

KOKU-KU-KI-316

No. TCD-7000-1-2008

Date of Issue: August 6, 2008

Japan Civil Aviation Bureau

TAIKUSEI-KAIZEN-TSUHO

Airworthiness Directive

The undermentioned examinations or modifications are mandatory.

1. Applies to : Kawasaki BK117C-1 and C-2 helicopters

2. Compliance is required as indicated, unless already accomplished.

To prevent the situation of continuous flight being difficult in one engine inoperative condition because the predetermined output of engine is not provided, accomplish the following:

2.1 Before the next flight after the effective date of this AD, replace the copy of Appendix of TCD-7000-2006, which was inserted to the Flight Manual, with the copy of applicable Appendix of this AD and affix the selected placard.

2.2 After the effective date of this AD, for helicopters that are about to perform take-off, landing and hovering procedures in or out of ground effect at pressure altitudes above 10,000 feet and/or to operate at pressure altitudes above 13,000 feet, accomplish beforehand the “MAX N1 CHECK” in accordance with the instructions of the referenced Kawasaki Service Bulletin No.KSB-117-280(BK117C-1), No.KSB-117-281(BK117C-2) or later JCAB approved revisions (hereinafter referred to as SB), as applicable.

2.3 If the “MAX N1 CHECK” in accordance with the paragraph 2.2 of this AD is accomplished, accomplish the “MAX N1 CHECK” repeatedly at intervals not to exceed 600 flight hours after the last accomplishment in accordance with the instructions of SB.

2.4 If it is necessary to limit the operation altitude as a result of these checks, amend the placard in accordance with the instructions of SB, if necessary.

2.5 If both FCUs are modified in accordance with Turbomeca Service Bulletin No.292 73 0358(hereinafter referred to as Modification TU358), any action

of paragraph 2.1 through 2.4 is not required. Remove the copy of Appendix of this AD and the placard which was affixed in accordance with this AD.

2.6 When engine, Fuel Control Unit (FCU) and/or engine module 2/3 are replaced after the effective date of this AD:

(a) If the copy of Appendix of this AD is not inserted to the Flight Manual, insert the copy of applicable Appendix of this AD to the Flight Manual and affix the selected placard prior to next flight.

(b) Accomplish the "MAX N1 CHECK" prior to performing take-off, landing and hovering procedures in or out of ground effect at pressure altitudes above 10,000 feet and/or to operate at pressure altitudes above 13,000 feet and repeatedly at intervals not to exceed 600 flight hours after the last accomplishment in accordance with the instructions of SB.

2.7 After April 10, 2009, the FCU which has not been received Modification TU358 must not be installed on helicopters.

2.8 An alternative means of compliance with this AD may be used, if approved by the Director-General of JCAB.

3. Remarks

3.1 This AD becomes effective on August 20, 2008.

3.2 This AD revises a part of TCD-7000-2006 dated November 10, 2006. The revised part corresponds to the underlined part, the part which is not underlined is non-revised part. Therefore, regarding non-revised part, execute the inspection, the repair, the exchange, the modification or etc. in the compliance time which is indicated on pre-revised AD.

3.3 Kawasaki Service Bulletin No.KSB-117-280B, No.KSB-117-281A dated June 6, 2008 and later JCAB approved revisions pertain to this subject.

FOR C-1

Airworthiness Directive TCD-7000-1-2008 Appendix 1 (1/4)

FMS 2.12.4 P.2-22

2.12.4 Operating altitude limitations

NOTE : ● All altitudes given in this Manual are pressure altitudes, unless otherwise indicated.

- The following limitations are valid for all H/C operations.
- Maximum altitude for hover in and out of ground effect / takeoff and landing is 10,000 ft and the maximum operating altitude is 13,000ft until the “MAX. N1 check” required by the KSB-117-280 (including later JCAB approved revisions, and the same shall apply hereinafter) is performed.

CAUTION THESE LIMITATIONS HAVE TO BE OBSERVED WHEN USING THE PERFORMANCE CHARTS (SECTION 5);

- Hover ceiling out of ground effect (OEI, 2.5 MIN POWER), Fig.5 - 13A
- Rate of climb(OEI, 2.5 minute power, GW; 1700 kg to 2400 kg), Fig.5 - 23
- Rate of climb(OEI, 2.5 minute power, GW; 2400 kg to 3000 kg), Fig.5 - 25
- Rate of climb(OEI, 2.5 minute power, GW; 3000 kg to 3350 kg), Fig.5 - 27

In case of the “MAX N1 CHECK” required by the KSB-117-280 is successful in 15,000ft.
Maximum operating altitude is..... 15,000 ft

Maximum operating altitude for hover in and out of
ground effect / takeoff and landing is 15,000 ft or
17,000 ft (density altitude)
whichever is less.

In case of the “MAX N1 CHECK” required by the KSB-117-280 is successful in 13,000ft
and is not successful or not performed in 15,000 ft.

Maximum operating altitude is..... 13,000 ft

Maximum operating altitude for hover in and out of
ground effect / takeoff and landing is 13,000 ft

FOR C-1

Airworthiness Directive TCD-7000-1-2008 Appendix 1 (1/4) (Cont.)

In case of the "MAX N1 CHECK" required by the KSB-117-280 is not successful in 13,000ft or is the "MAX N1 CHECK" not performed.

Maximum operating altitude is..... 13,000 ft

Maximum operating altitude for hover in and out of
ground effect / takeoff and landing is 10,000 ft

FOR C-1

Airworthiness Directive TCD-7000-1-2008 Appendix 1 (2/4)

FMS 2.14 P.2-30

2.14 PLACARDS AND DECALS

In case of the "MAX N1 CHECK" required by the KSB-117-280 is successful in 13,000ft and is not successful or not performed in 15,000 ft.

(KSB-117-280)

**Maximum operating altitude is
13000 ft PA**

**Maximum altitude for take-off,
landing and IOGE / HOGE is
13000 ft PA**

Location : In pilot's view

In case of the "MAX N1 CHECK" required by the KSB-117-280 is not successful in 13,000ft or the "MAX N1 CHECK" is not performed.

(KSB-117-280)

**Maximum operating altitude is
13000 ft PA**

**Maximum altitude for take-off,
landing and IOGE / HOGE is
10000 ft PA**

Location : In pilot's view

FOR C-1

Airworthiness Directive TCD-7000-1-2008 Appendix 1 (3/4)

FMS 11-1 2.1.2.1 P.1-9

2.1.1.1 Maximum takeoff and landing altitude

Maximum altitude..... 13,000 ft (density altitude) or
10,000 ft (pressure altitude)
whichever is less

FOR C-1

Airworthiness Directive TCD-7000-1-2008 Appendix 1 (4/4)

FMS 11-5 2.1.1.1 P.5-9

2.1.1.1 Maximum takeoff and landing altitude

Maximum altitude.....10,000 ft (density altitude) or
10,000 ft (pressure altitude)
whichever is less

FOR C-2

Airworthiness Directive TCD-7000-1-2008 Appendix 2 (1/4)

FMS 2.7 P.2-11

2.7 ALTITUDE LIMITATIONS

NOTE : ● The following limitations are valid for all H/C operations.

- Maximum altitude for hover in and out of ground effect / takeoff and landing is 10,000 ft (pressure altitude) and the maximum operating altitude is 13,000ft (pressure altitude) until the “MAX. N1 check” required by the KSB-117-281 (including later JCAB approved revisions, and the same shall apply hereinafter) is performed.

CAUTION THESE LIMITATIONS HAVE TO BE OBSERVED WHEN USING THE PERFORMANCE CHARTS (SECTION 5);

- Rate of climb(OEI, 2.5 minute power, GW; 1750 kg to 2400 kg), Fig.5 - 23
- Rate of climb(OEI, 2.5 minute power, GW; 2400 kg to 3000 kg), Fig.5 - 24
- Rate of climb(OEI, 2.5 minute power, GW; 3000 kg to 3585 kg), Fig.5 - 25

In case of the “MAX N1 CHECK” required by the KSB-117-281 is successful in 18,000ft (pressure altitude).

Maximum operating altitude is 18,000 ft (pressure altitude)

Maximum operating altitude for hover in and out of ground effect / takeoff and landing is 18,000 ft (density altitude) or 18,000 ft (pressure altitude) whichever is less.

In case of the “MAX N1 CHECK” required by the KSB-117-281 is successful in 16,000ft (Pressure Altitude) and is not successful or not performed in 18,000 ft (pressure altitude).

Maximum operating altitude is 16,000 ft (pressure altitude)

Maximum operating altitude for hover in and out of ground effect / takeoff and landing is 18,000 ft (density altitude) or 16,000 ft (pressure altitude) whichever is less.

FOR C-2

Airworthiness Directive TCD-7000-1-2008 Appendix 2 (1/4) (Cont.)

In case of the "MAX N1 CHECK" required by the KSB-117-281 is successful in 13,000ft (pressure altitude) and is not successful or not performed in 16,000 ft (pressure altitude).
Maximum operating altitude is 13,000 ft (pressure altitude)

Maximum operating altitude for hover in and out of
ground effect / takeoff and landing is 13,000 ft (pressure altitude)

In case of the "MAX N1 CHECK" required by the KSB-117-281 is not successful in 13,000ft or the "MAX N1 CHECK" is not performed (pressure altitude).
Maximum operating altitude is 13,000 ft (pressure altitude)

Maximum operating altitude for hover in and out of
ground effect / takeoff and landing is 10,000 ft (pressure altitude)

FOR C-2

Airworthiness Directive TCD-7000-1-2008 Appendix 2 (2/4)

FMS 2.7 P.2-30

2.17 PLACARDS AND DECALS

In case of the "MAX N1 CHECK" required by the KSB-117-281 is successful in 16,000ft (pressure altitude) and is not successful or not performed in 18,000 ft.

(KSB-117-281)
**Maximum operating altitude is
16000 ft PA**
**Maximum altitude for take-off,
landing and HIGE / HOGE is
16000 ft PA**

Location : In pilot's view

In case of the "MAX N1 CHECK" required by the KSB-117-281 is successful in 13,000ft (pressure altitude) and is not successful or not performed in 16,000 ft.

(KSB-117-281)
**Maximum operating altitude is
13000 ft PA**
**Maximum altitude for take-off,
landing and HIGE / HOGE is
13000 ft PA**

Location : In pilot's view

In case of the "MAX N1 CHECK" required by the KSB-117-281 is not successful in 13,000ft (pressure altitude) or the "MAX N1 CHECK" is not performed.

(KSB-117-281)
**Maximum operating altitude is
13000 ft PA**
**Maximum altitude for take-off,
landing and HIGE / HOGE is
10000 ft PA**

Location : In pilot's view

FOR C-2

Airworthiness Directive TCD-7000-1-2008 Appendix 2 (3/4)

FMS 11-1 A.2.3 P.1-11

A.2.3 Altitude limitation

Maximum operating altitude for CAT A operations ····· 12,000 ft (density altitude) or
10,000 ft (pressure altitude)
whichever is less

FOR C-2

Airworthiness Directive TCD-7000-1-2008 Appendix 2 (4/4)

FMS 11-1 A.2.7 P.1-12

A.2.7 Flight envelope

Flight envelope is shown in Fig. A2-1.

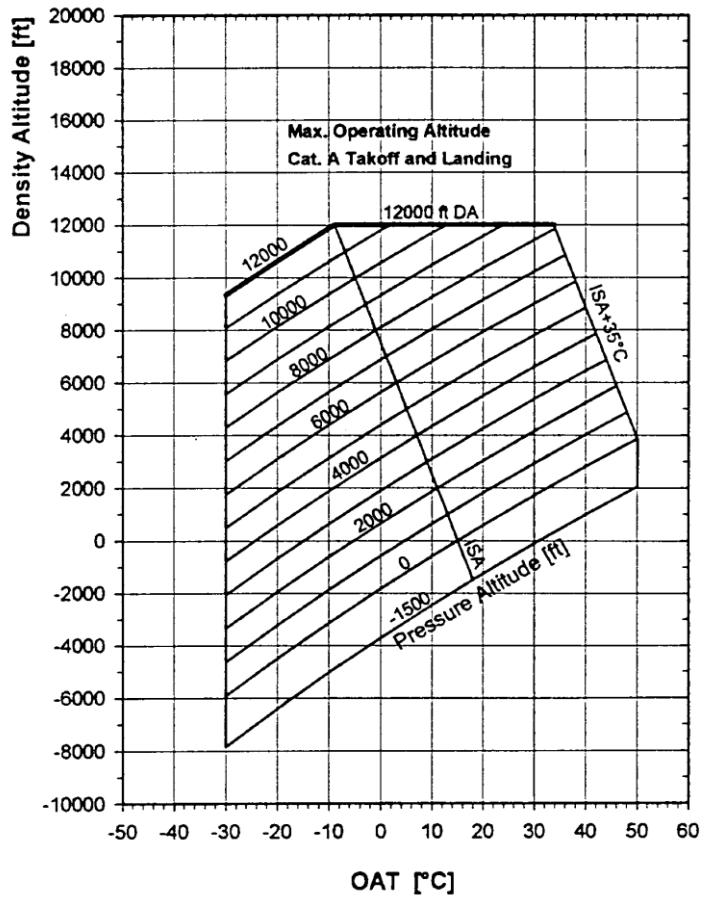


Fig. A 2 - 1 Flight envelope

NOTE : Maximum operating altitude 10,000 ft pressure altitude.