

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

No.34
revision 1
SUBARU CORPORATION
Fuji-Bell 205B

TYPE CERTIFICATE DATA SHEET No.34

This data sheet, which is part of Type Certificate No.34, 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: Name: SUBARU CORPORATION
 Address: 1-20-8 Ebisu, Shibuya-ku, Tokyo, JAPAN

Type Certificate Holder Record: Same as above

Model Fuji-Bell 205B (Transport Category TB Helicopter, Approved December 7, 1995)

(1) Engine

Manufacturer : Alliedsignal (Lycoming)
JCAB Type Certificate :
FAA Type Certificate : E17EA
Model : T5317B

(2) Fuel

ASTM D-1655 Type B, A, A-1 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)	863	105% (26,400 RPM)	100% (6,600 RPM)
Max. Continuous	820	101% (25,400 RPM)	100% (6,600 RPM)

(4) Rotor Speed Limits

Power On	Maximum	100%	(324 RPM)
	Minimum	97%	(314 RPM)
Power Off	Maximum	104.5%	(339 RPM)
	Minimum	91%	(294 RPM)

(5) Trans-mission Torque Limits

	Torque Pressure (PSI)
Takeoff (5 minutes)	55.7 (1,290 SHP)
Max. Continuous	49.0 (1,134 SHP)

(6) Airspeed Limits

(a) Never exceed airspeed (IAS)

SL to 3,000 ft

241km/h (130kt) : up to and including 3,402 kg (7,500 lbs) G.W.

226km/h (122kt) : 3,402 kg (7,500 lbs) to 3,856 kg (8,500 lbs) G.W.

196km/h (106kt) : 3,856 kg (8,500 lbs) to 4,763 kg (10,500 lbs) G.W.

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

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(b) Doors locked open or removed

Symmetrical condition : 185 km/h (100 kt) at sea level to 3,000ft
 V_{NE} decreases 5.6km/h (3 kt) per 1,000 feet above 3,000 ft.

Asymmetrical condition : 111 km/h (60 kt)

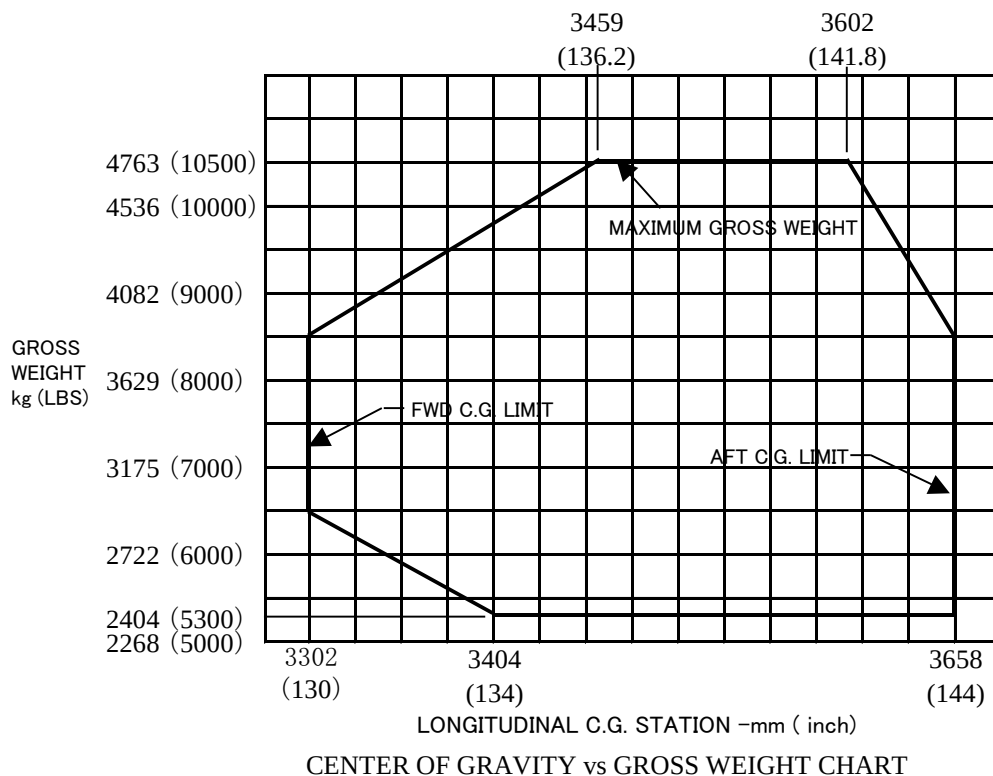
(c) Operation in takeoff power range

148 km/h (80kt) when above maximum continuous torque (49.0 psi)

(7) C.G. Range

Longitudinal C.G. limits

C.G.		GROSS WEIGHT
(FWD limit)	(AFT limit)	
+3459 mm (+136.2 in)	+3602 mm (+141.8 in)	4,763 kg (10,500 lbs)
+3302 mm (+130.0 in)	+3658 mm (+144.0 in)	3,856 kg (8,500 lbs)
+3302 mm (+130.0 in)	+3658 mm (+144.0 in)	2,948 kg (6,500 lbs)
+3404 mm (+134.0 in)	+3658 mm (+144.0 in)	2,404 kg (5,300 lbs)



Lateral C.G. limits

119 mm (4.7 in) from centerline of fuselage to the left
 165 mm (6.5 in) from centerline of fuselage to the right

(8) Empty Weight CG Range

None.

(9) Datum

Station 0 (datum) is located 508 mm (20.0 in) 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 4,763 kg (10,500 lbs)
Maximum Landing weights 4,763 kg (10,500 lbs)

(12) Minimum Crew

1 (right-hand seat only).

(13) Number of Seats

15 (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 (kg) (Lbs)		Approx. C.G.(STA) (mm) (in)		Moment kg•mm in•Lbs		Weight (kg) (Lbs)		Approx. C.G.(STA) (mm) (in)		Moment kg•mm in•Lbs	
9	20	6223	245	56455	4900	100	220	6731	265	671700	58300
18	40	6274	247	113832	9880	109	240	6782	267	738294	64080
27	60	6325	249	172130	14940	118	260	6833	269	805810	69940
36	80	6375	251	231351	20080	127	280	6883	271	874247	75880
45	100	6426	253	291492	25300	136	300	6934	273	943606	81900
54	120	6477	255	352556	30600	145	320	6985	275	1013887	88000
64	140	6528	257	414541	35980	154	340	7036	277	1085089	94180
73	160	6579	259	477448	41440	163	360	7087	279	1157213	100440
82	180	6629	261	541277	46980	172	380	7137	281	1230259	106780
91	200	6680	263	606028	52600	181	400	7188	283	1304227	113200

(15) Fuel Capacity

Capacity : 220 U.S.gal
Usable : 217 U.S.gal
Refer Fuji-Bell 205B Flight Manual for the moment arm.
Unusable : 3 U.S.gal (Included in the empty weight)
Moment arm STA 3627 mm (STA 142.8 in)

(16) Oil Capacity

Capacity : 3.25 U.S.gal
Usable : 1.6 U.S.gal
Moment arm STA 4450 mm (STA 175.2 in)
Unusable : 1.65 U.S.gal (Included in the empty weight)
Moment arm STA 4450 mm (STA 175.2 in)

(17) Maximum Operating Altitude
20,000 ft

(18) Control Surface Movements
Refer to the Fuji-Bell 205B Maintenance Manual.

(19) Manufacturer's Serial Numbers
01, 02

(20) Certification Basis

- (a) The MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM decree Kuki No.916 dated February 20, 1995,
The MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM decree Kuki No.848 dated August 24, 1995, and
The MINISTRY OF LAND, INFRASTRUCTURE, TRANSPORT AND TOURISM decree KOKUKUKI No.5010 dated July 22, 2011.
- (b) Noise standard
Civil Aeronautics Regulations Annex 2 Chapter 5 (equivalent to ICAO Annex 16 Volume 1 Chapter 8) for Noise Requirements.
- (c) Fuel venting requirements
Civil Aeronautics Regulations Annex 3 Chapter 1 (equivalent to ICAO Annex 16 Volume 2) for Fuel Venting Requirements.
- (d) Type Certificate Number : No.34 (December 7, 1995)
- (e) Date of Application : May 30, 1994

(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 205B 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 205B is classified into the special category X when it is equipped with the following equipment.

Cargo suspension : 204-706-104