TYPE CERTIFICATE DATA SHEET

No. EASA.IM.R.106

for

Bell 212/412

Type Certificate Holder

Bell Textron Inc.

P.O. Box 482
Fort Worth, Texas 76101
USA

For Models: 212, 412, 412EP

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SECTION 1: 212

I. General

1.	Type/ Model/ Variant	
	1.1 Type	Bell 212/412
	1.2 Model	212
	1.3 Variant	n/a
2.	Airworthiness Category	Large Rotorcraft, Category A and B
3.	Manufacturer	Bell Textron Canada Ltd. 12 800 rue de l'Avenir Mirabel, Québec, J7J 1R4 Canada
4.	Type Certification Application Date	to FAA: 17 January 1968
5.	State of Design Authority	USA
6.	Type Certificate Date by	FAA: 30 October 1970 (Category B) 30 June 1971 (Category A) LBA DE: 25 July 1972
7.	Type Certificate n° by	FAA: H4SW LBA DE: 3039
8.	Type Certificate Data Sheet n° by	FAA: H4SW LBA DE: 3039
9.	EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 2nd indented bullet.

II. Certification Basis

1.	Reference Date for determining the applicable requirements	17 January 1968
2.	Airworthiness Requirements	

- FAR Part 29, dated 1 February 1965, Amdt. 29-1 and 29-2
- FAR 29.473, 29.501, 29.771, 29.903(c), 29.1323, and 29.1505(b) of Amdt. 29-3
- Ditching: FAR 29.801 of Amdt. 29-12 including FAR 29.1411 and 29.1415.

3.	Special Conditions	- No. 29-12-SW-1. - "Guidelines For Helicopter Certification Using Vertical Take-off Techniques From Ground Level and Elevated Heliports", vertical take-off criteria transmitted to Bell by FAA SW-210 letter, dated 3 February 1971. - IFR Instrument requirements for Bell Model 212 helicopters transmitted by SW-210 (SW-216 letter, dated 1 July 1970).
4.	Exemptions	none
5.	Deviations	none
6.	Equivalent Safety Findings	FAR 29.501(e) One-skid landing loads in the level attitude, (reference FAA letter to Bell Helicopter Textron, Inc., dated 20 September 1995)
7.	Requirements elected to comply	none
8.	Environmental Protection Requirements	
	8.1 Noise Requirements	See TCDSN EASA.IM.R.106

8.2 Emission Requirements n/a

9. Operational Suitability Data (OSD) see SECTION 6 below

III. Technical Characteristics and Operational Limitations

1. Type Design Definition Dwg 212-900-001 General Arrangement - Helicopter Assy & Aux. Equipment Kits

2. Description Large twin-engine helicopter with seating provisions for fourteen passengers and one pilot or thirteen passengers and a crew of two.
Main rotor: metal blades, twin-bladed semi-rigid teetering type
Tail rotor: twin bladed semi-rigid type
Fuselage: all-metal semi-monocoque
Landing gear: skid type landing gear
Powerplant: twin turbine engine

3. Equipment Refer to Equipment List in approved RFM

4. Dimensions

4.1 Fuselage
Length: 12.84 m (42 ft 2 in)
Width hull/skids: 2.65 m (8 ft 8 in)
Height (fin): 3.17 m (10 ft 5 in)

4.2 Main Rotor Diameter: 14.63 m (48 ft)

4.3 Tail Rotor Diameter: 2.59 m (8 ft 6 in)

5. Engine

5.1 Model
Pratt & Whitney Canada Corp.
- 1 x Model PT6T-3, or,
- 1 x Model PT6T-3B
Twin Power Section Turboshaft (see Note 5 on FAA E22EA)

5.2 Type Certificate
FAA TC/TCDS n°: E22EA
EASA TC/TCDS n°: EASA.IM.E.059

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

For PT6T-3:	TQ/engine [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	512(1)(2) (100)	38 100 (100)	Max. 33 000(3) (100) Min. 32 000 (97)	810
AEO-MCP	450(1) (87.5)	38 100 (100)	Max. 33 000(3) (100) Min. 32 000 (97)	765
OEI 30 min	738(4) (71.8)	38 100 (100)	Max. 33 000(3) (100) Min. 32 000 (97)	810
OEI-MCP	657(4) (63.9)	38 100 (100)	Max. 33 000(3) (100) Min. 32 000 (97)	765

For PT6T-3B:	TQ/engine [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	512(1)(2) (100)	38 400(5) (100.8)	Max. 33 000(3) (100) Min. 32 000 (97)	810
AEO-MCP	450(1) (87.5)	38 400(5) (100.8)	Max. 33 000(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (79.4)	39 000(6) (102.4)	Max. 33 000(3) (100) Min. 32 000 (97)	850
OEI 30 min	815(4) (79.4)	38 400(5) (100.8)	Max. 33 000(3) (100) Min. 32 000 (97)	822
OEI-MCP	657(4) (63.9)	38 400(5) (100.8)	Max. 33 000(3) (100) Min. 32 000 (97)	765

Note: (1) On transmission torque scale.
(2) See Note 12.
(3) 100% (33 000 rpm) corresponds to 6 600 rpm engine output shaft speed.
(4) On engine torque scale.
(5) 38 800 rpm (101.8%) with gauge P/N 212-075-037-113.
(6) 39 400 rpm (103.4%) with gauge P/N 212-075-037-113.

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel — Avjet type fuels conforming to:
- ASTM D1655, Type A, A-1; or,
- ASTM D6615, Type B; or,
- MIL-DTL-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or,
- MIL-DTL-83133, Grade JP-8 (NATO F-34)

6.2 Oil — Refer to approved RFM

6.3 Additives — Refer to approved RFM

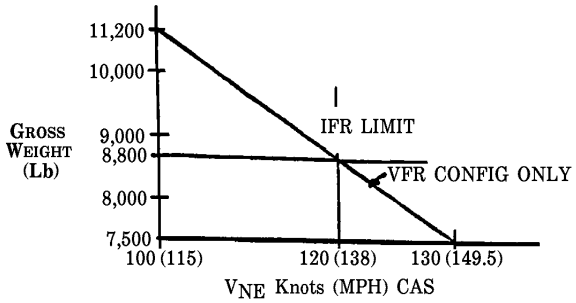
7. Fluid capacities

7.1 Fuel — Fuel tank capacity: 219.6 US gal (831 litres) (at +153.3 in), see Note 10
Usable fuel: 216.8 US gal (821 litres)
Unusable fuel: 4 US gal (15 litres), see Note 2 for requirement to include unusable (including trapped) fuel weight in certificated empty weight.

7.2 Oil — Total capacity 3.2 US gal (12.1 litres) at +182.9;
1.6 US gal (6.1 litres) at +182.9 in for each power section (0.75 US gal (2.8 litres) usable).
See Note 2 for requirement to include undrainable oil weight in certificated empty weight.

7.3 Coolant System Capacity — n/a

8. Air Speed Limitations



Max. V_{NE} 130 KIAS (241 km/h)
Decrease V_{NE} 3 knots/1 000 feet (>3 000 ft Hd)

9. Rotor Speed Limitations

Power on (% tach reading):

Maximum	100 %	(324 rpm)
Minimum	97 %	(314 rpm)

Power off (% tach reading):

Maximum	104.5 %	(339 rpm)
Minimum	91 %	(294 rpm)

10. Maximum Operating Altitude and Temperature

10.1 Altitude

20 000 ft (6 096 m) PA

10.2 Temperature

Maximum at MSL is +51.7°C (+125°F),
decreases with altitude at standard lapse rate of
2°C/1 000 ft.
Minimum at all altitudes is -54°C (-65°F)

11. Operating Limitations

VFR day and night
Non-icing conditions
For IFR Category A operation refer to approved RFM
Additional limitations for TO/LDG refer to approved RFM

12. Maximum Mass

11 200 lb (5 080 kg)

See Note 5 for external cargo limitations.
See RFMS, dated 30 June 1971 for Category A limitations

13. Centre of Gravity Range

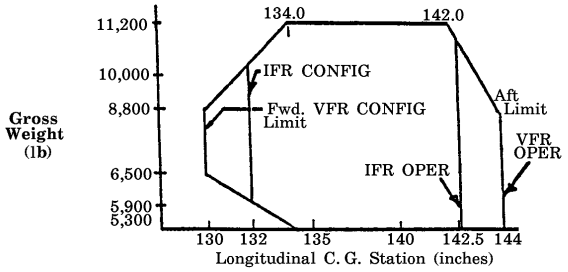
Longitudinal C.G. limits:
VFR configuration

(+134.0 in) to (+142.0 in) at 11 200 lb (5 080 kg)
(+130.0 in) to (+144.0 in) at 8 800 lb (3 992 kg)
(+130.0 in) to (+144.0 in) at 6 500 lb (2 948 kg)
(+134.0 in) to (+144.0 in) at 5 300 lb (2 404 kg)

IFR configuration

(+134.0 in) to (+142.0 in) at 11 200 lb (5 080 kg)
(+132.0 in) to (+143.0 in) at 10 000 lb (4 536 kg)
(+132.0 in) to (+144.0 in) at 8 800 lb (3 992 kg)
(+132.0 in) to (+144.0 in) at 5 900 lb (2 676 kg)
(+134.0 in) to (+144.0 in) at 5 300 lb (2 404 kg)

Above limits for VFR operation; aft limit (+142.5) for IFR operation
Straight line variation between points given. See figure below:



Lateral C.G Limits:
Category B and VFR configuration
4.7 in left of centreline
6.5 in right of centreline
Category A and IFR Configuration
3.5 in left and right of centreline
For Empty Weight C.G. range see Chapter 8, Model 212 Maintenance Manual.

14.	Datum	Longitudinal: The datum plane (STA 0) is located 20 in (508 mm) aft of the most forward point of the fuselage cabin nose section. Lateral: fuselage centre line
15.	Levelling Means	Plumb line from top of left main door frame
16.	Minimum Flight Crew	1 (pilot) Category B and Category A 2 (pilot and co-pilot) for vertical take-off and landing operations. See Notes 7 and 8 for IFR operations.
17.	Maximum Passenger Seating Capacity	14 (not limited by emergency exit requirements)
18.	Passenger Emergency Exit	4, two on each side of the passenger cabin
19.	Maximum Baggage/ Cargo Loads	400 lb (181 kg) Loading not to exceed 488 kg/m² (100 lb/ft²) Note: See RFM for loading schedule
20.	Rotor Blade Control Movement	For rigging information refer to Model 212 Maintenance Manual
21.	Auxiliary Power Unit (APU)	n/a
22.	Life-limited Parts	See approved ALS Section in Chapter 04 of the Maintenance Manual. Change to limitations requires EASA approval.

IV. Operating and Service Instructions

1.	Flight Manual	- Bell Model 212 Rotorcraft Flight Manual BHT-212VFR-FM-1 Reissue, dated 14 August 1995, or later approved revision. Replaces previously published Model 212 VFR Rotorcraft Flight Manuals BHT-212-FM-1, BHT-212-FM-2, and BHT-212-FM-3 for VFR configuration of s/n 30504 through 31311, and s/n 35001 through 35108. - Bell Model 212 Flight Manual Supplement BHT-212-

		FMS-7 for Category A Operations, dated 30 June 1971, reissued 18 August 1972, or later approved revision. See Note 6. - Bell Model 212 Flight Manual Supplement BHT-212-FMS-23 for PT6T-3B engine has been incorporated in the basic flight manuals - items (13) and (14). See Note 14. - Bell Model 212 Rotorcraft Flight Manual BHT-212IFR-FM-1 Reissue, dated 14 August 1995, or later approved revision. Replaces previously published Model 212 IFR Rotorcraft Flight Manuals BHT-212-FM-4 and BHT-212-FM-5 for IFR configuration of s/n 30504 through 31311, and s/n 35001 through 35108. See Note 8. - Bell Model 412EP Rotorcraft Flight Manual, BHT-412-FM-5, dated 10 October 2014, or later EASA approved revision for Transport Category B or A, VFR or IFR operation (s/n 37002 through 37999).
2.	Maintenance Manual	Instructions for Continued Airworthiness (ICA) include information essential to the proper servicing, maintenance, and repair of the helicopter in accordance with 14 CFR 29.1529. The technical publications listed in IV.2 through IV.6 comprise the ICA: BHT-212-MM Maintenance Manual (see Note 4).
3.	Structural Repair Manual	BHT-212-CR&O Component Repair and Overhaul Manual
4.	Weight and Balance Manual	Refer to approved RFM
5.	Illustrated Parts Catalogue	BHT-212-IPB Illustrated Parts Breakdown
6.	Miscellaneous Manuals	- BHT-ALL-SPM Standard Practices Manual - BHT-ELEC-SPM Electrical Standard Practices Manual - BHT-SPECTOOL-IPB Special Tools Illustrated Parts Breakdown - CSSD-PSE-87-001 Corrosion Control Guide - CSSD-PSE-90-001 Chafing Control Guide
7.	Service Letters and Service Bulletins	As published by Bell Helicopter Textron and Bell Textron
8.	Required Equipment	The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis), must be installed in the helicopter for certification

V. Notes (Model 212 only)

1. Manufacturer's eligible serial numbers:
   s/n 30501 through 30999, except 30604 through 30610, 30754 and 30890;
   s/n 31101 through 31311, except 31163;
   s/n 32101 through 32199; 35001 through 35108 (see Note 11).
2. A current weight and balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each helicopter at the time of original certification. This is in accordance with 14 CFR 29.25, 29.27, 29.29, and 29.31.
   The Model 212 certificated empty weight and corresponding C.G. locations must include undrainable oil of 7.1 lb (+230.7) and unusable fuel of 28.3 lb (+142.8). For aircraft with kit 412-704-001 installed, the unusable fuel is 28.3 lb (+142.8).
   When possible, the empty weight/C.G. shall be adjusted to the range given in Chapter 8, 212 Maintenance Manual. For helicopter configurations where this is not possible, complete computations of critical fore and aft C.G. positions must be determined for each loading to ensure that the entire flight is conducted within the limits of the G.W./C.G. chart in the Limitations section of the Rotorcraft Flight

V. Notes (Model 212 only)

Manual

3. All placards required by either the approved RFM, the RFM Supplements, the applicable operating rules, or the Certification Basis must be installed in the helicopter. This is in accordance with 14 CFR 29.1541 through 29.1559.
The following placard must be displayed in front of and in clear view of the pilot:

> "This helicopter must be operated in compliance with the operating limitations specified in the approved Rotorcraft Flight Manual."

All placards required in the approved RFM must be installed in the appropriate locations. Placards and markings with their appropriate locations are also presented in Chapter 11 of the Maintenance Manual.

4. Mandatory airworthiness life limitations and inspection requirements are associated with certain components. These are presented in approved Chapter 04, "Airworthiness Limitations Schedule" of the applicable Maintenance Manual. These limitations may not be changed without EASA approval. Recommended maintenance inspection intervals are presented in Chapter 05, "Inspections and Component Overhaul Schedule", of the applicable Maintenance Manual.
5. Model 212 helicopters equipped with the external cargo suspension installation completed in accordance with Bell Drawing 212-706-103 meet the structural and design requirements of the certification basis when operated to 11 200 lb gross weight in accordance with the limits of approved Model 212 RFM Supplement, BHT-212-FMS-3, dated 29 October 1970, reissued 14 August 1995, or later approved revision, for 11 200 lb gross weight. The retirement times listed per Note 4 are not changed.
6. Model 212 Category B helicopters equipped with skid landing gear are eligible for Category A when modified by incorporating modifications of Bell Service Instruction No. 212-17 (212-706-029 Altimeter Kit) and installing the Dual Control Kit P/N 212-706-005-3 or 204-706-034-5 and the Co-pilot's Instrument Kit P/N 212-706-104-1 or 212-706-110-1.
7. Model 212 s/n 30503 incorporating IFR Modification No. 212-961-041 is eligible for IFR operations when operated in accordance with the limitations of approved RFM Supplement for IFR Operations, dated 15 December 1972, or later approved revision. Minimum crew 2 (pilot and co-pilot) for IFR instrument operations.
8. s/n 30504 through 30596 incorporating IFR Kit No. 212-706-106, s/n 30597 through 30603 and 30611 through 30679 incorporating IFR Kit No. 212-706-041, s/n 30680 through 30849 incorporating IFR Kit No. 212-706-109, and s/n 30850 through 31311 incorporating IFR Kit No. 212-706-112, are eligible for IFR operations when operated in accordance with the limitations of the approved Flight Manual BHT-212IFR-FM-1, dated 14 August 1995, or later approved revision.
Minimum crew 2 (pilot and co-pilot) for IFR instrument conditions.
Installation of IFR Fin Kit No. 212-706-114 is not required for IFR operations of the Model 212.
9. Compliance with Bell Service Bulletin No. 212-9 must be assured prior to issuing an EASA Airworthiness Certificate for Bell Model 212 helicopters, s/n 30519, 30522, 30523, and 30524.
10. Crashworthy fuel cell kit 412-704-001 is approved for installation in the Model 212. When this kit is installed in lieu of the standard cells, the fuel capacity becomes 214 US gal (810 litres) and the usable becomes 211 US gal (799 litres).
11. Model 212 s/n 35001through 35108 are manufactured by Bell Helicopter Textron, a Division of Textron Canada Limited, under the Transport Canada Manufacturers Approval No. 1-86.
EASA Member State Import Requirements:
EASA Airworthiness Certificate may be issued on the basis of the Transport Canada 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 EASA.IM.R.106 and to be in condition for safe operation."
12. Model 212 helicopter equipped with Increased Take-off Horsepower Kit No. 212-704-153 and operated in accordance with approved RFM Supplement BHT-212-FMS-29 are approved for operation with a take-off (5 minutes) transmission torque of 104.3% (537 lb ft) per engine.
13. Model 212 s/n 35038 through 35108 incorporate provisions for cockpit voice recorders and flight data recorders (Reference FAR 29.1457, 29.1459).
14. Model 212 prior to s/n 31125 shall incorporate all equipment specified in TB 212-81-54 prior to

V. Notes (Model 212 only)

operation with Model PT6T-3B engines.

15. Model 212 s/n 30504 through 30553 that have duct assemblies P/N 212-061-202-5 and-6, and ejector assemblies P/N 212-061-202-5 and -6 require Daily Inspection per Bell Service Letter SL 212-4, dated 30 October 1970, or later approved revision.

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SECTION 2: 412 s/n 33001 through 36086 (see Note 11)

I. General

1.	Type/ Model/ Variant	
	1.1 Type	Bell 212/412
	1.2 Model	412
	1.3 Variant	n/a
2.	Airworthiness Category	Large Rotorcraft, Category A and B
3.	Manufacturer	Bell Textron Canada Ltd. 12 800 rue de l'Avenir Mirabel, Québec, J7J 1R4 Canada
4.	Type Certification Application Date	to FAA: 23 May 1978
5.	State of Design Authority	USA
6.	Type Certificate Date by	FAA: 9 January 1981 (Category B) 31 August 1983 (Category A) CAA UK: 20 October 1981
7.	Type Certificate n° by	FAA: H4SW CAA UK: FR 14
8.	Type Certificate Data Sheet n° by	FAA: H4SW CAA UK: FR 14
9.	EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 2nd indented bullet.

II. Certification Basis

1.	Reference Date for determining the applicable requirements	23 May 1978
2.	Airworthiness Requirements	

- FAR Part 29, dated 1 February 1965, Amdt. 29-1 and 29-2;
- FAR 29.473, 29.501, 29.663, 29.771, 29.903(c), 29.1323, 29.1505(b) of Amdt. 29-3;
- Ditching: FAR 29.801 of Amdt. 29-12 including FAR 29.1411 and 29.1415;
- Complies with Category A engine isolation requirements.

3.	Special Conditions	- No. 29-12-SW-1, Amdt. 1. - "Guidelines For Helicopter Certification Using Vertical Take-off Techniques From Ground Level and Elevated Heliports", vertical take-off criteria transmitted to Bell by FAA SW-210 letter, dated 3 February 1971. "Airworthiness Criteria for Helicopter Instrument Flight", dated 15 December 1978.
4.	Exemptions	- No. 3100 against FAR 29.1323(c) - No. 5985 against FAR 29.1303(g)(1)
5.	Deviations	none
6.	Equivalent Safety Findings	FAR 29.501(e) One-skid landing loads in the level attitude, (reference FAA letter to Bell Helicopter Textron, Inc., dated 20 September 1995)
7.	Requirements elected to comply	none

8. Environmental Protection Requirements

8.1	Noise Requirements	See TCDSN EASA.IM.R.106
8.2	Emission Requirements	n/a

9. Operational Suitability Data (OSD) — see SECTION 6 below

III. Technical Characteristics and Operational Limitations

1. Type Design Definition — Dwg 412-900-001 General Arrangement-Helicopter Assy and Aux Equipment Kits

2. Description — Large twin-engine helicopter with seating provisions for fourteen passengers and one pilot or thirteen passengers and a crew of two.
The Model 412 is derived from Model 212 and incorporates a four blade rotor system and control.

Main rotor:	semi-rigid type, four composite blades
Tail rotor:	twin bladed semi-rigid type
Fuselage:	all-metal semi-monocoque
Landing gear:	skid type landing gears
Powerplant:	twin turbine engine

3. Equipment — Refer to Equipment List in approved RFM

4. Dimensions

4.1	Fuselage	Length:	12.70 m (41 ft 8 in)
		Width hull/skids:	2.85 m (9 ft 4 in)
		Height (fin):	3.17 m (10 ft 5 in)
4.2	Main Rotor	Diameter:	14.02 m (46 ft)
4.3	Tail Rotor	Diameter:	2.62 m (8 ft 7 in)

5. Engine

5.1 Model — Pratt & Whitney Canada Corp.
- 1 x Model PT6T-3B Twin Power Section Turboshaft (Ref. Note 5 on FAA TCDS E22EA), or,
- 1 x Model PT6T-3BE (see Note 24), or,
- 1 x Model PT6T-3BF (see Note 22),
- 1 x Model PT6T-3BG (see Note 23),
- 1 x Model PT6T-3D (see Note 14 and 16)
- 1 x Model PT6T-3DE (see Note 19)
- 1 x Model PT6T-3DF (see Note 20)

5.2 Type Certificate

FAA TC/TCDS n°:	E22EA
EASA TC/TCDS n°:	EASA.IM.E.059

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

s/n 33001 through 33107) with PT6T-3B	TQ/engine [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	537(1) (100)	38 400(5) (100.8)	Max. 33 000(3) (100) Min. 32 000 (97)	810
AEO-MCP	450(1) (84)	38 400(5) (100.8)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (76)	39 000(6) (102.4)	Max. 33 000(2) (100) Min. 32 000 (97)	850
OEI 30 min	815(4) (76)	38 400(5) (100.8)		822
OEI-MCP	657(4) (61)	38 400(5) (100.8)		765

s/n 33108 through 33213, 36001 through 36019) with PT6T-3B see Note 10	TQ/engine [lb ft] ([%])	Gas generator [rpm] ([%])	Power turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	557(1) (100)	38 400(5) (100.8)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	450(1) (81)	38 400(5) (100.8)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (73.2)	39 000(6) (102.4)	Max. 33 000(2) (100) Min. 32 000 (97)	850
OEI 30 min	815(4) (73.2)	38 400(5) (100.8)		822
OEI-MCP	657(4) (58.9)	38 400(5) (100.8)		765

s/n 36020 through 36086) with PT6T-3BE see Note 13	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	Power turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(7) (100)	38 400(5) (100.8)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(7) (81)	38 400(5) (100.8)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (73.2)	39 000(6) (102.4)	Max. 33 000(2) (100) Min. 32 000 (97)	850
OEI 30 min	815(4) (73.2)	38 400(5) (101.8)		822
OEI-MCP	657(4) (58.9)	38 400(5) (101.8)		765

s/n 33108 through 33213, 36001 through 36019) with PT6T-3BF see Note 22	TQ/engine [lb ft] ([%])	Gas generator [rpm] ([%])	Power turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	557(1) (100)	-	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	450(1) (81)	38 800 (101.8)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (73.2)	-	Max. 33 000(2) (100) Min. 32 000 (97)	-
OEI 30 min	815(4) (73.2)	39 400 (103.4)		850
OEI-MCP	657(4) (58.9)	38 800 (101.8)		810

s/n 36020 through 36086) with PT6T-3BG see Note 23	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	Power turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(7) (100)	-	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 933(7) (81)	38 800 (101.8)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	765
OEI 2-½min	815(4) (73.2)	-	Max. 33 000(2) (100) Min. 32 000 (97)	-
OEI 30 min	815(4) (73.2)	39 400 (103.4)		850
OEI-MCP	657(4) (58.9)	38 800 (101.8)		810

s/n 36020 through 36086) with PT6T-3D see Notes 14, 16, 17	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(7) (100)	39 300 (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(7) (81)	39 300 (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI-MCP	815(4) (73.2)	39 500 (103.7)		820

PT6T-3DE see Note 19	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(7) (100)	39 300 (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(7) (81)	39 300 (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI 30 min	859(4) (77)	40 250 (105.7)		820

s/n 36020 through 36086) with PT6T-3DF see Note 20	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(7) (100)	39 300 (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(7) (81)	39 300 (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI 30 min	859(4) (77)	40 700 (106.8)		885

Notes:
(1) On transmission torque scale.
(2) 100% (33 000 rpm) corresponds to 6 600 rpm engine output shaft speed.
(3) 104.5% from 0 to 30% engine torque decreasing linearly to 100% at Continuous Engine Torque.
(4) On engine torque scale.
(5) 38 800 rpm (101.8%) with gauge P/N 212-075-037-113.
(6) 39 400 rpm (103.4%) with gauge P/N 212-075-037-113.
(7) On mast torque scale.

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel — Avjet type fuels conforming to:
- ASTM D1655, Type A, A-1; or,
- ASTM D6615, Type B; or,
- MIL-DTL-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or,
- MIL-DTL-83133, Grade JP-8 (NATO F-34)

6.2 Oil — Refer to approved RFM

6.3 Additives — Refer to approved RFM

7. Fluid capacities

7.1 Fuel	412 (s/n 33001 through 33107): Fuel tank capacity: 214.2 US gal (811 litres) (at +152.8), Usable fuel: 211.4 US gal (800 litres) Unusable fuel: 2.8 US gal (10.6 litres) 412 (s/n 33108 through 33213, 36001 through 36086): Fuel tank capacity: 337.5 US gal (1 277 litres) (at +151.5), Usable fuel: 330.5 US gal (1 251 litres) Unusable fuel: 7 US gal (26 litres) See Note 3 for requirement to include unusable (including trapped) fuel weight in certificated empty weight. See Note 10 for additional fuel capacities.
7.2 Oil	System capacity 1.6 US gal (6.1 litres) at +182.9 for each power section (0.75 US gal (2.8 litres) usable). See Note 3 for requirement to include undrainable oil weight in certificated empty weight.
7.3 Coolant System Capacity	n/a
8. Air Speed Limitations	Max. V_{NE} 140 KIAS (259 km/h) See Placard P/N 412-075-215 (V_{NE} varies with altitude and temperature)
9. Rotor Speed Limitations	Power on (% tach reading): Max. Continuous 100 % (324 rpm) Maximum 104.5 % (339 rpm) for 0%-30% transmission torque Minimum 97 % (314 rpm), see respective BHT-412-FM-1, -2, or-3 RFM for selection of rotor speed to flight conditions Power off (% tach reading): Maximum 104.5 % (339 rpm) Minimum 91 % (294 rpm) for G.W. >8 000 lb (>3 629 kg) Minimum 80 % (259 rpm) for G.W. <8 000 lb (<3 629 kg)
10. Maximum Operating Altitude and Temperature	
10.1 Altitude	20 000 ft (6 096 m) PA
10.2 Temperature	Max. at MSL is +51.7°C (+125°F), decreases with altitude at standard lapse rate of 2°C/1 000 ft. Minimum at all altitudes is -54°C (-65°F)
11. Operating Limitations	VFR day and night Non-icing conditions For IFR Category A operation refer to approved RFM Additional limitations for TO/LDG refer to approved RFM
12. Maximum Mass	11 600 lb (5 262 kg) for 412 (s/n 33001-33107) (see Note 18); 11 900 lb (5 398 kg) for 412 (s/n 33108-33213, 36001-36086).

13.	Centre of Gravity Range	
	13.1 Longitudinal C.G. limits s/n 33001-33107	See Note 10 (+134.6 in) to (+141.6 in) at 11 600 lb (5 262 kg) (+130.0 in) to (+144.0 in) at 8 800 lb (3 992 kg) (+130.0 in) to (+144.0 in) at 6 500 lb (2 948 kg) (+130.0 in) to (+144.0 in) at 6 400 lb (2 903 kg) Note: Straight line variation between points given. See figure in Section 1, Model 412 Rotorcraft Flight Manual (BHT-412-FM-1).
	13.2 Longitudinal C.G. limits s/n 33108-33213, s/n 36001-36086)	(+135.1 in) to (+141.4 in) at 11 900 lb (5 398 kg) (+130.0 in) to (+144.0 in) at 8 800 lb (3 992 kg) (+130.0 in) to (+144.0 in) at 6 500 lb (2 948 kg) (+130.4 in) to (+144.0 in) at 6 400 lb (2 903 kg) Note: Straight line variation between points given. See figure in Section 1, Model 412 Rotorcraft Flight Manual (BHT-412-FM-2, -3).
	13.3 Lateral C.G Limits	±4.5 in left and right of centreline
	13.4 Empty mass C.G. range	When possible, the empty C.G. shall be adjusted to the range given in Chapter 8, Model 412 Maintenance Manual. For helicopter configurations where this is not possible, complete computation of critical fore and aft C.G. position must be determined for each loading to ensure that the entire flight is conducted within the limits of the Gross Weight Centre of Gravity chart in the Limitations section of the Rotorcraft Flight Manual.
14.	Datum	Longitudinal: The datum plane (STA 0) is located 20 in (508 mm) aft of the most forward point of the fuselage cabin nose section. Lateral: fuselage centre line
15.	Levelling Means	Plumb line from top of left main door frame
16.	Minimum Flight Crew	1 (pilot) Category B and Category A. See Note 13 for IFR operations.
17.	Maximum Passenger Seating Capacity	14 (not limited by emergency exit requirements) 9 (with passenger seats re-arranged to create a nine or less passenger seat configuration, see Note 25).
18.	Passenger Emergency Exit	4, two on each side of the passenger cabin
19.	Maximum Baggage/ Cargo Loads	400 lb (181 kg) Loading not to exceed 488 kg/m² (100 lb/ft²) Note: See RFM for loading schedule
20.	Rotor Blade Control Movement	For rigging information refer to Model 412 Maintenance Manual
21.	Auxiliary Power Unit (APU)	n/a
22.	Life-limited Parts	See approved ALS Section in Chapter 04 of the Maintenance Manual. Limitations may not be changed without EASA approval.

IV. Operating and Service Instructions

1.	Flight Manual	- Bell Model 412 Flight Manual, BHT-412-FM-1, dated 9 January 1981, or later approved revision for Transport Category B (s/n 33001-33107). - Bell Model 412 Flight Manual, BHT-412-FM-1, Revision 2, dated March 20, 1981, or later approved revision for IFR operations (SN 33001-33107). - Bell Model 412 Flight Manual Supplement for Category A operations (BHT-412-FMS-10). - Bell Model 412 Flight Manual, BHT-412-FM-2, dated 17 November 1983, or later approved revision for Transport Category B or A, VFR or IFR operation (s/n 33108 through 33213 and 36001 through 36019). - Bell Model 412 Flight Manual, BHT-412-FM-3, dated 5 February 1991, or later approved revision for Transport Category B or A, VFR or IFR operation (s/n 36020 through 36086).
2.	Maintenance Manual	Instructions for Continued Airworthiness (ICA) include information essential to the proper servicing, maintenance, and repair of the helicopter in accordance with 14 CFR 29.1529. The technical publications listed in IV.2 through IV.6 comprise the ICA: BHT-412-MM Maintenance Manual Note: Mandatory airworthiness life limitations and inspection requirements are associated with certain components. These are presented in approved Chapter 04, “Airworthiness Limitations Schedule” of the applicable maintenance manual. These limitations may not be changed without EASA approval. Recommended maintenance inspection intervals are presented in Chapter 05, “Inspections and Component Overhaul Schedule”, of the applicable Maintenance Manual.
3.	Structural Repair Manual	BHT-412-CR&O Component Repair and Overhaul Manual
4.	Weight and Balance Manual	Refer to approved RFM
5.	Illustrated Parts Catalogue	BHT-412-IPB Illustrated Parts Breakdown
6.	Miscellaneous Manuals	- BHT-ALL-SPM Standard Practices Manual - BHT-ELEC-SPM Electrical Standard Practices Manual - BHT-SPECTOOL-IPB Special Tools Illustrated Parts Breakdown - CSSD-PSE-87-001 Corrosion Control Guide - CSSD-PSE-90-001 Chafing Control Guide
7.	Service Letters and Service Bulletins	As published by Bell Helicopter Textron and Bell Textron
8.	Required Equipment	The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis), must be installed in the helicopter for certification

V. Notes (Model 412 s/n 33001 through 36086 only)

1. Manufacturer's eligible serial numbers:
s/n 33001 through 33213, except 33079, 33130, 33139 through 33149; 33161 through 33167; and 36001 through 36086 (see Note 11).

V. Notes (Model 412 s/n 33001 through 36086 only)

s/n 34001 through 34999 (see Note 18) are not eligible for EASA Certificate of Airworthiness.

2. Model 412 Airspeed indicator P/N 412-075-009-105.

3. A current weight and balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each helicopter at the time of original certification. This is in accordance with 14 CFR 29.25, 29.27, 29.29, and 29.31.
The Model 412 certificated empty weight and corresponding C.G. location must include undrainable oil of 7.1 lb (+230.7). For aircraft s/n 33001 through 33107 (412) unusable fuel of 28.3 lb (+142.8). For aircraft s/n 33108 through 33213 (412), 36001 through 36086 (412), the unusable (including trapped) fuel is 47.6 lb (+128.0).
When possible, the empty weight/C.G. shall be adjusted to the range given in Chapter 8, 412 Maintenance Manuals. For helicopter configurations where this is not possible, complete computations of critical fore and aft C.G. positions must be determined for each loading to ensure that the entire flight is conducted within the limits of the G.W./C.G. chart in the Limitations section of the Rotorcraft Flight Manual.

4. All placards required by either the approved RFM, the RFM Supplements, the applicable operating rules, or the Certification Basis must be installed in the helicopter. This is in accordance with 14 CFR 29.1541 through 29.1559.
The following placards must be displayed in front of and in clear view of the pilot.
Model 412 prior to s/n 36999:
"This helicopter must be operated in compliance with the operating limitations specified in the approved Rotorcraft Flight Manual."
All placards required in the approved Rotorcraft Flight Manual must be installed in the appropriate locations. Placards and markings with their appropriate locations are also presented in Chapter 11 of the Maintenance Manual.

5. A partition must not be installed between the passenger and crew compartments that will obstruct the pilot's view of the passenger large sliding doors and hinged panels. Interior linings must not be installed that obstruct the view of the crew/passenger (forward) door latch engagements with the fuselage.

6. Bulkheads, fences, or partitions must not be installed between the passenger and crew compartments when the helicopter is equipped with Litter Kit No. 205-706-047.

7. Model 412 helicopters incorporating IFR modification No. 412-705-006 are eligible for IFR operations when operated in accordance with the limitations of approved RFM Revision 2 dated 20 March 1981, or later approved revision, or later approved RFM. Minimum crew one (pilot) for IFR operations.

8. Model 412 helicopters equipped with the internal hoist kit installed in accordance with Bell Drawing 214-706-003 or 412-899-223 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-7 or BHT-412-FMS-26.

9. Model 412 series helicopters equipped with Auxiliary Fuel Kit 412-706-007 have fuel capacities (including basic system) as follows:

412 (s/n 33108-33213, 36001-36086), 412EP:	412 (s/n 33001-33107):
With Left or Right Auxiliary Tank:	With Left or Right Auxiliary Tank:
419.1 US gal (+150.9) total	295.8 US gal (+157.7) total
412.1 US gal usable	293 US gal usable
7 US gal unusable	2.8 US gal unusable
(See Note 3)	(See Note 3)
With Both Left and Right Auxiliary Tanks:	With Both Left and Right Auxiliary Tanks:
500.8 US gal (+150.6) total	377.5 US gal (+151.2) total
493.8 US gal usable	374.7 US gal usable
7 US gal unusable	2.8 US gal unusable
(See Note 3)	(See Note 3)

10. For Model 412 s/n 33001 through 33107 complying with BHT Technical Bulletin 412-84-44 and operated in accordance with approved RFM Supplement BHT-412-FMS-19.1, the transmission torque and maximum gross weight / C.G. limits are as shown for the 412 (s/n 33108 through 33213).

11. Model 412 series s/n 36001 through 36292 are manufactured by Bell Helicopter Textron, a Division of Textron Canada Limited, under the Transport Canada Manufacturers Approval No. 1-86.

V. Notes (Model 412 s/n 33001 through 36086 only)

Import Requirements:
EASA Airworthiness Certificate may be issued on the basis of the Transport Canada 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 EASA.IM.R.106 and to be in condition for safe operation."

12. Model 412 s/n 36020 through 36086 having Model PT6T-3BE engines installed meet certification basis when operated in accordance with approved Flight Manual BHT-412-FM-3.
13. Aircraft Model 412 s/n 33108 through 33213 and s/n 36001 through 36019 are eligible for improved hover operation when modified in accordance with BHTI Mod Drawing. 412-570-001-103 and operated in accordance with approved RFM Supplement BHT-412-FMS-34.2.
14. Model 412 s/n 36020 through 36086 having Model PT6T-3D engines installed in accordance with BHT Technical Bulletin 412-93-119 and modified with 412-706-029 Maximum Continuous Power Kit are eligible for improved hover operation when operated in accordance with approved RFM Supplement BHT-412-FMS-45.3.
15. Model 412 s/n 36026 incorporates provisions for cockpit voice recorders and flight data recorders (Reference FAR 29.1457, 29.1459).
16. Model 412 s/n 36020 through 36086 having Model PT6T-3D engines installed but not modified with 412-706-029 Maximum Continuous Power Kit shall be operated in accordance with approved RFM Supplement BHT-412-FMS-46.3.
17. Model 412 (s/n 36001 through 36086) and 412EP (s/n 36087 through 36999) helicopters equipped with Dual Digital Automatic Flight Control System with Search and Rescue Kit installed in accordance with BHT Mod Dwg. 412-570-002 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-39.3 or 39.4 respectively.
18. The following Model 412 helicopters are not eligible for the EASA Airworthiness Certification:
    - s/n 34001 through 34999, and parts produced by Industri Pesawat Terbang Nusantara (IPTN), Republic of Indonesia;
    - s/n 33501 through 33508 delivered to the Royal Saudi Air Force (RSAF).
19. Model 412EP s/n 36072, 36082 having Model PT6T-3DE engines installed shall be operated in accordance with approved RFM Supplement BHT-412-FMS-53.4.
20. Model 412 having Model PT6T-3DF engines installed shall be operated in accordance with approved RFM Supplement BHT-412-FMS-56.3 OR BHT-412-FMS-56.4.
21. Model 412 helicopter having Model PT6T-3D series engines installed and performing Category A operations, shall be operated in accordance with approved RFM supplements BHT-412-FMS 62.3 or BHT-412-FMS 62.4.
22. Model 412 having Model PT6T-3BF engines (30 Minute OEI Rating) installed shall be operated in accordance with approved RFM supplement BHT-412-FMS-67.1 and BHT-412-FMS-67.2. This supplement shall be attached to Model 412 Flight Manual (BHT-412-FM-1, BHT-412-FM-2, or BHT-412-FMS-19.1).
23. Model 412 having Model PT6T-3BG engines (30 Minute OEI Rating) installed shall be operated in accordance with approved RFM supplement BHT-412-FMS-68.3. This supplement shall be attached to Model 412 Flight Manual (BHT-412-FM-3, or BHT-412-FMS-34.2).
24. Model 412 s/n 33108 through 33129, 33131 through 33138, 33150 through 33160, 33168 through 33213, and 36001 through 36019 are eligible for improved hover and climb performance when modified with the 412SP to 412HP Upgrade Kit in accordance with BHTI Drawing 412-704-052, and operated in accordance with approved Flight Manual BHT-412-FM-3.
25. Re-arrangement of type certificate passenger seating to limit passenger seating to nine (9) or less passengers by removal of type-certificated seat(s). Category B operations with nine or less passenger seats in accordance with Rotorcraft Flight Manual Supplements:
    BHT-412FMS 35.1& 35.2 for Model 412, 412SP s/n 33001 through 36019;
    BHT-412FMS 35.3 & 35.4 for Model 412HP and 412EP s/n 36020 through 36086.

* * *

SECTION 3: 412EP s/n 36087 through 36999

I. General

1.	Type/ Model/ Variant	
	1.1 Type	Bell 212/412
	1.2 Model	412EP
	1.3 Variant	n/a
2.	Airworthiness Category	Large Rotorcraft, Category A and B
3.	Manufacturer	Bell Textron Canada Ltd. 12 800 rue de l'Avenir Mirabel, Québec, J7J 1R4 Canada
4.	Type Certification Application Date	to FAA: 29 January 1994
5.	State of Design Authority	USA
6.	Type Certificate Date by	FAA: 23 June 1994 (Category B) 5 October 1994 (Category A) CAA NO: 10 February 1995
7.	Type Certificate n° by	FAA: H4SW CAA NO: A1/95
8.	Type Certificate Data Sheet n° by	FAA: H4SW CAA NO: not recorded
9.	EASA Type Certification Date	28 September 2003, in accordance with CR (EU) 1702/2003, Article 2, 3., (a), (i), 2nd bullet, 2nd indented bullet.

II. Certification Basis

1.	Reference Date for determining the applicable requirements	29 January 1994 (initial), and, 30 June 2006 (update), see Bell letter 81:G70-21450

2. Airworthiness Requirements

- 14 CFR Part 29, dated 1 February 1965, Amdt. 29-1 and 29-2.
- For changes specific to 412EP s/n 36087 through 36999 the certification basis is superseded by the following regulations at amendment levels later than 29-2:

  14 CFR Part 29.473, 29.501, 29.663, 29.771, 29.903(c), 29.1323, 29.1505 (b) of Amdt. 29-3;
  14 CFR Part 29.1457 of Amdt. 29-6;
  14 CFR Part 29.939 (c), and 29.1322 of Amdt. 29-12;
  14 CFR Part 29.1335, and 29.1351 of Amdt. 29-14;
  14 CFR Part 29.1353, and 29.1581 of Amdt. 29-15;
  14 CFR Part 29.1413 of Amdt. 29-16;
  14 CFR Part 29.1545 of Amdt. 29-17;
  14 CFR Part 29.1321 of Amdt. 29-21;
  14 CFR Part 29.151, 29.161, 29.181, 29.672, 29.1303, 29.1309, 29.1325, 29.1329, 29.1331, 29.1333, 29.1355, 29.1357, and 29.1555 of Amdt. 29-24;
  14 CFR Part 29.1459 of Amdt. 29-25;
  14 CFR Part 29.1549 of Amdt. 29-26;
  Appendix B Section VIII to Part 29 of Amdt. 29-31;
  14 CFR Part 29.2 of Amdt. 29-32;
  14 CFR Part 29.53, 29.55, 29.61 (a), 29.64, and 29.79 of Amdt.29-39;
  29.59, 29.62, 29.67 (a), 29.77, 29.81, 29.85, and 29.1587 (a) of Amdt.29-44.

- Ditching:
  14 CFR Part 29.801 of Amdt. 29-12 including 14 CFR Part 29.1411 and 29.1415.

- Complies with Category A engine isolation requirements.
  If BHT Kit 412-706-089-101, Crash Attenuating Crew Seats, is installed then compliance has also been shown to 14 CFR Part 29.307 of Amdt. 29-4; 29.603 of Amdt.29-12; 29.613 of Amdt.29-17; 29.561 (b) and 29.785 of Amdt.29-29; and 29.562 of Amdt.29-41.

3.	Special Conditions	- No. 29-12-SW-1, Amdt.1. - "Guidelines For Helicopter Certification Using Vertical Take-off Techniques From Ground Level and Elevated Heliports" vertical take-off criteria transmitted to Bell by FAA SW-210 letter, dated 3 February 1971. - Airworthiness Criteria for Helicopter Instrument Flight" dated 15 December 1978.
4.	Exemptions	- No. 3100 against FAR 29.1323(c) - No. 5985 against FAR 29.1303(g)(1)
5.	Deviations	none
6.	Equivalent Safety Findings	FAR 29.501(e) One-skid landing loads in the level attitude, (reference FAA letter to Bell Helicopter Textron, Inc., dated 20 September 1995)
7.	Requirements elected to comply	none
8.	Environmental Protection Requirements	
	8.1 Noise Requirements	See TCDSN EASA.IM.R.106
	8.2 Emission Requirements	n/a
9.	Operational Suitability Data (OSD)	see SECTION 6 below

III. Technical Characteristics and Operational Limitations

1.	Type Design Definition	Dwg 412-900-001 General Arrangement-Helicopter Assy and Aux Equipment Kits
2.	Description	Large twin-engine helicopter with seating provisions for up to fourteen passengers and one pilot or up to thirteen passengers and a crew of two. The Model 412EP is derived from Model 412. Main rotor: semi-rigid type, four composite blades Tail rotor: twin bladed semi-rigid type Fuselage: all-metal semi-monocoque Landing gear: skid type landing gears Powerplant: twin turbine engine
3.	Equipment	Refer to Equipment List in approved RFM
4.	Dimensions	
	4.1 Fuselage	Length: 12.70 m (41 ft 8 in) Width hull/skids: 2.85 m (9 ft 4 in) Height (fin): 3.17 m (10 ft 5 in)
	4.2 Main Rotor	Diameter: 14.02 m (46 ft)
	4.3 Tail Rotor	Diameter: 2.62 m (8 ft 7 in)
5.	Engine	
	5.1 Model	Pratt & Whitney Canada Corp. - 2 x Model PT6T-3D, or, - 2 x Model PT6T-3DE, or - 2 x Model PT6T-3DF Twin Power Section Turboshaft (Ref. Note 5 on FAA TCDS E22EA)

5.2 Type Certificate

FAA TC/TCDS n°: E22EA
EASA TC/TCDS n°: EASA.IM.E.059

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

s/n 36087 through 36999) with PT6T-3D	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(1) (100)	39 300(2) (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(1) (81)	39 300(2) (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI-MCP	815(4) (73.2)	39 500 (103.7)	Max. 33 000(2) (100) Min. 32 000 (97)	820

s/n 36072, 36082, 36119, 36122, 36123, 36126, 36127, 36133 with PT6T-3DE see Note 18	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(1) (100)	39 300 (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(1) (81)	39 300 (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI 30 min	859(4) (77)	40 250 (105.7)	Max. 33 000(2) (100) Min. 32 000 (97)	885

with PT6T-3DF see Note 17	TQ [lb ft] ([%])	Gas generator [rpm] ([%])	PWR turbine [rpm] ([%])	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(1) (100)	39 300 (103.2)	Max. 33 000(2) (100) Min. 32 000 (97)	810
AEO-MCP	17 993(1) (81)	39 300 (103.2)	Max. 33 000(2)(3) (100) Min. 32 000 (97)	810
OEI 2-½min	902(4) (81)	41 600 (109.2)	Max. 33 000(2) (100) Min. 32 000 (97)	940
OEI 30 min	859(4) (77)	40 700 (106.8)	Max. 33 000(2) (100) Min. 32 000 (97)	885

Note:
(1) On mast torque scale.
(2) 100% (33 000 rpm) corresponds to 6 600 rpm engine output shaft speed.
(3) 104.5% from 0 to 30% engine torque decreasing linearly to 100% at Continuous Engine Torque.
(4) On engine torque scale.

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM

6.	Fluids (Fuel/ Oil/ Additives)	
	6.1 Fuel	- Avjet type fuels conforming to: - ASTM D1655, Type A, A-1; or, - ASTM D6615, Type B; or, - MIL-DTL-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or, - MIL-DTL-83133, Grade JP-8 (NATO F-34) - People's Republic of China specification GB 6537-2006, Grade No. 3 Jet Fuel
	6.2 Oil	Refer to approved RFM
	6.3 Additives	Refer to approved RFM
7.	Fluid capacities	
	7.1 Fuel	Fuel tank capacity: 337.5 US gal (1 277 litres) (at +151.5), Usable fuel: 330.5 US gal (1 251 litres) Unusable fuel: 7 US gal (26 litres) See Note 3 for requirement to include unusable (including trapped) fuel weight in certificated empty weight. See Note 10 for additional fuel capacities.
	7.2 Oil	System capacity 1.6 US gal (6.1 litres) at +182.9 for each power section (0.75 US gal (2.8 litres) usable). See Note 3 for requirement to include undrainable oil weight in certificated empty weight.
	7.3 Coolant System Capacity	n/a
8.	Air Speed Limitations	Max. V_{NE} 140 KIAS (259 km/h) See Placard P/N 412-075-215 (V_{NE} varies with altitude and temperature)
9.	Rotor Speed Limitations	Power on (% tach reading): Max. Continuous 100 % (324 rpm) Maximum 104.5 % (339 rpm) for 0%-30% transmission torque Minimum 97 % (314 rpm), see respective BHT-412-FM-4 RFM for selection of rotor speed to flight conditions. Power off (% tach reading): Maximum 104.5 % (339 rpm) Minimum 91 % (294 rpm) for G.W. >8 000 lb (>3 629 kg) Minimum 80 % (259 rpm) for G.W. <8 000 lb (<3 629 kg)
10.	Maximum Operating Altitude and Temperature	
	10.1 Altitude	20 000 ft (6 096 m) PA
	10.2 Temperature	Max. at MSL is +51.7°C (+125°F), decreases with altitude at standard lapse rate of 2°C/1 000 ft. Minimum at all altitudes is -54°C (-65°F).
11.	Operating Limitations	VFR day and night Non-icing conditions For IFR Category A operation refer to approved RFM Additional limitations for TO/LDG refer to approved RFM

12.	Maximum Mass	11 900 lb (5 398 kg)
13.	Centre of Gravity Range	
	13.1 Longitudinal C.G. limits	(+135.1 in) to (+141.4 in) at 11 900 lb (5 398 kg) (+130.0 in) to (+144.0 in) at 8 800 lb (3 992 kg) (+130.0 in) to (+144.0 in) at 6 500 lb (2 948 kg) (+130.4 in) to (+144.0 in) at 6 400 lb (2 903 kg) Note: Straight line variation between points given. See figure in Section 1, Model 412EP Rotorcraft Flight Manual (BHT-412-FM-4).
	13.2 Lateral C.G Limits	±4.5 in left and right of centreline
	13.3 Empty mass C.G. range	When possible, the empty C.G. shall be adjusted to the range given in Chapter 8, Model 412/412EP Maintenance Manual. For helicopter configurations where this is not possible, complete computation of critical fore and aft C.G. position must be determined for each loading to ensure that the entire flight is conducted within the limits of the Gross Weight Centre of Gravity chart in the Limitations section of the Flight Manual.
14.	Datum	Longitudinal: The datum plane (STA 0) is located 20 in (508 mm) aft of the most forward point of the fuselage cabin nose section. Lateral: fuselage centre line
15.	Levelling Means	Plumb line from top of left main door frame
16.	Minimum Flight Crew	1 (pilot) Category B and Category A. See Note 7 for IFR operations.
17.	Maximum Passenger Seating Capacity	14 (not limited by emergency exit requirements) 9 (with passenger seats re-arranged to create a nine or less passenger seat configuration, see Note 22)
18.	Passenger Emergency Exit	4, two on each side of the passenger cabin
19.	Maximum Baggage/ Cargo Loads	400 lb (181 kg) Loading not to exceed 100 lb/ft² (488 kg/m²) Note: See RFM for loading schedule
20.	Rotor Blade Control Movement	For rigging information refer to Model 412/412EP Maintenance Manual
21.	Auxiliary Power Unit (APU)	n/a
22.	Life-limited Parts	See approved ALS Section in Chapter 04 of the Maintenance Manual. Limitations may not be changed without EASA approval.

IV. Operating and Service Instructions

1.	Flight Manual	Bell Model 412EP Flight Manual, BHT-412-FM-4, dated 23 June 1994, or later approved revision for Transport Category B or A, VFR or IFR operation (s/n 36087 through 36999)
2.	Maintenance Manual	Instructions for Continued Airworthiness (ICA) include information essential to the proper servicing, maintenance, and repair of the helicopter in accordance with 14 CFR 29.1529. The technical publications listed in IV.2 through IV.6 comprise the ICA: BHT-412-MM Maintenance Manual Note: Mandatory airworthiness life limitations and inspection requirements are associated with certain components. These are presented in approved Chapter 04, "Airworthiness Limitations Schedule" of the applicable maintenance manual. These limitations may not be changed without EASA approval. Recommended maintenance inspection intervals are presented in Chapter 05, "Inspections and Component Overhaul Schedule", of the applicable Maintenance Manual.
3.	Structural Repair Manual	- BHT-412-CR&O Component Repair and Overhaul Manual - BHT-412-CR&O-V Component Repair and Overhaul Manual - Vendor Data
4.	Weight and Balance Manual	Refer to approved RFM
5.	Illustrated Parts Catalogue	BHT-412-IPB Illustrated Parts Breakdown
6.	Miscellaneous Manuals	- BHT-ALL-SPM Standard Practices Manual - BHT-ELEC-SPM Electrical Standard Practices Manual - BHT-SPECTOOL-IPB Special Tools Illustrated Parts Breakdown - CSSD-PSE-87-001 Corrosion Control Guide - CSSD-PSE-90-001 Chafing Control Guide
7.	Service Letters and Service Bulletins	As published by Bell Helicopter Textron and Bell Textron
8.	Required Equipment	The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis), must be installed in the helicopter for certification

V. Notes (Model 412EP s/n 36087 through 36999 only)

1. Manufacturer's eligible serial numbers:

   s/n 36087 through 36999 (see Notes 11 and 21).

2. Model 412 Airspeed indicator P/N 412-075-009-105.

3. A current weight and balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each helicopter at the time of original certification. This is in accordance with 14 CFR 29.25, 29.27, 29.29, and 29.31.
   The Model 412EP helicopter s/n 36087 through 36999 certificated empty weight and corresponding C.G. location must include undrainable oil of 7.1 lb (+230.7). The unusable (including trapped) fuel is 47.6 lb (+128.0).
   When possible, the empty weight/C.G. shall be adjusted to the range given in Chapter 8, 412/412EP Maintenance Manuals. For helicopter configurations where this is not possible, complete computations of critical fore and aft C.G. positions must be determined for each loading to ensure that the entire flight is conducted within the limits of the G.W./C.G. chart in the Limitations section of the Rotorcraft Flight Manual.

4. All placards required by either the approved RFM, the RFM Supplements, the applicable operating rules, or the Certification Basis must be installed in the helicopter. This is in accordance with 14 CFR 29.1541 through 29.1559.
   The following placards must be displayed in front of and in clear view of the pilot.
   Model 412 prior to Serial Number 36999:

   > "This helicopter must be operated in compliance with the operating limitations specified in the approved Rotorcraft Flight Manual."

   All placards required in the approved RFM must be installed in the appropriate locations. Placards and markings with their appropriate locations are also presented in Chapter 11 of the Maintenance Manual.

5. A partition must not be installed between the passenger and crew compartments that will obstruct the pilot's view of the passenger large sliding doors and hinged panels. Interior linings must not be installed that obstruct the view of the crew/passenger (forward) door latch engagements with the fuselage.

6. Bulkheads, fences, or partitions must not be installed between the passenger and crew compartments when the helicopter is equipped with Litter Kit No. 205-706-047.

7. Model 412EP helicopters incorporating IFR modification No. 412-705-006 are eligible for IFR operations when operated in accordance with the limitations of approved Flight Manual Revision 2, dated 20 March 1981, or later approved revision, or later approved RFM. Minimum crew one (pilot) for IFR operations.

8. Model 412EP helicopters equipped with the external cargo suspension kit installed in accordance with Bell Drawing 212-706-103 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-9.

9. Model 412EP helicopters equipped with the internal hoist kit installed in accordance with Bell Drawing 214-706-003 or 412-899-223 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-7 or BHT-412-FMS-26.

10. Model 412EP helicopters equipped with Auxiliary Fuel Kit 412-706-007 have fuel capacities (including basic system) as follows:

With Left or Right Auxiliary Tank:	With Both Left and Right Auxiliary Tanks:
419.1 US gal (+150.9) total	500.8 US gal (+150.6) total
412.1 US gal usable	493.8 US gal usable
7 US gal unusable	7 U. S. gal. unusable
(See Note 3)	(See Note 3)

11. Model 412 s/n 36001 through 36292 are manufactured by Bell Helicopter Textron, a Division of Textron Canada Limited, under the Transport Canada Manufacturers Approval No. 1-86.

    Model 412EP s/n 36293 through 36999 are manufactured by Bell Textron Canada Limited, under the Transport Canada Manufacturing Approval No. 1-86 according to the approved "FAA-TCCA Management Plan for Bell Helicopter Civil Aeronautical Products".

V. Notes (Model 412EP s/n 36087 through 36999 only)

Import Requirements:
EASA Airworthiness Certificate may be issued on the basis of the Transport Canada 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 EASA.IM.R.106 and to be in condition for safe operation."

12. Model 412EP s/n 36037 through 36999 incorporate provisions for cockpit voice recorders and flight data recorders (reference FAR 29.1457, 29.1459).
13. Model 412EP (s/n 36087 through 36999) helicopters equipped with Dual Digital Automatic Flight Control System with Search and Rescue Kit installed in accordance with BHT Mod Dwg. 412-570-002 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-39.3 or 39.4 respectively.
14. Model 412EP (s/n 36087 through 36999) helicopters equipped with Dual Digital Automatic Flight Control System (4-axis) Kit No. 412-705-024 and Electronic Flight Instrument System (EFIS) Kit No. 412-705-009 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-38.4.
15. Model 412EP helicopters equipped with Flight Director Kit No. 412-706-024 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-37.4.
16. Model 412EP s/n 36072, 36082, 36119, 36122, 36123, 36126, 36127, and 36133 having Model PT6T-3DE engines installed shall be operated in accordance with approved RFM Supplement BHT-412-FMS-53.
17. Model 412EP having Model PT6T-3DF engines installed shall be operated in accordance with approved RFM Supplement BHT-412-FMS-56.3 OR BHT-412-FMS-56.4.
18. Model 412EP s/n 36095, 36125, 36144, 36145, 36151, 36162, 36163, 36164, and 36156 were delivered to the UK for military training.
19. Model 412EP s/n's 36172, 36193, 36194, 36195, 36302, and 36303 were delivered to the Royal Thai Air Force (Reference BHT-412-FMS-60.4) are required to be reconfigured to an EASA-approved IFR configuration prior to EASA registration.
20. Model 412EP helicopters having Model PT6T-3D series engines installed and performing Category A operations, shall be operated in accordance with approved RFM Supplements BHT-412-FMS 62.3 or BHT-412-FMS 62.4.
21. Bell Model 412EP helicopters, s/n 36327, 36336, 36339, 36341 through 36345 and parts thereof were operated as foreign military aircraft and must be confirmed by Bell Textron Inc. prior to issuance of any EASA Standard Airworthiness Certificate.
22. Re-arrangement of type certificate passenger seating to limit passenger seating to nine (9) or less passengers by removal of type-certificated seat(s).
Category B operations with nine or less passenger seats in accordance with RFM Supplement BHT-412FMS 35.3 & 35.4.

* * *

SECTION 4: 412EP s/n 37002 through 37999

I. General

1.	Type/ Model/ Variant	
	1.1 Type	Bell 212/412
	1.2 Model	412EP
	1.3 Variant	412EPI (see Note 2)
2.	Airworthiness Category	Large Rotorcraft, Category A and B
3.	Manufacturer	Bell Textron Canada Ltd. 12 800 rue de l'Avenir Mirabel, Québec, J7J 1R4 Canada
4.	Type Certification Application Date	to FAA: 16 April 2014
5.	State of Design Authority	USA
6.	Type Certificate Date by	FAA: 8 December 2014
7.	Type Certificate n° by	FAA: H4SW
8.	Type Certificate Data Sheet n° by	FAA: H4SW
9.	EASA Type Certification Date	approved through EASA certificate n° 10056599, dated 1 February 2016

II. Certification Basis

1.	Reference Date for determining the applicable requirements	25 January 2011
2.	Airworthiness Requirements	

14 CFR Part 29 dated February 1, 1965, Amdt 29-1 and 29-2.

For changes specific to 412EP s/n 37002 through 37999 (see Note 2) the certification basis is superseded by the following regulations at amendment levels later than 29-2.

If BHT Kit 412-706-089-101, Crash Attenuating Crew Seats, is installed then compliance has also been shown to 14 CFR Part 29.307 at Amdt. 29-4; 29.603 at Amdt. 29-12; 29.613 at Amdt. 29-17; 29.561(b), 29.785 at Amdt. 29-29, 29.562 at Amdt. 29-41.

If BHT Kit 412-706-140, Increased Gross Weight, is installed then compliance has also been shown to 14CFR Part 29.25(a)(1)(3)(4) at Amdt. 29-51, 14 CFR Part 29 Appendix B III, IV(a)(b)(1)(3)(c)(1)(d)(1)(e)(f), V, VI, VII at Amdt. 29-21.

3.	Special Conditions	- No. 29-12-SW-1 Amdt. 1. - "Guidelines For Helicopter Certification Using Vertical Take-off Techniques From Ground Level and Elevated Heliports" vertical take-off criteria transmitted to Bell by FAA SW-210 letter, dated 3 February 1971. - "Airworthiness Criteria for Helicopter Instrument Flight" dated 15 December 1978.
4.	Exemptions	none
5.	Deviations	none
6.	Equivalent Safety Findings	

- 14 CFR Part 29.501(e) One-skid landing loads in the level attitude (reference FAA letter to Bell Helicopter Textron, Inc. dated 20 September 1995).
- 14 CFR Part 29.1305(a)(11-16) and 29.1549(a)(b)(c)(e) for the Power Situation Indicator (documented in ELOS Memo No. ST0025RC-RD/P-1), dated 16 January 2013.
- 14 CFR Part 29.1545(b)(2) for Airspeed Indicator (documented in ELOS Memo No. ST0025RC-RD/F-2),

dated 27 September 2012.
- 14 CFR Part 29.1333(a) and 14 CFR Part 29 Appendix B VIII(b)(5)(i) and (ii) for Electronically Integrated Flight Instrument Systems (documented in ELOS Memo No. ST0025RC-RD/S-2), dated 25 January 2013.
- 14 CFR Part 29.1555(c)(1) for the Useable Fuel Capacity Marking (documented in ELOS Memo No. ST0025RC-RD/P-2), dated 18 December 2012.

7. Requirements elected to comply — none

8. Environmental Protection Requirements

8.1 Noise Requirements — See TCDSN EASA.IM.R.106

8.2 Emission Requirements — n/a

9. Operational Suitability Data (OSD) — see SECTION 6 below

III. Technical Characteristics and Operational Limitations

1. Type Design Definition — 412-900-006 General Arrangement - Helicopter & Kits

2. Description — Large twin-engine helicopter with seating provisions for up to fourteen passengers and one pilot or up to thirteen passengers and a crew of two.
The Model 412EP derives from Model 412.
Main rotor: semi-rigid type, four composite blades
Tail rotor: twin bladed semi-rigid type
Fuselage: all-metal semi-monocoque
Landing gear: skid type landing gears
Powerplant: twin turbine engine

3. Equipment — Refer to Equipment List in approved RFM

4. Dimensions

4.1 Fuselage — Length: 12.70 m (41 ft 8 in); Width hull/skids: 2.85 m (9 ft 4 in); Height (fin): 3.17 m (10 ft 5 in)

4.2 Main Rotor — Diameter: 14.02 m (46 ft)

4.3 Tail Rotor — Diameter: 2.62 m (8 ft 7 in)

5. Engine

5.1 Model — Pratt & Whitney Canada Corp.
2 x Model PT6T-9
Twin Power Section Turboshaft
(Ref. Note 12 on FAA TCDS E22EA)

5.2 Type Certificate — FAA TC/TCDS n°: E22EA
EASA TC/TCDS n°: EASA.IM.E.059

5.3 Limitations

5.3.1 Installed Engine Limitations and Transmission Torque Limits

with PT6T-9	TQ [lb ft] ([%])	Gas generator [rpm] ([%])(2)	PWR turbine [rpm] ([%])(3)	Temperature TOT [°C]
AEO-TOP (5 min)	22 208(1) (100)	38 850 (102)	Max. 34 155 (103) Min. 32 010 (97)	825
AEO-MCP	17 933(1) (81)	38 100 (100)		785
OEI 30 sec (emergency)	1 010(1) (90.7)	41 200 (108.1)		960
OEI 2 min	915(4) (82.1)	40 160 (105.4)		905
OEI-MCP	875(4) (78.5)	39 500 (103.7)		860

Notes: (1) On-mast torque scale.

(2) Gas generator speed of 38 000 rpm corresponds to 100%.
(3) 100% (33 000 rpm) corresponds to 6 600 rpm engine output shaft.
(4) On engine torque scale.

5.3.2 Other Engine and Transmission Torque Limits

Refer to approved RFM

6. Fluids (Fuel/ Oil/ Additives)

6.1 Fuel
- Avjet type fuels conforming to:
- ASTM D1655, Type A, A-1; or,
- ASTM D6615, Type B; or,
- MIL-DTL-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or,
- MIL-DTL-83133, Grade JP-8 (NATO F-34)
- People's Republic of China specification GB 6537-2006, Grade No. 3 Jet Fuel

6.2 Oil: Refer to approved RFM

6.3 Additives: Refer to approved RFM

7. Fluid capacities

7.1 Fuel

Fuel tank capacity:	337.5 US gal (1 277 litres) (at +151.5),
Usable fuel:	330.5 US gal (1 251 litres)
Unusable fuel:	7 US gal (26 litres)

See Note 3 for requirement to include unusable (including trapped) fuel weight in certificated empty weight.
See Note 10 for additional fuel capacities.

7.2 Oil: Each engine power section tank (on accessory gearbox) has 1.6 US gal capacity (6.1 litres), 0.75 US gal (2.8 litres) usable, and 0.5 US gal (1.9 litres) expansion space available.
Reduction gearbox tank has 1.25 US gal (4.7 litres) capacity.
See Note 3 for requirement to include undrainable oil weight in certificated empty weight.

7.3 Coolant System Capacity: n/a

8. Air Speed Limitations: Max. V_{NE} 140 KIAS
See Placard P/N 412-075-215
(V_{NE} varies with altitude and temperature)

9. Rotor Speed Limitations

Power on (% tach reading):

Max. Continuous	100 %	(324 rpm)
Maximum	103.5 %	(335 rpm)
	for 0%-30% transmission torque	
Minimum	97 %	(314 rpm), see RFM BHT-412-FM-5 for rotor speed selection to flight conditions.

Power off (% tach reading):

Maximum	104.5 %	(339 rpm)
Minimum	91 %	(294 rpm)
	for G.W. >8 000 lb (>3 629 kg)	
Minimum	80 %	(259 rpm)
	for G.W. <8 000 lb (<3 629 kg)	

For 412EP s/n 36248 through — Power on (% tach reading):

	36999, and 37002 through 37999 with Increased Gross Weight Kit 412-706-140 installed:	Max. Continuous 100 % (324 rpm) Maximum 103.5 % (335 rpm) Minimum 97 % (314 rpm), see RFM BHT-412-FM-74.5 for rotor speed selection to flight conditions. Power off (% tach reading): Maximum 104.5 % (339 rpm) Minimum 91 % (294 rpm) for G.W. >8 000 lb (>3 629 kg) Minimum 80 % (259 rpm) for G.W. <8 000 lb (<3 629 kg)
10.	Maximum Operating Altitude and Temperature	
	10.1 Altitude	20 000 ft (6 096 m) PA
	10.2 Temperature	Max. at MSL is +51.7°C (+125°F), decreases with altitude at standard lapse rate of 2°C /1 000 ft. Minimum at all altitudes is -54°C (-65°F)
11.	Operating Limitations	VFR day and night Non-icing conditions For IFR Category A operation refer to approved RFM Additional limitations for TO/LDG refer to approved RFM
12.	Maximum Mass	11 900 lb (5 398 kg)
	For 412EP s/n 36248 through 36999, and 37002 through 37999 with Increased Gross Weight Kit 412-706-140 installed:	12 200 lb (5 534 kg)
13.	Centre of Gravity Range	
	13.1 Longitudinal C.G. limits	(+135.1 in) to (+141.4 in) at 11 900 lb (5 398 kg) (+130.0 in) to (+144.0 in) at 8 800 lb (3 992 kg) (+130.0 in) to (+144.0 in) at 6 500 lb (2 948 kg) (+130.4 in) to (+144.0 in) at 6 400 lb (2 903 kg)
	13.2 Longitudinal C.G. limits for 412EP s/n 36248 through 36999, and 37002 through 37999 with increased Gross Weight Kit 412-706-140 installed:	(+135.6 in) to (+141.1 in) at 12 200 lb (5 454 kg) (+130.0 in) to (+144.0 in) at 8 800 lb (3 986 kg) (+130.0 in) to (+144.0 in) at 6 500 lb (2 945 kg) (+130.4 in) to (+144.0 in) at 6 400 lb (2 899 kg) min. wt. Note: Straight line variation between points given. See figure in Section 1, Model 412EP Rotorcraft Flight Manual (BHT-412-FM-4).
	13.3 Lateral C.G Limits	±4.5 in left and right of centreline
	13.4 Empty mass C.G. range	When possible, the empty C.G. shall be adjusted to the range given in Chapter 8, Model 412/412EP Maintenance Manual. For helicopter configurations where this is not possible, complete computation of critical fore and aft C.G. position must be determined for each loading to ensure that the entire flight is conducted within the limits of the Gross Weight Centre of Gravity chart in the Limitations section of the Rotorcraft Flight Manual.
14.	Datum	Longitudinal: The datum plane (STA 0) is located 20 in (508 mm) aft of the most forward point of the fuselage cabin nose section.

		Lateral: fuselage centre line
15.	Levelling Means	Plumb line from top of left main door frame
16.	Minimum Flight Crew	1 (pilot) Category B and Category A. See Note 7 for IFR operations.
17.	Maximum Passenger Seating Capacity	14 (not limited by emergency exit requirements) 9 (with passenger seats re-arranged to create a nine or less passenger seat configuration, see Note 16).
18.	Passenger Emergency Exit	4, two on each side of the passenger cabin
19.	Maximum Baggage/ Cargo Loads	400 lb (181 kg) Loading not to exceed 100 lb/ft² (488 kg/m²) Note: See RFM for loading schedule
20.	Rotor Blade Control Movement	For rigging information refer to Model 412/412EP Maintenance Manual
21.	Auxiliary Power Unit (APU)	n/a
22.	Life-limited Parts	See approved ALS Section in Chapter 04 of the Maintenance Manual. Limitations may not be changed without EASA approval.

IV. Operating and Service Instructions

1.	Flight Manual	Bell Model 412EP Rotorcraft Flight Manual, BHT-412-FM-5, dated 10 October 2014, or later approved revision for Transport Category B or A, VFR or IFR operation (s/n 37002 through 37999).
2.	Maintenance Manual	Instructions for Continued Airworthiness (ICA) include information essential to the proper servicing, maintenance, and repair of the helicopter in accordance with 14 CFR 29.1529. The technical publications listed in IV.2 through IV.6 comprise the ICA: - BHT-412-MM Maintenance Manual - BHT-412-MMS-EPI Maintenance Manual Supplement Note: Mandatory airworthiness life limitations and inspection requirements are associated with certain components. These are presented in approved Chapter 04, “Airworthiness Limitations Schedule” of the applicable maintenance manual. These limitations may not be changed without EASA approval. Recommended maintenance inspection intervals are presented in Chapter 05, “Inspections and Component Overhaul Schedule”, of the applicable Maintenance Manual.
3.	Structural Repair Manual	- BHT-412-CR&O Component Repair and Overhaul Manual - BHT-412-CR&O-V Component Repair and Overhaul Manual - Vendor Data - BHT-ALL-SRM Structural Repair Manual - BHT-MED-SRM Structural Repair Manual
4.	Weight and Balance Manual	Refer to approved RFM
5.	Illustrated Parts Catalogue	- BHT-412-IPB Illustrated Parts Breakdown - BHT-412-IPBS-EPI Illustrated Parts Breakdown

		Supplement
6.	Miscellaneous Manuals	- BHT-ALL-SPM Standard Practices Manual - BHT-ELEC-SPM Electrical Standard Practices Manual - BHT-SPECTOOL-IPB Special Tools Illustrated Parts Breakdown - CSSD-PSE-87-001 Corrosion Control Guide - CSSD-PSE-90-001 Chafing Control Guide
7.	Service Letters and Service Bulletins	As published by Bell Helicopter Textron and Bell Textron
8.	Required Equipment	The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis), must be installed in the helicopter for certification

V. Notes (Model 412EP s/n 37002 through 37999 only)

1. Manufacturer's eligible serial numbers:
   s/n 37002 through 37999 (see Note 11).
2. Model 412EP, helicopter s/n 37002 through 37999, represent the incorporation to the basic type design of changes covered by:
   - STC SR09600RC Installation of Bell BasiX-Pro Glass Cockpit and Pratt&Whitney Canada PT6T-9 engine,
   - STC SR09535RC-D Installation of a Dual Tailboom Strakes and FastFin System, and P/N 412-016-100-111 Blade Assy-Tail Rotor.

   It is designated '412EPI' by incorporation of STC SR09600RC. The "412EPI" term is used for marketing purposes only.
3. A current weight and balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each helicopter at the time of original certification. This is in accordance with 14 CFR 29.25, 29.27, 29.29, and 29.31.
   The Model 412EP helicopters s/n 37002 through 37999 certificated empty weight and corresponding C.G. location must include undrainable oil of 7.1 lb (+230.7). For aircraft s/n 37002 through 37999 (412EP), the unusable (including trapped) fuel is 47.6 lb (+128.0).
   When possible, the empty weight/C.G. shall be adjusted to the range given in Chapter 8, 412EP Maintenance Manuals. For helicopter configurations where this is not possible, complete computations of critical fore and aft C.G. positions must be determined for each loading to ensure that the entire flight is conducted within the limits of the G.W./C.G. chart in the Limitations section of the Flight Manual.
4. All placards required by either the approved RFM, the RFM Supplements, the applicable operating rules, or the Certification Basis must be installed in the helicopter. This is in accordance with 14 CFR 29.1541 through 29.1559.
   For Model 412EP s/n 37002 through 37999 the following placard must be displayed in front of and in clear view of the pilot.

   "This rotorcraft is approved for Day/Night VFR/IFR, Non-Icing Operation".

   All placards required in the approved RFM must be installed in the appropriate locations. Placards and markings with their appropriate locations are also presented in Chapter 11 of the Maintenance Manual.
5. A partition must not be installed between the passenger and crew compartments that will obstruct the pilot's view of the passenger large sliding doors and hinged panels. Interior linings must not be installed that obstruct the view of the crew/passenger (forward) door latch engagements with the fuselage.
6. Bulkheads, fences, or partitions must not be installed between the passenger and crew compartments when the helicopter is equipped with Litter Kit No. 205-706-047.
7. Minimum crew one (pilot) for IFR operations.
8. Model 412EP helicopters s/n 37002 through 37999 equipped with the external cargo suspension kit installed in accordance with Bell Drawing 212-706-103 meet the certification basis when operated in accordance with approved RFM Supplement BHT-412-FMS-9.
9. Model 412EP helicopters s/n 37002 through 37999 equipped with the internal hoist kit installed in accordance with Bell Drawing 214-706-003 or 412-899-223 meet the certification basis when operated in

V. Notes (Model 412EP s/n 37002 through 37999 only)

accordance with approved RFM Supplement BHT-412-FMS-7 or BHT-412-FMS-26.

10. Model 412EP helicopters s/n 37002 through 37999 equipped with Auxiliary Fuel Kit 412-706-007 have fuel capacities (including basic system) as follows (for both see Note 3):

With Left or Right Auxiliary Tank:	With Both Left and Right Auxiliary Tanks:
419.1 US gal (+150.9) total	500.8 US gal (+150.6) total
412.1 US gal usable	493.8 US gal usable
7 US gal unusable	7 US gal unusable

11. Model 412EP s/n 37002 through 37999 are manufactured by Bell Textron Canada Limited, under the Transport Canada Manufacturing Approval No. 1-86 according to the approved "FAA-TCCA Management Plan for Bell Helicopter Civil Aeronautical Products".

    Import Requirements:
    EASA Airworthiness Certificate may be issued on the basis of the Transport Canada 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 EASA.IM.R.106 and to be in condition for safe operation

12. Model 412EP helicopters s/n 37002 through 37999 with Model PT6T-9 engines installed and performing Category A operations shall be operated in accordance with approved RFM Supplement BHT-412-FMS-62.5.

13. Model 412EP helicopters s/n 37002 through 37999 employ electronic engine controls, commonly named Full Authority Digital Engine Controls (FADEC) that are recognized to be more susceptible to Electromagnetic Interference (EMI) than rotorcraft that have 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 a standard acceptable to EASA or tested at the time of installation for interference to the FADEC. This type of testing must employ the particular FADEC diagnostic techniques and external diagnostic techniques. The test procedure must be approved.

14. Model 412EP helicopters equipped with PT6T-9 engine and having the Extended Hover Performance Kit 412 706 120 installed shall be operated in accordance with approved Flight Manual Supplement BHT-412-FMS-80.5.

15. Model 412EP helicopters equipped with PT6T-9 engine and having the Increased Gross Weight Kit 412-706-140 installed shall be operated in accordance with FAA-approved Flight Manual Supplement BHT-412-FMS-74.5 and maintained airworthy in accordance with Chapter 4 of BHT-412MM-2 Rev. 24, or later approved revision.

16. Re-arrangement of type certificate passenger seating to limit passenger seating to nine (9) or less passengers by removal of type-certificated seat(s). Category B operations with nine or less passenger seats in accordance with Rotorcraft Flight Manual Supplement BHT-412-FMS 35.5 for Model 412EP s/n 37002 through 37999.

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SECTION 5: NOTES (PERTINENT TO ALL MODELS)

1. In SECTION 1 through 3, in chapter I., the first known validation in a European country is mentioned. Further European validations are listed below. This list is not exhaustive.

Model	Approving Authority	NAA Reference	Application Date	Certification Date	Noise Reference
212	CAA UK	TC/TCDS n° FR 1	unknown	29 Dec 1972	unknown
	CAA NO	TC acceptance letter	unknown	7 Mar 1975	unknown
	ACG AT	TC acceptance letter	unknown	12 Nov 1990	unknown
	STA SE	TC/TCDS n° 13/93	unknown	28 Oct 1993	unknown
412 s/n 33001 - 36086	LBA, DE	TC/TCDS n° 3039	unknown	7 Dec 1981	unknown
	DGAC ES	TC/TCDS n° 58	unknown	27 May 1991	unknown
	CAA NO	TC/TCDS n° A1/95	unknown	10 Feb 1995	unknown
	ENAC IT	TC n° A220	unknown	8 Mar 1998	unknown
	DGAC FR	TC/TCDS n° IM 181	unknown	6 Jul 1998	unknown
	CAA CZ	TC n° UZT-01-69	unknown	29 Jun 2001	unknown
	INAC PT	TC validation letter	unknown	12 Jan 2002	unknown
412EP s/n 36087 - 36999	CAA UK	TC/TCDS n° FR 14	unknown	Nov 1996	unknown
	CAA RO	TC/TCDS n° ET-21/1997	unknown	27 May 1991	unknown
	DGAC FR	TC/TCDS n° IM 181	unknown	6 Jul 1998	N IM 181
	DGAC ES	TC/TCDS n° 58-I/1	unknown	14 Jul 1999	unknown
	CAA DK	TC acceptance letter	unknown	4 Oct 2000	ICAO Annex 16, Vol.1, 2nd Edition - 1988
	CAA CZ	TC n° UZT-01-69	unknown	29 Jun 2001	unknown
	INAC PT	TC validation letter	unknown	12 Jan 2002	unknown

SECTION 6: OPERATIONAL SUITABILITY DATA (OSD)

The OSD elements listed below are approved by the European Union Aviation Safety Agency as per Commission Regulation (EU) 748/2012, as amended by Commission Regulation (EU) No 69/2014.

I. OSD Certification Basis

I.1 Reference Date for determining the applicable OSD requirements

For all models: Grandfathering date: 17 February 2014

I.2 MMEL - Certification Basis

For all models: JAR-MMEL Section 1 Amdt. 1, dated 1 August 2005

I.3 Flight Crew Data - Certification Basis

For models 212 and 412: not required

For models 412EP (and 412 EPI): CS-FCD Initial Issue dated 31 January 2014

I.4 SIM Data - Certification Basis

reserved

I.5 Maintenance Certifying Staff Data - Certification Basis

reserved

II. OSD Elements

II.1 MMEL

For all models:
EASA Master Minimum Equipment List (MMEL), BHT-212/412-EASA-MMEL, Revision Original, issue date 10 December 2015, EASA-approved, or subsequent approved revisions

II.2 Flight Crew Data

For Models 212 and 412: not required

For Models 412EP (and 412 EPI):
Bell 412EP/412EPI, Operational Suitability Data (OSD) – Flight Crew, BHT-412-EASA-FCD, Revision OSD FC Original, issue date 8 December 2015

II.3 SIM Data

reserved

II.4 Maintenance Certifying Staff Data

reserved

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

ACG AT	Austro Control, CAA Austria	Min.	Minimum
AEO	All Engines Operative	min	Minute
Amdt.	Amendment	MMEL	Master Minimum Equipment List
C.G.	Centre of Gravity	MSL	Mean Sea Level
CAA	Civil Aviation Authority	OEI	One Engine Inoperative
CAA CZ	Úřad pro Civilní Letectví, CAA Czech Republic	OSD	Operational Suitability Data
CAA DK	Trafikstyrelsen, CAA Denmark	P/N	Part Number
CAA NO	Luftfartstilsynets, CAA Norway	PA	Pressure Altitude
CAA RO	Autoritatea Aeronautica Civila Romana CAA Romania	PWR	Power
CAA SE	Transportstyrelsen, CAA Sweden	RFM	Rotorcraft Flight Manual
CAA UK	CAA Britain	RFMS	Rotorcraft Flight Manual Supplement
CR	(European) Commission Regulation	s/n	Serial Number
ENAC	Ente Nazionale per l'Aviazione Civile CAA Italy	STA	Station, Swedish Transport Agency
FAA	Federal Aviation Administration	STC	Supplemental Type Certificate
IFR	Instrument Flight Rules	TO	Take-Off
INAC PT	Instituto Nacional de Aviação Civil CAA Portugal	TOP	Take-Off Power
KIAS	Knots Indicated Air Speed	TOT	Turbine Outlet Temperature
LBA	Luftfahrt-Bundesamt German Federal Aviation Office	TQ	Torque
LDG	Landing	VFR	Visual Flight Rules
Max.	Maximum	V_{NE}	Never Exceed Speed
MCP	Maximum Continuous Power		

II. Type Certificate Holder Record

Type Certificate Holder	**Period**
Bell Helicopter Textron Inc. P.O. Box 482, Fort Worth, TX 76101, U.S.A.	since 30 June 1971
Bell Textron Inc. P.O. Box 482 Fort Worth, TX 76101, U.S.A.	since 1 July 2019

III. Change Record

Issue	**Date**	**Changes**	**TC issue**
Issue 1	4 Apr 2016	Initial issue of EASA TCDS	Reissued, 24 February 2016
Issue 2	9 Mar 2017	Conversion of mass 'lb' to 'kg' re-calculated, factor used: 4.535 924 E-01 in accordance with ICAO Annex 5	- - -
Issue 3	10 Jul 2019	Section 2, III.5.1, 5.3.1: already approved engines PT6T-3BF and -3BG added Section 3: V.1 s/n corrected, V.18 updated	- - -

Issue	Date	Changes	TC issue
Issue 4	20 May 2020	Type Certificate Holder name change; Technical data amended/corrected as marked; Section 5 introduced; OSD now Section6.	Reissued, 20 May 2020

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