MENTERI PERHUBUNGAN
REPUBLIK INDONESIA

PERATURAN MENTERI PERHUBUNGAN REPUBLIK INDONESIA

NOMOR : PM 84 TAHUN 2015

TENTANG

PERATURAN KESELAMATAN PENERBANGAN SIPIL BAGIAN 35 (*CIVIL AVIATION SAFETY REGULATIONS PART 35*) TENTANG STANDAR KELAIKUDARAAN UNTUK BALING-BALING PESAWAT TERBANG (*AIRWORTHINESS STANDARDS : PROPELLERS*)

DENGAN RAHMAT TUHAN YANG MAHA ESA

MENTERI PERHUBUNGAN REPUBLIK INDONESIA,

Menimbang :

a. bahwa Pasal 13 dan 15 Undang Undang Nomor 1 Tahun 2009 tentang Penerbangan telah mengatur ketentuan bahwa baling-baling pesawat terbang harus mendapat surat persetujuan setelah dilakukan pemeriksaan dan pengujian sesuai dengan standar kelaikudaraan;

b. bahwa untuk melaksanakan ketentuan pemeriksaan dan pengujian baling-baling pesawat terbang, perlu disusun standar kelaikudaraan untuk baling-baling pesawat terbang;

c. bahwa berdasarkan pertimbangan sebagaimana dimaksud dalam huruf a dan huruf b, perlu menetapkan Peraturan Menteri Perhubungan tentang Peraturan Keselamatan Penerbangan Sipil Bagian 35 (*Civil Aviation Safety Regulations Part 35*) tentang Standar Kelaikudaraan untuk Baling-Baling Pesawat Terbang (*Airworthiness Standards : Propellers*);

Mengingat :

1. Undang-Undang Nomor 1 Tahun 2009 tentang Penerbangan (Lembaran Negara Republik Indonesia Tahun 2009 Nomor 1, Tambahan Lembaran Negara Republik Indonesia Nomor 4956);

2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Nomor 9 Tahun 2001, Tambahan Lembaran Negara Nomor 4075);

3. Peraturan Presiden Nomor 7 Tahun 2015 tentang Organisasi Kementerian Negara (Lembaran Negara Republik Indonesia Tahun 2015 Nomor 8);

4. Peraturan Presiden Nomor 40 Tahun 2015 tentang Kementerian Perhubungan (Lembaran Negara Republik Indonesia Tahun 2015 Nomor 75);

5. Peraturan Menteri Perhubungan Nomor KM 60 Tahun 2010 tentang Organisasi dan Tata Kementerian Perhubungan sebagaimana diubah terakhir dengan Peraturan Menteri Perhubungan Nomor PM 68 Tahun 2013;

MEMUTUSKAN:

Menetapkan : PERATURAN MENTERI PERHUBUNGAN TENTANG PERATURAN KESELAMATAN PENERBANGAN SIPIL BAGIAN 35 (*CIVIL AVIATION SAFETY REGULATIONS PART 35*) TENTANG STANDAR KELAIKUDARAAN UNTUK BALING-BALING PESAWAT TERBANG (*AIRWORTHINESS STANDARDS : PROPELLERS*).

Pasal 1

(1) Memberlakukan Peraturan Keselamatan Penerbangan Sipil Bagian 35 (*Civil Aviation Safety Regulations Part 35*) Tentang Standar Kelaikudaraan Untuk Baling-Baling Pesawat Terbang (*Airworthiness Standards : Propellers*).

(2) Peraturan Keselamatan Penerbangan Sipil Bagian 35 (*Civil Aviation Safety Regulations Part 35*) Tentang Standar Kelaikudaraan Untuk Baling-Baling Pesawat Terbang (*Airworthiness Standards : Propellers*) sebagaimana dimaksud dalam ayat (1) tercantum dalam Lampiran Peraturan dan merupakan bagian tidak terpisahkan dari Peraturan ini.

Pasal 2

Ketentuan lebih lanjut mengenai Peraturan Keselamatan Penerbangan Sipil Bagian 35 (*Civil Aviation Safety Regulations Part 35*) Tentang Standar Kelaikudaraan Untuk Baling-Baling Pesawat Terbang (*Airworthiness Standards : Propellers*) sebagaimana dimaksud dalam Pasal 1 diatur dengan Peraturan Direktur Jenderal Perhubungan Udara.

Pasal 3

Direktur Jenderal Perhubungan Udara melakukan pengawasan terhadap pelaksanaan Peraturan ini.

Pasal 4

Pada saat Peraturan ini mulai berlaku, Lampiran IX *Airworthiness Standards : Propellers* pada Keputusan Menteri Perhubungan Nomor KM 90 Tahun 1993 tentang Prosedur, Standard Kelaikan Udara, Bahan Bakar Terbuang, Gas Buang, Kebisingan Dan Marka Pesawat Udara, dicabut dan dinyatakan tidak berlaku.

Pasal 5

Peraturan Menteri ini mulai berlaku pada tanggal diundangkan.

Agar setiap orang mengetahuinya, memerintahkan pengundangan Peraturan Menteri ini dengan penempatannya dalam Berita Negara Republik Indonesia.

Ditetapkan di Jakarta
Pada tanggal 5 Mei 2015

MENTERI PERHUBUNGAN
REPUBLIK INDONESIA,

ttd

IGNASIUS JONAN

Diundangkan di Jakarta
pada tanggal 6 Mei 2015

MENTERI HUKUM DAN HAK ASASI MANUSIA
REPUBLIK INDONESIA,

ttd

YASONNA H. LAOLY

BERITA NEGARA REPUBLIK INDONESIA TAHUN 2015 NOMOR 689

Salinan sesuai dengan aslinya

KEPALA BIRO HUKUM DAN KSLN,

SRI LESTARI RAHAYU
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LAMPIRAN PERATURAN MENTERI PERHUBUNGAN
NOMOR : PM 84 TAHUN 2015
TANGGAL : 5 MEI 2015

CIVIL AVIATION SAFETY REGULATIONS

CASR 35

AIRWORTHINESS STANDARDS: PROPELLERS

REPUBLIC OF INDONESIA

MINISTRY OF TRANSPORTATION

PART 35

AIRWORTHINESS STANDARDS: PROPELLERS

TABLE OF CONTENTS

SUBPART A – GENERAL

35.0 Regulatory Reference

This Civil Aviation Safety Regulation (CASR) Part 35 sets the implementing rules for Airworthiness Standards Propellers as required by Aviation Act Number 1, 2009 Chapter VI Aircraft Design and Production

35.1 Applicability

(a) This part prescribes airworthiness standards for the issue of type certificates and changes to those certificates, for propellers.

(b) Each person who applies under part 21 for such a certificate or change must show compliance with the applicable requirements of this part.

(c) An applicant is eligible for a propeller type certificate and changes to those certificates after demonstrating compliance with subparts A, B and C of this part. However, the propeller may not be installed on an airplane unless the applicant has shown compliance with either Sec 23.907 or Sec 25.907 of this chapter, as applicable, or compliance is not required for installation on that airplane.

(d) For the purposes of this part, the propeller consists of those components listed in the propeller type design, and the propeller system consists of the propeller and all the components necessary for its functioning, but not necessarily included in the propeller type design.

35.2 Propeller Configuration

The applicant must provide a list of all the components, including references to the relevant drawings and software design data, that define the type design of the propeller to be approved under CASR Part 21.31.

35.3 Instructions for Propeller Installation and Operation

The applicant must provide instructions that are approved by the DGCA. Those approved instructions must contain:

(a) Instructions for installing the propeller, which:
  (1) Include a description of the operational modes of the propeller control system and functional interface of the control system with the airplane and engine systems;
  (2) Specify the physical and functional interfaces with the airplane, airplane equipment and engine;
  (3) Define the limiting conditions on the interfaces from paragraph (a)(2) of this section;
  (4) List the limitations established under CASR Part 35.5;
  (5) Define the hydraulic fluids approved for use with the propeller, including grade and specification, related operating pressure, and filtration levels; and
  (6) State the assumptions made to comply with the requirements of this part.

(b) Instructions for operating the propeller which must specify all procedures necessary for operating the propeller within the limitations of the propeller type design.

35.4 Instructions for Continued Airworthiness

The applicant must prepare instructions for Continued Airworthiness in accordance with Appendix A to this attachment that are acceptable to the Director General. The instructions may be incomplete at type certification if a program exist to ensure their completion prior to delivery of the first aircraft with the propeller installed, or upon issuance of a standard certificate of airworthiness for an aircraft with the propeller installed, whichever occurs later.

35.5 Propeller Ratings and Operating Limitations

(a) Propeller ratings and operating limitations must:
  (1) Be established by the applicant and approved by the Director General.
  (2) Be included directly or by reference in the propeller type certificate data sheet, as specified in CASR Part 21.41.
  (3) Be based on the operating conditions demonstrated during the tests required by this part as well as any other information the DGCA requires as necessary for the safe operation of the propeller.

(b) Propeller ratings and operating limitations must be established for the following, as applicable:

  (1) Power and rotational speed:
    (i) For takeoff.
    (ii) For maximum continuous.
    (iii) If requested by the applicant, other ratings may also be established.
  (2) Overspeed and overtorque limits.

35.7 Features and Characteristics

(a) The propeller may not have features or characteristics, revealed by any test or analysis or known to the applicant, that make it unsafe for the uses for which certification is requested.

(b) If a failure occurs during a certification test, the applicant must determine the cause and assess the effect on the airworthiness of the propeller. The applicant must make changes to the design and conduct additional tests that the Director General finds necessary to establish the airworthiness of the propeller.

SUBPART B – DESIGN AND CONSTRUCTION

35.11 RESERVED

35.13 RESERVED

35.15 Safety Analysis

(a) (1) The applicant must analyze the propeller system to assess the likely consequences of all failures that can reasonably be expected to occur. This analysis will take into account, if applicable:

(i) The propeller system in a typical installation. When the analysis depends on representative components, assumed interfaces, or assumed installed conditions, the assumptions must be stated in the analysis.

(ii) Consequential secondary failures and dormant failures.

(iii) Multiple failures referred to in paragraph (d) of this section, or that result in the hazardous propeller effects defined in paragraph (g)(1) of this section.

(2) The applicant must summarize those failures that could result in major propeller effects or hazardous propeller effects defined in paragraph (g) of this section, and estimate the probability of occurrence of those effects.

(3) The applicant must show that hazardous propeller effects are not predicted to occur at a rate in excess of that defined as extremely remote (probability of 10^{-7} or less per propeller flight hour). Since the estimated probability for individual failures may be insufficiently precise to enable the applicant to assess the total rate for hazardous propeller effects, compliance may be shown by demonstrating that the probability of a hazardous propeller effect arising from an individual failure can be predicted to be not greater than 10^{-8} per propeller flight hour. In dealing with probabilities of this low order of magnitude, absolute proof is not possible and reliance must be placed on engineering judgment and previous experience combined with sound design and test philosophies.

(b) If significant doubt exists as to the effects of failures or likely combination of failures, the DGCA may require assumptions used in the analysis to be verified by test.

(c) The primary failures of certain single propeller elements (for example, blades) cannot be sensibly estimated in numerical terms. If the failure of such elements is likely to result in hazardous propeller effects, those elements must be identified as propeller critical parts.

(d) For propeller critical parts, applicants must meet the prescribed integrity specifications of CASR Part 35 Section 35.16. These instances must be stated in the safety analysis.

(e) If the safety analysis depends on one or more of the following items, those items must be identified in the analysis and appropriately substantiated.
   (1) Maintenance actions being carried out at stated intervals. This includes verifying that items that could fail in a latent manner are functioning properly. When necessary to prevent hazardous propeller effects, these maintenance actions and intervals must be published in the instructions for continued airworthiness required under CASR Part 35 Section 35.4. Additionally, if errors in maintenance of the propeller system could lead to hazardous propeller effects, the appropriate maintenance procedures must be included in the relevant propeller manuals.
   (2) Verification of the satisfactory functioning of safety or other devices at pre-flight or other stated periods. The details of this satisfactory functioning must be published in the appropriate manual.
   (3) The provision of specific instrumentation not otherwise required. Such instrumentation must be published in the appropriate documentation.
   (4) A fatigue assessment.

(f) (If applicable, the safety analysis must include, but not be limited to, assessment of indicating equipment, manual and automatic controls, governors and propeller control systems, synchrophasers, synchronizers, and propeller thrust reversal systems.

(g) Unless otherwise approved by the DGCA and stated in the safety analysis, the following failure definitions apply to compliance with this part.
   (1) The following are regarded as hazardous propeller effects:
      (i) The development of excessive drag.
      (ii) A significant thrust in the opposite direction to that commanded by the pilot.
      (iii) The release of the propeller or any major portion of the propeller.
      (iv) A failure that results in excessive unbalance.

   (2) The following are regarded as major propeller effects for variable pitch propellers:
      (i) An inability to feather the propeller for feathering propellers.
      (ii) An inability to change propeller pitch when commanded.
      (iii) A significant uncommanded change in pitch.
      (iv) A significant uncontrollable torque or speed fluctuation.

35.16 Propeller Critical Parts

The integrity of each propeller critical part identified by the safety analysis required by CASR Part 35 Sec 35.15 must be established by:

(a) A defined engineering process for ensuring the integrity of the propeller critical part throughout its service life;

(b) A defined manufacturing process that identifies the requirements to consistently produce the propeller critical part as required by the engineering process; and

(c) A defined service management process that identifies the continued airworthiness requirements of the propeller critical part as required by the engineering process.

35.17 Materials and Manufacturing Methods

(a) The suitability and durability of materials used in the propeller must:
(1) Be established on the basis of experience, tests, or both.
(2) Account for environmental conditions expected in service.

(b) All materials and manufacturing methods must conform to specifications acceptable to the DGCA.

(c) The design values of properties of materials must be suitably related to the most adverse properties stated in the material specification for applicable conditions expected in service.

35.19 Durability.

Each part of the propeller must be designed and constructed to minimize the development of any unsafe condition of the propeller between overhaul periods.

35.21 Variable and Reversible Pitch Propellers

(a) No single failure or malfunction in the propeller system will result in unintended travel of the propeller blades to a position below the in-flight low-pitch position. The extent of any intended travel below the in-flight low-pitch position must be documented by the applicant in the appropriate manuals. Failure of structural elements need not be considered if the occurrence of such a failure is shown to be extremely remote under CASR Part 35 Section 35.15.

(b) For propellers incorporating a method to select blade pitch below the in-flight low pitch position, provisions must be made to sense and indicate to the flight crew that the propeller blades are below that position by an amount defined in the installation manual. The method for sensing and indicating the propeller blade pitch position must be such that its failure does not affect the control of the propeller.

35.22 Feathering Propeller

(a) Feathering propellers are intended to feather from all flight conditions, taking into account expected wear and leakage. Any feathering and unfeathering limitations must be documented in the appropriate manuals.

(b) Propeller pitch control systems that use engine oil to feather must incorporate a method to allow the propeller to feather if the engine oil system fails.

(c) Feathering propellers must be designed to be capable of unfeathering after the propeller system has stabilized to the minimum declared outside air temperature.

35.23 Propeller Control System

The requirements of this section apply to any system or component that controls, limits or monitors propeller functions.

(a) The propeller control system must be designed, constructed and validated to show that:
   (1) The propeller control system, operating in normal and alternative operating modes and in transition between operating modes, performs the functions defined by the applicant throughout the declared operating conditions and flight envelope.
   (2) The propeller control system functionality is not adversely affected by the declared environmental conditions, including temperature, electromagnetic interference (EMI), high intensity radiated fields (HIRF) and lightning. The environmental limits to which the system has been satisfactorily validated must be documented in the appropriate propeller manuals.
   (3) A method is provided to indicate that an operating mode change has occurred if flight crew action is required. In such an event, operating instructions must be provided in the appropriate manuals.

(b) The propeller control system must be designed and constructed so that, in addition to compliance with CASR Part 35 section 35.15:
   (1) No single failure or malfunction of electrical or electronic components in the control system results in a hazardous propeller effect.
   (2) Failures or malfunctions directly affecting the propeller control system in a typical airplane, such as structural failures of attachments to the control, fire, or overheat, do not lead to a hazardous propeller effect.
   (3) The loss of normal propeller pitch control does not cause a hazardous propeller effect under the intended operating conditions.
   (4) (The failure or corruption of data or signals shared across propellers does not cause a hazardous propeller effect.

(c) Electronic propeller control system imbedded software must be designed and implemented by a method approved by the DGCA that is consistent with the criticality of the performed functions and that minimizes the existence of software errors.

(d) The propeller control system must be designed and constructed so that the failure or corruption of airplane-supplied data does not result in hazardous propeller effects.

(e) The propeller control system must be designed and constructed so that the loss, interruption or abnormal characteristic of airplane-supplied electrical power does not result in hazardous propeller effects. The power quality requirements must be described in the appropriate manuals.

35.24 Strength

The maximum stresses developed in the propeller may not exceed values acceptable to the Director General considering the particular form of construction and the most severe operating conditions.

SUBPART C – TESTS AND INSPECTIONS

35.31 RESERVED

35.32 General

(a) Each applicant must furnish test article(s) and suitable testing facilities, including equipment and competent personnel, and conduct the required tests in accordance with CASR Part 21.

(b) All automatic controls and safety systems must be in operation unless it is accepted by the DGCA as impossible or not required because of the nature of the test. If needed for substantiation, the applicant may test a different propeller configuration if this does not constitute a less severe test.

(c) Any systems or components that cannot be adequately substantiated by the applicant to the requirements of this part are required to undergo additional tests or analysis to demonstrate that the systems or components are able to perform their intended functions in all declared environmental and operating conditions.

35.34 Inspection, Adjustments and Repairs

(a) Before and after conducting the tests prescribed in this part, the test article must be subjected to an inspection, and a record must be made of all the relevant parameters, calibrations and settings.

(b) During all tests, only servicing and minor repairs are permitted. If major repairs or part replacement is required, the DGCA must approve the repair or part replacement prior to implementation and may require additional testing. Any unscheduled repair or action on the test article must be recorded and reported.

35.35 Centrifugal Load Test

The applicant must demonstrate that a propeller complies with paragraphs (a), (b) and (c) of this section without evidence of failure, malfunction, or permanent deformation that would result in a major or hazardous propeller effect. When the propeller could be sensitive to environmental degradation in service, this must be considered. This section does not apply to fixed-pitch wood or fixed-pitch metal propellers of conventional design.

(a) The hub, blade retention system, and counterweights must be tested for a period of one hour to a load equivalent to twice the maximum centrifugal load to which the propeller would be subjected during operation at the maximum rated rotational speed.

(b) Blade features associated with transitions to the retention system (for example, a composite blade bonded to a metallic retention) must be tested either during the test of paragraph (a) of this section or in a separate component test for a period of one hour to a load equivalent to twice the maximum centrifugal load to which the propeller would be subjected during operation at the maximum rated rotational speed.

(c) Components used with or attached to the propeller (for example, spinners, de-icing equipment, and blade erosion shields) must be subjected to a load equivalent to 159 percent of the maximum centrifugal load to which the component would be subjected during operation at the maximum rated rotational speed. This must be performed by either:
(1) Testing at the required load for a period of 30 minutes; or
(2) Analysis based on test.

35.36 Bird Impact

The applicant must demonstrate, by tests or analysis based on tests or experience on similar designs, that the propeller can withstand the impact of a 4-pound bird at the critical location(s) and critical flight condition(s) of a typical installation without causing a major or hazardous propeller effect. This section does not apply to fixed-pitch wood propellers of conventional design.

35.37 Fatique Limits and Evaluation

This section does not apply to fixed-pitch wood propellers of conventional design.

(a) Fatigue limits must be established by tests, or analysis based on tests, for propeller:
(1) Hubs.
(2) Blades.
(3) Blade retention components.
(4) Components which are affected by fatigue loads and which are shown under CASR Part 35 Section 35.15 to have a fatigue failure mode leading to hazardous propeller effects.

(b) The fatigue limits must take into account:
(1) All known and reasonably foreseeable vibration and cyclic load patterns that are expected in service; and
(2) Expected service deterioration, variations in material properties, manufacturing variations, and environmental effects.

(c) A fatigue evaluation of the propeller must be conducted to show that hazardous propeller effects due to fatigue will be avoided throughout the intended operational life of the propeller on either:
(1) The intended airplane by complying with CASR Part 23 Sec 23.907 or CASR Part 25 Scetion 25.907 of this chapter, as applicable; or
(2) A typical airplane.

35.38 Lightning Strike

The applicant must demonstrate, by tests, analysis based on tests, or experience on similar designs, that the propeller can withstand a lightning strike without causing a major or hazardous propeller effect. The limit to which the propeller has been qualified must be documented in the appropriate manuals. This section does not apply to fixed-pitch wood propellers of conventional design.

35.39 Endurance Test

Endurance tests on the propeller system must be made on a representative engine in accordance with paragraph (a) or (b) of this section, as applicable, without evidence of failure or malfunction.

(a) Fixed-pitch and ground adjustable-pitch propellers must be subjected to one of the following tests:
  (1) A 50-hour flight test in level flight or in climb. The propeller must be operated at takeoff power and rated rotational speed during at least five hours of this flight test, and at not less than 90 percent of the rated rotational speed for the remainder of the 50 hours.
  (2) A 50-hour ground test at takeoff power and rated rotational speed.

(b) Variable-pitch propellers must be subjected to one of the following tests:
  (1) A 110-hour endurance test that must include the following conditions:
    (i) Five hours at takeoff power and rotational speed and thirty 10-minute cycles composed of:
      (A) Acceleration from idle;
      (B) Five minutes at takeoff power and rotational speed;
      (C) Deceleration; and
      (D) Five minutes at idle.

    (ii) Fifty hours at maximum continuous power and rotational speed;
    (iii) Fifty hours, consisting of ten 5-hour cycles composed of:
      (A) Five accelerations and decelerations between idle and takeoff power and rotational speed,
      (B) Four and one half hours at approximately even incremental conditions from idle up to, but not including, maximum continuous power and rotational speed, and
      (C) Thirty minutes at idle.
  (2) The operation of the propeller throughout the engine endurance tests prescribed in CASR Part 33.

(c) An analysis based on tests of propellers of similar design may be used in place of the tests of paragraphs (a) and (b) of this section.

35.40 Functional Test

The variable-pitch propeller system must be subjected to the applicable functional tests of this section. The same propeller system used in the endurance test (Sec 35.39) must be used in the functional tests and must be driven by a representative engine on a test stand or on an airplane. The propeller must complete these tests without evidence of failure or malfunction.

This test may be combined with the endurance test for accumulation of cycles.

(a) Manually-controllable propellers. Five hundred representative flight cycles must be made across the range of pitch and rotational speed.
(b) Governing propellers. Fifteen hundred complete cycles must be made across the range of pitch and rotational speed.
(c) Feathering propellers. Fifty cycles of feather and unfeather operation must be made.

(d) Reversible-pitch propellers. Two hundred complete cycles of control must be made from lowest normal pitch to maximum reverse pitch. During each cycle, the propeller must run for 30 seconds at the maximum power and rotational speed selected by the applicant for maximum reverse pitch.
(e) An analysis based on tests of propellers of similar design may be used in place of the tests of this section.

35.41 Overspeed and Overtorque

(a) When the applicant seeks approval of a transient maximum propeller overspeed, the applicant must demonstrate that the propeller is capable of further operation without maintenance action at the maximum propeller overspeed condition. This may be accomplished by:
  (1) Performance of 20 runs, each of 30 seconds duration, at the maximum propeller overspeed condition; or
  (2) Analysis based on test or service experience.
(b) When the applicant seeks approval of a transient maximum propeller overtorque, the applicant must demonstrate that the propeller is capable of further operation without maintenance action at the maximum propeller overtorque condition. This may be accomplished by:
  (1) Performance of 20 runs, each of 30 seconds duration, at the maximum propeller overtorque condition; or
  (2) Analysis based on test or service experience.

35.42 Components of The Propeller Control System

The applicant must demonstrate by tests, analysis based on tests, or service experience on similar components, that each propeller blade pitch control system component, including governors, pitch change assemblies, pitch locks, mechanical stops, and feathering system components, can withstand cyclic operation that simulates the normal load and pitch change travel to which the component would be subjected during the initially declared overhaul period or during a minimum of 1,000 hours of typical operation in service.

35.43 Propeller Hydraulic Components

Applicants must show by test, validated analysis, or both, that propeller components that contain hydraulic pressure and whose structural failure or leakage from a structural failure could cause a hazardous propeller effect demonstrate structural integrity by:

(a) A proof pressure test to 1.5 times the maximum operating pressure for one minute without permanent deformation or leakage that would prevent performance of the intended function.

(b) A burst pressure test to 2.0 times the maximum operating pressure for one minute without failure. Leakage is permitted and seals may be excluded from the test.

35.45 RESERVED

35.47 RESERVED

APPENDIX A – INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

A35. 1 General

(a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by CASR Part 35 Section 35.4.

(b) The Instruction for Continued Airworthiness for each propellers must include the Instructions for Continued Airworthiness for all propellers parts. If Instructions for Continued Airworthiness are not supplied by the propeller part manufacturer for a propeller part, the Instructions for Continued Airworthiness for the propeller must include the information essential to the continued airworthiness of the propeller.

(c) The applicant must submit to the DGAC a program to show how changes to the Instructions for Continued Airworthiness made by the applicant or by the manufacturers of propellers parts will be distributed.

A35.2 Format

(a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quality of data to be provided.

(b) The format of the manual or manual must be provide for a practical arrangement.

A35.3 Content

The contents of the manual must be prepared in the English language. The Instructions for Continued Airworthiness must contain the following sections and information :

(a) Propeller Maintenance Section.

(1) Introduction information that includes an explanation of the propeller's features and data to the extent necessary for maintenance or preventive maintenance.

(2) A detailed description of the propeller and its systems and installations.

(3) Basic control and operation information describing how the propeller components and system are controlled and how they operate, including any special procedures that apply.

(4) Instructions for uncrating, acceptance checking, lifting, and installing the propeller.

(5) Instructions for propeller operational checks.

(6) Scheduling information for each part of the propeller that provides the recommended periods at which it should be cleaned, adjusted, and tested, the applicable wear tolerances, and the degree of work recommended at these periods. However, the applicant may refer to an accessory, instrument, or equipment manufacturer as the source of this information if it shows that the item has an exceptionally high degree of complexity requiring specialized maintenance techniques, test equipment, or expertise. The recommended overhaul periods and necessary cross-references to the Airworthiness Limitations section of the manual must also be included. In addition, the applicant must include an inspection program that includes the frequency and extent of the inspections necessary to provide for the Continued Airworthiness of the propeller.

(7) Troubleshooting information describing probable malfunctions, how to recognize those malfunctions, and the remedial action for those malfunctions.

(8) Information describing the order and method of removing and replacing propeller parts with any necessary precautions to be taken.

(9) A list of the special tools needed for maintenance other than for overhauls.

(b) Propeller Overhauls Section.

(1) Disassembly information including the order and method of disassembly for overhaul.

(2) Cleaning and inspection instructions that cover the materials and apparatus to be used and methods and precautions to be taken during overhaul. Methods of overhaul inspection must also be included.

(3) Details of all fits and clearances relevant to overhaul.

(4) Details of repair methods for worn or otherwise substandard parts and components along with information necessary to determine when replacement is necessary.

(5) The order and method of assembly at overhaul.

(6) Instructions for testing after overhaul.

(7) Instructions for storage preparation including any storage limits.

(8) A list of tools needed for overhaul.

A35.4 Airworthiness Limitations Section

The Instructions for Continued Airworthiness must contain a section titled Airworthiness Limitations that is segregated and clearly distinguishable from the rest of the document. This section must set forth each mandatory replacement time, inspection interval, and related procedure required for type certification. This section must contain a legible statement in a prominent location that reads: "The Airworthiness Limitations section is DGCA approved and specifies maintenance required under CASR Part 43 Section 43.16 and CASR Part 91 Section 91.403 unless an alternative program has been DGCA approved."

MINISTER FOR TRANSPORTATION
REPUBLIC OF INDONESIA,

ttd

IGNASIUS JONAN

Salinan sesuai dengan aslinya

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