g. FAA DER Form 8110-3, etc *

• The modification classification minor/major (as agreed with the Authority).

• The Flight Manual Supplement reference.

• Any additional limitations introduced which compensate for a partial none compliance with a requirement.

• Any additional maintenance actions required for the modification.

* Only for modifications which require Authority approval.

**NOTE:** Modifications can only be classified as being either major or minor by an appropriately approved design organisation.

The modification information should include the approval reference issued by the Authority and identify those modifications that require the Authority approval. Details of modifications approved by the Authority may be provided in an appendix to the report if necessary.

### 3 Repairs relative to the Certified Build Standard approved by the Authority

This should include details on each major repair to the aircraft, which should include the following, as applicable. Repairs requiring the Authority approval should be clearly identified. Details of approved repairs may be provided in an appendix to the report if necessary:

• The repair title.

• The repair design organisation.

• The repair installation organisation *

• The repair reference.

• The basis of approval.
• Effect on any life limitations.
• Effect on inspections or their frequencies.

* Only for repairs which require approval from the Authority.

**NOTE:** Repairs can only be classified as being either major or minor by an appropriately approved design organisation.

4 **Equipment Fit**

This section should include a list of any equipment that is not approved by the Authority along with their associated foreign approval references, e.g. TSO. Refer also to section B paragraph 3 b). If the installation of the equipment has not been approved by the Authority, this should be addressed in section A, paragraph 2.

5 **Flight Manual**

This section should specify the reference and revision status of the Aircraft Flight Manual (AFM). The Temporary Revisions, applicable Supplement(s) and Change Sheet(s) must also be referenced.

**NOTE:** The AFM must reflect the build standard of the aircraft

6 **Summary List of Deviations and Variations**

This section should contain a summary list of deviations from the design certification requirements, if any. The list should specify the method of acceptance, for example, acceptance based upon equivalent safety findings approved by the Authority. Where a temporary variation has been granted against a certification requirement, the period for which the variation remains valid should be stated.
Section B: Continued Airworthiness

This section should incorporate details on how the following subjects have been addressed:

1 Maintenance Program

As an aircraft in respect of which a C of A is in force, shall not fly unless the aircraft is maintained in accordance with an approved Maintenance Program, the applicant may elect to provide the following information in the report:

a) A Maintenance Program alignment check undertaken as agreed with the Authority.

b) All components with life limitations must be identified and cross referenced to the source document. The overhaul/service life remaining for each component or Out of Phase Inspection, including Certified Maintenance Requirements must also be established.

2 Airworthiness Limitations

Compliance must be established with the airworthiness limitations that are specified or referenced by the Aircraft, Engine, or Propeller Type Certificate Data Sheets. Airworthiness Limitations may include specific inspections and maximum retirement lives.

3 Civil Aviation Regulation (MCAR)

All the certification requirements applicable to the issue of the Certificate of Airworthiness must be complied with, and in particular the following;

a) The aircraft must be weighed and a weight schedule raised.

b) A list of applicable equipment must be provided including radio equipment as required, along with the respective type approval reference.

c) Separate log books, acceptable to the Authority, must be provided for the aircraft, engines and VP propellers.

d) Placards and markings required by the Civil Aviation Regulation must be affixed and displayed in the appropriate locations.
4 **Airworthiness Directives**

This section should incorporate a list of all applicable Airworthiness Directives promulgated by the Authority and State of Design, with respect to the Aircraft, Engines and Equipment. Conformation and method of compliance shall be stated in each case. If an Airworthiness Directive has not been complied with, a justification for acceptance should be provided (e.g. short term compensating factors). Where an Airworthiness Directive has been complied with by using an alternative means of compliance, the approval of such methods must be referenced. Where appropriate, the periodicity for initial and repetitive inspections, with respect to the applicable Calendar/Flt Hours/Cycle limits should also be stated.

5 **Airworthiness Notices**

This section should incorporate a statement against each applicable aircraft technical requirement Notices describing how compliance with the Notice has been achieved. If a modification previously approved by the Authority is embodied as the means of compliance with a Notice, the modification title, number and approval reference should be included in the statement. If compliance is achieved by embodying a modification that is not approved by the Authority, the modification should be referenced in the statement and addressed in Section A paragraph 2.

6 **Aircraft Inspection**

This section should include a reference to the inspection report(s) conducted to certify that a particular aircraft conforms to a standard approved by the Authority, for the issue of a Certificate of Airworthiness, for that aircraft type, or, differs in a defined manner from that approved standard.

7 **Airworthiness Flight Test**

This section should incorporate the approved Airworthiness Flight Test Schedule and Report references, if applicable.

8 **Continued Airworthiness**

This section should incorporate details of the design organisations that are responsible for the continued airworthiness of any major modifications or repairs installed in the aircraft that are not the responsibility of the TC holder.
Section C: Conclusions

This section should provide the conclusions of the assessment.

Aircraft Report: Attachment 1

Proposed Series/Series Modified Classification:

I have assessed the above aircraft and have established that it is Series /Series Modified (Delete as applicable) to the following aircraft, as detailed in Section A of the report:

Registration:............................. Serial No: ..........................................

Name:...........................................................

Signature: .....................................................

Date:....................... 

Authority Response to Proposed Classification:

The Authority agrees/disagrees to the proposed series/series modified classification (Delete as applicable):

Name:..............................................

Signature: .............................................

Date:.................................
Certificate of Design Conformity to the airworthiness standards:

I hereby certify that, apart from the exceptions detailed below, the airworthiness standard of the above aircraft conforms to the applicable airworthiness standards approved by the Authority, as detailed in this report:

Name:.............................................

Signature :.....................................

Date:.................................

Exceptions:.................................................................
............................................................................
APPENDIX 2 ADDITIONAL REQUIREMENTS FOR APPROVED OPERATIONS BY SINGLE ENGINE TURBINE-POWERED AEROPLANES AT NIGHT AND/OR IN INSTRUMENT METEOROLOGICAL CONDITIONS (IMC)

The operator shall satisfy the following airworthiness requirements as provided in ICAO ANNEX 6 Part 1 Chapter 5, paragraph 5.4.1:

1.0 TURBINE ENGINE RELIABILITY

1.1 Turbine engine reliability shall be shown to have a power loss rate of less than 1 per 100 000 engine hours.

   Note: Power loss in this context is defined as any loss of power, the cause of which may be traced to faulty engine or engine component design or installation, including design or installation of the fuel ancillary or engine control systems. (See Attachment G of ICAO Annex 6 Part 1 - Guidance on the airworthiness and operational requirements).

1.2 The operator shall be responsible for engine trend monitoring.

1.3 To minimize the probability of in-flight engine failure, the engine shall be equipped with:

   (a) an ignition system that activates automatically, or is capable of being operated manually, for take-off and landing, and during flight, in visible moisture;

   (b) a magnetic particle detection or equivalent system that monitors the engine, accessories gearbox, and reduction gearbox, and which includes a flight deck caution indication; and

   (c) an emergency engine power control device that permits continuing operation of the engine through a sufficient power range to safely complete the flight in the event of any reasonably probable failure of the fuel control unit.

2.0 SYSTEMS AND EQUIPMENT

Single-engine turbine-powered aeroplanes approved to operate at night and/or in IMC shall be equipped with the following systems and equipment intended to
ensure continued safe flight and to assist in achieving a safe forced landing after an engine failure, under all allowable operating conditions:

(a) two separate electrical generating systems, each one capable of supplying all probable combinations of continuous in-flight electrical loads for instruments, equipment and systems required at night and/or in IMC;

(b) a radio altimeter;

(c) an emergency electrical supply system of sufficient capacity and endurance, following loss of all generated power, to as a minimum:

(i) maintain the operation of all essential flight instruments, communication and navigation systems during a descent from the maximum certificated altitude in a glide configuration to the completion of a landing;

(ii) lower the flaps and landing gear, if applicable;

(iii) provide power to one pitot heater, which must serve an air speed indicator clearly visible to the pilot;

(iv) provide for operation of the landing light specified in paragraph 2.0(j) below;

(v) provide for one engine restart, if applicable; and

(vi) provide for the operation of the radio altimeter;

(d) two attitude indicators, powered from independent sources;

(e) a means to provide for at least one attempt at engine re-start;

(f) airborne weather radar;

(g) a certified area navigation system capable of being programmed with the positions of aerodromes and safe forced landing areas, and providing instantly available track and distance information to those locations;

(h) for passenger operations, passenger seats and mounts which meet dynamically-tested performance standards and which are fitted with a shoulder harness or a safety belt with a diagonal shoulder strap for each passenger seat;
(i) in pressurized aeroplanes, sufficient supplemental oxygen for all occupants for descent following engine failure at the maximum glide performance from the maximum certificated altitude to an altitude at which supplemental oxygen is no longer required;

(j) a landing light that is independent of the landing gear and is capable of adequately illuminating the touchdown area in a night forced landing; and

(k) an engine fire warning system.

3.0 MINIMUM EQUIPMENT LIST

The operator shall ensure the minimum equipment list specifies the operating equipment required for night and/or IMC operations, and for day/VMC operations and approved by the Authority.

4.0 FLIGHT MANUAL INFORMATION

The flight manual shall include limitations, procedures, approval status and other information relevant to operations by single-engine turbine-powered aeroplanes at night and/or in IMC.

5.0 EVENT REPORTING

5.1 The operator approved for operations by single-engine turbine-powered aeroplanes at night and/or in IMC shall report all significant failures, malfunctions or defects to the Authority and in turn will notify the State of Design.

5.2 The operator shall review the safety data and monitor the reliability information so as to be able to take any actions necessary to ensure that the intended safety level is achieved and notify major events or trends of particular concern to the Authority and in turn will notify the appropriate Type Certificate Holder and the State of Design.
APPENDIX 3  ADDITIONAL REQUIREMENTS FOR OPERATIONS OF HELICOPTERS IN PERFORMANCE CLASS 3 IN INSTRUMENT METEOROLOGICAL CONDITIONS (IMC)

The operator shall satisfy the following airworthiness requirements as provided in ICAO ANNEX 6 Part III Section II, Chapter 3, 3.4.1

1.0 ENGINE RELIABILITY

1.1 Attaining and maintaining approval for engines used by helicopters operating in performance Class 3 in IMC:

(a) In order to attain initial approval for existing in-service engine types, reliability shall be shown to have a nominal power loss rate of less than 1 per 100 000 engine hours based on a risk management process.

   Note.— Power loss in this context is defined as any significant loss of power, the cause of which may be traced to engine or engine component, design, maintenance or installation, including design or installation of the fuel ancillary or engine control systems. (See Attachment F of ICAO Annex 6 Part 3 - Guidance on the airworthiness and operational requirements.)

(b) In order to attain initial approval for new engine types, the State of Design shall assess engine models for acceptance for operations in performance Class 3 in IMC on a case-by-case basis.

(c) In order to maintain approval, the State of Design shall, through the continuing airworthiness process, ensure that engine reliability remains consistent with the intent of the Standard contained in paragraph 1.1(a) above.

1.2 The operator shall be responsible for a programme for ongoing engine trend monitoring.

1.3 To minimize the probability of in-flight engine failure, the engine shall be equipped with:
(a) for turbine engines: a re-ignition system that activates automatically or a manually selectable continuous ignition system unless the engine certification has determined that such a system is not required, taking into consideration the likely environmental conditions in which the engine is to be operated;

(b) a magnetic particle detection or equivalent system that monitors the engine, accessories gearbox, and reduction gearbox, and which includes a flight deck caution indication; and

(c) a means that would permit continuing operation of the engine through a sufficient power range to safely complete the flight in the event of any reasonably probable failure of the fuel control unit.

2.0 SYSTEMS AND EQUIPMENT

2.1 Helicopters operating in performance Class 3 in IMC shall be equipped with the following systems and equipment intended to ensure continued safe flight or to assist in achieving a safe forced landing after an engine failure, under all allowable operating conditions:

(a) either two separate electrical generating systems, each one capable of supplying all probable combinations of continuous in-flight electrical loads for instruments, equipment and systems required in IMC; or a primary electrical source and a standby battery or other alternate source of electric power that is capable of supplying 150 per cent of electrical loads of all required instruments and equipment necessary for safe emergency operations of the helicopter for at least one hour; and

(b) an emergency electrical supply system of sufficient capacity and endurance, following loss of all normally generated power to, as a minimum:

Note.— If a battery is used to satisfy the requirement for a second power source (see paragraph 2.1(a) above), an additional electrical power supply may not be required.

(i) maintain the operation of all essential flight instruments, communication and navigation systems during a descent from the maximum certificated altitude.
in an autorotational configuration to the completion of a landing;

(ii) maintain the operation of the stabilization system, if applicable;

(iii) lower the landing gear, if applicable;

(iv) where required, provide power to one pitot heater, which must serve an airspeed indicator clearly visible to the pilot;

(v) provide for the operation of the landing light;

(vi) provide for one engine restart, if applicable; and

(vii) provide for the operation of the radio altimeter;

(c) a radio altimeter;

(d) an autopilot if intended as a substitute for a second pilot. In these cases, the State of Operator shall ensure the operator’s approval clearly states any conditions or limitations on its use;

(e) a means to provide for at least one attempt at engine re-start;

(f) an area navigation system approved for use in IFR, capable of being used to locate suitable landing areas in the event of an emergency;

(g) a landing light that is independent of retractable landing gear and is capable of adequately illuminating the touchdown area in a night forced landing; and

(h) an engine fire warning system.

3.0 MINIMUM SERVICEABILITY REQUIREMENTS — OPERATING EQUIPMENT

The State of the Operator shall specify the minimum serviceability requirements for operating equipment in helicopters operating in performance Class 3 in IMC.

4.0 OPERATIONS MANUAL INFORMATION

The operations manual shall include limitations, procedures, approval status and other information relevant to operations in performance Class 3 in IMC.
5.0 EVENT REPORTING

5.1 The operator approved to conduct operations by helicopters in performance Class 3 in IMC shall report all significant failures, malfunctions or defects to the State of the Operator who in turn shall notify the State of Design.

5.2 The State of the Operator shall monitor operations in performance Class 3 in IMC so as to be able to take any actions necessary to ensure that the intended safety level is maintained. The State of the Operator shall notify major events or trends of particular concern to the appropriate type certificate holder and the State of Design.