

Report and communication about a failure related to an aircraft

January 26, 2001	First issue (KOKU-KU-KI-4)
September 28, 2006	Amended (KOKU-KU-KI-710)
April 1, 2009	Amended (KOKU-KU-KI-1229)
June 30, 2011	Amended (KOKU-KU-KI-282)
March 29, 2018	Amended (KOKU-KU-KI-2277)
March 1, 2019	Amended (KOKU-KU-KI-1271)

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

Subject: *Report and communication about a failure related to an aircraft*

1. Purpose

Based on the Convention on International Civil Aviation, Annex 8, this circular is intended for parties that operate an aircraft with a maximum take-off weight of 5,700kg or more or a rotorcraft with a maximum take-off weight of 3,175kg or more, describing ranges, methods, and so forth with respect to the failures that need to be reported to the Japan Civil Aviation Bureau among failures related to such an aircraft operated by such a party and with respect to the failures that need to be communicated to an aircraft designer (see note) and, if necessary, to an engine designer or propeller designer (hereinafter referred to as "designer etc."), and hence related persons are required to report and communicate in accordance with this circular, in principle.

Among collected failure information, the events that are supposed to have great influence on airworthiness are, on the basis of the provisions of the Convention on International Civil Aviation, Annex 8, used for providing information to the aviation authority of the country where designing is performed.

(Note)

An aircraft designer means an organization that is responsible for the type design of an aircraft. In general, an aircraft designer is a party that possesses the type certificate of an aircraft type or a party that possesses a document equivalent to such a certificate approved by a superintendent authority having jurisdiction over such type design (based on the ICAO Airworthiness Manual).

2. Outline

According to a provision of the Convention on International Civil Aviation, Annex 8, in cases of

an aircraft with a maximum take-off weight of 5,700kg or more or a rotorcraft with a maximum take-off weight of 3,175kg or more, when it is found that some equipment has a fault, a malfunction, or any other failure that is an obstacle to maintain airworthiness, such information as is related thereto shall be provided to the designer of the type aircraft (Part II, paragraph 4.2.3.f). This provision is provided to enable aircraft designers to surely collect, analyze, and examine information on the failures that have influence on airworthiness and thereby to promptly take appropriate measures. With respect to communication of information on such a failure, this circular clarifies the range of failures that need to be reported and communicated, the methods of such communication, and so forth in an attempt to promote prompt and proper information distribution.

When an operator experiences an example of failures provided in this circular, such operator shall follow section 3 and section 4 described below to report and communicate the content described in this circular to each of (1) the Japan Civil Aviation Bureau (Airworthiness Division, Aviation Safety and Security Department) and (2) the aircraft designer and, if necessary, the engine designer or the propeller designer (hereinafter referred to as "designer etc.").

Further, when a doubt arises in relation to presence of necessity of a report and communication with respect to an experienced failure, an inquiry shall be made to the Japan Civil Aviation Bureau (Airworthiness Division or Regional Japan Civil Aviation Bureau).

3. Failures that need to be reported to the Japan Civil Aviation Bureau

3-1. Range of failures

Listed below are the items that shall be reported to the Japan Civil Aviation Bureau, which are equivalent to a failure of equipment or a partial omission of an aircraft component (excluding category III; see section 3-1-2 for category classifications).

3-1-1 Equipment failures

- (1) Explosion, fire, smoke, odor or noxious fumes
- (2) False fire warning
- (3) In-flight shut down of one or more engines
- (4) Any major structural failure in an engine, a simultaneous malfunction of multiple engines, and significant malfunctions in the fuel, exhaust, thrust or reverse thrust system
- (5) A significant malfunction of a propeller control system and its structure
- (6) Unusual leakage of fuel, lubricant or hydraulic fluid (Including fuel emission system)
- (7) A significant failure, malfunction, or defect of a landing gear, flap, etc.
- (8) Failure or malfunction of an electrical power generating system, source of hydraulic fluid, other power supply and its distribution system
- (9) A failure or malfunction of a pressure system that caused the flight plan change, or usage of

emergency/reserved oxygen system

- (10) A malfunction of wheel, brake system or tire that result in a safety hazard during taxi
- (11) Icing to the airframe that exceeds the acceptable level of the airframe (including performance degradation that is estimated to have been caused by icing or the like)
- (12) A warning that shows incomplete closing of a hatch or door during flight
- (13) Damage due to crack/corrosion/buckling/exfoliation of the airframe structure, or multiple loose fasteners, or missed items that require a major repair
- (14) Any flight control system malfunction, defect, or failure that causes an interference with normal control of the aircraft (including inoperable flight control systems or increased operation load that is estimated to have been caused by icing or the like)

It is necessary to make a report when a failure of a flight control system has caused any of the following examples.

- (a) Precautionary landing or emergency landing
 - (b) Discontinued approach below a decision altitude
 - (c) Unintended contact with the ground including before the start of a runway
 - (d) Deviation from the end of a runway, a runway edge, or a landing area
 - (e) Impossible flight control resulted from any cause (for example, turbulence)
 - (f) Occurrence of stalling or stick push on an occasion other than training or examination
 - (g) Abnormally stiff or restricted movement of a device in a flight control system or abnormally slow or delayed response or any other similar symptom
 - (h) Unexpected operation of a primary flight control or a trimming gear
 - (i) Extraordinary trimming required to maintain an intended flight path
- (15) Any system or equipment failure, malfunction, or defect that causes an emergency operation
 - (16) Any significant failure, malfunction, or defect of an emergency evacuation system and equipment (currently, escape doors, guide lights for emergency escape, and escape slides/rafts only) (limited to items related to Air Carrier Service or Aerial Work Service) operated in an actual emergency or a training session or at a time of examination, maintenance, demonstration, or unexpected operation
 - (17) Impossible operation of a system or equipment having a function or performance not recognizable in a normal flight that is important for ensuring airworthiness during a flight including a test flight (currently, passenger cabin warning devices, passengers' oxygen masks, excessive speed warning devices, stall warning devices, and ram air turbines only) (limited to items related to Air Carrier Service or Aerial Work Service)
 - (18) Other failures, malfunctions or defects which affect safe operation

(Note)

In cases where a domestic air carrier service operator or an aerial work service makes a report via the aviation safety information management and distribution system (hereinafter referred to as

"system"), when a report on an equipment failure is made according to the provision in the Civil Aeronautics Act, Article 111-4 (including Article 124, where the same provision applies mutatis mutandis), such report shall be regarded to be on an item belonging to this notice. Failure of equipment listed below are not included in the items regarding reports provided in the Civil Aeronautics Act, Article 111-4. However, they are included in this notice. Therefore, caution must be taken.

- Generation of smoke and abnormal odor
- Extreme leakage of lubricant or hydraulic fluid (excluding aircrafts subject to ETOPS)
- A significant failure of a flap or the like (excluding asymmetry operations of flaps or the like)
- Failure or malfunction simultaneously involving a hydraulic fluid source, some other power source, and a distribution system thereof
- Damage caused by a crack, corrosion, buckling, or exfoliation and a plurality of loose fasteners or untied fasteners that require major repair (excluding such damage whose repair method is not described in the manual, service bulletin, and the like provided by the manufacturer)
- Other failures, malfunctions, or defects that lead, or might lead, to unsafe flight of an aircraft

3-1-2 Partial disconnection of an aircraft component

Partial disconnection of an aircraft component listed in the table below that belongs to category I or II and has occurred during a flight.

Category	Description
I	Components of 1000cm ² or larger in size (area) or 1kg or more in weight (any material)
II	Nonmetal components from 100cm ² to less than 1000cm ² in size (area) or from 0.2kg to less than 1kg in weight, metal components from 0.1kg to less than 1kg in weight, and the like; The following components belong to category II regardless of weight, material, or size. Rubber seal of 100cm or more in length: Totally damaged lights or their equivalents
III	Any component other than the above

3-2. The items of equipment failure described in the previous section, which have to be reported, shall include not only those that occurs during an operation of an aircraft (from ramping out to ramping in) but also include those that are found or that have occurred during line maintenance or regular maintenance (including equipment maintenance in cases of item (10)). However, in cases of items (1), (2), and (10), only those which are found or which have occurred during a flight or

on a ramp shall be reported.

3-3. When those failures which have occurred during a flight belong to any of the following occurrences that affect operations, such failures shall be reported regardless of whether they belong to any of the failure items described above. Further, when a take-off is discontinued, the air speed at the time of the decision shall be recorded.

Emergency landing	Landing after an emergency call
Landing at a destination other than the original one	Landing at an airport other than the original one
A turn back after a take-off	A take-off resulting in a turn back to the departure airport and the landing
A discontinued take-off	<ul style="list-style-type: none"> - In cases of a standing take-off, the engine output is increased for the take-off, and the brake is released, but the take-off is discontinued - In cases of a rolling take-off, the aircraft is in position to the runway, and the engine output is increased, but the take-off is discontinued
Irregular stop after grounding	After landing, the aircraft stops on the runway or around the runway
Others	After the ramp out, the aircraft turns back

3-4. Reports according to "Guide for Approval Standard and Procedure for Extended-range Twin-engine Operational Performance Standards" (circular No.5-003, second half), section 2, paragraph (2), item (g), or category III, "Standard and Approval Procedure for Category Operation" (circular No.5-002, first half), chapter 4, section 2, paragraph (c), item (4), shall be in accordance with defect reports under the provision of this circular.

3-5. Methods and forms of reports to the Japan Civil Aviation Bureau

3-5-1 Methods of reports

Users who have access right to the system shall access <https://www.asims.mlit.go.jp/> to make a report. Detailed procedure regarding the use of the system is provided in circular No.6-013, "Safety Information Service through Aeronautical Safety Information Management System" When a user with access rights to the system is not able to make a report via the system due to unavoidable circumstances, then the report shall be made by facsimile.

Users of private aircraft or operators and the like who do not have access rights to the system shall use the report form provided as an appendix to make a report by facsimile.

3-5-2 Report form (in cases of operators)

A report shall be made by the form provided from the system.

3-5-3 Report form (in cases of private aircraft users)

The report form is provided as an appendix TCF-70-8D-1; however, the form may be modified for convenience of a reporter on the condition that necessary items are surely described. Furthermore, if item 16, "ETOPS," or item 17, "CAT. III," in the form is not applicable, such item may be omitted.

3-6. Acceptance of reports

3-6-1 Reports from specific domestic air carrier service operators

In principle, reports shall be made via the system. When a report is made by facsimile due to unavoidable reasons, it shall be submitted to the Chief Aircarrier Airworthiness Engineer, Airworthiness Division, Aviation Safety and Security Department, Japan Civil Aviation Bureau.

3-6-2 Reports from air carrier service operators and aerial work service operators other than specific domestic air carrier service operators

In principle, reports shall be made via the system. When a report is made by facsimile due to unavoidable reasons, it shall be submitted to the Dedicated Aircarrier Airworthiness Engineer, Safety Department, Regional Japan Civil Aviation Bureau with jurisdiction.

3-6-3 Reports from private aircraft users

All failures shall be reported to the Senior Aircraft Inspector, Safety Department, Regional Japan Civil Aviation Bureau with jurisdiction.

3-6-4 Contact Point

(1) Airworthiness Division, Aviation Safety and Security Department

Japan Civil Aviation Bureau, Ministry of Land, Infrastructure and, Transport and Tourism
2-1-3 Kasumigaseki, Chiyoda-ku, Tokyo, 100-8918
Tel 03-5253-8735 FAX 03-5253-1661

(2) Chief Airworthiness Engineer

Air Traffic Service and Safety Department
Tokyo Regional Japan Civil Aviation Bureau
Kudan Daini Godochosha
1-1-15 Kudan-Minami, Chiyoda-ku, Tokyo, 102-0074
Tel 03-5275-9325 FAX 03-5216-5571

(3) Chief Air Carrier Airworthiness Engineer

Air Traffic Service and Safety Department
Tokyo Regional Japan Civil Aviation Bureau
Kudan Daini Godochosha
1-1-15 Kudan-Minami, Chiyoda-ku, Tokyo, 102-0074
Tel 03-5275-9327 FAX 03-5216-5571

(4) Chief Airworthiness Engineer

Air Traffic Service and Safety Department
Osaka Regional Japan Civil Aviation Bureau
No.4 Building of Osaka Godochosha
4-1-76 Otemae, Chuo-Ku, Osaka-shi, Osaka-fu, 540-8559
TEL 06-6949-6235 FAX 06-6945-6313

(5) Chief Air Carrier Airworthiness Engineer

Air Traffic Service and Safety Department
Osaka Regional Japan Civil Aviation Bureau
No.4 Building of Osaka Godochosha
4-1-76 Otemae, Chuo-Ku, Osaka-shi, Osaka-fu, 540-8559
TEL 06-6949-6233 FAX 06-6945-6313

(6) Chief Airworthiness Engineer

Haneda Airport Inspectors Office
Tokyo Regional Japan Civil Aviation Bureau
3-3-1 Haneda-Airport Ota-ku Tokyo, 144-0041
TEL 03-5757-1547 FAX 03-5757-1548

(7) Chief Airworthiness Engineer

Narita Airport Inspectors Office
Tokyo Regional Japan Civil Aviation Bureau
133 Furugome Azakomemae Narita Tokyo, 282-8602
TEL 0476-30-2177 FAX 0476-32-6455

(8) Chief Airworthiness Engineer

Sendai Airport Inspectors Office
Tokyo Regional Japan Civil Aviation Bureau
Simomasuda Azaminamihara Natori Miyagi, 989-2401
TEL 022-383-1342 FAX 022-383-1382

(9) Chief Airworthiness Engineer

Nagoya Airport Inspectors Office
Osaka Regional Japan Civil Aviation Bureau
Toyoyama-machi Toyoba Nishikasugai-gun Aichi, 480-0202
TEL 0568-29-1986 FAX 0568-29-1987

(10) Chief Airworthiness Engineer

Yao Airport Inspectors Office
Osaka Regional Japan Civil Aviation Bureau
2-12 Yao-Airport Osaka, 581-0043
TEL 072-992-7983 FAX 072-993-2240

3-7. Timing of reporting

3-7-1 In cases of failures belonging to category I such as occurrences that affect operations listed in section 3-3, when a part of an aircraft component is found detached, or in cases of events that are covered by the press, a report shall be made as promptly as possible after the occurrence and, at the same time with this, a report shall be made over telephone.

3-7-2 In cases of a failure that does not belong to section 3-7-1, a report shall be made within three days after the day of occurrence. However, in cases of a failure that is found on a ramp or during

regular maintenance, a report may be made within seven days from when such a failure is found. In case of a failure that is found during equipment maintenance, a report may be made within fourteen days after the failure is found. Further, in cases of items regarding which the timing of reports is provided in an official notice and the like, such official notice and the like shall be followed.

4. Failures that need to be communicated to designers etc.

4-1. Range of failures

The items of failures to be communicated to designers etc. shall belong to any of items (1) to (15) provided in section 3-1.

4-2. Reporting form

No special form has been specified as regards communication forms to designers and so forth. However, operators shall describe necessary information in relation to a failure in the communication so that designers etc. may make prompt evaluation and take swift measures with regard to the failure. Listed below are examples of information considered to be helpful for evaluation of severity of communicated failure as guidelines. These examples include such failure as is not easily provided or such failure, depending on specific cases, that does not need to be provided.

- (a) Specific and detailed situations of failures (visualizing means such as photographs and drawings shall be used if necessary)
- (b) Location of failure
- (c) The part number and production number of the component with failure
- (d) Operating time of airplane/component (TT, TSO) and the number of landings
- (e) The type and production number of the airplane
- (f) The way how the failure was found (For example, an occurrence during a regular inspection, special inspection, non-regular observation, implementation of a service bulletin, flight, and so forth)
- (g) Causal analysis by the operator including examinations already conducted
- (h) Corrective actions taken after the occurrence of the failure or corrective actions yet to be taken
- (i) Troubles caused by the failure to any other part of the aircraft if any
- (j) Whether a report has been made to a superintendent authority in charge of airworthiness management
- (k) Special inspections formerly conducted to the component with failure and the content and timing of such modification (if any)
- (l) Special conditions during flight or landing (before or after the occurrence of damage)
- (m) Availability of components that help in the failure investigation

4-3. Acceptance of communication

Communication shall be made to the designer of the aircraft. If necessary, communication shall be also made to the designer of the engine or the propeller.

However, communication may be made via a residential representative of the designer or the operator of the aircraft instead of directly communicating with such designer.

5. Supplementary Provisions

1. This Circular shall be enforced on April 1, 2001. However, it shall be enforced on April 1, 2002 for a private aircraft. In this case, it shall not preclude to report in accordance with this circular before the effective date.

2. Circular TCL-132-1-87(dated May 23, 1987) and TCL-134-3-99 (dated March 31, 1999) shall be abolished by this Circular.

Supplementary Provisions (September 28, 2006)

1. This Circular shall be enforced on October 1, 2006.

Supplementary Provisions (April 1, 2009)

1. This Circular shall be enforced on April 1, 2009.

Supplementary Provisions (June 30, 2011)

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

Supplementary Provisions (March 29, 2018)

1. This Circular shall be enforced on March 29, 2018.

Supplementary Provisions (March 1, 2019)

1. This Circular shall be enforced on March 1, 2019.

For further questions or comments regarding this Circular, please contact the following:

Airworthiness Engineer, 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, 100-8918
TEL: 03-5253-8735
FAX: 03-5253-1661

Attachment: Reporting forms

航空機材不具合報告書

(第 報)

1 頁

発信時期 _____ 年 _____ 月 _____ 日 _____ 時 _____ 分 報 告 No. ()

発信会社名 _____ 所 属 ()

氏 名 ()

1. 不具合発生/発見日時 _____ 年 _____ 月 _____ 日 _____ 時 _____ 分頃 (JST)

2. 不具合発生/発見場所 (基地名 _____) 又は (_____) 上空

3. 便名/区間

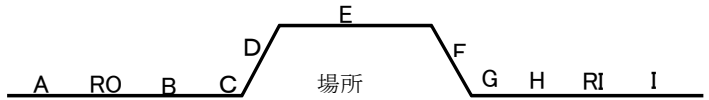
便名 _____ FROM _____ (STD :) TO _____ (STA :)

便名 _____ FROM _____ (STD :) TO _____ (STA :)

4. 航空機型式 () 5. 登録記号() 6. 乗客数 ()

7. 不具合発生 / 発見時点

- 運航中 定期整備中
- 運航整備中 装備品整備中



8. 到達第3-3項に掲げる運航に影響のある事態の種類

- 緊急着陸 () 空港 離陸中止 () knots その他 ()
- 目的地外着陸 () 空港 接地後の異常停止
- 離陸後の引き返し ランプアウト後の引き返し

9. 機体部品の一部脱落 (カテゴリー I、II)

- カテゴリー I 部品名等 ()
- カテゴリー II 部品名等 ()

10. 遅発、代替及び欠航の状況

- 欠航 遅発 (遅発時間 _____) 代替機 ()

11. MEL

- 該当せず 適用せず 適用 適用番号: ()

12. 不具合部位

- 1. 機体 2. ENG 3. PROP 部位1 () ATA NO. ()
- 4. Comp (機械) 5. Comp (電気) 部位2 () ATA NO. ()

13. 機材不具合の種類

- | | | |
|--|---------------------------------------|-------------------------------------|
| 1 <input type="checkbox"/> 爆発, 火災, 煙, 異臭, 有毒ガス | 7 <input type="checkbox"/> 脚, フラップ | 13 <input type="checkbox"/> 機体構造 |
| 2 <input type="checkbox"/> 火災の誤警報 | 8 <input type="checkbox"/> 電源等動力源 | 14 <input type="checkbox"/> 操縦系統 |
| 3 <input type="checkbox"/> IFSD | 9 <input type="checkbox"/> 与圧系統, 酸素系統 | 15 <input type="checkbox"/> 非常操作 |
| 4 <input type="checkbox"/> 発動機 | 10 <input type="checkbox"/> 車輪, ブレーキ | 16 <input type="checkbox"/> 非常脱出 |
| 5 <input type="checkbox"/> プロペラ | 11 <input type="checkbox"/> 着氷 | 17 <input type="checkbox"/> NHF |
| 6 <input type="checkbox"/> FUEL/OIL/HYD LEAK | 12 <input type="checkbox"/> ハッチ・ドアの警報 | 18 <input type="checkbox"/> その他 () |

14. 不具合概要

15. 不具合処理

16. 備考 (報道取材等)

図面 あり なし _____ 枚

ETOPS別紙 あり なし

CATIII別紙 あり なし

航空機材不具合報告書

(第 報)

2 頁

17. ETOPS

17.1 長距離進出運航に係る機材の不具合

- ★ 1. 運航中の発動機の停止
- ★ 2. 目的地の変更及び引き返し
- ★ 3. 意図しない発動機出力の急激な変化
- ★ 4. 発動機の制御不能又は意図した出力が得られなかった事例
- ★ 5. 長距離進出運航に必要な系統に係る不具合
- ★ 6. 長距離進出運航の安全を阻害するその他の事例
- ★ 7. その他

使用時間等 (★印項目に該当した時のみ記入)

1. A/C S/N _____

2. A/C TOTAL TIME _____ HR

TIME SINCE C-C' K _____ HR

発動機の型式 _____

不具合ENGINE S/N _____

TOTAL CYCLE _____ CYC

CYCLE SINCE C-C' K _____ CYC

3. 不具合装備品/ ENGINEのTSO/INSP

_____ HR

_____ HR

_____ HR

18. CAT-III

(CAT-I 気象状態未満の運航で接地帯からの高さ100フィート通過後にパイロット操作を要した不具合発生時に記入)

18.1 不具合発生時の気象状態

雲高 (Ceiling) _____ フィート

滑走路視距離 (RVR) _____ メートル

18.2 不具合装備品

名称 _____ P/N _____

名称 _____ P/N _____

名称 _____ P/N _____

18.3 不具合発生時の推定地上高

約 _____ フィート DFDR等による解析をした場合 _____ フィート

18.4 パイロットが要した操作