

**JAPAN CIVIL AVIATION BUREAU
MINISTRY OF TRANSPORT**

No.10 Rev.0 KAWASAKI HEAVY INDUSTRIES,LTD KV107- II Mar. 30, 2001

TYPE CERTIFICATE DATA SHEET NO.10

This data sheet, which is part of Type Certificate No.10, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Japan Civil Aeronautics Law and Regulations.

Type Certificate Holder: Kawasaki Heavy Industries, LTD. (KHI)
 3-1-1, Higashi Kawasaki-Cho, Chuo-ku, Kobe-city, Hyogo-prefecture, JAPAN

I.—MODEL KAWASAKI - VERTOL107- II (Transport Helicopter - Categories A and B,Approved November 4, 1963)

Engines

General Electric CT58-110-1 or Ishikawajima-Harima Heavy Industries,Ltd. CT58-IHI-110-1 : 2

Fuel

Refer to Flight Manual

Engine limits

- (a) In case of an engine to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM2265 & 2266 have been applied. (Sea level static)

	Shaft HP	Power Turbine RPM Nf RPM(%)	Gas Generator RPM Ng RPM(%)	Power Turbine Inlet Temp. ° F (° C)
Takeoff (5 min.)	1,250	21,275(109.1)	26,300(100.3)	1,250(677)
One engine inoperative (30 min.)	1,250	21,275(109.1)	26,300(100.3)	1,250(677)
One engine inoperative (2.5 min.)	1,350	21,275(109.1)	26,800(102.2)	1,300(704)
Maximum Continuous	1,050	21,275(109.1)	26,300(100.3)	1,175(635)
Maximum Transient (2 sec.)				1,545(840)
Starting (4 sec.)				1,545(840)
Allowable Maximum Overspeed (15 sec.)		23,100(118.4)	27,600(105.3)	

Takeoff and maximum continuous horsepower ratings are normally obtained at a power turbine speed of 19,500 r.p.m.(100%Nf).

Due to transmission torque limits, total power for twin - engine operation is limited to 2,440hp for takeoff and 2,230hp for maximum continuous.

- (b) In case of an engine to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM2265 & 2266 have not been applied. (Sea level static)

	Shaft HP	Power Turbine RPM Nf RPM(%)	Gas Generator RPM Ng RPM(%)	Power Turbine Inlet Temp. ° F (° C)
Takeoff (5 min.)	1,250	21,275(109.1)	26,300(100.3)	1,250(677)
One engine inoperative (30 min.)	1,250	21,275(109.1)	26,300(100.3)	1,250(677)
Maximum Continuous	1,050	21,275(109.1)	26,300(100.3)	1,175(635)
Maximum Transient (2 sec.)				1,545(840)
Starting (4 sec.)				1,545(840)
Allowable Maximum Overspeed (15 sec.)		23,100(118.4)	27,600(105.3)	

Takeoff and maximum continuous horsepower ratings are normally obtained at a power turbine speed of 19,500 r.p.m.(100%Nf).

Due to transmission torque limits, total power for twin - engine operation is limited to 2,440hp for takeoff and 2,230hp for maximum continuous.

Propeller and propeller limits

(a)Manufacturer : Kawasaki Heavy Industries,Ltd

(b)Forward Rotor Blade : 107R1202-W63 or 107R1202-W263

Aft Rotor Blade : 107R1202-W62 or 107R1202-W262

Rotor limits

Power On : Maximum 100% , Minimum 88%

Note : Maximum rotor limit of 104%* is allowed temporally in minimum pitch to obtain power before take-off or landing and to prepare for droop of rotation.

* In case of engines to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM 2265 & 2266 have not been applied, maximum rotor limit of 102% is allowed.

Power Off : Maximum 113% , Minimum 88%

Transmission torque limits

(a) Twin - engine operating

<u>Rotor speed</u>		<u>SHP</u>			
104% **		2,440	at	83% torque	Takeoff **
100%		2,440	at	86% torque	Takeoff
94%		2,300	at	86% torque	Takeoff
100%		2,230	at	79% torque	Maximum Continuous
94%		2,100	at	79% torque	Maximum Continuous

** In case of engines to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM2265 & 2266 have been applied.

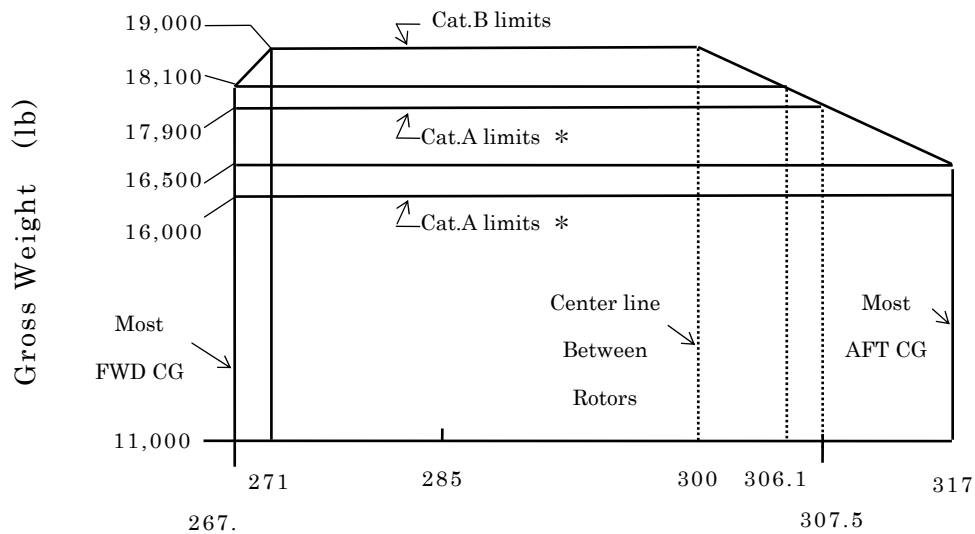
(b) One - engine inoperative

<u>Rotor speed</u>		<u>SHP</u>			
88%		1,250	at	100% torque	Transitory
95%		1,350	at	100% torque	Takeoff
100%		1,350	at	95% torque	Takeoff
100%		1,230	at	86.5% torque	Maximum Continuous
94%		1,230	at	92% torque	Maximum Continuous

a. During vertical takeoff and landing single engine operations, follow the above transmission torque limits. Transitory over-torque is permissible (as evidenced by spinning of the torque-meter) with an associated rotor decay to 65%, providing the total over-torque period does not exceed 10 seconds.

Airspeed limits

Never exceed 274 km/h (148 kt) IAS, Density altitude S.L

C.G. range

- * Cat. A Limit 17,900 lb is used in case of engines to which CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM 2265 & 2266 have been applied, and Cat. A Limit 16,000 lb is used in case of engines to which the CEBs or EBs have not been applied.

Empty weight C.G. range

None

Longitudinal datum

Longitudinal datum(STA.0) is 103.6 inches forward of forward jacking point.

Horizontal datum

Horizontal datum(W.L.0) is at height of cabin maximum breadth (15.75 inches above the setting surface of cabin floor).

Maximum weight

In case of engines (1350 horse power at 2.5 minutes when one-engine inoperative) to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM2265 & 2266 have been applied.

Maximum Takeoff	T A	17,900Lb	(Elevated Heliport)
Weight		17,650Lb	(Surface level Heliport)
	T B	19,000Lb	
Maximum Landing	T A	17,900Lb	(Elevated Heliport)
Weight		17,650Lb	(Surface level Heliport)
	T B	19,000Lb	

In case of engines to which General Electric CEB No.123 & 124 or Ishikawajima-Harima Heavy Industries EB No.IHIM2265 & 2266 have not been applied.

Maximum Takeoff	T A	16,000Lb
Weight	T B	19,000Lb
Maximum Landing	T A	16,000Lb
Weight	T B	19,000Lb

Minimum crew

2 (Position of pilot : Right hand seat)

Maximum passengers

39 (Limited by emergency exit requirements)

Maximum baggage

1,500Lb (750Lb when a bulkhead with a window (No.WS8069) is installed)

See Note 1 for cargo.

Fuel capacity

In case of Cat.A operation with vertical take-off.

Total capacity :	175U.S.Gal/tank,	350U.S.Gal(both tanks) , 348.4in
Usable fuel :	153U.S.Gal/tank,	306U.S.Gal(both tanks)
Unusable fuel :	22U.S.Gal/tank,	44U.S.Gal(both tanks) See Note 2.

In case of Cat.B operation

Total capacity :	175U.S.Gal/tank,	350U.S.Gal(both tanks) , 348.4in
Usable fuel :	173U.S.Gal/tank,	346U.S.Gal(both tanks)
Unusable fuel :	2U.S.Gal/tank,	4U.S.Gal(both tanks) See Note 2.

Oil capacity

Total capacity :	2.08U.S.Gal/tank,	4.16U.S.Gal(both tanks) , 431.3in
Usable oil :	1.32U.S.Gal/tank,	2.64U.S.Gal(both tanks)
Undrainable oil :	0.65U.S.Gal/engine system, 1.30U.S.Gal (both engine systems) See Note 2.	

Maximum enroute altitude

13,000 ft (Cat. B)

Blade movements

Collective pitch	+1° ~17.6° (Pitch lever)
Cyclic pitch	±5.2° Fwd, ±4.2° Aft (Longitudinal)
	±9.5° (Lateral), ±10.5° (Directional)

Serial Nos. eligible

4000~4006, 4009~4012

Certification basis

KHI has applied for KV107- II certification on April 30, 1962 to JCAB.

Civil Aeronautics Regulations Annex 1 “Technical Standards for Ensuring Safety of Aircraft and Equipment”.

Civil Aeronautics Regulations Annex 2 Chapter 5 (equivalent to ICAO Annex 16 Volume 1 Chapter 8) for Noise Requirements.

Civil Aeronautics Regulations Annex 3 Chapter 1 (equivalent to ICAO Annex 16 Volume 2) for Fuel Venting Requirements.

Part V of the TAIKUSEI-SHINSA-YORYO (JCAB Airworthiness Standards) dated December 28 of 35th Years of Showa and includes upto amendment No.2 dated June 15 of 39th Years of Showa

CAR 7 dated August 1, 1956, including Amendment 7-1 through 7-5, and Special Conditions for Turbine Powered Rotorcraft in Attachment “A” to FAA letter to the JCAB dated April 15, 1965, and in Attachment “A” to FAA letter to the JCAB dated September 15, 1965

Exemptions No.188 dated November 27, 1961, No.188A dated April 4, 1962, and No.374 dated December 21, 1964

Equipment

Refer to parts list.

Notes

Note 1. The cabin floor area between fuselage stations 120 and 410 is structurally satisfactory for a uniformly distributed loading of 150 p.s.f. when used for cargo purposes. Bulkhead No. 107S4314 is movable and can be installed at fuselage stations 284.3, 347.9 and 407.3. When this bulkhead is installed at fuselage station 347.9 or 284.3, the maximum total load permitted aft of it, including the contents of the baggage bin (1500 lb. maximum) is 5000 lb. The cabin floor loading of 150 p.s.f. should not be exceeded under any loading conditions.

Note 2. Undrainable oil and unusable fuel is included in zero fuel weight of an aircraft.