

JAPAN CIVIL AVIATION BUREAU
MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM

No.27
revision 2
SUBARU CORPORATION
Fuji-Bell 204B-2

TYPE CERTIFICATE DATA SHEET No.27

This data sheet, which is part of Type Certificate No.27, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of Japan Civil Aeronautics Law and Regulations.

Type Certificate Holder: Name: SUBARU CORPORATION
 Address: 1-20-8, Ebisu, Shibuya-ku, Tokyo, JAPAN

Type Certificate Holder Record: Same as above

Model Fuji-Bell 204B-2 (Transport Category TB Helicopter, Approved October 5, 1973)

(1) Engine

Manufacturer : Lycoming
JCAB Type Certificate :
FAA Type Certificate : E17EA
Model : T5313B

or

Manufacturer : Kawasaki Heavy Industries, Ltd.
JCAB Type Certificate : 509-4
Model : KT5313B

(2) Fuel

ASTM D-1655 Type B, A, A-I or MIL-T-5624, Grade JP-4, JP-5

(3) Engine Limits

	Exhaust Temperature (°C)	Engine Speed	
		N ₁ (GAS Producer)	N ₂ (Power Turbine)
Takeoff (5 minutes)	626	101% (25,400RPM)	100% (6,600RPM)
Max. Continuous	610	98% (24,600RPM)	100% (6,600RPM)

(4) Rotor Speed Limits

Power On	Maximum	100% (324RPM)
	Minimum	91% (294RPM) Altitude below 10,000ft
	Minimum	95.5% (310RPM) Altitude over 10,000ft
Power Off	Maximum	104.5% (339RPM)
	Minimum	91% (294RPM)

(5) Trans-mission Torque Limits

	Torque Pressure (PSI)
Takeoff (5 minutes)	47.5 (1,100SHP)
Max. Continuous	39.0 (900SHP)

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(6) Airspeed Limits

(a) Never exceed airspeed (CAS)

222 km/h (120kt) at sea level up to and including 3402kg (7,500 lbs) G.W.

204 km/h (110kt) at sea level from 3402 kg (7,500 lbs) to 3856 kg (8,500 lbs) G.W.

 V_{NE} decreases 5.6 km/h (3 knots) per 1,000 feet.

(b) Doors locked open

167 km/h (90kt) at sea level to 3,000ft

 V_{NE} decreases 5.6 km/h (3 knots) per 1,000 feet above 3,000 ft.

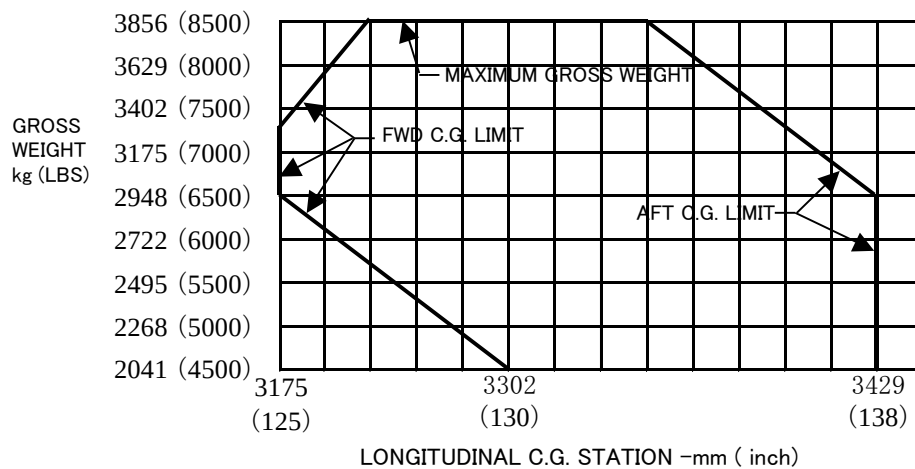
(c) Operation in takeoff power range from 39.0 to 47.5 psi

148 km/h (80kt)

(7) C.G. Range

Longitudinal C.G. limits

C.G.		GROSS WEIGHT
(FWD limit)	(AFT limit)	
+3226 mm (+127.0 in)	+3378 mm (+133.0 in)	3856 kg (8500 lbs)
+3175 mm (+125.0 in)	+3458 mm (+136.125 in)	3289 kg (7250 lbs)
+3175 mm (+125.0 in)	+3505 mm (+138.0 in)	2948 kg (6500 lbs)
+3302 mm (+130.0 in)	+3505 mm (+138.0 in)	2041 kg (4500 lbs)



CENTER OF GRAVITY vs GROSS WEIGHT CHART

Lateral C.G. limits

 ± 119 mm (4.7 in) from centerline of fuselage

(8) Empty Weight CG Range

None.

(9) Datum

Station 0 (datum) is located 193 mm (7.60 inches) aft of the most forward point of the fuselage cabin nose section.

(10) Leveling Means

A leveling plate that is graduated in increments of one-quarter of a degree is located on cabin floor just inside left-hand passenger-cargo door. A slotted plate in the door frame is provided for suspension of a plumb bob.

Level helicopter as follows.

- a. Hang plumb bob from slotted plate in door frame so that point of plumb bob is just above leveling plate on cabin floor.
- b. Level helicopter fore and aft, and laterally, by the four jacks so as to bring point of plumb bob exactly over point where the two lines intersect at zero degrees on leveling plate.

(11) Maximum Weights

Maximum Take off weights 3,856 kg (8,500 lbs)
Maximum Landing weights 3,856 kg (8,500 lbs)

(12) Minimum Crew

1 (right-hand seat only).

(13) Number of Seats

10 (including pilot).

(14) Maximum Baggage

Baggage room (located in the forward end of the tail boom)

Maximum loading : 181 kg (400 lbs)
Allowable baggage loading : 488 kg/m² (100 lbs/ft²)

Weights, at various arms, and their moments are listed in 9kg (20Lbs) increments from 9kg (20Lbs) through 181kg (400Lbs) on the TABLE 1.

Table 1 BAGGAGE LOADING TABLE

Weight		Approx. C.G.(STA)		Moment		Weight		Approx. C.G.(STA)		Moment	
(kg)	(Lbs)	(mm)	(in)	kg•mm	in•Lbs	(kg)	(Lbs)	(mm)	(in)	kg•mm	in•Lbs
9	20	5004	197	45394	3940	100	220	5537	218	552568	47960
18	40	5055	199	91711	7960	109	240	5588	220	608332	52800
27	60	5105	201	138949	12060	118	260	5639	222	665018	57720
36	80	5156	203	187108	16240	127	280	5690	224	722625	62720
45	100	5232	206	237342	20600	136	300	5766	227	784610	68100
54	120	5283	208	287575	24960	145	320	5817	229	844291	73280
64	140	5334	210	338730	29400	154	340	5867	231	904894	78540
73	160	5385	212	390807	33920	163	360	5918	233	966418	83880
82	180	5436	214	443806	38520	172	380	5969	235	1028865	89300
91	200	5486	216	497726	43200	181	400	6020	237	1092233	94800

(15) Fuel Capacity

Capacity : 160 U.S.gal
Usable : 157.9 U.S.gal
Moment arm STA 3454 mm (STA 136 in)
Unusable : 2.1 U.S.gal (Included in the empty weight)
Moment arm STA 3251 mm (STA 128 in)

(16) Oil Capacity

Capacity : 3.25 U.S.gal
Usable : 1.5 U.S.gal
Moment arm STA 3912 mm (STA 154 in)
Unusable : 1.75 U.S.gal (Included in the empty weight)
Moment arm STA 3912 mm (STA 154 in)

(17) Maximum Operating Altitude

20,000 ft

(18) Control Surface Movements

Refer to the Fuji-Bell 204B-2 Maintenance Manual.

(19) Manufacturer's Serial Numbers

CH-31, CH-36 – CH-59

(20) Certification Basis

(a) The MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM decree KOKUKUKI No.5009 dated July 22, 2011.

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

1-1 Part 5 of the TAIKUSEI-SHINSA-YORYO (JCAB Airworthiness Standards) dated December 28, 1960 the KU-KEN-443, including the revision on or before October 24, 1963.

1-2 Special Conditions

Special conditions for turbine powered, skid gear equipped transport category rotorcraft established in accordance with CAR 7.10 June 16, 1961 (Amended June 21, 1967).

2. Civil Aeronautics Regulations Annex 2 “Noise standard”

Not applicable

3. Civil Aeronautics Regulations Annex 3 “Fuel venting requirements”

For Serial Numbers CH-53 and up

Chapter 1 “Fuel venting requirements” (equivalent to ICAO Annex 16 Volume 2 Part 2)

For Serial Numbers CH-31 and CH-36 to CH-52

Not applicable

(b) Type Certificate Number : No.27 (October 5, 1973)

(c) Date of Application : June 20, 1972

(21) Production Basis

None

(22) Equipment

The basic required equipment as prescribed in the applicable Japan Civil Aeronautics Law and Regulations must be installed in the aircraft.

Refer to equipment and parts list specified in the JCAB approved Flight Manual.

(23) Note

Note 1: The C.G. limit depends on the G.W. Refer the CENTER OF GRAVITY vs GROSS WEIGHT CHART.

Refer to the Fuji-Bell 204B-2 Flight Manual for computing the weight and balance.

Note 2: See Maintenance Manual for the retirement life limitations of the helicopter parts which are critical from fatigue standpoint.

Note 3: Fuji-Bell 204B-2 is classified into the special category X when it is equipped with the following equipment.

Cargo suspension	:	204-706-028 or 204-706-103
65 U.S.gal internal fuel tank	:	CH-9240001
Rescue hoist	:	204-706-051