KOKU-KU-KI-868	No. TCD-7794-2011

Date of Issue: January 6, 2011

Japan Civil Aviation Bureau

TAIKUSEI-KAIZEN-TSUHO

Airworthiness Directive

The undermentioned examinations or modifications are mandatory.

1. Applies to : Kawasaki BK117 C-2 helicopters

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

To prevent reduced control of the helicopter which results from impaired freedom of movement of the upper control because of the piston of the longitudinal main rotor actuator movement during rigging, accomplish the followings:

2.1 Within 30 days after the effective date of this AD, confirm the contents of the Appendix 1 and Appendix 2, and insert the applicable page in the front of the corresponding page of basic flight manual and flight manual supplement 10-29 “RESCUE WINCH SYSTEM” (if equipped). Advise the contents of revision mentioned above to flight crews.

2.2 Within 300 flight hours or 12 months, whichever occurs first after the effective date of this AD, inspect the rigging of the main rotor controls in accordance with the instructions of Kawasaki Service Bulletin No.KSB-117-324 or any further JCAB-approved revision.(hereinafter referred to as SB)

2.3 If, during the inspection as required by paragraph 2.2 of this AD, improper rigging is detected, before next flight, correct the rigging in accordance with the instructions contained in SB.

2.4 After accomplishment of the correction of the rigging as required by paragraph 2.3 of this AD, the inserted pages as required by paragraph 2.1 of this AD can be removed.

2.5 From the effective date of this AD, any scheduled or unscheduled rigging

of the main rotor controls must be carried out in accordance with the instructions of SB, until applicable revision of the AMM.

2.6 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 January 20, 2011.

3.2 Kawasaki Service Bulletin No.KSB-117-324 dated December 8, 2010 and later JCAB approved revisions, and Kawasaki Service News No.KSN-117-139 dated December 8, 2010 pertain to this subject.

The following information must be insert to the Flight Manual, Section 2.6.2 and 5.10:

KAWASAKI BK117C-2
FLIGHT MANUAL

JCAB approved
September 18 2009

2.6.2 Sideward and rearward flight

Sideward flight or crosswind hover, and rearward flight or tailwind hover

In case of hover in ground effect :

- For density altitude up to 7000 ft ····· 30 kt
- For density altitude above 7000 ft ····· 17 kt

has been assured.

In case of hover out of ground effect :

- For density altitude up to 7000 ft ····· 30 kt
- For density altitude above 7000 ft
  - right sideward flight or sidewind from the right ····· 17 kt
  - all other directions ····· 30 kt

has been demonstrated.

2.7 ALTITUDE LIMITATIONS

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

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

2.8 AIR TEMPERATURE LIMITATIONS

2.8.1 Ambient air temperature limitations

If ECS is operative.

- Minimum air temperature is ····· −30°C

NOTE : If OAT ≦ −15°C, operate ECS (heating) to protect cabin equipment in accordance with FLM supplements 10-5.

If ECS is not operative or is not installed.

- minimum air temperature is ····· −15°C

For Mfg S/N up to 4003 on which KSB-117-197 is not incorporated, and helicopter on which FCDS is not installed.

- Maximum air temperature is ····· ISA +35°C (max.+39.6°C)

For Mfg S/N 4004 and subsequent, and helicopters which are incorporated KSB-117-197, and helicopters which are installed FCDS.

- Maximum air temperature is ····· ISA +35°C (max.+50°C)

If OAT ≧ +35°C,The maximum operating time on ground is 30 minutes.

NOTE : See also the chart for fuel temperature limits in para 2.12.2.

In case of hover out of ground effect :

・For density altitude up to 7000ft

left rearward flight or

winds from the left-rear side ···· 12kt

right rearward flight or

winds from the right-rear side ··· 20kt

all other directions ····· 30kt

・For density altitude above 7000ft

left rearward flight or

winds from the left-rear side ···· 12kt

right sideward flight or

sidewind from the right ····· 17kt

right rearward flight or

winds from the right-rear side ··· 17kt

all other directions ····· 30kt

KAWASAKI BK117C-2
FLIGHT MANUAL

JCAB approved
April 17 2003

5.10 HOVER CEILING

The hover ceiling chart for hover in ground effect (HIGE) (Fig.5-9 to 5-12) are provided for AEO conditions, with takeoff power (TOP) and maximum continuous power (MCP) and various combinations of pressure altitude, outside air temperature and gross mass.

For hover in ground effect in density altitudes up to 7000 ft controllability is assured for winds up to 30 kt from all directions, above 7000 ft for winds up to 17 kt from all directions.

The hover ceiling charts for hover out of ground effect (HIGE) (Fig.5-13, 5-14) are provided for AEO conditions, with takeoff power (TOP) and maximum continuous power (MCP), and various combinations of pressure altitude, outside air temperature and gross mass.

For hover out of ground effect in density altitudes up to 7000 ft controllability is assured for winds up to 30 kt from all directions, above 7000 ft for winds up to 17 kt from the right side and up to 30 kt from all other directions.

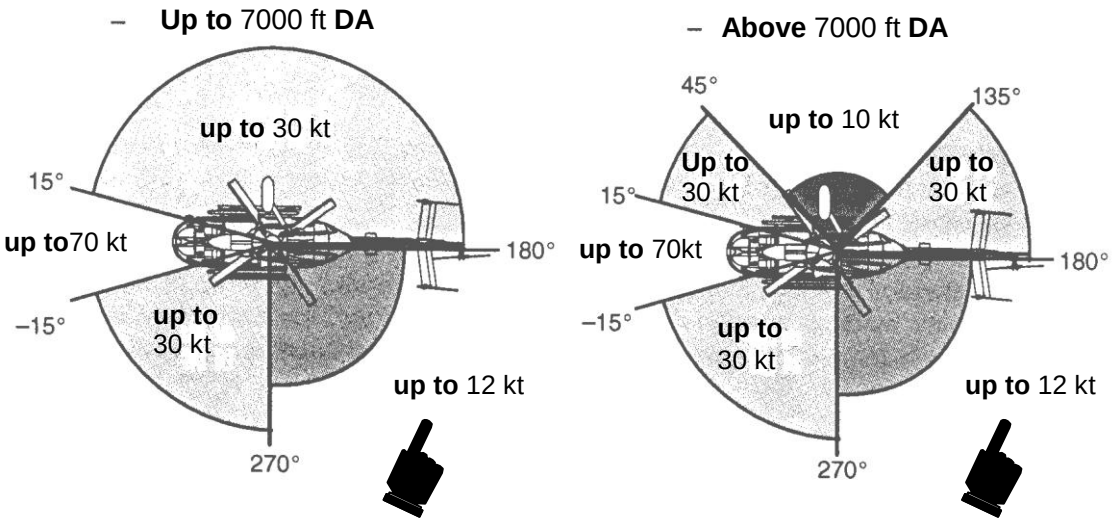
Controllability during standard type takeoff and landing has been demonstrated for flight conditions with crosswind components up to 17 kt.

For hover out of ground effect in density altitudes up to 7000ft controllability has been demonstrated for winds up to 30 kt , except for winds from the right-rear side, where 20 kt has been demonstrated, and except for winds from the left-rear side, where 12 kt has been demonstrated.

For hover out of ground effect in density altitude above 7000ft, controllability has also been demonstrated for winds up to 30kt, except for winds from the right to the right-rear side, where 17kt has been demonstrated, and except for winds from the left-rear side, where 12kt has been demonstrated.

The following information must be insert to Flight Manual Supplement 10-29 "RESCUE WINCH SYSTEM":

- **For hoist is attached to the RH side（P/N：B851K2801-052）**



- **For hoist is attached to the LH side（P/N：B851K2801-051）**

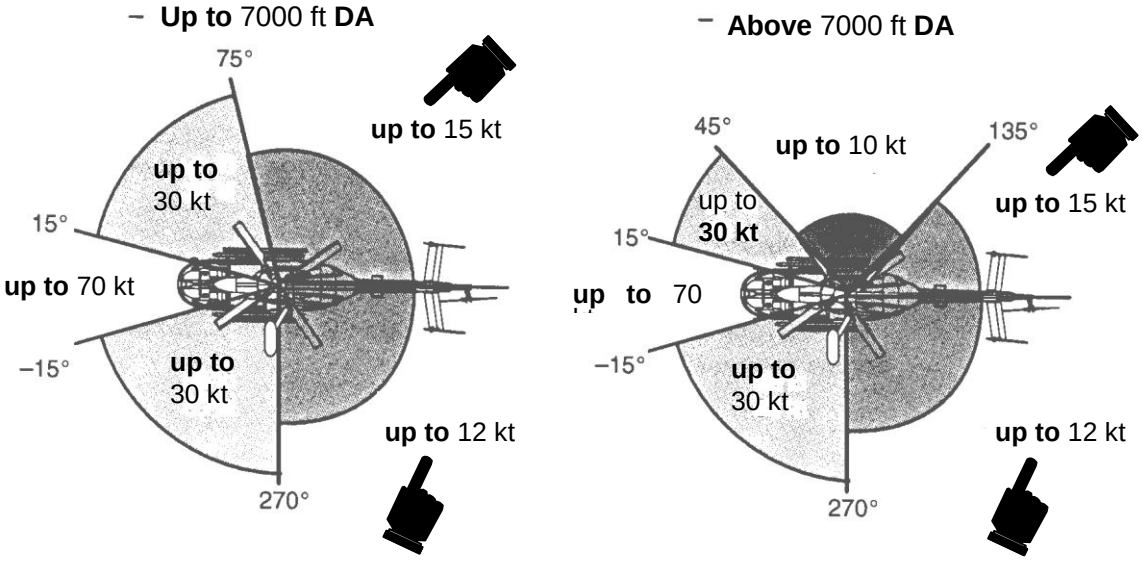


Fig. 5-1 Demonstrated wind conditions