DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

H9SW
REVISION 13
BELL
222
222B
222U
230
430
May 9, 1997

TYPE CERTIFICATE DATA SHEET NO. H9SW

This data sheet which is a part of Type Certificate No. H9SW prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations. This revision 12 to the Type Certificate Data Sheet No. H9SW incorporates original issue Revision 11 and addition of Transport Canada Type Approval Data Sheet No. H-88, Issue 6.

Type Certificate Holder

Bell Helicopter Textron
A Division of Textron Canada
12800 Rue De L'Avenir
Mirabel, Quebec
J7J 1R4 Canada

1. MODEL 222 (Transport Category A and B), Approved May 24, 1983

Engines: (2) Avco Lycoming LTS 101-650C-2, -3, -3A

Fuel

TYPE	SPECIFICATION CANADA	SPECIFICATION USA
Kerosene JET A, A-1 JP8	 CGSB 3.23 3-GP-23	 ASTM D1655 MIL-T-83133
Wide Cut JETB JP4	 CGSB 3.22 CGSB 3.22	 ASTM D1655 MIL-T-5624
High Flash JP5	 3-GP-24	 MIL-T-5624

See Flight Manual for temperature limitations.

Fuel Additives: See NOTE 2.

Oil: MIL-L-7808 or MIL-L-23699 (mixing of these oils is prohibited). For temperature limitations see AFM as listed in Approved Publications.

Engine Limits (See NOTE 13)	All Engines Operating:		
		Mast Torque Meter	Main Rotor Mast Speed
	Take off (5 Min.)	(100%) 13,205 ft. lb	348 rpm (100%)
		Gas Generator Speed	Measured Gas Temperature
		49,638 rpm (103.7%)	782°C (1,440°F)
	Maximum Continuous	Mast Torque Meter	Main Rotor Mast Speed
		(100%) 13,205 ft. lb	348 rpm (100%)
		Gas Generator Speed	Measured Gas Temperature
		49,159 rpm (102.7%)	763°C (1,405°F)
	One Engine Inoperative:		
	2½ Min. Power	Engine Torque Meter	Output Shaft Speed
		(100%) 383 ft. lb	9,545 rpm (100%)
		Gas Generator Speed	Measured Gas Temperature
		50,548 rpm (105.6%)	832°C (1,530°F)
	30 Min. Power	Engine Torque Meter	Output Shaft Speed
		(96%) 369 ft. lb	9,545 rpm (100%)
		Gas Generator Speed	Measured Gas Temperature
		50,169 rpm (104.8%)	796°C (1,464°F)
Engine Limits	Maximum Continuous Power	Engine Torque Meter	Output Shaft Speed
		(87%) 335 ft. lb	9,545 rpm (100%)
		Gas Generator Speed	Measured Gas Temperature
		49,159 rpm (102.7%)	763°C (1,405°F)

Engine Limits (See NOTE 13) (Cont'd)

Gas Generator speeds available are diminished due to engine topping procedure prescribed in BHTI Maintenance Manual. See Note 4.

Takeoff and maximum continuous mast torque limits correspond to 875 shp at 348 rpm (9,545 rpm Power Turbine Speed) at the mast but not more than 539 shp from each engine.

Values of torque, gas generator speed and measured gas temperature correspond to eligible engine operating limits and exceed the standard day, sea level rating.

Rotor limits

	Power Off	Power On
	Maximum 364 rpm. (Tach reading 104%)	Maximum 348 rpm (Tach reading 100%)
	Minimum 313 rpm. (Tach reading 90%)	Minimum 338 rpm (Tach reading 97%)
	For Weights more than 2722 kg. (6000 lb.)	
	Maximum 296 rpm. (Tach reading 85%)	Maximum 338 rpm (Tach reading 97%)
	For Weights less than 2722 kg. (6000 lb.)	

Rotor Torque Limits

Torque = 17897 Nm (13,200 ft. lbs.) at 348 rpm.

Airspeed Limits (IAS) (See note 5)

V_{NE} (Never exceed) 150 knots Sea level to 3,000 feet density altitude. Decrease V_{NE} 3 knots per 1,000 feet Hd above 3,000 feet.

	Knots
V_{NE} (power off)	80
V_{LO} (Landing Gear Operation)	120
Maximum Taxi Ground Speed	35

Maximum Weights (mass) (See note 1)

	kg	lb
Internal	3561	7850
External	3674	8100

Maximum Takeoff and Landing Altitude

10,500 feet density altitude.

Outside Air Temp Limits (OAT) (Sea Level)

C	°F
-40° + 51.7°	-40° + 125°

See RFM for variation with altitude

Fuel Capacity

S/N 47006 to 47023

	Litres	Imp. Gals	U.S. Gals
Usable	670.7	147.6	177.2
Unusable	33.3	7.3	8.8

S/N 47006 to 47023 when modified per Technical Bulletin 222-80-1, and S/N 47024 to 47089

Usable	709.8	156.2	187.5
Unusable	8.7	1.9	2.3

Oil Capacity

Usable	3.78	0.83	1.0
Total	14.1	3.1	3.7

Rotor Blade & Central Movement

For rigging information, refer to the appropriate Model 222 Series Maintenance Manual.

Type Approval Basis

FAR part 29 dated February 1, 1965, (Transport Category A & B) Amdt 29-1 through 29-9, Amdt 29-11. FAR 29.997 of Amdt 29-10 and FAR 29.927 (b) (2) of Amdt 29.17. Special conditions No. 29-87-SW-7. Ditching FAR 29.801 of Amdt 29-12. External cargo FAR 29.25(c) and 29.865 of Amdt 29-12. FAR 29.1557.c and FAR 29.1555.c of Amdt 29-12. Height velocity requirements of Amdt. 29-12, Section 29.1, 29.79 29.1517 and 29.1587. IFR requirements dated August 12, 1976. FAA issued Exemption No. 2789. FAR 29.811 (h)(l). Exemption No. 4395 FAR 29.855 (a) and portions of 29.855 (d).

Additional Canadian Airworthiness Requirements

Aircraft Flight Manual Policy, contained in FAA letter to BHT dated October 12, 1979.

Equivalent Safety Findings:

1.	Power Turbine Common Control	FAR 29.903 (b)
2.	Fuel Pressure Switch	FAR 29.1305(b)(2)
3.	Fireproof Oil System	FAR 29.1189

Type Approval Basis (Cont'd)

4.	Crash Resistant Fuel Cell	FAR 29.963(b) & 29.965
5.	Crew Door Switch	FAR 29.783(e)
6.	Unsafe Rotor and Engine Out Warning Indicator	FAR 29.33(b), 29.1357(e) & Special Flight Condition No. 2
7.	Aft Window Exit Size	FAR 29.807 (a)(4)
8.	Main Door Window Exit Size for Ditching	FAR 29.807(d)(1)
9.	Hoist Manual Release	FAR 29.865(b)(2
10.	Baggage Compartment Liner	FAR 29.855(a)
11.	Main Gear Drop Test for 3561 kg (7850 lbs) GW	FAR 29.725, 29.727

Serial Numbers Eligible

S/N 47006 to 47089 (See NOTES 8, 9, and 10)

Required Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Type Approval Basis) must be installed in the helicopter for certification. In addition, the following items of equipment are required.

(1) Batteries: Marathon 206-075-742-105
EPI 18137 (222-375-049-101), or GE 43B010RB03,
SAFT 1756.

(2) Passenger shoulder harness.

(3) Canadian Kit, Modification 222-899-021 for Canadian Registered helicopters only.

(4) Flight Manual as listed in Approved Publications.

Approved Publications

FAA Approved Flight Manual BHT-222-FM-1 S/N 47006 to 47080 and BHT-222-FM-2 S/N 47081 to 47089 February 28, 1992, or later approved revision.

2. MODEL 222B and MODEL 222U (Transport Category A and B), Approved 19 September 1983

(DATA IS PERTINENT TO BOTH MODELS EXCEPT AS INDICATED)

Engines

2 Avco Lycoming LTS 101 750C-1

Fuel

TYPE	SPECIFICATION CANADA	USA
Kerosene JET A, A-1 JP8	 CGSB 3.23 3-GP-23	 ASTM D1655 MIL-T-83133
Wide Cut JETB JP4	 CGSB 3.22 CGSB 3.22	 ASTM D1655 MIL-T-5624
High Flash JP5	 3-GP-24	 MIL-T-5624

See Flight Manual for temperature limitations

Fuel Additives

See NOTE 2.

Oil

MIL-L-7808E or MIL-L-23699 (Mixing of these oils is prohibited)

Engine Limits
(See NOTE 13)

All Engines Operating:

Takeoff	Mast Torque Meter (100%) 13,960 ft. lb	Main Rotor Mast Speed 348 rpm. (100%)
	Gas Generator Speed 49,830 rpm (104.1%)	Measured Gas Temperature 786°C (1,447°F)
Maximum Continuous	Mast Torque Meter (94.6%) 13,960 ft. lb	Main Rotor Mast Speed 348 rpm (100%)
	Gas Generator Speed 49,255 rpm (102.9%)	Measured Gas Temperature 765°C (1,410°F)

One Engine Inoperative:

2½ Min. Power	Engine Torque Meter (100%) 404 ft. lb	Output Shaft Speed 9,545 rpm (100%)
	Gas Generator Speed 50,787 rpm (106.1%)	Measured Gas Temperature 822°C (1,512°F)
30 Min. Power	Engine Torque Meter (97.3%) 393 ft. lb	Output Shaft Speed 9,545 rpm (100%)
	Gas Generator Speed 50,165 rpm (104.8%)	Measured Gas Temperature 800°C (1,472°F)
Maximum Continuous Power	Engine Torque Meter (86.4%) 349 ft. lb	Output Shaft Speed 9,545 rpm (100%)
	Gas Generator Speed 49,255 rpm (102.9%)	Measured Gas Temperature 765°C (1,410°F)

Engine Limits (cont'd)

Measured Gas Temperature (MGT) Transient Limits

Start	900°C
12 second Transient	832°C

Rotor Limits

Power Off	RPM	%
Min Transient	285	82
Min (Less than 2721 kg (6000 lb))	296	85
Min (2721 kg (6000 lb) or over)	313	90
Maximum	362	104
Max. Transient	372	107

Power On	RPM	%
Min. Transient	313	90
Min. Continuous	338	97
Max. Continuous	348	100
Max. Transient	357	102.5
Max. Overspeed (Mast Torque 50% or lower-5 minute limit)	358	103

Airspeed Limits (IAS)

V_{NE} (Never exceed) 150 knots, sea level to 3000 ft. Hd. Decrease V_{NE} for ambient conditions in accordance with airspeed limitation placard.

		Knot
V_{NE}	(power off)	80
	(OEI)	100
	(Sideward and rearward)	30
V_{LO}	(Landing gear operation)	120
V_{LE}	(Landing gear extended)	140
	Maximum Taxi Ground Speed (NOT 222U)	35

Maximum Weight (mass)

	kg	lb
Internal	37428250	
External	3810	8400

Maximum Takeoff and Landing Altitude

14,000 feet density altitude

Outside Air Temp Limits (OAT) (Sea Level)

	°C	°F
Model 222B+U	-45 + 51.7	-49 to + 125

See RFM for variations with altitude

Fuel Capacity

Model 222B	Litres	U.S. gal
Usable	709.8	187.5
Model 222U		
Usable	935.4	247.1

Engine Oil Capacity (per engine)

Usable	Litres	U.S. gal
	14.1	3.7

Type Approval Basis

Model 222B & Model 222U: FAR Part 29 dated February 1, 1965, (Transport Category A & B) Amdt 29-1 through 29-9. Amdt 29-11. FAR 29.997 of Amdt 29-10 and FAR 29.927(b)(2) of Amdt 29-17. Ditching FAR 29.801 of Amdt 29-12. External cargo FAR 29.25(c) and 29.865 of Amdt 29-12. FAR 29.1557(c) and FAR 29.1555(c) of Amdt 29-12. Height velocity requirements of Amdt. 29-21, Section 29.1, 29.79, 29.1517 and 29.1587. IFR requirements dated December 15, 1978.

FAA issued Exemption No. 2789. FAR 29.811(h)(1) and Exemption No. 4395. FAR 29.855(a) and portions of 29.855(d).

Additional Canadian Airworthiness Requirements
(1) E & I Manual Part II, Chapter I, section 1.12, (Flight Manual) dated April 1983.
(2) Low temperature operation

Equivalent Safety Findings:

1.	Power Turbine Common Control	FAR 29.903 (b)
2.	Fuel Pressure Switch	FAR 29.1305(b)(2)
3.	Fireproof Oil System	FAR 29.1189
4.	Crash Resistant Fuel Cell	FAR 29.963(b) & 29.965
5.	Crew Door Switch	FAR 29.783(e)
6.	Unsafe Rotor and Engine Out Warning Indicator	FAR 29.33(b), 29.1309(d), 29.1357(e) & Special Flight Condition No. 2
7.	Aft Window Exit Size	FAR 29.807 (a)(4)
8.	Main Door Window Exit Size for Ditching	FAR 29.807(d)(1)
9.	Hoist Manual Release	FAR 29.865(b)(2)
10.	Baggage Compartment Liner	FAR 29.855(a)
11.	Landing Gear Drop Test	FAR 29.307(b)(5), 29.723, 29.725 & 29.727 (Model 222U)
12.	Limitations Placard	FAR 29.1559 (Model 222U)
13.	IFR Dihedral Stability	IFR Criteria Paragraph 4(a) (Model 222U)

Serial Numbers Eligible

Model 222B Serial number 47131 to 47156
Model 222U Serial number 47501 to 47574

Required Equipment

The basic required equipment as prescribed in the applicable Airworthiness requirements (see Type Approval Basis) must be installed in the aircraft.

In addition the following equipment is required:

1) FAA approved Rotorcraft Flight Manual as listed in Approved Publications.

2) Batteries: Model 222B: GE 43B010RB03.
Model 222U: Marathon 30703-001

3) Airspeed indicator:
Model 222B: S/N 47131 and Sub: P/N 222-375-027-107.
Model 222U: S/N 47501 and Sub: P/N 222-375-027-107.

Placards

Placards as listed in the Approved Rotorcraft Flight Manual must be installed in the specified locations. (See NOTE 12).

Approved Publications

FAA Approved Rotorcraft Flight Manual for:
a) Model 222B. BHT-222B-FM-1.
b) Model 222U. BHT-222U-FM-1.
Dated February 28, 1992 or later approved revision.

3. MODEL 230 (Transport Category A and B), Approved March 12, 1992

Engines

2 Allison 250C30G/2

Fuel

TYPE	SPECIFICATION CANADA	USA
Kerosene JET A, A-1 JP8	 CGSB 3.23 3-GP-23	 ASTM D1655 MIL-T-83133
Wide Cut JETB JP4	 CGSB 3.22 CGSB 3.22	 ASTM D1655 MIL-T-5624
High Flash JP5	 3-GP-24	 MIL-T-5624

Fuel Additives

See NOTE 15

Oil

MIL-L-7808 or MIL-L-23699 (mixing of these oils is prohibited) For temperature limitations see RFM listed in Approved Publications.

Engine Limits

All Engines Operating:

	Mast Torque Meter	Main Rotor Mast Speed
Take off	(100%) 925 SHP	348 rpm (100%)
	Gas Generator Speed	Measured Gas Temperature
	53,550 rpm (105%)	767.8°C (1,414°F)
Maximum Continuous	Mast Torque Meter	Main Rotor Mast Speed
	(94.6%) 875 SHP	348 rpm (100%)
	Gas Generator Speed	Measured Gas Temperature
	53,550 rpm (105%)	715.6°C (1,320°F)

Engine Limits (cont'd)	One Engine Inoperative:		
	2½ Min. Power	Engine Torque Meter (100%) 734 SHP	Output Shaft Speed 9,545 rpm (100%)
		Gas Generator Speed 53,550 rpm (105%)	Measured Gas Temperature 825.6°C (1,518°F)
	30 Min. Power	Engine Torque Meter (97.3%) 714 SHP	Output Shaft Speed 9,545 rpm (100%)
		Gas Generator Speed 53,550 rpm (105%)	Measured Gas Temperature 797.8°C (1,468°F)
	Maximum Continuous	Engine Torque Power (86.4%) 676 SHP	Output Shaft Meter Speed 9,545 rpm (100%)
		Gas Generator Speed 53,550 rpm (105%)	Measured Gas Temperature 767.8°C (1,414°F)
Rotor Limits	See models 222B and 222U		
Airspeed Limits (IAS)	For all S/N see models 222B and 222U		

Maximum Weight (mass)		kg	lb
	Internal	3810	8400
	External	3810	8400
Maximum Takeoff and Landing Altitude	14,000 feet density altitude		

Fuel Capacity	Wheel LG	Litres	U.S. Gals
	usable	709.8	187.5
	Skid LG		
	usable	935.4	247.1

Engine Oil Tank Capacity (Per Engine)		Litres	U.S. gal
	Total	6.1	1.61
	Useable	1.9	0.50

Type Approval Basis FAR Part 29 dated February 1, 1965, (Transport Category A & B) amendment 29-1

through 29-9 plus the following:

Amendment 29-10 -29.997
Amendment 29-11 -all
Amendment 29-12 -29.25 (c), 29.801, 29.865,
29.1555 (c) and 29.1557 (c).
Amendment 29-17 -29.927 (b) (2)
IFR requirements dated December 15, 1978
FAA exemption no. 2789, FAR 29.811 (h) (l)
FAA exemption no. 4395, FAR 29.855 (a)

The following selected additional sections of FAR 29 up to and including amendment 29-26:

Amendment 29-26:

29.1, 29.21, 29.25, 29.27, 29.29, 29.31, 29.33,
29.45, 29.51, 29.53, 29.59, 29.63, 29.65, 29.67,
29.71, 29.73, 29.75, 29.77, 29.79, 29.141, 29.143,
29.151, 29.161, 29.171, 29.173, 29.175, 29.231,
29.235, 29.251, 29.301, 29.303, 29.305, 29.309,
29.321, 29.337, 29.339, 29.341, 29.351, 29.361,
except (a) (4), 29.411, 29.471, 29.473, 29.475,
29.477, 29.479, 29.481, 29.483, 29.485, 29.493,
29.501, 29.547, 29.549, 29.561, 29.563, 29.571,
29.601, 29.603, 29.607, 29.609, 29.611, 29.613,
29.619, 29.621, 29.623, 29.625, 29.629, 29.683,
29.723, 29.725, 29.727, 29.731, 29.735, 29.771,
29.773, 29.775, 29.785, 29.831, 29.861, 29.863,
29.873, 29.901, 29.903, 29.907, 29.908, 29.917,
29.931, 29.939, 29.951, 29.955, 29.961, 29.993,
29.995, 29.997, 29.1011, 29.1013, 29.1015, 29.1017,
29.1019, 29.1021, 29.1023, 29.1027, 29.1041,
29.1043, 29.1045, 29.1047, 29.1049, 29.1091,
29.1093, 29.1103, 29.1105, 29.1121, 29.1123,
29.1141, 29.1143, 29.1145, 29.1163, 29.1165,
29.1181, 29.1183, 29.1185, 29.1187, 29.1189,
29.1191, 29.1193, 29.1194, 29.1195, 29.1197,
29.1199, 29.1201, 29.1203, 29.1301, 29.1303,
29.1305, 29.1307, 29.1321, 29.1322, 29.1327,
29.1331, 29.1333, 29.1337, 29.1359, 29.1363,
29.1381, 29.1401, 29.1431, 29.1461, 29.1501,
29.1503, 29.1505, 29.1517, 29.1519, 29.1521,
29.1527, 29.1541, 29.1543, 29.1549, 29.1551,
29.1555, 29.1557, 29.1559, 29.1581, 29.1583,
29.1585, 29.1587.
Appendix B.

The Noise Standards of FAR Part 36 and ICAO Annex 16, Chapter 8, Rev. 17 November 1988, published in 2nd Edition of 1988 Vol. 1.

Type Approval
Basis (Cont’d)

Canadian Airworthiness Manual 529, change 1 dated 1/1/89:
529.1301-1, 529.1557(c)(3), 529.1581, 529.1093(b)(1)(ii)

Equivalent Safety Findings:

1.	92/01	Engines: Category A Engine Isolation	FAR 29.903(b)
2.	92/02	Powerplants Instruments	FAR 29.1305(b)(2)
3.	92/03	Fuel Tanks	FAR 29.963(b) & 29.965
4.	92/04	Doors	FAR 29.783(e)
5.	92/05	Emergency Exit Marking	FAR 29.811(d)
6.	92/06	Passenger Emergency Exits	FAR 29.807(d)(1)
7.	92/07	External Load Attaching Means	FAR 29.865(b)(2)
8.	92/08	Landing Gear, Limit Drop Test and Reserve Energy Absorption Drop Test	FAR 29.725 & 29.727
9.	92/09	Proof of Structure, Landing Gear Limit Drop Test & Reserve Energy Absorption Drop Test	FAR 29.307(b), 29.723, 29.725, 29.727
10.	92/10	Airworthiness Criteria for Helicopter Instrument Flight - Static Lateral - Directional Stability	FAR 29 Appendix B, V
11.	92/11	Cargo and Baggage Compartments	FAR 29.855(a)

Model Definition

The Bell 230 helicopter is defined by Bell Helicopter Textron drawing number 230-100-001 Revision AM dated August 19, 1992, or subsequent revision.

Serial Numbers Eligible

Serial number 23001 and subsequent

Required Equipment

The basic required equipment as prescribed in the applicable Airworthiness requirements (see Type Approval Basis) must be installed in the aircraft.

In addition the following equipment is required:
1) FAA approved Rotorcraft Flight Manual as listed in Approved Publications.

Placards

Placards as listed in the Approved Flight Manual must be installed in the specified locations.

Approved Publications

FAA approved Rotorcraft Flight Manual BHT-230-FM-1,
dated 12 March 1992 or later approved revision.

4. MODEL 430 (Transport Category B), Approved February 23, 1996

Engines: 2 Allison 250-C40B with Chandler Evans EMC-35A (FADEC) fuel control system

Fuel:

TYPE	SPECIFICATION CANADA	USA
Kerosene		
JET A, A-1	CGSB 3.23	ASTM D1655
JP8	3-GP-23	MIL-T-83133
Wide Cut		
JETB	CGSB 3.22	ASTM D1655
JP4	CGSB 3.22	MIL-T-5624
High Flash		
JP5	3-GP-24	MIL-T-5624

(Emergency fuel: MIL-G-5572F, all grade, maximum of 6 hours operation per O/H period)

Fuel Additives: See NOTE 15

Oil: MIL-L-7808 or MIL-L-23699 (mixing of these oils is prohibited) For temperature limitations see RFM listed in Approved Publications.

Engine Limits: All Engines Operating:

	Mast Torque Meter	Main Rotor Mast Speed
Take off	(100%) 1045 SHP	348 rpm (100%)
	Gas Generator Speed	Measured Gas Temperature
	53,550 rpm (105%)	779.4°C (1,435°F)
Maximum Continuous	Mast Torque Meter	Main Rotor Mast Speed
	(94.6%) 875 SHP	348 rpm (100%)
	Gas Generator Speed	Measured Gas Temperature
	53,550 rpm (105%)	726.7°C (1,340°F)
One Engine Inoperative:		
2 Min. Power	Engine Torque Meter	Output Shaft Speed
	(105.3%) 811 SHP	9,598 rpm (100%)
	Gas Generator Speed	Measured Gas Temperature
	53,550 rpm (105%)	827.2°C (1,521°F)

Engine Limits (Cont'd)

One Engine Inoperative:
30 Sec. Power

Engine Torque Meter	Output Shaft Speed
(109.6%)	9,598 rpm
844 SHP	(100%)

Gas Generator Speed	Measured Gas Temperature
53,550 rpm	871.1°C
(105%)	(1,600°F)

One Engine Inoperative:
30 Min. Power

Engine Torque Meter	Output Shaft Speed
(92.8%)	9,598 rpm
715 SHP	(100%)

Gas Generator Speed	Measured Gas Temperature
53,550 rpm	797.8°C
(105%)	(1,468°F)

One Engine Inoperative
Maximum Continuous

Engine Torque Power	Output Shaft Meter Speed
(92.8%)	9,598 rpm
715 SHP	(100%)

Gas Generator Speed	Measured Gas Temperature
53,550 rpm	779.4°C
(105%)	(1,435°F)

Rotor Limits

Power Off	%
Minimum Transient	86
Transient Operation	86 to 90
Continuous Operation	91 to 105
Maximum Transient	106

Power On	
Minimum Transient	90
Maximum Continuous	100
Maximum Ground Operation	102
Maximum Transient	106

Airspeed Limits (IAS)

V_{NE} (Never exceed) 150 knots. Decrease V_{NE} for ambient conditions in accordance with airspeed limitation placard.

	Knot
V_{NE} (Power off)	80
(OEI)	100

Maximum Weight (mass)

	kg	lb
Internal	4082	9000
External	4218	9300

Maximum Takeoff and Landing Altitude	14,000 feet density altitude		
Fuel Capacity	Wheel LG	Litres	U.S. Gals
	usable	709.8	187.5
	Skid LG		
	usable	935.4	247.1
Engine Oil Tank Capacity (Per Engine)		Litres	U.S. gal
	Total	6.1	1.61
	Useable	1.9	0.50

Type Approval Basis

a) FAR Part 29 dated February 1, 1965, (Transport Category B) amendment 29-1 through 29-32 and 34 except for:

The following paragraphs of FAR Part 29 at amendment 29-9:

29.497, 29.519, 29.521, 29.561, (a), (b) and (d), 29.671, 29.729, 29.783, 29.805, 29.807, 29.811, 29.853, 29.855, 29.865, 29.963, 29.967, 29.969, 29.971, 29.975, 29.977, 29.979, 29.991, 29.999, 29.1001, 29.1309

The following paragraphs of FAR Part 29 at amendment 29-12:
29.787 and 29.865;

The following paragraph of FAR Part 29 at amendment 29-13:
29.927;

The following paragraph of FAR Part 29 at amendment 29-24:

29.1309 applicable to new systems introduced as model 430 design changes (FADEC, IDS, AFCS and EFIS) from the 230; and

The following paragraph of FAR Part 29 at amendment 29-26:
29.563 and 29.785

b) The following paragraph of the Canadian Airworthiness Manual 529. Change 1, dated 1/1/1989 also apply: 529.1093(b)(1)(ii) & (iii), 529.1301-1, 529.1581(e)

c) FAR Part 36 dated June 1, 1974 amendments 36-1 through 36-18 (Canadian Airworthiness Manual Chapter 516 Change 2 dated November 1, 1991 - Noise Requirements).

d) Additional compliance with FAR Part 29 at amendment 29-12 is shown for paragraph 29.801 Ditching, when the required safety equipment and ditching equipment is installed.

Type Approval Basis (continued)

e) Transport Canada Special Conditions:

1. SCA93-2 High Intensity Radiated Fields (HIRF) , dated January 4,1993
2. SCA93-3 Lightning Protection, dated January 4,1993
3. SCA94-08 Software Aspects of Certification, dated March 18, 1994

f) Findings of Equivalent Safety

FAR 29.963(b) and 965	Crash Resistant Fuel Cell
FAR 29.783(e)	Crew Door Switch
FAR 29.811(d)	Size of Emergency Exit Signs
FAR 29.807(d)(1)	Passenger Emergency Exits (Main Door Exit Size for Ditching)
FAR 29.865(b)(2)	External Load Attaching Means (Hoist Manual Release)
FAR 29.855(a)	Baggage and Cargo Compartment
FAR 29.307(b), 723,.725,727	Proof of Structure, Landing Gear Limit Drop Test and Reserve Energy Absorption Drop Test (Skid Gear Only)

g) the following exemptions have been granted:

FAR 29.855(a),(b)	Cargo and Baggage Compartments
FAR 29.811(h)(1)	Emergency Exit External Marking

Model Definition

The Bell 430 helicopter is defined by Bell Helicopter Top Drawing 430-100-001 Revision BG, or later approved revision.

Serial Numbers Eligible

Serial number 49001 and subsequent

Required Equipment

The basic required equipment as prescribed in the applicable Airworthiness requirements (see Type Approval Basis) must be installed in the aircraft.

In addition the following equipment is required:

1) FAA approved Rotorcraft Flight Manual as listed in Approved Publications.

Placards

Placards as listed in the Approved Flight Manual must be installed in the specified locations.

Approved Publications

FAA approved Rotorcraft Flight Manual BHT-430-FM-1, dated February 23, 1996 or later approved revision.

DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED

C.G. Limits	See RFM listed in Approved Publications
Datum	Station 0 (datum is located 241.3 cm (95 inches) forward of the fuselage nose or 230.38 cm (90.7 inches) forward of the radome nose).
Leveling Means	Plumb line from right inside top of baggage compartment.
Minimum Crew	1 (pilot) Model 430: 1 (pilot) VFR operations 2 (pilots) IFR operations
Maximum Occupants	10 (includes crew)
Maximum Baggage	226.8 kg (500 lbs.)
Maximum Operating Altitude	20,000 feet pressure altitude Model 430: 20,000 feet pressure altitude VFR operations 15,000 feet pressure altitude IFR operations
Life Limited Parts	The retirement times of certain parts and inspection requirements are listed in Airworthiness Limitations, Chapter 4 of the Model 222, or Model 222B, or Model 222U, or Model 230, and Model 430 Maintenance Manual (as appropriate). These values of retirement of service lives and inspection cannot be increased without the approval of Canadian DOT.
Import Requirements:	To be considered eligible for operation in the United States, each Aircraft manufactured under this Type Certificate must have a U. S. Airworthiness Certificate that may be issued on the basis of the Canadian Department of Transport Certificate of Airworthiness for Export signed by the Minister of Transport containing the following statement: "The rotorcraft covered by this certificate has been examined, tested, and found to comply with the type design approved under Type Certificate H9SW and to be in condition for safe operation". The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.29 and exported by the country of manufacture is 21.183(c) or 21.185(c). The U.S. airworthiness certification basis for aircraft type certificated under FAR Section 21.21 exported from countries other than the country of manufacture (e.g., third party country) is FAR Sections 21.183(d) or 21.185(b).
NOTE 1.	Current weight and balance report including list of equipment included in the approved empty weight and loading instructions when necessary must be provided for each helicopter at the time of original certification.
NOTE 2.	For all operations below -29°C (-20°F) ambient temperature, all fuel used in Model 222, Model 222B and Model 222U helicopters must contain Phillips PFA-55MB or MIL-L-27686 anti-icing additive in concentrations of not less than 0.035% nor more than 0.15% by volume. Blending this additive into the fuel and checking its concentration must be conducted in the manner prescribed by the Rotorcraft Flight Manual.

NOTE 3. The retirement times of critical parts are listed in the following table. These imitations may not be changed without FAA engineering approval.

MODEL 222/222B (Refer to FAA approved Chapter 4 of the Maintenance Manual, BHT-222/222B-MM-1, for airworthiness lives of components applicable to 222/222B)

MODEL 222U (Refer to FAA approved Chapter 4 of the Maintenance Manual, BHT-222U-MM-1, for airworthiness lives of components applicable to 222U)

MODEL 230 (Refer to FAA approved Chapter 4 of the Maintenance Manual, BHT-230-MM-1, for airworthiness lives of components applicable to 230)

MODEL 430 (Refer to FAA approved Chapter 4 of the Maintenance Manual, BHT-430-MM-1, for airworthiness lives of components applicable to 430)

NOTE 4. Avco Lycoming engines used in the Model 222 must incorporate a shim in the fuel control. Fuel Controls with the shim are identified by P/N 4-301-098-05. Engines used in the production configuration (S/N 47006 to 47089) must use this shim or use selectively fitted governor reset spring in accordance with Avco Lycoming Service Bulletin LTS101C-73-0015.

NOTE 5. Reserved.

NOTE 6. Reserved.

NOTE 7. Model 222 helicopters incorporating IFR modification 222-705-006 are eligible for IFR operations when operated in accordance with the limitations of FAA approved Model 222 RFM Supplement 17. Minimum crew is one pilot for IFR operations.

NOTE 8. Reserved.

NOTE 9. Model 222 helicopters, Serial Numbers 47006 to 47089 were manufactured by Bell Helicopter Textron, Fort Worth, Texas, under FAA Type Certificate H9SW.

NOTE 10. Effective February 28, 1992, design responsibility for all Models 222, 222B, and 222U helicopters is transferred from Bell Helicopter Textron, Fort Worth, Texas, and FAA to Bell Helicopter Textron Canada, Mirabel, Quebec, and Transport Canada.

NOTE 11. The original Bell Model 222 was approved by Transport Canada under ATA H88, dated May 24, 1983, on the Basis of FAA TC H9SW. The original Bell Models 222B and 222U were approved by Transport Canada under ATA H88 dated September 19, 1983 on the basis of FAA TC H9SW.

NOTE 12. The following FAA Airworthiness Directives apply at the time of design transfer. (See NOTE 9)

222	82-16-06
	87-13-01
	87-19-01
	82-09-53
	83-02-51
	83-09-03
	84-12-02
	85-14-11
	87-09-02 R2
	87-15-07
	88-02-03
	89-17-05
	89-25-04
222B	83-02-51
	89-25-04
222B & 222U	85-14-11
	87-13-01
	87-15-06
	87-15-07
	88-02-03
	89-17-05

NOTE 13. Model 222B, Model 222U, Model 230, and Model 430 are eligible for IFR operations when the required IFR equipment listed in the RFM are installed and operative.

NOTE 14. Engine Gas Generator Control (N1 control) must be adjusted in accordance with the procedure outlined in the Maintenance Manual.

NOTE 15. Model 222B helicopters, serial numbers 47131 to 47156, and Model 222U helicopters, serial numbers 47501 to 47574 were manufactured by Bell Helicopter Textron, Fort Worth, Texas.

NOTE 16 For all operations below 10°C (50°F) ambient temperature, all fuel used in Model 230 and 430 helicopters must contain Phillips PFA-55MB or MIL-L-27686 anti-icing additive in concentration of not less than 0.035% nor more than 0.15% by volume.

NOTE 17 Bell Helicopter Textron Service Bulletins are approved by Transport Canada and include a statement to that effect. Such approval may be interpreted as approved by FAA.

NOTE 18 Any alteration to the type design of the model 430 requires instructions for continued airworthiness. These instructions must be submitted and accepted by the Fort Worth Aircraft Evaluation Group prior to approval for return to service.

NOTE 19 The model 430 rotorcaft employs electronic engine controls, commonly named Full

Authority Digital Engine Controls (FADEC) and is recognized to be more susceptible to Electromagnetic Interference (EMI) than rotorcraft that have only manual (non-electronic) controls. (EMI may be the result of radiated or conducted interference.) For this reason modifications that add or change systems that have the potential for EMI, must either be qualified to an FAA acceptable standard or tested at the time of installation for interference to the FADEC. This type of testing must employ the particular FADEC's diagnostic techniques and external diagnostic techniques. The test procedure must be FAA approved.

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