Circular No. 1-003

Procedures for Type Certification of Japanese Manufactured Aircraft

September 30, 2005 First issue (KOKU-KU-KI-5029)
June 30, 2011 Amended (KOKU-KU-KI-282)

Airworthiness Division, Aviation Safety and Security Department
Japan Civil Aviation Bureau
Ministry of Land, Infrastructure, Transport and Tourism

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Director, Airworthiness Division
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Subject: Procedures for Type Certification of Japanese Manufactured Aircraft

1. Applicability

This Circular — in relation to the outline of such inspections regarding type certification and type design changes of aircraft manufactured in Japan that are prescribed in Chapter II "Type Certification" of the Circular "General Policy and Procedures for Certification/Inspection of Aircraft and Appliances" (Circular No. 1-001) — describes the inspection services by the government and the procedures which the applicant should follow, from the application for a type certificate to the issuance of it.

In addition to the flow of the type certification services described in item 6-2 of the Circular No. 1-001, the Diagram 1 regarding the service flow shows details of the flow of our services prescribed in this Circular in relation to type certification of aircraft manufactured in Japan.

As explained in Chapter II (Reference 1) of the Circular No. 1-001, engines and propellers are covered by type approval, and still, this Circular is applied accordingly to procedures to carry out inspections thereof.

2. Application

2-1 Preliminary Arrangements

Evaluation for type certification would be started when a person seeking a type certificate submits an application for it. This also applies to a person who intends to make design changes — including an addition of a derivative model — to an aircraft already type-certificated.

A person who plans to obtain a type certificate of an aircraft manufactured in Japan (hereinafter referred to as "the potential applicant") should inform of it to the Aircraft Engineering and Certification Center (hereinafter referred to as "the Center") of the Airworthiness Division, Aviation Safety and Security Department, Japan Civil Aviation Bureau at an appropriate stage when he/she is going to realize the contents of the application, and he/she should also apply for a request of preliminary arrangements.

The Center — when it recognizes that, relating to the application plan, preliminary arrangements are possible and also that it is high time — would inform the potential applicant of the fact and may start preliminary arrangements with the potential applicant based on his/her request.

Preliminary arrangements, conducted to smoothly carry out inspections for type certification after the application, is intended to make decisions on practical matters for carrying out type

certification inspections, and may make adjustments regarding the design concept of the aircraft, certification basis, details of specifications, as well as the policy for substantiation of safety and environmental compatibility.

Further, we carry out, during aforementioned arrangements, such activities typically as follows: judgments on the potential applicant's ability to realize his/her plan, by evaluating explanation on his/her type certification-related accomplishment(s) in the past, his/her status regarding approval(s) in relation to aircraft production and his/her status regarding outsourcing of works; identification of such important issues applied in design works for type certification as "novel design(s)", "new technology", "new material(s)" as well as "novel methods of construction" including arrangements on the feasibility of these items; arrangements for the proposal of the certification basis and requirements; and adjustments for the proposal of certification plan based on the outline of aircraft specifications.

The description above also applies to a person who intends to make design changes ― including an addition of a derivative model ― to an aircraft already type-certificated, although the contents of preliminary arrangements will be selected appropriately depending upon the magnitude and proposed schedule of the design changes.

The details concerning implementation of preliminary arrangements are prescribed in the Circular No. 1-301 "Guidance for Carrying out Preliminary Arrangements".

2-2 Application

2-2-1 Type Certification

An applicant for type certification should submit relevant documents along with the application, to the Airworthiness Division, Aviation Safety and Security Department, Japan Civil Aviation Bureau, Ministry of Land, Infrastructure, Transport and Tourism, no later than the prescribed time according to the Classification 2 of the Article 17 paragraph (2) of the Civil Aeronautics Regulations.

The documents along with the application should be as follows:

(a) Design Plan

The design plan shall refer to the documents describing the following items.

a. Outline:
- Design concept
- Basic data, operational category and characteristics of the aircraft
- Name of a designer in charge, and name of coordinator in charge to liaise with the authority with respect to the design
- Outline of the schedule for design and manufacture

b. Powerplant related matters:

General description of the engine, propeller, rotor and transmission including nomenclature, type and manufacturer

c. Performance related matters:
- Estimated performance data for take-off & landing, climb, cruise, and so forth
- General description of stability and controllability

d. General descriptions of primary structure:

e. Equipment related matters:

Descriptions of equipped systems: flight controls, miscellaneous controls, electrical power, instruments, induction & exhaust, cooling, fuel, oil, hydraulic, pneumatic, vacuum, air conditioning, anti-ice, fire protection, oxygen, telecommunication and navigation

f. Description of special manufacturing methods, if any:
g. Test related matters:
Descriptions including locations, facilities, tools/equipment used, schedule in relation to strength tests, functional tests, flight tests, noise measurement and engine emission measurement

(Note) The design plan is intended to provide the JCAB with an overview of the aircraft design features before the JCAB initiates actual inspections. Although it is preferable to submit the plan in a completed whole package, it is permissible for the applicant to submit from the portion already prepared. We know that the description may be altered as design works make progress, the applicant, however, is not necessarily obliged to amend the plan, as long as we are informed of that change in advance through possible way.

(b) Design Documents

The documents containing such explanations and calculations that show compliance with the certification basis correspond to the design documents or some of them.

The design documents shall refer to the documents described below.

a. Calculation of weight and center of gravity:
b. Calculation of performance:
c. Calculation of stability and controllability:
d. Calculation of basic load and basic load strength:
e. Calculation of fatigue load and fatigue load strength:
f. Calculation of extent of noise level and engine emissions:
g. Specification of engine, propeller and other major parts:
h. Design materials such as load analysis, strength calculation, performance calculation, main block diagram, specification and failure analysis in respect to various systems (flight control, miscellaneous controls, electronics/electricity, instrument, inlet and exhaust, cooling, fuel, lubricant oil, hydraulic oil, air pressure, vacuum, air-conditioning, anti-icing/deicing, fire extinguishing, oxygen, radio and navigation equipment):
i. Materials for design if any unique structure or parts are used:
j. Documents describing plans, data and results of tests and measurements (strength tests, fatigue tests, ground tests, flight tests, noise measurements and emission measurements):

Note that it is preferable the applicants would control these documents by sequence of numbers according to their own numbering system.

(c) Drawing List

The drawing list controls, under consolidated system, such drawings that are necessary for managing the type specifications of the aircraft for which the applicant is seeking type certificate.

In addition, the list shall be a list including every drawing number, title and amendment number related to the type design of the said aircraft under application.

If the applicant has established a drawing management system, and if the JCAB agrees after the applicant made necessary explanation about the system, it is acceptable to us that only final version of the list is submitted by the time of the final type certification board meeting.

(d) Drawings

The drawing shall be a three-view drawing.

It is desirable that the design drawing contains the approximate dimensions, major data, materials used and construction method of the aircraft.

(e) Parts List

The parts list is necessary to manage — from the level of equipment and parts — the type

specifications of the aircraft for which a type certificate is sought.

The parts list shall be a list which contains the name of parts, type of parts, name of manufacturers, weight, position of center of gravity to the datum line of aircraft and name of approved standards on individual part in respect to all standard parts installed and optional parts installed by an aircraft user according to operation mode, which are included in the type design of the aircraft.

Concerning the contents of this list, it is not necessary to include so detailed description as a parts catalog distributed by the applicant to operators, but it is acceptable to be such one as covers the specifications of the aircraft through equipment/parts as minimum components.

(f) Manufacturing Plan

The manufacturing plan shall be the documents described below.

a. Location of manufacturing plant and name of the main subcontract manufacturer related to the aircraft under application:
b. Schedule of manufacture related to the said aircraft:
   To prepare for future manufacturing process inspections, this document should contain the schedule for each process including material processing, fabrication and construction for each subassembly of the aircraft and final assembly of the aircraft. Further, subsequent amendment should be kept controlled appropriately.
c. Instructions used for manufacturing process, inspection records, such other standards for manufacturing method or control method/system as applied to manufacturing process and not prescribed on the drawings.

(g) Specification

The specification shall be the documents described below.

a. Category, class and type of an aircraft under application:
b. Type and number of engine, propeller or rotor blade:
c. Name and address of manufacturer of an aircraft under application. (in case of corporation, its name and location of a head office):
d. Airworthiness category, the standards specified under Article 10, paragraph (4) of the Law (including provisions according to Article 10-2, paragraph (2)) and the document number of amendments and the issue date of the Airworthiness Inspection Manual on which design was based:
e. The main dimensions of the aircraft under application including the range of deflection of angle of the control surfaces:
f. Description and the necessary charts related to weight and location of center of gravity such as maximum take-off weight, maximum landing weight, allowable range of center of gravity, weight distribution, floor load strength and related matters:
g. Limit load factor:
h. Limitations related to airspeed such as never exceed speed, normal operating limit speed and landing gear operating speed:
i. Acrobatic flight such as spin and other peculiar flight characteristics allowable for the aircraft under application:
j. Maximum operating altitude or maximum altitude of auto rotation landing:
k. Specifications and necessary charts related to engine operation such as power or thrust, engine revolution speed, rotor speed of rotorcraft and atmospheric temperature at which engine can be operated efficiently:
l. Grade of fuel, and lubricant oil standard:
m. Total capacity of fuel tanks and oil tanks, unusable capacity:
n. Type, number, method of usage of special equipments. Limitations and necessary charts,

when these are installed:

o. Kind of equipments and parts (Name and standard or specification of standard and optional equipments):
p. Limit of cross wind:
q. Minimum crew, maximum passengers:
r. Limitation(s) on the water:
s. Manufacturer serial number of applicable aircraft:
t. Necessary signs and placards:
u. Safe life of structure members:
v. Noise level:
w. Level of engine exhaust emissions:

This is a document for managing type specifications of the aircraft. It should cover general contents of the major specifications.

(Note) Class of aircraft means classification of aircraft as single engine land, multi engine land, single engine water and multi engine water.

(h) Flight Manual

Flight Manual shall contain matters specified under Article 5-4 of the Civil Aeronautics Regulations (CAR). The Manual should be prepared according to Appendix I-2 of "Chapter I Airworthiness Certification" of the Circular No. 1-001 "General Policy and Procedures for Certification/Inspection of Aircraft and Appliances".

It should contain information necessary for pilots to carry out safe operation.

(i) Maintenance procedure manual

Maintenance procedure manual shall contain matters specified under Article 5-5 of the CAR. The contents should be prepared according to Attachment I-3 to "Chapter I Airworthiness Certification" of the Circular No. 1-001 "General Policy and Procedures for Certification/Inspection of Aircraft and Appliances".

It should contain information for operators to appropriately maintain continued airworthiness. It should be noted that the chapter for airworthiness limitations where they are specified requires approval by the JCAB. In particular, the contents described in that chapter for the airworthiness limitations require substantiation taking properness for practice into account, because the operators are obliged to accomplish these limitations without fail to maintain continued airworthiness.

Explanation in detail related to the chapter for the airworthiness limitations are prescribed in the Circular No. 1-313 "Guidelines for establishing 'Airworthiness Limitations' in the 'Instructions for Continued Airworthiness' ".

In addition, the "Procedures to Amend the Instructions for Continued Airworthiness" is treated as same as the design documents.

(j) Documents describing items for computing weight and center of gravity of the aircraft

Following items shall be described in the documents. However, the Flight Manual may be a substitute for the documents when these items are described in the Flight Manual.

a. Empty weight and center of gravity of airframe:
b. Name, weight and center of gravity of each equipment:
c. Useable capacity and center of gravity of each fuel tank:
d. Others:

These should be appropriately described so that pilots can carry out safe operation.

(k) Documents certifying that the confirmation of inspection is completed pursuant to the provision of paragraph (1), Article 39-4 (limited to aircrafts listed in Article 18 paragraph (2) item (ii) of the CAR.).

(l) Documents describing reference materials in addition to those listed in each of the preceding:

Documents describing referential matters other than above are as follows:

a. Certification plan (as described in 5-1-2 (1)).
b. Draft compliance checklist.
c. Instruction for issuing service bulletins.
   Refer to the Circular No. 1-013 “Approval of service bulletins”
d. Management plan to ensure airworthiness.
e. Any other documents which the JCAB personnel in charge recognizes necessary.

Above documents should be submitted at an appropriate time according to the instructions by the JCAB.

2-2-2 Type Design Change

A person who intends to make changes — including addition of derivative model(s) — to some portion of the design of an aircraft already type-certificated should submit an application for type design changes along with the relevant documents, pursuant to the provisions of Article 20 of the CAR and in a similar manner to type certification.

A design change means a change or addition to the specification, operating limitations, configurations including equipment of the aircraft; and further, in relation to type certificate, a change to such documents that were submitted along with the application letter, a change to manufacturing process already evaluated through the inspection concerned should also be covered by a design change.

An applicant for a type design change should be limited to a person who holds the type certificate for the aircraft type concerned (or a representative of that person).

2-3 Change to the Contents of the Application

To make a change to the contents of the application, including an addition of a design change item: notification of the amendment to the contents of the application is necessary, and the notification is received at the Airworthiness Division.

To apply for the change said above, a document containing the following should be submitted:

- Category, type and the number of the type certificate of the aircraft,
- Application number and application date, and
- General description of the change.

2-4 Administrative Office for Submission of an Application

Airworthiness Division, Aviation Safety and Security Department,

Japan Civil Aviation Bureau, Ministry of Land, Infrastructure, Transport and Tourism

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo

(Phone) 03-5253-8735

3. Certification Basis

3-1 Certification Basis

Standards applicable to the type certification for which an application was made are the following ones specified by Appendix 1, 2 and 3 to the CAR:

(1) Appendix 1 to the CAR: “Standards of Strength, Structure and Performance to Ensure the Safety of Aircraft and its Equipment” (related to the Article 10 Paragraph (4) item (1) of the Law)

(2) Appendix 2 to the CAR: “Aircraft Noise Standards” (related to the Article 10 Paragraph (4) item (2) of the Law)

(3) Appendix 3 to the CAR: “Aircraft Engine Emissions Requirements” (related to the Article 10 Paragraph (4) item (3) of the Law)

As for these evaluation standards, currently effective ones are applied. If the relevant standard is amended, the standard that becomes effective after the amendment is applied also to the aircraft already type-certificated (based upon Article 13 of the Law).

Accordingly, if the relevant type of aircraft no longer complies with the currently effective standards, it is required, in principle, to modify the aircraft through a type design change to make it comply with the standards concerned.

3-2 Guidelines or Relevant Procedures for Substantiation of Compliance with Standards —Airworthiness Inspection Manual

3-2-1 Type Certification

As for the guidelines or relevant procedures to substantiate compliance with the Standards set forth in Appendix 1 to the CAR, such Airworthiness Inspection Manual (hereinafter referred to as “the AIM”) is applied that is effective at the time when the application for the type certification concerned is accepted.

Notwithstanding above, if applying all or some part of the Manual concerned is difficult or unreasonable because new technology or special design has been introduced to the design of the aircraft type concerned, special conditions, exemptions, or substantiation of equivalent level of safety may be established.

Further, if necessary for substantiating compliance with safety standards, it is possible to newly apply the latest version of the AIM that has been revised after the acceptance of the application.

Some cases of such necessity, for example, are as follows: the case where certification basis has been revised, or the case where the same AIM has been applied for significantly long period of time (basically five or six years).

The details regarding the application of the AIM are prescribed in the Circular No. 1-302 “Guidance for Applying the Airworthiness Inspection Manual”.

3-2-2 Making Design Change to Type Already Type-certificated

When making a design change to a type already type-certificated, including type certification of the aircraft that belongs to the derivative series of the type already type-certificated: the latest AIM effective at the time of application for the design change concerned is applied.

Notwithstanding above, if it is recognized that the work loads required for substantiation is too heavy when the aforementioned AIM is applied, and at the same time that, taking service history of that type concerned into consideration, compliance with safety requirements is sufficiently secured even through the continuing application of the AIM applied to the substantiation of the original design, this AIM can be applied.

Still, in such cases as a significant change to the specification of the aircraft, a change to an important method of construction/fabrication, as well as a change to the agreements that were the precondition for the certification basis at the time of type certification (In this context, such prerequisites defined when discussing special conditions and exemptions are considered.), it is our basic policy to apply the latest Airworthiness Inspection Manual.

The details regarding the application of the AIM are prescribed in the Circular No. 1-302 "Guidance for Applying the Airworthiness Inspection Manual".

3-2-3 Special Conditions, Exemptions and Equivalent Level of Safety

In such cases that remarkably new technology has been introduced to type design, as well as that it becomes necessary to add and apply new guideline to secure safety, special conditions may be established as guidelines for evaluation in relation to type certification, in addition to the requirements of the Airworthiness Inspection Manual.

Further, in the case that it is not necessary to apply some part of the Airworthiness Inspection Manual because of the uniqueness of the type design, or that it is recognized appropriate to adopt different procedures, the said part may be omitted (exemptions) or changed (equivalent level of safety) within the scope of the provisions specified in Appendix 1 to the CAR. (Paragraph (6) of the Preliminary Remarks of the Airworthiness Inspection Manual)

The details of applying special conditions, exemptions and equivalent level of safety are prescribed in the Circular No. 1-303 "Guidance for Applying Special Conditions, Exemptions and Equivalent Level of Safety".

3-2-4 Determination and Amendment of the Guidelines for Evaluation

The applicable guidelines for evaluation are, as usual, discussed during the initial Type Certification Board Meeting in relation to the type concerned with the participation of the applicant, and the original proposal is set forth in the Issue Paper (G-1) (explained later).

In the case that partial amendment to the applicable guideline is intended because of the design change of some part in the process of evaluation/inspection after start, the revision process is closed after discussion during the Final Board Meeting at the latest or during the Board Meeting before the final one. Until that time, the guideline concerned is set forth in the Issue Paper for Compliance and can be in use with the title of "under discussion".

Regarding the decision of certification basis and the notification of it, the JCAB carries out required process according to the results fixed in the Final Board Meeting, and then makes a formal decision of which notification is made to the applicant under the name of Director, Airworthiness Division.

The application of special conditions, exemptions and equivalent level of safety is also processed in a same manner.

Still, in the case of the guidelines for evaluation of type design changes, it is, on the one hand,

surely our basic policy to carry out the process in a same manner as above; it will be, on the other hand, possible to omit some part or all of the aforementioned process and to follow the AIM applicable to the original type design, in such a case that some kinds of special equipment are added or that some of the relatively minor changes — such modifications classified as minor ones — are made to cope with malfunctions found in the course of operation.

3-3 Issue Paper

Regarding the matters — i.e., our policy for certification, implementation procedures of tests, in relation to the standards for airworthiness/environmental compatibility or the AIM — about which it is recognized necessary to make the contents clear to the applicant for carrying out appropriate evaluations, the Center would prepare and issue the Issue Paper as a method to show the JCAB's views concerning the matters above.

The details regarding the Issue Paper are prescribed in the Circular No. 1-304 “Guidance to issue the Issue Paper”.

4. Type Certification Board

4-1 Type Certification Board

The Type Certification Board is such evaluation organization of the Aviation Safety and Security Department of the JCAB that are established to evaluate overall matters of the certification for each project of type certification or type design changes.

As for the Type Certification Board meetings, preliminary board meeting, pre-flight board meeting and final board meeting are held at important stages of each project of type certification or type design changes.

The applicant of the type certification or type design changes should provide the Type Certification Board, whenever it is proper, with appropriate information through the JCAB personnel in charge, in such a manner as submission of relevant documents.

The details regarding the Board are prescribed in the Circular No. 1-305 “Guidance for Managing the Type Certification Board”.

4-2 Holding Type Certification Board Meetings

Concerning the timing and frequency to hold Type Certification Board Meetings (hereinafter referred to as “the TCB Meetings”): it is our basic policy to hold three meetings such as the Preliminary Board Meeting held before starting construction of the prototype aircraft, the Preflight Board Meeting held before the flight tests, and the Final Board Meeting held before issuing the type certificate; and still, some of the TCB Meetings may be omitted or intermediate board meetings may be held as necessary between the TCB Meetings, depending upon various situations such as complexity of the aircraft, share of domestic production, as well as novelty and uniqueness of design.

The participants of the TCB Meetings are basically composed of the members of the Type Certification Board and the applicant; and still, the Board may request other persons concerned to attend the meeting, and hear their opinions or ask their participation in the discussion.

The objectives or the discussion items of the TCB Meetings are as follows, although not limited to them.

(1) Preliminary Board Meeting (before starting construction of the prototype aircraft):

(a) Notification of the overall plan of type certification inspection,

(b) Exchange of opinions on design details and technical matters (or issues),

(c) Preparation of certification basis and the draft AIM for relevant evaluation,

(d) Discussion on methods to cope with technical matters (or issues), and

(e) Establishment of the schedule for type certification

(2) Pre-flight Board Meeting (before the first flight):

(a) Evaluation of such matters as required tests, necessary modifications, necessity of implementing design changes, and

(b) Evaluation to determine whether the flight test can be started.

(3) Final Board Meeting (before issuance of the type certificate):

(a) Determination of the certification basis and the final draft of the AIM for relevant evaluation,

(b) Final evaluation of submitted documents, compliance status with the airworthiness and environmental compatibility standards and test results, as well as

(c) Evaluation on open issues which relates to our decision whether the type certificate can be issued or not.

4-3 Preparation of the Minutes

It is especially important to know how each TCB Meeting has progressed and resulted, and so minutes are taken each time a board meeting is held. Also the applicant should control and keep all of the minutes that were taken, as one of the records for seeking certification, together with the documents submitted.

5. Inspections

Regarding type certification and type design change approval (hereinafter referred to as “type certification”), inspections are carried out in the form of those for design, manufacturing process and current condition. Outline about the inspections is as described below.

Meanwhile, if an approved organization system for design inspection is utilized in each project of type certification for which an application has been made to the JCAB, the scope within which the organization performs the relevant inspections and takes responsibilities on behalf of the JCAB should be agreed in advance between both parties.

And then, in the case of the relevant inspection services carried out by the organization approved for the capability according to the Article 20 Paragraph (1) item (1) or (1) item (5) of the Law, the words representing each organization of the Government should read “an approved organization for design inspection”, and the words representing each personnel of the Government should read “the Certifying Staff competent for the relevant task(s) specified in the Approved Organization Exposition”.

5-1 Inspection Records

Inspection records related to type certification as a whole are as set forth below. Regarding each inspection record among various types of inspections, description is set forth in each item.

1) Statement of Compliance

This document is issued in relation to our inspections for type certification

Our evaluation for compliance status with the certification basis is carried out in the form of evaluation of such certification documents as drawings, specifications, analysis reports, calculation reports, test plans, test reports and draft flight manual, as well as in the form of evaluation through qualification tests for property and performance, ground tests and flight tests; and then, when we recognize that the documents for substantiation show compliance with the certification basis, a statement of compliance is issued as a material to show respective status of compliance.

It should be noted that a statement of compliance is a document to show the status of compliance for each substantiation material, and that it is not a document to certify any compliance with applicable requirements solely.

Meanwhile, in such cases that the compliance with the standards prescribed in Circulars and other known standards (RTCA DO and TSO) is shown in addition to the certification basis set forth in the Airworthiness Inspection Manual, description about the former standards can be included in the statement of compliance if the applicant requests.

When a statement of compliance is necessary, the applicant should submit a proposal of the statement of compliance to the JCAB Engineer for technical evaluation before the evaluation of the applicable substantiation documents is completed.

If the JCAB recognizes, through internal evaluation, that the substantiation documents concerned show compliance with the certification basis and that the proposed statement of compliance correctly reflects the results of evaluations, the statement of compliance is confirmed and issued with the signature of Director, Aircraft Engineering and Certification Center.

The form of a statement of compliance is shown in Appendix 1.

2) Minutes

When evaluations are conducted, the results of the discussion are to be recorded by the applicant in the form of the minutes, from the viewpoint of making clear the contents of the evaluation, items pointed out and for improvements, matters for investigations and open items, as well as sharing recognition mutually; and then both parties confirm the description of the minutes.

Though there is not an established form in particular for the minutes, a sample form of the minutes is shown in Appendix 2.

3) Integrated Statement of Compliance

An integrated statement of compliance (ISC) is issued when it is confirmed that the changes to designs in relation to type certification comply with all certification basis, and the ISC integrates relevant statements of compliance already issued.

When an ISC is necessary, the applicant should submit a draft ISC to the Project Manager of the JCAB before the evaluation of relevant substantiation documents is completed.

If the JCAB recognizes, through an internal examination, that the compliance with the certification basis of the project is completely substantiated and that the proposed ISC correctly reflects the results of evaluations, the ISC is fixed and issued with the signature of Director, Aircraft Engineering and Certification Center.

The form of an integrated statement of compliance is shown in Appendix 3.

4) Type Inspection Authorization

This type inspection authorization, intended to show that the JCAB has approved it is possible to start the JCAB official tests, will be issued by the JCAB with the condition that the specified requirements are to be satisfied.

The JCAB issues a type inspection authorization with the signature of Director, Aircraft Engineering and Certification Center, when the JCAB recognizes that the examination of technical data necessary for type certification has been completed, that the subject aircraft and its equipment satisfy the necessary requirements, as well as that the applicant's management to ensure the safety of the JCAB flight tests satisfies the relevant requirements.

Notwithstanding above, in the case of relatively minor changes to the design and when it is recognized that said changes have apparently no unsafe features and do not affect any other characteristics of the aircraft, the JCAB may agree with the start of the official flight tests without taking regular steps to issue a type inspection authorization, provided the applicant can demonstrate that — regarding every aircraft for flight tests — the substantiation of conformity to the design data is completed and that the airworthiness of the aircraft concerned is guaranteed except for the portion subjected to the test(s).

The details regarding a type inspection authorization are prescribed in the Circular No. 1-306.

5-2 Implementation of Inspections

When implementing inspections for type certification, a plan for evaluations of substantiation methods and for inspections will be established; and through the plan, management is carried out regarding: activities to verify whether the certification program of the applicant includes enough contents necessary to show compliance with the standards, constant awareness to the current status of substantiations, recognition of the completion of relevant items, as well as the progress of inspections.

5-2-1 Evaluation of (Compliance) Substantiation Methods

1) Certification Plan

The applicant for type certification should, before implementing evaluation concerned, prepare a certification plan in which methods to show compliance with all the requirements of the applicable AIM — including selection between analysis and demonstration — as well as the time table are set forth; and then he/she should obtain approval from the JCAB.

Also in the case of amending the Plan already approved, approval of the JCAB is necessary. Regarding the Plan concerned, it is recommended that the applicant should make enough explanation to the JCAB (the Center), as well as peer review, at the stage of preliminary arrangements before application.

The details regarding certification plan are prescribed in the Circular No. 1-307 "Certification Plan".

2) Compliance Check List

A compliance check list shows the substantiation status for each item of the certification basis/AIM.

The JCAB (the Project Manager and the Conformity Inspection Manager) will control, using this compliance check list, such activities for substantiation of compliance with the certification basis that is based upon the certification plan (methods).

5-2-2 Inspection Implementation Plan

When inspections for type certification are going to be started: the JCAB will develop an inspection implementation plan based on the certification plan, provided that the JCAB recognizes such a plan is necessary to control the implementation of inspections concerned, because of the anticipation that the implementation of the inspection services regarding certification may require work force other than the Center, that said works may require long terms of period (more than one year may be required).

5-2-3 Design Inspections

Design inspections are carried out through evaluating analysis or demonstration.

The applicant, regarding his /her certification plan, should obtain approval of the Center before sitting for the design inspections. The approval is granted by issuing a statement of compliance.

After the approval concerned is obtained, the applicant may accomplish analysis and/or demonstration based upon the certification plan; and then he/she may sit for the evaluation by the JCAB Engineer for technical evaluations, regarding the compliance status to the certification basis.

When the certification plan already approved is to be amended, the applicant should obtain approval again from the JCAB (the Center).

As a result of evaluation, and if it is recognized every document related to the design shows compliance with the standards, the JCAB (the Center) confirms the compliance status respectively to the certification basis by issuing a statement of compliance.

5-2-3-1 Evaluation of Analysis Documents

Drawings, Analysis Documents, and Study Papers

Verifications of compliance through drawings are carried out by evaluating that the specifications of the aircraft defined by the drawings comply with the requirements asked by the applicable items.

Notwithstanding above, it is generally difficult to substantiate all the applicable items only through drawings, and so it is possible, as required, to carry out evaluations together with supplementary materials and the like. Verifications of compliance through analysis documents are carried out by evaluating whether the analyses (calculations and similarity studies) performed by the applicant have correctly attained the conclusion to show compliance with the requirements asked by the applicable items, through appropriate analysis methods.

In this case, it is absolutely necessary that the analyses concerned have been performed based upon proper conditions specified, and so it is important to confirm that such specifications for type certification as aircraft specifications are sufficiently reflected.

Study paper is a kind of analysis document prepared by the applicant, and it is verified that the design complies with the requirements asked by the applicable items, through evaluating

the applicant's study (utilization of data from other project(s)). Especially in such a case that data from other project(s) are utilized, it is important to trace back to the original data and sufficiently investigate its integrity and trustworthiness.

Concerning the flight manual as well as the chapter for airworthiness limitations in the Instructions for Continued Airworthiness, the applicant should follow the required procedure to obtain approval separately from the JCAB (an approved organization for design inspection cannot award such approval).

5-2-3-2 Evaluation of Demonstration

Approval of Test Plan and Test Report; Verification of Test Articles, Test Equipment and Test Records; Verification of Test Aircraft Configuration, Flight Test Procedures and Flight Test Records

1) Approval of Test Plan and Test Report

Tests for type certification include ones to directly demonstrate the applicable items and ones to obtain basic data.

If the test results are used, whether directly or indirectly, for substantiation of compliance it is necessary to carry out the tests based upon the test plan of which the statement of compliance is approved by the JCAB.

Therefore, it is required that the test plan should contain all the information, conditions and specifications necessary to carry out the test. Note that drawings of test articles and drawings of test layout(s) should be included among the items just said.

Additionally like that, also the test report used for compliance substantiation requires approval by the JCAB. When making the report, articles and layout(s) for that test should have been inspected by the JCAB about their conformity to the approved test plan. To carry out the test, witnessing by the JCAB is necessary.

2) Verification of Test Articles, Test Equipment and Test Records (including tools and test layout(s))

Test articles and test layout(s) for type certification testing should be subjected to the JCAB inspection to determine whether they will conform to the test plan approved in principle, beforehand. (Hereinafter, this inspection is referred to as "conformity inspections".).

The Conformity Inspection Manager of the JCAB informs the JCAB Engineer for conformity inspections as well as the applicant of the test articles, test equipment and layouts that require JCAB inspections on site.

This notification is made by issuing a Request for Conformity/Test Witnessing (RFC/W) from the JCAB.

When going to sit for the inspection concerned, the applicant should examine in advance whether the test articles conform to the test plan, and issue a Statement of Conformity (SOC) regarding their conformity.

The JCAB Engineer for conformity inspections will check the contents of the Statement concerned, and then determine on site whether the development and preparation of the test articles are accomplished in conformity with the specifications instructed in the test plan.

In addition, when issuing an SOC, the applicant should make proper validation based on

the applicant's quality control procedures already confirmed to be appropriate by the JCAB, and take responsibility for the results of the validation performed.

Regarding the results of the inspection concerned, the JCAB personnel who carried out inspections will record the contents of the results in a Conformity Inspection Report (CIR), of which the original copy is filed at the JCAB.

In this case, one (1) set of the copy will be handed to the applicant, if desired.

For the test articles in particular, it would be possible that they may be moved to other location (remote test site) after aforementioned JCAB inspection, or that some period of time may be required before the test; and so, if the applicant wishes, a Conformity Inspection Tag (CIT) may be issued and attached to the articles concerned according to the instruction of the Conformity Inspection Manager; accordingly, through the CIT, it may be shown that the conformity inspection by the JCAB has been already performed to the test articles concerned.

The details of conformity inspections, including the check of the test articles, test equipment and test reports, are prescribed in the Circulars No. 1-308 “Preparation and Management of Implementation Plan for Conformity Inspections and Test Witnessing” and No. 1-309 “Guidelines for Implementation of Conformity Inspections and Test Witnessing”.

The test is immediately stopped when any difference from the test plan has been found, or when such troubles have happened that the test articles and teat equipment have been damaged during the testing, or that the test cannot be performed under the conditions required by the test plan.

When such a problem has happened, it is, in principle, necessary to obtain approval regarding corrective action or modification of the test plan; still, if it is extremely difficult to perform the test again or to temporally stop the test during the time required to obtain approval according to regular steps, it is possible, through consultation with the technical department, to continue the test on the responsibility of the applicant without obtaining approval for the modification said above, and to subject to evaluations for the validity of the test thereafter.

In that case, continuation of the test becomes possible, provided that, after the contents of the difference are made clear, a deviation sheet is prepared where determination by the responsible department about the validity concerned is set forth, and thereafter if the approval from the JCAB is obtained.

The details regarding deviation sheets are prescribed in the Circular No. 1-310 “Guidelines for Issuing Deviation Sheets”.

3) Test Witnessing

In principle, all the tests for type certification are performed under the witnessing, whether directly or indirectly, of the JCAB. The JCAB Engineer for witnessing determines whether the testing has been performed according to the test plan as well as whether the data obtained from the test are properly recorded, and then issues a Test Witnessing Record (TWR). In this case, the original TWR is attached to the report of the test concerned, and one (1) set of the copy is filed at the JCAB.

The details of test witnessing are prescribed in the Circulars No. 1-308 “Preparation and Management of Implementation Plan for Conformity Inspections and Test Witnessing” and No. 1-309 “Guidelines for Implementation of Conformity Inspections and Test Witnessing”.

4) Verification of Test Aircraft Configuration, Flight Test Procedures and Flight Test Records

<1> Test Aircraft Configuration

Concerning test aircraft subjected to tests for type certification: it is our basic policy that all of such aircraft specifications are incorporated that are determined necessary to be verified during substantiation of conformity to applicable items; and like 2) of this article, the test aircraft should be defined in the approved flight test plan.

To verify the test aircraft, the procedure prescribed in 2) of this article can be applied accordingly.

<2> Flight test plan

When any difference from the test plan has been found, the test is immediately stopped; and it is, in principle, necessary to obtain approval regarding corrective action or modification of the test plan. Still, if it is extremely difficult to perform the test again or to temporally stop the test during the time required to obtain approval through regular steps, it is possible to continue the test without obtaining approval for the modification said above, and to subject to evaluations for the validity of the test thereafter.

In that case, continuation of the test becomes possible, provided that, after the contents of the difference are made clear, a deviation sheet is prepared where determination by the responsible department about the validity concerned is set forth, and thereafter if it is accepted by the JCAB.

The details regarding deviation sheets are prescribed in the Circular No. 1-310 “Guidelines for Issuing Deviation Sheets”.

<3> Implementation of flight tests

There are usually two types of flight tests: company flight tests conducted by the applicant for development/familiarization, and type certification flight tests for determination of compliance.

i) To conduct company flight tests, it is at least required to obtain in advance permission for test flights according to the provision of the proviso of Article 11 of the Law. Further, when conducting type certification flight tests, the flight test plan should be approved by the JCAB.

In the case of a newly developed project or remarkable level of design changes, feasibility to carry out flights is, in principle, evaluated during the Pre-Flight Type Certification Board Meeting, before permitting the flight.

ii) Type certification flight tests — for which the JCAB officially carries out inspections on site — are, in principle, started after checks in advance are completed through applicant’s company flight tests regarding items subject to the JCAB inspections.

In this case, the contents covered by the applicant’s company flight tests in relation to the test items specified in advance should be evaluated by the JCAB.

Official flight tests by the JCAB will be started, in principle, after the Type Inspection Authorization specified in 4) of the Article 5-1 is issued.

5-2-4 Inspections of Manufacturing Process and Current Condition

According to the provisions in Article 18 of the CAR, inspections of the manufacturing process and current condition are conducted regarding one aircraft of the type for which the application was made.

Inspections of the manufacturing process are conducted to determine whether every sub-process among the total manufacturing process is properly established to realize the design. Inspections of the current condition are conducted in relation to the aircraft — which are the

products as a result of design and manufacturing process — to make confirmation following the results of the inspections about design and manufacturing process, through verifying whether the specifications defined in the design have been realized.

In addition, inspections of the current condition may be conducted together with: validation tests for each product during manufacturing, tests for specifications, conformity inspections, ground tests and flight tests during design inspections, each verification during manufacturing process inspections, as well as function and reliability flight tests.

1) Inspections of Manufacturing Process

Although inspections of the manufacturing process are — along with inspections of the design — conducted concerning the first aircraft manufactured for flight tests; it is also possible to conduct inspections with any one aircraft or more manufactured before the issuance of type certificate, in such a case that it is difficult to conduct all inspections with the assigned aircraft due to the progress of type certification activities, or that some part of the manufacturing method of the test aircraft is different from that adopted in the mass-production phase.

The scope of inspections concerned ranges over all phases from the level of materials that compose the airframe to the aircraft completed, and includes such items applied to the manufacturing process of the aircraft concerned as all manufacturing methods (including processes), inspection techniques (including special processes), tooling controls, quality assurance/control system (including training for worker/examiner, and management of outsourcing).

Further, in the case that all or some of the product is manufactured depending upon such personnel, facilities or tooling equipment that are under administration of other organization than the applicant, the supplier(s) concerned should be included within the scope of inspections.

Especially, if the manufacturing process for which the application is made assumes the application of the applicant's quality assurance/control system, the quality assurance/control system concerned should guarantee that the aircraft subject to inspections for manufacturing process and current condition conducted for type certification is manufactured in conformity with the design data.

The details regarding quality assurance/control systems are prescribed in the Circular No. 1-312 “Guidance for Evaluating Quality Management of Manufacture”.

The policy to carry out inspections concerned is decided by the Conformity Inspection Manager of the JCAB, taking into account the applicant's accomplishment, experience and system.

The details regarding inspections for the manufacturing process are prescribed in the Circular No. 1-311 “Guidelines to Carry out Manufacturing Process Inspections”.

If any difference, including even slight one, from the design data is found (i.e., I-TAG to cope with discrepancies), correction of it is, in principle, required; and still it is possible, depending upon the case, to accept some of the corrections through consulting with the technical department.

In this case, after the contents of the difference are clarified, it is necessary to prepare a deviation sheet where determination by responsible department about validity is set forth, and then to obtain acceptance and confirmation of the contents from the JCAB before going further. In addition, if such modification action is taken as is beyond the scope of the design data for type certification, it is required to carry out substantiation for conformity again according to the design data concerned or to take a step for a new design change.

The details regarding deviation sheets are prescribed in the Circular No. 1-310

"Guidelines for Issuing Deviation Sheets".

2) Function and Reliability Flight Test

A function and reliability flight test is carried out to verify that the aircraft, its components and functional parts or installation methods thereof can attain specified functions effectively and faithfully without causing hazardous conditions that affect the safety within expected operating conditions.

This function and reliability flight test is also situated as a means to verify the contents of substantiation concerning 6-1-1 (Function and Installation) and 6-1-5 (Equipment, Systems and Installation) of the Airworthiness Inspection Manual.

Therefore, not only in the case of initial type certification but also in the case of type design changes, implementation of function and reliability flight testing should be discussed, as necessary.

In the case of a type design changes, the required time (including zero (0) hour) is determined according to the contents of the changes.

The plan of function and reliability flight testing is determined no later than the pre-flight board meeting in the case of type certification; and in the case of type design changes, when applicable certification basis is determined in the preliminary board meeting, matters about implementation of function and reliability flight testing is also determined including the necessity of such flight testing.

The details regarding function and reliability flight tests are prescribed in the Circular No. TCM-21-006A-75.

5-3 JCAB Organization for Evaluation and Inspection, and Personnel in Charge

Evaluations and inspections for type certification of aircraft manufactured in Japan are carried out by the staff of the Center.

When an application for type certification is made, the Center appoints as soon as possible Engineers in charge for each type certification project (the Project Manager and Conformity Inspection Manager) before the preliminary board meeting is held, and notifies the applicant of it together with the set of relevant information (the project number).

If an Engineer in charge is changed, the Center notifies the applicant of it on the day of the change.

In addition, the Project Manager is mainly responsible for managing the project, supervising the technical evaluation group for type certification evaluations, as well as carrying out inspections of the design.

The Conformity Inspection Manager is responsible for supervising the conformity inspection group for type certification evaluations, as well as carrying out inspections on manufacturing process and current condition.

6. Management of Type Certification

Type certification is not completed only through properness of the design data, and so it should be appropriately managed so that all works related to the type certification, including compliance with procedural requirements, are successfully completed.

6-1 Type Certification Documents

Regarding documents required for the management of certification, necessary control should

be made so that the design data verified during substantiation of conformity can be appropriately reflected.

In the case of the aircraft manufactured in Japan and already type-certificated, if it becomes necessary to change the contents of the type certification documents, the applicant should as soon as possible inform the Center about the content of the change(s), and make application for approval of type design change, application for approval of drawing amendment as prescribed in Circular 1-002, or notification of a relevant manual revision.

Such changes as require amendment to the documents submitted when type certificate concerned was issued should, in principle, subject to approval of type design changes, unless said changes correspond to those set forth in the Circular No. 1-002.

Notwithstanding above, for such portion of the Flight Manual and the Instructions for Continued Airworthiness as is other than the JCAB-approved items, amendment is possible through the notification to the Center if such amendment is limited only to the description related to the said portion.

When evaluations for type certification are in progress and a Statement of Compliance has already been issued, and if making amendment to the description concerned is required, it is necessary to subject to the evaluation once again and obtain another Statement of Compliance. At the same time, the Statement of Compliance for the documents before the amendment is revoked.

6-1-1 Type Certification Data Sheet

The type certification data sheet (hereinafter referred to as “TCDS”) shows, as a part of type certification, the state of compliance with such technical standards regarding airworthiness and environmental compatibility that are specified in Appendices 1, 2 and 3 to the CAR.

In addition, the TCDS formally shows details of the aircraft for which a type certificate has been issued; and among such details are the limitations (airspeed limitations, weight limitations and powerplant limitations) as well as various information required for type certification.

The details regarding the TCDS are prescribed in the Circular No. 1-314 “Guidelines for Preparing Type Certification Data Sheets”.

6-2 Documents Equivalent to Those for Type Certification

Documents equivalent to those for type certification are the IPC or the Service Instructions as well as other document(s) to provide aircraft operators with necessary information within the scope of design data approved by the JCAB. Said documents should be appropriately prepared and issued by the applicant, and so the procedures up to the publication of the materials concerned should be explained during the JCAB evaluation of the applicant's quality management system. Further, when revising such documents, agreement of the JCAB is necessary, from the viewpoint to properly maintain airworthiness of aircraft in service. This also applies in the case of making changes.

6-3 Quality Management in Type Certification

Quality management in type certification — for all of those products from the test articles for type certification to production aircraft to which the standards are applied — should properly reflect the following: basic data, such as drawings, to define the specifications of the

aircraft; design materials to substantiate compliance with technical standards; such data on manufacturing process and quality management as presented during manufacturing process inspections.

Especially in the phase of derivative designs after obtaining type certificate, each specialized department of the applicant may be in charge independently in some cases, and so, care should be taken so that quality management in type certification may function properly.

6-3-1 Technical Management and Quality Assurance

Regarding various kinds of tests carried out in relation to type certification, respective requirements necessary for substantiation should surely be satisfied, and the fact of which should be clearly recorded. Actually, such test articles and test layouts should be prepared that conform to the test plan approved by the JCAB; and further, each of the devices used for test should be controlled properly. In addition, it is necessary to keep records properly regarding said controlling. In addition, proper controlling and recording are also necessary regarding changes and differences from the plan agreed upon in advance.

6-3-2 Production Management and Quality Assurance

Regarding the production of the type-certificated aircraft, proper management is necessary so that the design data of which compliance was determined during substantiation of compliance are properly reflected to the aircraft manufactured (test aircraft as well as production aircraft). Actually, it is necessary to carry out management so that the design data shown by the design department (drawings and specifications) are properly reflected in the production instructions/procedures of the production department.

7. Type Design Changes

Regarding type design changes for which application is made to the JCAB, a type certificate is issued for each application.

If one application includes more than one item of type design change, the type certificate is issued after all items are completed. Consequently, if there is a target date for obtaining the type certificate, the applicant should be sufficiently careful.

8. Maintaining Airworthiness

8-1 Fault Monitoring/Analysis

In order to ensure continued compliance with the technical standards which are addressed in Article 10 Paragraph (4) of the Law, recognizing the intention of the Law (Article 13-3 of that Law): the manufacturers holding type certificate should by themselves and actively collect information of operational accomplishment and experienced service difficulties regarding the aircraft concerned, as well as other aviation safety information, for example, information on accidents/incidents of other aircraft; in addition, he/she should make efforts to promote further safety of the aircraft concerned through carrying out analyses and evaluation of the obtained information. A management plan about activities to ensure airworthiness of the type-certificated aircraft should be prepared and subject to the evaluation by the JCAB.

Further, if significant effect on the airworthiness is considered, i.e., when some discrepancy has been found trough evaluation process of type certification or through reports based on the Aircraft Fault Reporting System, the JCAB will take necessary actions, such as issuance of Airworthiness Directives (TCD's).

In this case, if a type certificate holder applies for approval of related service bulletin (S.B.), we will at the same time carry out the process according to the Circular No. 1-013 "Approval of Service Bulletins".

8-1-1 Management Plan for Continuing Airworthiness

Regarding activities for monitoring/analysis of service difficulties, which are to be carried out for each type (treating derivative types separately) that has obtained type certification, it is necessary that the evaluation by the JCAB on the plan of said activities is completed before the final type certification board meeting.

The JCAB, if it is recognized that the plan concerned will properly maintain the airworthiness in relation to the type certification of the subject, will issue a Statement of Compliance.

In that case, the criteria should be "those items described in Chapter 8 of the Circular No. 1-003 which are necessary to ensure continued compliance with the technical standards addressed in Article 10 Paragraph (4) of the Law".

Although the form of the plan is not specified in particular, the revision history should be controlled and at least the following items should be defined and contained:

1) Responsibility of the person who obtained type certification;
2) Manufacturer's name, type name and serial numbers;
3) Responsible department and person in charge in the company;
4) Method to manage relations with customers (operators) of the aircraft;
5) Method to regularly collect information about the operational accomplishment (including occurrence of failures, discrepancies and defects);
6) Operational accomplishment of engine(s)/propeller(s) (in the case of aircraft);
7) Method to collect information about accidents and incidents of other aircraft;
8) Regarding information obtained from items 5 to 7 above: flow of analysis and evaluation, responsible department, as well as method to reflect into the type certification configuration (including quality control/assurance system);
9) Report to the JCAB; and
10) Any other items required by the JCAB.

8-2 Service Bulletins

A service bulletin is a medium through which aircraft manufacturers send technical information to persons concerned such as aircraft operators.

Service bulletins are classified according to the grades of importance of their information.

For information on detailed procedures, refer to the Circular No. 1-013 "Approval of Service Bulletins".

8-3 Coordination and Communication with Approved Organization for Design Inspection

As for coordination and communication between the JCAB and the approved organization

for design inspection in the context of type certification carried out by the JCAB, the Project Manager of each project is in charge, representing the JCAB.

In addition, regarding the approved organization for design inspection, establishment of proper system should be defined in the Approved Organization Exposition and proper operation should be made by the person in charge appointed under that system, so that the coordination and communication with the JCAB would be carried out appropriately.

Such notifications to the Minister for Land, Infrastructure, Transport and Tourism that are made according to Article 13 Paragraph (5) of the Law and according to Article 14-2 Paragraph (8) of the CAR (only limited to engines and propellers designed in Japan) should be submitted to the Center. In this case, it is necessary to make clear the contact person in the approved organization for design inspection who can sufficiently explain the contents of the notification.

9. Miscellaneous

Notwithstanding the provisions in this Circular, type certification may be carried out in different manners if the Director of the Aircraft Engineering and Certification Center recognizes it necessary.

10. Supplementary Provisions

1. This Circular becomes effective on October 1, 2005.
2. TCL-159-97 is deleted through the enforcement of this Circular.
3. For the holders of type certificate issued on or before the effective date of this Circular, this is applied from the next application for type design change approvals (except for changes to the content of application).

Supplementary Provisions (June 30, 2011)

1. This Circular becomes effective on June 30, 2011.

For questions or comments regarding this Circular, please contact to:

Aircraft Engineering & Certification Center, Airworthiness Division
Aviation Safety and Security Department, Japan Civil Aviation Bureau
Ministry of Land, Infrastructure, Transport and Tourism
Nagoya Airport, Toyoyama-cho Toyoba, Nishi Kasugai-gun, Aichi-ken 480-0202

Telephone: 0568-29-1985
Facsimile: 0568-29-1990

Diagram 1

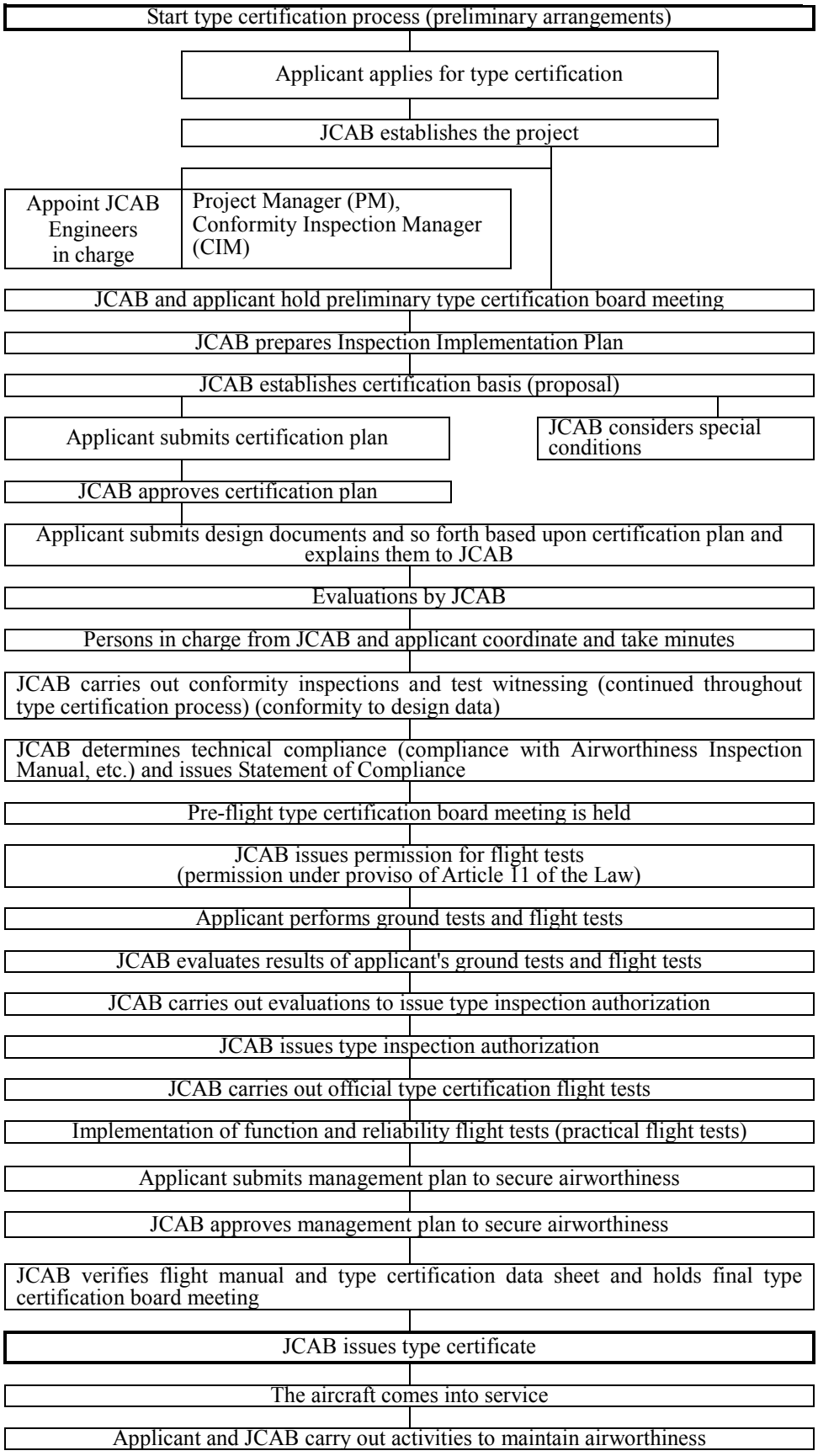
Start type certification process (preliminary arrangements)
Applicant applies for type certification
JCAB establishes the project
Appoint JCAB Engineers in charge
Project Manager (PM), Conformity Inspection Manager (CIM)
JCAB and applicant hold preliminary type certification board meeting
JCAB prepares Inspection Implementation Plan
JCAB establishes certification basis (proposal)
Applicant submits certification plan
JCAB considers special conditions
JCAB approves certification plan
Applicant submits design documents and so forth based upon certification plan and explains them to JCAB
Evaluations by JCAB
Persons in charge from JCAB and applicant coordinate and take minutes
JCAB carries out conformity inspections and test witnessing (continued throughout type certification process) (conformity to design data)
JCAB determines technical compliance (compliance with Airworthiness Inspection Manual, etc.) and issues Statement of Compliance
Pre-flight type certification board meeting is held
JCAB issues permission for flight tests (permission under proviso of Article 11 of the Law)
Applicant performs ground tests and flight tests
JCAB evaluates results of applicant's ground tests and flight tests
JCAB carries out evaluations to issue type inspection authorization
JCAB issues type inspection authorization
JCAB carries out official type certification flight tests
Implementation of function and reliability flight tests (practical flight tests)
Applicant submits management plan to secure airworthiness
JCAB approves management plan to secure airworthiness
JCAB verifies flight manual and type certification data sheet and holds final type certification board meeting
JCAB issues type certificate
The aircraft comes into service
Applicant and JCAB carry out activities to maintain airworthiness

Table 1

	Number of Circular containing details	Title
1	1-301	Guidance for Carrying out Preliminary Arrangements
2	1-302	Guidance for Applying the Airworthiness Inspection Manual
3	1-303	Guidance for Applying Special Conditions, Exemptions and Equivalent Level of Safety
4	1-304	Guidance to issue the Issue Paper
5	1-305	Guidance for Managing the Type Certification Board
6	1-306	Guidance for Handling the Type Inspection Authorization
7	1-307	Certification Plan
8	1-308	Preparation and Management of Implementation Plan for Conformity Inspections and Test Witnessing
9	1-309	Guidelines for Implementation of Conformity Inspections and Test Witnessing
10	1-310	Guidelines for Issuing Deviation Sheets
11	1-311	Guidelines to Carry out Manufacturing Process Inspections
12	1-312	Guidance for Evaluating Quality Assurance/ Management System of Manufacture
13	1-313	Guidelines for establishing “Airworthiness Limitations” in the “Instructions for Continued Airworthiness”.
14	1-314	Guidelines for Preparing Type Certification Data Sheets

適合性判定書
STATEMENT OF COMPLIANCE

発行番号 Issue No.

プロジェクトの情報 PROJECT INFORMATION

ﾌﾟﾛｼﾞｪｸﾄ番号 PROJECTNo.	ﾌﾟﾛｼﾞｪｸﾄ名称 PROJECT TITLE	申請者名 NAME OF APPLICANT

航空機又は装備品の詳細 AIRCRAFT OR COMPONENT IDENTIFICATION

製造者 MANUFACTURER	型式 MODEL	種類 TYPE

資料一覧 LIST OF DATA

資料番号 IDENTIFICATION	改訂符 REV.	資料名 TITLE

資料の対応する耐審項目等 APPLICABLE REQUIREMENTS(List specific sections)

判定 JUDGEMENT

上記資料が審査要領の該当項目に適合していると認める。

Data listed above and attached sheet have been examined in accordance with established procedure and found to comply with applicable requirement of the airworthiness regulation(s).

判定コメント等 COMMENT etc.

航空局の署名／日付 SIGNATURE OF JCAB/DATE 担当者 INSPECTED BY	所属/担当分野 ORGANIZATION & TITLE/CLASSIFICATION	認定事業場番号 APROVED ORGANIZATION No.
点検者 CHECKED BY	所属 ORGANIZATION & TITLE	確認主任者の署名／日付 SIGNATURE OF CERTIFYING STAFF/ DATE
承認者 APPROVED BY	所属 ORGANIZATION & TITLE	

JCAB FORM 1-003-1 (0509-ORG.)

型式証明業務名、番号、　議事録 PROJECT　name、Number、　The Minutes			
日時 Date	．．．（　） year　month　day（ ） ：　～　：	場所 Place	
出席者 Attendance	航空局/認定事業場 Member of Authority/Approved Organization	申　請　者 Member of Applicants	
業務概要 Business Outline			
指摘事項 ・ 調整事項 等 Finding Item			
備考 Remarks			

JCAB　FORM　1-003-2（0509-ORG.）

総合判定書 INTEGRATED STATEMENT OF COMPLIANCE

発行番号 ISSUE №.

航空機又は装備品の詳細 AIRCRAFT OR COMPORNENT IDENTIFICATION

製造者 MAKER/MANUFACTURER	型式名 MODEL	種類 TYPE(airplane, helicopter, radio, etc.)	申請者名 NAME OF APPLICANT

申請項目の名称 NAME OF APPLICATION （TC, TCC, STC, STCC, TA, TAC, SA, SAC, RM, SP, AW）

プロジェクト番号 PROJECT №.

部品番号 PARTS NUMBER

適合性審査表№. COMPLIANCE CHECK LIST №.

適合性判定書№. STATEMENT OF COMPLIANCE №.

適合性証明計画 APPROVED COMPLIANCE PLAN

変更の有無 DOCUMENTS CHANGE NECESSITY

仕様書 SPECIFICATIONS	：有 YES	無 NO
部品表 PARTS LIST	：有 YES	無 NO
図面目録 DWG LIST	：有 YES	無 NO
整備手順書 MAINTENANCE MANUAL	：有 YES	無 NO
飛行規程 FLIGHT MANUAL	：有 YES	無 NO

判定 JUDGEMENT

上記の適合性証明計画に記載された全ての検査が終了したことを確認した。

It has been confirmed that all of the inspection indicated by the compliance plan above had been completed.

申請者コメント APPLICANT COMMENT

申請者署名 SIGNATURE OF APPLICANT

日付 DATE _____ 署名 SIGNATURE _____

判定 FOUND

上記の申請項目に掲げられた設計（設計変更後の設計）が航空法第 10 条第 4 項の基準を満足しているものと判定する。

It has been found that the application above complies with the standard of prescribed in the Article 10 Paragraph 4 of the Civil Aeronautics Law of Japan.

航空局コメント JCAB COMMENT

認定事業場コメント APPROVED ORGANAZATION COMMENT

航空局署名 SIGNATURE OF JCAB

所属 ORGANIZATION & TITLE _____

日付 DATE _____ 署名 SIGNATURE _____

確認主任者署名 SIGNATURE OF CERTIFYING STAFF

認定事業場番号 APPROVED ORGANAIZATION №. _____

日付 DATE _____ 署名 SIGNATURE _____

JCAB FORM 1-003-3(0509-ORG.)