

Policies for Establishing the Term of Validity of Airworthiness Certificate for Aircraft of Air Carrier

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

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JCAB Circular

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

Subject: Policies for Establishing the Term of Validity of Airworthiness Certificate for Aircraft of Air Carrier

1. Purpose

This Circular is to provide policies for setting the period of validity of an airworthiness certificate for aircraft used in air transport services pursuant to the provisory clause in Article 14 of the Civil Aeronautics Law (Law No. 231 of 1952, hereinafter referred to as “the Law”).

2. Effect of Provisory Clause in Article 14

The airworthiness certificate stipulated in Article 14 of the Law is valid for one (1) year in principle, while the provisory clause of this article specifies that the airworthiness certificate of aircraft used in air transport services is valid for the period set by the Minister of Land, Infrastructure, Transport and Tourism.

This is based on the notion that the period of validity of the airworthiness certificate is not necessarily limited to one (1) year if continuous airworthiness is ensured by a suitable maintenance system; designed based on the maintenance manual, well-equipped, and used for adequate maintenance, as the domestic air carrier is obliged to provide a maintenance manual, acquire approval for maintenance from the Minister of Land, Infrastructure, Transport and Tourism, or the Director General of the Regional Civil Aviation Bureau, and perform maintenance in accordance with the maintenance manual pursuant to Article 104, paragraph (1) of the Law.

(Note) When the domestic air carrier entrusts the operational control of maintenance to an entrustee, pursuant to Article 113-2 of the Law, “the maintenance manual of the entrustee shall be applied” to the maintenance manual of the entruster, or air carrier, according to Circular No. 4-005 “Procedures for Approval Process of Entrusting Operational/Maintenance Control.” Therefore, the period of validity of airworthiness certificate is considered to be not necessarily limited to one (1) year if continuous airworthiness is ensured by the maintenance

manual of the trustee. “

3. Period of validity of the Airworthiness Certificate

The period of validity of the airworthiness certificate for aircraft, applicable to the standard under Section 6, is the period for which that aircraft is maintained in accordance with the maintenance manual of the domestic air carrier (or that of the trustee who is authorized for entrusting/entrusted operational control on maintenance pursuant to Article 113-2 of the Law (“Entrusting/Entrusted Operational Control”, hereinafter referred to as the “Continuing Airworthiness Certificate”), and that for other aircraft is one (1) year. The period of validity of the Continuous Airworthiness Certificate shall be indicated as follows:

(1) When authorization for entrusting/entrusted operational control is not granted:

The text shall be: This Certificate is valid from [date of issue] and remains valid as long as the aircraft identified above is maintained in accordance with A’s continuing airworthiness maintenance program approved under Civil Aeronautics Law. “A” is the name of the domestic air carrier.

(2) When authorization for entrusting/entrusted operational control is granted:

The text shall be: This Certificate is valid from [date of issue] and remains valid as long as the aircraft identified above is maintained in accordance with B’s continuing airworthiness maintenance program approved under Civil Aeronautics Law. If B is not a domestic air carrier, it shall be: This Certificate is valid from [date of issue] and remains valid as long as the aircraft identified above is maintained in accordance with B’s continuing airworthiness maintenance program approved under Article 113-2 of the Civil Aeronautics Law. B is the name of the trustee granted authorization of entrusting/entrusted operational control.

(Note) If the trustee gives a unique title to the maintenance manual, the manual shall be indicated by that title.

4. Expiration of Airworthiness Certificate

If the validity of the airworthiness certificate expires, or the aircraft is no longer used by the air carrier, the airworthiness certificate for that aircraft shall be invalidated:

(1) On the expiration date in case of a one-year airworthiness certificate.

(2) On the day the aircraft is excluded from the air transport services in principle, in case of a continuing airworthiness certificate.

5. Suspension of Validity of Airworthiness, etc.

The Minister of Land, Infrastructure, Transport and Tourism, or the Director-General of the Regional Civil Aviation Bureau may, when finding that the maintenance system, etc. of the domestic air carrier fails to conform to the implementation criteria in Section 6, suspend the validity of the airworthiness certificate or shorten the period of validity under Article 14-2, paragraph (2) of the Law.

6. Criteria for Issuance of Continuing Airworthiness Certificate

The continuing airworthiness certificate shall be issued based on the criteria shown below:

(1) Aircraft

- (a) Aircraft shall be under airworthiness category “aircraft transport T”, with a structure based on failsafe, damage tolerance or safe life design, equipped with components, systems and equipment based on reliability design using fault analysis, etc., and capable of maintaining airworthiness based on the maintenance program implemented on the reliability management. In addition, the quality of aircraft required for adequate operation shall be ensured.
- (b) If the design of critical parts relies on new technology, the reliability of said technology shall have been proved.

(2) Service conditions

The service conditions shall be equal for all aircraft. Aircraft used only for training shall therefore be excluded.

(3) Maintenance system

The maintenance system shall be in accordance with the maintenance manual provided under Circular No. 4-004 “ Guide for Approval Process of Maintenance Manuals of Japanese Air Carriers” as well as satisfying the following requirements:

i) Reliability management

- (a) A Reliability Management System shall be implemented.

The procedure and system of the reliability management system shall be defined in the maintenance manual or its annex, and approved by the Minister of Land, Infrastructure, Transport and Tourism, or the Director of the Air Transport Safety Unit, Aviation Safety and Security Department of Japan Civil Aviation Bureau in case of specified Japanese air carriers, or by the Director-General of the Regional Civil Aviation Bureau or Chief Air Carrier Airworthiness Engineer of the Security Department of the Regional Civil Aviation Bureau in case of other air carriers.

- (b) A procedure and system shall be established to ensure the proper condition of an aircraft including their function and performance essential for maintaining the airworthiness that cannot be checked in ground maintenance or regular operation and by the NHF (Normally Hidden Function) flight test pursuant to Section 7 (2).

For this purpose, check items during the test flight and the method of confirming the same shall be defined in the maintenance manual or its annex as maintenance items, and in case of specified Japanese air carriers, shall be approved by the Minister of Land, Infrastructure, Transport and Tourism, or the Director of the Air Transport Safety Unit, Aviation Safety and Security Department of Japan Civil Aviation Bureau, or by the Director-General of the Regional Civil Aviation Bureau or Chief Air Carrier Airworthiness Engineer of the Security Department of Regional Civil Aviation Bureau in case of other air carriers.

The aircraft model having certified capabilities under Article 20, paragraph (1), item (iii) of the Law (Capabilities to perform maintenance on aircraft and inspect the performed maintenance), and where an application for the

continuing airworthiness certificate is intended, shall comply with the provisions of this section and Section 7 (2), but shall be deemed to provide an appropriate implementation system for the common technical standards of this certificate.

- (c) If an NHF flight test in Section 7 (2) is not conducted, the following requirements shall be met for each of the check items in flight test stated in (2) (iii) of the same Section. The policies for this case are shown in Annex 1. Even in such a case, the procedure and system stated in (b) shall be followed.
- a. The procedure and system for the reliability management system concerning the individual NHF-related system components shall be included in the procedure and reliability management system stated in (a) to obtain an approval under the same Section.
 - b. It shall be shown that the functional reliability of all individual components of the NHF-related system can be confirmed in regular operation or ground maintenance items (including those additionally set based on technical investigation).

ii) Technical management

A dedicated organization shall be established for the required technical management.

iii) Implementation of maintenance work

Even though the aircraft is not applicable to Article 19, paragraph (1) of the Act, aircraft maintenance shall be performed and certified by the approved organization (i.e. approved organization for performing maintenance or altering aircraft) having capabilities specified in Article 20, paragraph (1) item (iv) of the Law, except when the aircraft is subject to the Inspection of Repair or Alteration by the Minister of Land, Infrastructure, Transport and Tourism under Article 16, paragraph (1) of the Law.

iv) Periodic confirmation system for airworthiness

A system of periodic confirmation that the airworthiness of individual aircraft is maintained shall be provided under Section 7 (1) Periodic confirmation of airworthiness.

For this purpose, periodic check items and confirmation method (including intervals) shall be defined in the maintenance manual or its annex, and approved by the Minister of Land, Infrastructure, Transport and Tourism, or the Director of the Air Transport Safety Unit, Aviation Safety and Security Department of Japan Civil Aviation Bureau in case of specified Japanese air carriers, or by the Director-General of the Regional Civil Aviation Bureau or Chief Air Carrier Airworthiness Engineer of the Security Department, Regional Civil Aviation Bureau.

The air carrier having aircraft production inspection qualified, and intending for an application for the continuing airworthiness certificate for an aircraft model shall comply with the provisions of this section and Section 7 (1), but shall be deemed to provide an appropriate implementation system for the common

technical standards of this certificate.

(4) Maintenance status

The maintenance record on aircraft shall be retained for at least twelve (12) months to prove that the aircraft has been maintained based on the maintenance manual, that the quality of aircraft required for maintaining airworthiness and adequate operation has been ensured and the maintenance status shall meet the requirements listed below. However, if this is difficult because of a new model, and the requirements for existing models already granted a continuing airworthiness certificate are also applicable to and imposed on the new model, the results of other models may be applied to the new model.

The requirements are primarily satisfied by the air carrier, and intended for specifying details of maintenance such as the scheme and period as clear standards for acquiring and maintaining the continuing airworthiness certificate and requiring the air carrier to prove it.

i) Maintenance program

The reliability of the aircraft, its systems and equipment shall have been ensured or appropriate corrective action shall have been implemented in accordance with the reliability management system under Section 6 (3) i). Policies for demonstrating the effectiveness of reliability management system are shown in Annex 2.

ii) Technical management

Technical management under Section 6 (3) ii) shall meet requirements (a) to (d):

(a) Assessment and implementation of airworthiness directives and service bulletins, etc.

Assessment and implementation of Technical Circular Directives (TCD) and service bulletins calling for measures required for maintaining airworthiness (hereinafter referred to as “SB, etc.”) issued by aircraft and engine manufacturers (including SB, etc. issued by said manufacturers quoting SB, etc. provided by component manufacturers, etc.) shall be accurately and promptly performed. Unless absolutely necessary (based on the premise of no effects on airworthiness), the assessment of TCD and SB, etc., (i.e. assessment and decision of influence rate and urgency, and suspension of decision on rational grounds) shall be completed within the following period, and managed to perform inspections and modifications indicated by TCD or SB, etc. by the time indicated.

a. TCD

One (1) week from the date of issue of TCD or the time frame for inspection or modification indicated in TCD, whichever is earlier.

b. SB, etc. having significant effect on airworthiness (e.g. Mandatory or Alert directives)

One (1) month of the date of acceptance (the date of publishing the bulletin on the website if defined by the manufacturer. The same applies to the following), or the time frame for inspection or modification indicated on SB, etc., whichever is earlier.

c. Other SB, etc.

Three (3) months of the date of acceptance, or the time frame for inspection or modification indicated on SB, etc., whichever is earlier.

(b) Revision of maintenance program

Revision to technical data, etc. (e.g. MRB report, Maintenance Planning Document (MPD), etc.) corresponding to the contents of the maintenance manual shall be accurately and promptly assessed and reflected in the maintenance manual. Unless absolutely necessary (based on the premise of no effects on airworthiness), the assessment of the text shall be completed (in-house procedure for required application or submission) within the following period:

a. Revisions having significant effect on airworthiness (e.g. Airworthiness Limitation (AWL), Airworthiness Limitation Instruction (ALI), Certificate Maintenance Requirement (CMR))

Within one (1) month of the date of acceptance.

b. Other revisions

Within six (6) months of the date of acceptance.

(c) Revisions of the Minimum Equipment List

Revisions to the original text (e.g. Master MEL (MMEL), Configuration Deviation List (CDL), Dispatch Deviation Guide (DDG)/Dispatch Deviation Procedure Guide (DDPG)) corresponding to the contents of the maintenance manual shall be accurately and promptly assessed and reflected in the maintenance manual. Unless absolutely necessary (based on the premise of no effects on airworthiness), the assessment of the revised contents shall be completed (in-house procedure for required application or submission) within twelve (12) months of the date of acceptance.

(d) Attribution analysis of operational safety events and recurrence prevention measures

The causes of operational safety events under Article 111-4 of the Act, irregular flight operations, turning back after lamp out, flight cancelation, and operational safety events causing a delay of 15 minutes or more shall be analyzed, and recurrence prevention measures, including horizontal deployment to other aircraft, shall be taken adequately.

iii) Management of aircraft and components

Time of use, number of times of use (TT, TC, TSO, TSC, etc.) and SB, etc. of aircraft, certified spare parts installed on the aircraft and engine, and major components, including time-dependent parts, and parts requiring upgrading shall be managed adequately.

iv) Proper acceptance of airworthiness certificate inspection

The air carrier shall properly accept the airworthiness certificate inspection for models intended to apply for a continuing airworthiness certificate except when said air carrier has already had an aircraft production inspection qualified. However, it can be replaced with the indication of other models conforming to Section 7 (1) Periodical conformation of airworthiness, and (2) NHF flight test if these models have already been granted for a continuing airworthiness certificate.

v) In addition to the above, there shall be no serious flaw in maintenance

management and operation.

7. Operations after Issuance of Continuing Airworthiness Certificate

To maintain the airworthiness of aircraft, the criteria listed in Section 6 shall be satisfied after a continuing airworthiness certificate is granted, and the following operations shall be performed:

(1) Periodic confirmation of airworthiness

Aircraft shall be periodically confirmed for the items listed below in regular maintenance, and the records shall be retained. If any serious flaw is found during confirmation, it shall be promptly reported to the Director of the Air Transport Safety Unit, Aviation Safety and Security Department, Japan Civil Aviation Bureau or Chief Air Carrier Airworthiness Engineer of the Security Department, Regional Civil Aviation Bureau, and the necessary corrective action taken.

- i) Notification of airworthiness directives (TCD)
- ii) Maintenance (including confirmation of postponed work, maintenance and alteration works by the aircraft maintenance and alteration approved organization)
- iii) Management of time-dependent components (exceeding time limit, etc.)
- iv) Empty weight and the center of gravity of aircraft
- v) Revisions to the flight manual

(2) NHF (Normally Hidden Function) flight test

A flight test shall be conducted on a sampling basis to check the reliability of the entire NHF-related system functions of each aircraft type that cannot be checked during ground maintenance or regular operations (hereinafter referred to as the “NHF flight test”) as part of measures against age-related deterioration of various aircraft systems.

Aircraft with a continuing airworthiness certificate are exempt from periodical flight tests by the authority, but to ensure the actual state of airworthiness of the aircraft, an NHF flight test in the presence of the authorities shall be conducted; mainly to inspect the NHF-related system functions. However, this shall not be applied to the case where an NHF flight test is conducted by taking advantage of ferry flight.

(Note) During the NHF flight test, aircraft proved to have the same design and maintenance items, etc. are deemed to be the same model.

i) Selection of aircraft samples and quantity for the flight test

All models having a continuing airworthiness certificate shall be subject to the NHF flight test, and samples shall be selected according to the sampling rate in the table below while those subject to recent flight tests shall be avoided as far as possible.

No. of aircraft owned at the beginning of fiscal year (by model)	Number of aircraft subject to NHF flight test for fiscal year
1 – 10	0.5 or more (one in two years)
11 – 39	1 or more
40 or more	2 or more

The NHF flight test shall be conducted for each model, and start at the next fiscal year from the day the model is granted for the continuing airworthiness certificate. However, models which have been manufactured within five years as of the beginning of a fiscal year shall be excluded from the flight test.

ii) Flight test plan

The NHF flight test plan (including aircraft model, number of aircraft, registration code, and schedule) shall be established at the beginning of each fiscal year, in consultation with the Director of the Air Transport Safety Unit, Aviation Safety and Security Department, Civil Aviation Bureau or Chief Air Carrier Airworthiness Engineer of the Security Department, Regional Civil Aviation Bureau (hereinafter referred to as the “authorities concerned”). The authorities concerned shall select the tests in which they are present, and notify the air carrier of the models and number of aircraft subject to these tests. If changes to the test plan are required, the air carrier shall consult the authorities concerned for coordination again.

iii) Check items in flight test

Check items required for the NHF flight test shall be listed in the maintenance manual or its annex by taking into account the design and results of flight operation and other details. The following listed items shall be included in principle:

- (a) Cabin Altitude Warning
- (b) Passenger Oxygen Mask Deployment
- (c) MMO (Mach Airspeed Warning)
- (d) VMO (Overspeed Warning)
- (e) Engine in Flight Re-light
- (f) Alternate Wing Flap
- (g) Landing Gear & Flap Warning
- (h) Stall Warning
- (i) Flap Load Relief
- (j) Landing Gear Free Fall
- (k) Ram Air Turbine
- (l) APU in Flight Re-light (ETOPS models only)

(Note) Tests of fuel jettison may be excluded for the time being, due to the potential effect on the environment and the fact that valves, etc. are checked periodically in ground maintenance.

iv) Report of flight test results

After conducting the NHF flight test, test results, including the situation table of tested aircraft, flight test records and flaws and defects found during testing, if any, (including corrective action), shall be submitted to the authorities concerned, and a record retained by the air carrier.

If any defects are found in the flight test, the aircraft shall be repaired, and at the same time, corrective action for that aircraft (required maintenance, changes to the maintenance interval or work procedure, alteration of the aircraft or equipment, etc.) for horizontal deployment to other aircraft shall be correctly

conducted.

(3) Confirmation Method without NHF Flight Test

If the requirements stated in Section 6 (3) (i) (c) are met, an NHF flight test concerning each check item in flight test stated in (2) may be omitted. In this case, if any fault is found during regular operations or ground maintenance with regard to the NHF-related system, the attribution analysis and measures, etc. taken against the fault shall be promptly reported to the divisions concerned as well as to the regular meeting stated in (4).

Even in such a case, if it is deemed necessary by the Japan Civil Aviation Bureau, an NHF flight test shall be conducted by taking into consideration the occurrence status of the fault in the NHF-related system.

(4) Report at regular meetings

The domestic air carrier shall report the state of compliance with the Criteria for Issuance of Continuing Airworthiness Certificate in Section 6, including reliability management (e.g. quality of aircraft), technical management (assessment and implementation of SB, MRB report and MMEL, etc.) and detection and correction of defects, etc. in regular meetings. Other details at regular meetings are defined in Circular No. 4-012.

8. Nonperiodical inspection

When having issued a continuing airworthiness certificate, the authorities concerned shall conduct witnessed tests for the whole maintenance work of the air carrier at any time to ensure that maintenance is performed and managed in accordance with the maintenance manual, the airworthiness of aircraft is maintained, and the quality of aircraft required for assured operation are procured.

9. Procedure

(1) The domestic air carrier intending to apply to the exceptional clause of Article 14 of the Act, shall submit an application form with additional documents that prove compliance with the criteria in Section 6 to the Minister of Land, Infrastructure, Transport and Tourism (applied to: Airworthiness Division, Aviation Safety and Security Department, Japan Civil Aviation Bureau). In addition, the air carrier other than the specific domestic air carrier shall submit a copy of the application form and additional documents to the Chief Air Carrier Airworthiness Engineer of the Security Department, Regional Japan Civil Aviation Bureau. The documents indicating the compliance with the provisions in Section 6 (4) shall contain at least the outline of maintenance work for the last twelve (12) months (the same shall apply for indicating the result of other models).

(2) The government shall inspect the application form in paragraph (1) pursuant to provisions in Section 6, set the period of validity under Section 3 in accordance with the inspection results, and notify it to the air carrier or Regional Civil Aviation Bureau.

(3) The inspection policies in relation to the change in the period of validity of the airworthiness certification of aircraft used for air transport services shall be in accordance with Annex 3 (this does not apply to inspections by the Approved

Maintenance Organizations for Aircraft for issuing the aircraft Statement of Conformity.)

10. Other

- (1) The domestic air carrier shall immediately modify the relevant place of the maintenance manual and/or annex when receiving notification under Section 9 (2), or changing the application for the exceptional clause of Article 14 of the Law.
- (2) The entrustee of operational control shall provide the necessary program and conduct necessary operations for compliance with the provisions of Section 6 and execution of operation under Section 7 on aircraft models where maintenance is entrusted pursuant to Article 113-2 of the Law. In this case, the entruster of operational control shall adequately supervise compliance with the provisions of Section 6 and execution of operation under Section 7.

Supplementary Provisions

1. This Circular shall be enforced on September 5, 2000.
2. Circular TCM-27-011-95 titled “Basic Policies for Establishing the Term of Validity of Airworthiness Certificate for Aircraft of Air Carrier” and “Inspection Policies for Changing the Term of Validity of Airworthiness Certificate for Aircraft of Air Carrier” (notification by the Director, Airworthiness Division dated November 25, 1999) shall be superseded by this Circular.

(March 30, 2001)

1. This Circular shall be enforced on April 1, 2001.

(June 19, 2008)

1. This Circular shall be enforced on July 1, 2008.
2. The former provisions shall be applied to those which have been graded for a continuing airworthiness certificated on the day this Circular is enforced for twelve (12) months from the date of enforcement.

(September 17, 2009)

1. This Circular shall be enforced on September 17, 2009.

(April 15, 2011)

1. This Circular shall be enforced on April 15, 2011.

(June 30, 2011)

1. This Circular shall be enforced on July 1, 2011.

(March 31, 2014)

1. This Circular shall be enforced on April 1, 2014.

Contact the following for the questions and opinions about this Circular:
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Policies on Validity of the Reliability Management System Concerning an NHF-Related System without an NHF Flight Test

1. Purpose

This policy provides guidance for demonstrating that Japanese air carriers meet the requirements in Section 6 (3) (i) (c) of the main body.

2. General Provisions

With regard to NHF flight test that is conducted after receiving a continuing airworthiness certificate, if all of the NHF-related system components are operated in regular operation, the proper function has been confirmed, or periodic inspection has been performed by established appropriate maintenance items, it is considered that the functional reliability of the entire system can be confirmed through proper reliability management for each of the components.

In this context, if the requirements in Sections 3 and 4 are met, an NHF flight test concerning the check items in Section 7 (2) (iii) of the main body may be omitted.

3. System and Procedure for Reliability Management concerning NHF-related System

The contents that shall be specified in the maintenance manual or its annex in accordance with Section 6 (3) (i) (c) a. of the main body is as follows:

- (1) NHF-related system components concerning the each item in the NHF flight test and schematic drawings of the system including individual components.
- (2) Individual components shall be categorized into the case where a fault can be detected in regular operations or the case where a fault can be detected by setting appropriate maintenance items; an appropriate reliability management system shall be performed in both cases.

If the flight test is not conducted by setting additional ground maintenance items, the additional maintenance items shall be performed at the sampling rate stated in Section 7 (2) (i) of the main body.

4. Technical Investigation for Each Aircraft Type

With regard to the aircraft model concerning the application in accordance with Section 6 (3) (i) (c) (a) of the main body, the requirements in Section 6 (3) (i) (c) (b) of the main body shall be met. In other words, it is necessary to technically verify that a fault detected by conducting an NHF flight test can also be detected through regular operations or by setting appropriate maintenance items.

Therefore, it is necessary to demonstrate that a fault can be detected through regular operations or by setting appropriate maintenance items by taking into consideration the differences in the operation range of sensors, etc. as well as in aerial and ground environments for the individual NHF-related system components. Since NHF flight test is conducted as a part of the measures against age-related deterioration of each system, it is also necessary to verify the aging effect for the

individual NHF-related system components.

For this reason, the following shall be included to demonstrate whether the requirements in Section 6 (3) (i) (c) (b) of the main body are met. For approval under Section 6 (3) i) (c) (a) of the main body, documents including the following shall be submitted.

- (1) With regard to individual check items in NHF flight test, the entire NHF-related system components shall be listed respectively; also, the system shall be connected end-to-end with the components.
- (2) Individual components shall be categorized into the case where a fault can be detected during regular operations or the case where a fault can be detected in ground maintenance items.
- (3) With regard to the case where a fault can be detected during regular operations, the following matters shall be taken into consideration:
 - i) Effect due to differences in operation range of the components between regular operations and NHF flight tests (e.g. for sensors, etc., the operating principle, difference in accuracy, and other factors shall be considered to identify whether or not there is any difference in detecting faults).
 - ii) Aging effect (it shall be considered whether or not the effect is negligible or can be mitigated through repetitive inspection, etc.)
- (4) With regard to the case where a fault can be detected by setting appropriate maintenance items, the following matters shall be taken into consideration:
 - i) Effect due to differences between aerial and ground environments (the aerial environment during flight test shall have been reproduced in ground maintenance items, or differences between aerial environment and ground environment [wind pressure, airframe deformation, atmospheric pressure, temperature difference, etc.] shall be considered to demonstrate whether or not there is any difference in detecting faults.)
 - ii) (On the assumption that the proper condition of the NHF-related system has been confirmed in a flight test after manufacturing) Aging effect (whether or not the effect of a fault can be mitigated through the maintenance items shall be considered.)
- (5) With regard to individual NHF flight test items, faults found in past NHF flight tests (if no NHF flight tests have been conducted before, faults found in past airworthiness inspections and other flight inspections) shall have been evaluated (past faults shall be evaluated to find whether or not they can be identified in regular operations or ground maintenance items).

Policies on demonstrating Validity of Reliability Management Program

1. Purpose

The policies stipulate criteria for demonstrating the effective functioning of the reliability management system that must be implemented to acquire a continuing airworthiness certificate.

2. General Provisions

The reliability management system shall monitor the performance of the aircraft, its systems and components continuously to ensure the equipment quality of materials required to maintain the airworthiness of aircraft and adequate operation, perform appropriate analysis and assessment, take suitable measures at a suitable time, and confirm the validity of these measures.

3. Standards

The reliability management system shall contain programs suitable for the characteristics and the state of reliability of the operating environment, aircraft, and its systems and components, and effectively operate these programs. The reliability management system shall comprise appropriate procedures and systems in compliance with the following standards:

(1) Identification of subjects for the reliability management system

The aircraft, its systems and components that are subject to the reliability management programs shall be identified.

(2) Responsibility and authority

The section responsible for the reliability management system shall be clear, and function properly. The relations of the responsible section with other sections involved in the reliability management shall be clarified, and they shall effectively coordinate each other.

(3) Data collection

An adequate procedure for collecting data, indicating the performance of the aircraft, its system and components, shall be established, and effectively function. The data collected shall be sufficient and accurate to analyze and assess reliability. The data may include, but not be limited to the following:

- Report from chief pilot
- Engine performance data
- Impairment of operation or delay caused by defective equipment
- Unscheduled inventory
- Confirmed fault
- Sampling test result
- Functional inspection result
- Shop finding

- Bench check
- Service difficulty report
- NHF flight test result

(4) Data display

The method of displaying the collected data shall be clarified (e.g. graphic, tabulation, report), and adequate to analyze and assess the data. When reference or alert values are set, the data shall be displayed accordingly.

(5) Data analysis

The data analysis method shall be clear and effective for the characteristics and reliability state of the operating environment, aircraft, its systems and components, and shall meet the following requirements:

- (a) The performance of the aircraft, systems and components shall be evaluated properly to allow operators to decide corrective action.
- (b) Numerical performance benchmarks (reference values, alerts) that indicate permissible quality shall be set. Reasonable performance benchmarks shall be determined in accordance with abundant operational results and through a statistical approach when used for comparison with actual values. Similar operational results and systems may be used to evaluate the new model at the initial stage, but the performance standard should be reviewed after a certain time of operation of the new model (probably one year).
- (c) When deterioration of the equipment or deviation from performance standards is detected in the performance and tendency evaluation, the cause shall be investigated, and suitable corrective action taken as required. The effectiveness of the corrective action shall also be checked.

(6) Corrective action

Corrective actions (e.g. items requiring maintenance, changes to intervals or work procedure, alteration of aircraft or components) shall be provided and adequately performed in accordance with the tendency and state of reliability identified by the analysis and trend analysis result. The corrective action shall be effective for restoring reliability to a permissible level by the time determined as appropriate for restoration, considering the importance of the problem and effect on safety, etc., and the state of reliability shall be properly managed until it reaches a permissible level.

(7) Monitoring and review of the Reliability Management System

A procedure for continuous monitoring and periodical review of the effectiveness of reliability shall be established and adequately carried out.

Inspection Policies for Changing the Term of Validity of Airworthiness Certificate for Aircraft of Air Carrier

Change of air carrier (user)	Change of validity	Application for airworthiness certificate	Inspection	Remark
None	From continuing to one year	Required	Up to flight test in principle	Document and external appearance inspection in case of continuing airworthiness certificate proved to be valid at the time of inspection
	From one year to continuing	Required	Up to flight test in principle	
	From continuing to continuing	Required (Note 1)	Document and external appearance inspection in principle	In case of changes to registration, such as from foreign nationality to Japanese registry, and the entrustee for operational control of maintenance
Changed	From continuing to one year	Required	Up to flight test in principle	Document and external appearance inspection in case of continuing airworthiness certificate proved to be valid at the time of inspection
	From one year to continuing	Required	Up to flight test in principle	Up to flight test even when a new user (air carrier) operates the same aircraft model having a continuing airworthiness certificate
	From continuing to continuing	Required (Note 2)	Up to flight test in principle	Document and external appearance inspection in case of continuing airworthiness certificate proved to be valid at the time of inspection
For export	From continuing to one year	Required	Up to flight test in principle	Document and external appearance inspection in case of continuing airworthiness certificate proved to be valid at the time of inspection (Note 3)

(Note 1) In case of changes to the maintenance administrator, no applications for airworthiness certificates and inspections are required if examinations concerning business plans, maintenance manuals or entrusting/entrusted operational control ensure that the aircraft has an effective continuing airworthiness certificate, and the same maintenance and reliability management system have been used, even though the operational control on maintenance is

changed.

(Note 2) If examinations on business plans, maintenance manuals or entrusting/entrusted operational control ensure that the maintenance administrator is unchanged, and the same maintenance and reliability management system has been used, the period of validity of airworthiness certificate, written under Section 3, is unchanged, and no application for airworthiness certificate or inspection is required. In case of changes to the maintenance administrator, application for airworthiness certificate and inspection are not required if examinations on business plans, maintenance manuals or entrusting/entrusted operational control ensure that the continuing airworthiness certificate is valid at the time of inspection, and the same maintenance and reliability management system have been used.

(Note 3) Ground inspections or flight tests, etc. may be conducted if specified in a mutual recognition agreement, etc., upon request of the aviation authorities of the export nation or the request of the applicant. For details, refer to Circular No. 1-014 “Issuance of Export Certificate of Airworthiness for Aircrafts, Appliances and Parts”