

	Torque per engine lb-ft (%)	Power Turbine Speed - rpm (%)		Gas Generator Speed - rpm (%)	Gas Temperature °C
		Maximum	Minimum		
One Engine Inoperative (Emergency):					
2-1/2 Minutes	815 ⁽⁴⁾ (79.4)	33,000 ⁽³⁾ (100)	32,000 (97)	39,000 ⁽⁶⁾ (102.4)	850
30 Minutes	815 ⁽⁴⁾ (79.4)	33,000 ⁽³⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	822
Continuous	657 ⁽⁴⁾ (63.9)	33,000 ⁽³⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765

(1) On transmission torque scale.

(2) See Note 26.

(3) 100% (33,000 rpm) corresponds to 6600 rpm engine output shaft speed.

(4) On engine torque scale.

(5) 38,800 rpm (101.8%) with Gage P/N 212-075-037-113.

(6) 39,400 rpm (103.4%) with Gage P/N 212-075-037-113.

Rotor limits

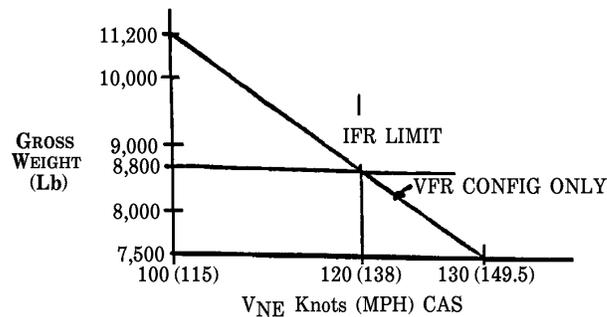
Power Off

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

Power On

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

Airspeed limits



Decrease VNE 3 knots (3.5 mph) per 1,000 feet (above 3,000 feet Hd)

C.G. range

(a) Longitudinal C.G. limits

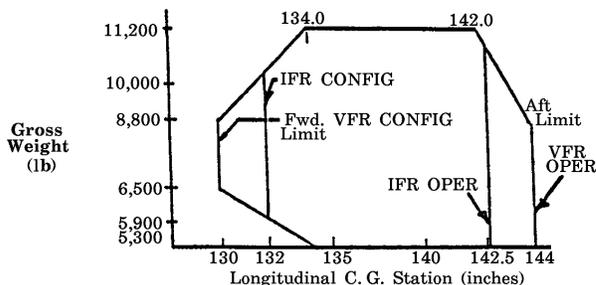
VFR Configuration

(+134.0) to (+142.0) at 11,200 lb
(+130.0) to (+144.0) at 8,800 lb
(+130.0) to (+144.0) at 6,500 lb
(+134.0) to (+144.0) at 5,300 lb

IFR Configuration

(+134.0) to (+142.0) at 11,200 lb
(+132.0) to (+143.0) at 10,000 lb
(+132.0) to (+144.0) at 8,800 lb
(+132.0) to (+144.0) at 5,900 lb
(+134.0) to (+144.0) at 5,300 lb
Above limits for VFR operation; aft limit
(+142.5) for IFR operation

Straight line variation between points given. See figure below:



- (b) Lateral C.G. limits - Category B and VFR Configuration
 4.7 in. left of centerline
 6.5 in. right of centerline

Category A and IFR Configuration
 +3.5 in. left and right of centerline

Empty weight C.G. range	See Chapter 8, Model 212 Maintenance Manual.
Maximum weight	11,200 lb. See Note 4 for external cargo limitations. See Flight Manual Supplement dated 30 June 1971 for Category A limitations
Minimum crew	1 (pilot) Category B and Category A; 2 (pilot and copilot) for vertical takeoff and landing operations. See Note 11 and 12 for IFR operations.
Maximum passengers	14 (Not limited by emergency exit requirements)
Maximum baggage	400 lb (See Flight Manual for loading schedule)
Fuel capacity	219.6 U.S. gal. (+153.3) total. (See Note 17) 216.8 U.S. gal. usable. (See Note 17) 4 U.S. gal. unusable. (See Note 1 for requirement to include unusable (including trapped) fuel weight in certificated empty weight)
Oil capacity	Sys. Capacity 1.6 gal. (+182.9) each power section (.75 gal. usable). (Total capacity 3.2 gal. (+182.9)). See Note 1 for requirement to include undrainable oil weight in certificated empty weight.
Rotor blade and control movements	For rigging information refer to the Model 212 Maintenance Manual.
Serial nos. eligible	30501 through 30999 except 30604 through 30610; 31101 through 31399; 32101 through 32199; 35001 and up (see Note 20).

II - Model 412 (Transport Helicopter - Category B), Approved January 9, 1981. (Transport Helicopter - Category A), Approved August 31, 1983.

Engines	Pratt & Whitney Aircraft of Canada, Ltd. PT6T-3B Twin Power Section Turboshaft (Ref. Note 5 on Type Certificate Data Sheet No. E22EA) or Pratt and Whitney Aircraft of Canada, Ltd. PT6T-3BE (see Note 24) or Pratt and Whitney Aircraft of Canada, Ltd. PT6T-3D (see Notes 27 and 29).
Fuel	Avjet type fuels conforming to ASTM D-1655, Type A, A-1,B; or MIL-T-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or MIL-T-83133, Grade JP-8 (NATO F-34).

Engine Operating Limits

For 412 (S/N 33001 thru 33107) with PT6T-3B Engines

	Torque per engine lb-ft (%)	Power Turbine Speed - rpm (%)		Gas Generator Speed - rpm (%)	Gas Temperature °C
		Maximum	Minimum		
Normal Operation:					
Takeoff (5 minutes)	537 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	810
Maximum Continuous	450 ⁽¹⁾ (84)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765
One Engine Inoperative (Emergency):					
2-1/2 Minutes	815 ⁽⁴⁾ (76)	33,000 ⁽²⁾ (100)	32,000 (97)	39,000 ⁽⁶⁾ (102.4)	850
30 Minutes	815 ⁽⁴⁾ (76)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	822
Continuous	657 ⁽⁴⁾ (61)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765

For 412 (S/N 33108 thru 33213, 36001 thru 36019) with PT6T-3B Engines (See Note 19) (The 412SP is a Model designation used for marketing purposes only)

Normal Operation:					
Takeoff (5 minutes)	557 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	810
Maximum Continuous	450 ⁽¹⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765
One Engine Inoperative (Emergency):					
2-1/2 Minutes	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	39,000 ⁽⁶⁾ (102.4)	850
30 Minutes	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	822
Continuous	657 ⁽⁴⁾ (58.9)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765

For 412 (S/N 36020 thru 36086) with PT6T-3BE Engines (See Note 24) (The 412HP is a Model designation used for marketing purposes only)

	Torque lb-ft (%)	Power Turbine Speed - rpm (%)		Gas Generator Speed - rpm (%)	Gas Temperature °C
		Maximum	Minimum		
Normal Operation:					
Takeoff (5 minutes)	22,208 ⁽⁷⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	810
Maximum Continuous	17,766 ⁽⁷⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765
One Engine Inoperative (Emergency):					
2-1/2 Minutes	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	39,000 ⁽⁶⁾ (102.4)	850
30 Minutes	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	822
Continuous	657 ⁽⁴⁾ (58.9)	33,000 ⁽²⁾ (100)	32,000 (97)	38,400 ⁽⁵⁾ (100.8)	765

For 412 (S/N 36020 thru 36086) with PT6T-3D Engines (See Notes 27, 29 and 30) (The 412HP is a Model designation used for Marketing purposes only)

Normal Operation:					
Takeoff (5 minutes)	22,208 ⁽⁷⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.1)	810
Maximum Continuous	17,766 ⁽⁷⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.1)	810
One Engine Inoperative (Emergency):					
2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
Continuous	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	39,500 (103.7)	820

For PT6T-3DE Engines (See Note 36)

Normal Operation:					
Takeoff (5 minutes)	22,208 ⁽⁷⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.2)	810
Maximum Continuous	17,766 ⁽⁷⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.2)	810
One Engine Inoperative (Emergency):					
2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
30 Minutes	859 ⁽⁴⁾ (77)	33,000 ⁽²⁾ (100)	32,000 (97)	40,250 (105.7)	855

Empty weight 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 Center of Gravity chart in the Limitations section of the Flight Manual.	
Maximum weight	11,600 lb for 412 (S/N 33001 thru 33107) (see Note 19); 11,900 lb for 412 (S/N 33108 thru 33213 and 36001 thru 36086).	
Minimum crew	1 (pilot) Category B and Category A. See Note 14 for IFR operations.	
Maximum passengers	14 (Not limited by emergency exit requirements)	
Maximum baggage	400 lb (See Flight Manual for loading schedule)	
Fuel capacity	<u>412</u> S/N 33001-33107: 214.2 U.S. gal. (+152.8) total 211.4 U.S. gal. usable 2.8 U.S. gal. unusable	<u>412</u> S/N 33108 thru 33213 36001 thru 36086 337.5 U.S. gal. (+151.5) total 330.5 U.S. gal. usable 7.0 U.S. gal. unusable
	See Note 1 for requirement to include unusable (including trapped) fuel weight in certificated empty weight. For additional fuel capacities see Note 18.	
Oil capacity	Sys. Capacity 1.6 gal. (+182.9) each power section (.75 gal. usable). (Total capacity 3.2 gal. (+182.9)). See Note 1 for requirement to include undrainable oil weight in certificated empty weight.	
Rotor blade and control movements	For rigging information, refer to the Model 412 Maintenance Manual.	
Serial nos. eligible	33001 thru 33213 except 33130, 33139 thru 33149, 33161 thru 33167; 36001 thru 36086 (see Note 20) .	

III - Model 412EP (Transport Helicopter - Category B), Approved June 23, 1994. (Transport Helicopter - Category A), Approved October 5, 1994.

Engines	Pratt & Whitney Aircraft of Canada, Ltd. PT6T-3D or PT6T - 3DE or PT6T-3DF Twin Power Section Turboshaft (Ref. Note 5 on Type Certificate Data Sheet No. E22EA).
Fuel	Avjet type fuels conforming to ASTM D-1655, Type A, A-1,B; or MIL-T-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or MIL-T-83133, Grade JP-8 (NATO F-34).

Engine Operating Limits

For PT6T-3D Engines

	Torque lb-ft (%)	Power Turbine Speed - rpm (%)		Gas Generator Speed - rpm (%)	Gas Temperature °C
		Maximum	Minimum		
Normal Operation: Takeoff (5 minutes)	22,208 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.1)	810
Maximum Continuous	17,766 ⁽¹⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.1)	810

One Engine Inoperative (Emergency):					
2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
Continuous	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	39,500 (103.7)	820
<u>For PT6T-3DE Engines</u> (See Note 36)					
Normal Operation:					
Takeoff (5 minutes)	22,208 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.2)	810
Maximum Continuous	17,766 ⁽¹⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.2)	810
One Engine Inoperative (Emergency):					
2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
30 Minutes	859 ⁽⁴⁾ (77)	33,000 ⁽²⁾ (100)	32,000 (97)	40,250 (105.7)	885
<u>For PT6T-3DF Engines</u> (See Note 37)					
Normal Operation:					
Takeoff (5 minutes)	22,208 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.2)	810
Maximum Continuous	17,766 ⁽¹⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.2)	810
One Engine Inoperative (Emergency):					
2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
30 Minutes	859 ⁽⁴⁾ (77)	33,000 ⁽²⁾ (100)	32,000 (97)	40,700 (106.8)	885

(1) On mast torque scale.

(2) 100% (33,000 rpm) corresponds to 6600 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.

Rotor limits

Power Off

Power On

Maximum 339 rpm
(Tach reading 104.6%)

Maximum 324 rpm
(Tach reading 100%)

Minimum 294 rpm
(Tach reading 91%) G.W. more than 8,000 lb

Maximum 339 rpm
(Tach reading 104.5%)
(For 0 to 30% transmission torque)

Minimum 259 rpm
(Tach reading 80%) G.W. less than 8,000 lb

Minimum 314 rpm
(Tach reading 97%)

Airspeed limits

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

C.G. range	<p>(a) Longitudinal C.G. limits (135.1) to (141.4) at 11900 lb (130.0) to (144.0) at 8800 lb (130.0) to (144.0) at 6500 lb (130.4) to (144.0) at 6400 lb min. wt. Straight line variation between points given. See figure in Section 1, Model 412EP Rotorcraft Flight Manual (BHT-412-FM-4)</p> <p>(b) Lateral C.G. limits + 4.5 in. left and right of aircraft centerline.</p>
Empty weight 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 Center of Gravity chart in the Limitations section of the Flight Manual.
Maximum weight	11,900 lb
Minimum crew	1 (pilot) Category B and Category A. See Note 14 for IFR operations.
Maximum passengers	14 (Not limited by emergency exit requirements)
Maximum baggage	400 lb (See Flight Manual for loading schedule)
Fuel capacity	<p>337.5 U.S. gal. (+151.5) total 330.5 U.S. gal. usable 7.0 U.S. gal. unusable</p> <p>See Note 1 for requirement to include unusable (including trapped) fuel weight in certificated empty weight. For additional fuel capacities see Note 18.</p>
Oil capacity	Sys. Capacity 1.6 gal. (+182.9) each power section (.75 gal. usable). (Total capacity 3.2 gal. (+182.9)). See Note 1 for requirement to include undrainable oil weight in certificated empty weight.
Rotor blade and control movements	For rigging information, refer to the Model 412/412EP Maintenance Manual.
Serial nos. eligible	36087 and sub (see Note 20).
<u>IV - Model 412CF (Transport Helicopter - Category B), Approved March 2, 1995. (Transport Helicopter - Category A), Approved March 2, 1995. See Note 33.</u>	
Engines	Pratt & Whitney Aircraft of Canada, Ltd. PT6T-3D Twin Power Section Turboshaft (Ref. Note 5 on Type Certificate Data Sheet No. E22EA).
Fuel	Avjet type fuels conforming to ASTM D-1655, Type A, A-1,B; or MIL-T-5624, Grade JP-4 (NATO F-40) or JP-5 (NATO F-44); or MIL-T-83133, Grade JP-8 (NATO F-34).

Engine Operating Limits

	Torque lb-ft (%)	Power Turbine Speed - rpm (%)		Gas Generator Speed - rpm (%)	Gas Temperature °C
		Maximum	Minimum		
Normal Operation: Takeoff (5 minutes)	22,208 ⁽¹⁾ (100)	33,000 ⁽²⁾ (100)	32,000 (97)	39,300 (103.1)	810
Maximum Continuous	17,766 ⁽¹⁾ (81)	33,000 ⁽²⁾⁽³⁾ (100)	32,000 (97)	39,300 (103.1)	810
One Engine Inoperative (Emergency): 2-1/2 Minutes	902 ⁽⁴⁾ (81)	33,000 ⁽²⁾ (100)	32,000 (97)	41,600 (109.2)	940
Continuous	815 ⁽⁴⁾ (73.2)	33,000 ⁽²⁾ (100)	32,000 (97)	39,500 (103.7)	820

(1) On mast torque scale.

(2) 100% (33,000 rpm) corresponds to 6600 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.

Rotor limits

Power Off	Power On
Maximum 339 rpm (Tach reading 104.6%)	Maximum 324 rpm (Tach reading 100%)
Minimum 294 rpm (Tach reading 91%) G.W. more than 8,000 lb	Maximum 339 rpm (Tach reading 104.5%) (For 0 to 30% transmission torque)
Minimum 259 rpm (Tach reading 80%) G.W. less than 8,000 lb	Minimum 314 rpm (Tach reading 97%)

Airspeed limits

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

C.G. range

- (a) Longitudinal C.G. limits
(135.1) to (141.4) at 11900 lb
(130.0) to (144.0) at 8800 lb
(130.0) to (144.0) at 6500 lb
(130.4) to (144.0) at 6400 lb min. wt.

Straight line variation between points given. See figure in Section 1, Model 412CF Rotorcraft Flight Manual C-12-146-000/MB-002)

- (b) Lateral C.G. limits
+ 4.5 in. left and right of aircraft centerline.

Empty weight C.G. range

When possible, the empty C.G. shall be adjusted to the range given in Chapter 8, Model 412CF Maintenance Manual (C-12-146-000/MF-001). 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 Center of Gravity chart in the Limitations section of the Model 412CF Flight Manual (C-12-146-000/MB-002).

Maximum weight

11,900 lb

Minimum crew

1 (pilot) Category B and Category A. See Flight Manual for mission systems a additional crew.

Maximum passengers	14 (Not limited by emergency exit requirements)
Maximum baggage	400 lb (See Flight Manual for loading schedule)
Fuel capacity	326.5 U.S. gal. (+150.2) total 317.3 U.S. gal. usable 9.2 U.S. gal. unusable
	See Note 1 for requirement to include unusable (including trapped) fuel weight in certificated empty weight. For additional fuel capacities see Note 18.
Oil capacity	Sys. Capacity 1.6 gal. (+182.9) each power section (.75 gal. usable). (Total capacity 3.2 gal. (+182.9)). See Note 1 for requirement to include undrainable oil weight in certificated empty weight.
Rotor blade and control movements	For rigging information, refer to the Model 412CF Maintenance Manual (C-12-146-000/MF-001).
Serial nos. eligible	46400 and sub (see Note 20).

Data Pertinent to All Models

Datum	Station 0 (datum is located 20 inches aft of the most forward point of the fuselage cabin nose section).
Leveling means	Plumb line from top of left main door frame.
Certification basis <u>Model 212</u> :	FAR Part 29 dated 1 February 1965, Amend 29-1 and 29-2, and FAR 29.473, 29.501, 29.771, 29.903(c), 29.1323, and 29.1505(b) of Amend 29-3, Special Conditions No. 29-12-SW-1, and "Guidelines For Helicopter Certification Using Vertical Takeoff Techniques From Ground Level and Elevated Heliports" vertical takeoff 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). No exemptions. Ditching: FAR 25.801 including FAR 29.1411 and 29.1415.
<u>Model 412</u> :	FAR Part 29 dated 1 February 1965, Amend 29-1 and 29-2; FAR 29.473, 29.501, 29.663, 29.771, 29.903(c), 29.1323, 29.1505(b) of Amend 29-3. Special Conditions No. 29-12-SW-1, Amend 1. "Guidelines For Helicopter Certification Using Vertical Takeoff Techniques From Ground Level and Elevated Heliports" vertical takeoff criteria transmitted to Bell by FAA SW-210 letter dated 3 February 1971. IFR standards dated December 15, 1978. Ditching: FAR 25.801 including FAR 29.1411 and 29.1415. Exemption No. 3100 against FAR 29.1323(c). Exemption No. 5985 against FAR 29.1303(g)(1). Complied with Category A engine isolation requirements.
<u>Model 412EP</u> :	FAR Part 29 dated February 1, 1965, Amend 29-1 and 29-2; FAR 29.473, 29.501, 29.663, 29.771, 29.903(c), 29.1323, and 29.1505(b) of Amend 29-3; FAR 29.1457 of Amend 29-6; FAR 29.939(c), 29.1322 of Amend 29-12; FAR 29.1335, 29.1351 of Amend 29-14; FAR 29.1353, 29.1581 of Amend 29-15; FAR 29.1413 of Amend 29-16; FAR 29.1545 of Amend 29-17; FAR 29.1321 of Amend 29-21; FAR 29.151, 29.161, 29.672, 29.1303, 29.1309, 29.1325, 29.1329, 29.1331, 29.1333, 29.1355, 29.1357, 29.1555, of Amend 29-24; FAR 29.1459 of Amend 29-25; FAR 29.1549 of Amend 29-26; Appendix B to Part 29 of Amend 29-31; FAR 29.2 of Amend 29-32. Special Conditions No. 29-12-SW, Amend 1. Special Conditions No. 29-ASW-5 for SAR equipped helicopters. Ditching: FAR 25.801 including FAR 29.1411 and 29.1415. FAR 21.93 and 36.11. Exemption No. 3100 against FAR 29.1323(c). Exemption No. 5985 against FAR 29.1303(g)(1). Complied with Category A engine isolation requirements.

Model 412CF: FAR Part 29 dated February 1, 1965, Amend 29-1 and 29-2; FAR 29.473, 29.501, 29.663, 29.771, 29.903(c), 29.1323, and 29.1505(b) of Amend 29-3; FAR 29.1457 of Amend 29-6; FAR 29.1397 of Amend 29-7; FAR 29.1387 of Amend 29-9; FAR 29.1401 of Amend 29-11; FAR 29.939(c), 29.1322 of Amend 29-12; FAR 29.1335, 29.1351 of Amend 29-14; FAR 29.1353, 29.1581 of Amend 29-15; 29.1413 of Amend 29-16; FAR 29.1545 of Amend 29-17; FAR 29.1321 of Amend 29-21; FAR 29.151, 29.161, 29.672, 29.1303, 29.1309, 29.1325, 29.1329, 29.1331, 29.1333, 29.1355, 29.1357, 29.1555, 29.1559 of Amend 29-24; FAR 29.1459 of Amend 29-25; FAR 29.1549 of Amend 29-26; FAR 29.501 of Amend 29-30; Appendix B to Part 29 of Amend 29-31; FAR 29.2 of Amend 29-32. Special Conditions No. 29-12-SW, Amend 1. FAR 21.93 and 36.11. Exemption No. 3100 against FAR 29.1323(c). Exemption No. 5985 against FAR 29.1303(g)(1). Complied with Category A engine isolation requirements.

Type Certificate H4SW issued 30 October 1970.

Date of application for Type Certificate 17 January 1968.

Production basis

Production Certificate No. 100. See Note 20.

Equipment

(See Notes 4, 7, 11, 12, 14, 15, 16, 21, 24, 26, 27, 29, 30, 31, 32)

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

- (1) FAA approved Bell Model 212 Rotorcraft Flight Manual BHT-212-VFR-FM-1 Reissue dated 14 August 1995 or later FAA 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 and Sub, and 35001 and Sub.
- (2) FAA approved Bell Model 212 Flight Manual Supplement BHT-212-FMS-7 for Category A Operations dated 30 June 1971, reissued 18 August 1972, or later FAA approved revision. See Note 7.
- (3) FAA approved 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 35.
- (4) FAA approved Bell Model 412 Flight Manual, BHT-412-FM-1, dated January 9, 1981, or later FAA approved revision for Transport Category B (S/N 33001-33107).
- (5) Model 412. Airspeed indicator P/N 412-075-009-105.
- (6) FAA approved Bell Model 412 Flight Manual, BHT-412-FM-1, Revision 2, dated March 20, 1981, or later FAA approved revision for IFR operations (SN 33001-33107). FAA approved Bell Model 212 Flight Manual BHT-FM-4 for S/N 30504 thru 30596 or BHT-FM-5 for S/N 30597 and Sub and S/N 35001 and Sub for IFR operations.
- (7) When 412 part number passenger seats are used, they must include their seat belt and shoulder harness.
- (8) FAA approved Bell Model 412 Flight Manual Supplement for Category A operations (BHT-412-FMS-10).
- (9) FAA approved Bell Model 412 Flight Manual, BHT-412-FM-2, dated November 17, 1983, or later FAA approved revision for Transport Category B or A, VFR or IFR operation (S/N 33108 thru 33213 and 36001 thru 36019).
- (10) FAA approved Bell Model 412 Flight Manual, BHT-412-FM-3, dated February 5, 1991, or later FAA approved revision for Transport Category B or A, VFR or IFR operation (S/N 36020 thru 36086).

- (11) FAA approved Bell Model 412EP Flight Manual, BHT-412-FM-4, dated June 23, 1994, or later FAA approved revision for Transport Category B or A, VFR or IFR operation (S/N 36087 and Sub).
- (12) FAA approved Bell Model 412CF Rotorcraft Flight Manual, C-12-146-000/MB-002 dated March 2, 1995, or later FAA approved revision for Transport Category B or A, VFR or IFR operation (S/N 46400 and Sub).
- (13) FAA approved Bell Model 212 Rotorcraft Flight Manual BHT-212-VFR-FM-1 Reissue dated 14 August 1995 or later FAA 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 and Sub, and 35001 and Sub.
- (14) FAA approved Bell Model 212 Rotorcraft Flight Manual BHT-212-IFR-FM-1 Reissue dated 14 August 1995 or later FAA 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 and Sub, and S/N 35001 and Sub. See Note 12.

NOTE 1. 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.

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).

The Model 412, 412EP, and 412CF certificated empty weight and corresponding C.G. location must include undrainable oil of 7.1 lb (+230.7). For aircraft S/N 33001 thru 33107 unusable fuel of 28.3 lb (+142.8). For aircraft S/N 33108 thru 33213, 36001 thru 36086, and 36087 and Sub (412EP), the unusable (including trapped) fuel is 47.6 lb (+128.0). For aircraft 46400 and Sub (412CF), the unusable (including trapped) fuel is 62.4 lb (+123.4).

When possible, the empty weight/C.G. shall be adjusted to the range given in Chapter 8, 212 Maintenance Manual, and 412/412EP and 412CF 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.

NOTE 2. The following placards must be displayed in front of and in clear view of the pilot. Model 212: "This helicopter must be operated in compliance with the operating limitations specified in the FAA Approved Rotorcraft Flight Manual."

Model 412 Series: "This helicopter must be operated in compliance with the operating limitations specified in the FAA Approved Rotorcraft Flight Manual."

All placards required in the FAA Approved Flight Manual must be installed in the appropriate locations. The Maintenance Manual includes information about other placards and their locations.

NOTE 3. For Model 212, 412, 412EP, and 412CF the retirement times of certain parts and inspection requirements are listed in the FAA approved Airworthiness Limitations, Chapter 4, of the Model 212, 412/412EP and 412CF Maintenance Manuals. These values of retirement or service life and inspections cannot be increased without FAA engineering approval. The Airworthiness Limitations Section of the Maintenance Manual must be complied with.

NOTE 4. 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 pounds gross weight in accordance with the limits of FAA Approved Model 212 Flight Manual Supplement, BHT-212-FMS-3, dated 29 October 1970, reissued 14 August 1995, or later FAA approved revision, for 11,200 pounds gross weight. The retirement times listed per Note 3 are not changed.

NOTE 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.

NOTE 6. The inspection of the engine exhaust ducts and ejectors must be conducted in accordance with Bell Service Letter No. 212-4 dated 30 October 1970, or later FAA approved revisions.

NOTE 7. Only 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 Copilot's Instrument Kit P/N 212-706-104-1 or 212-706-110-1.

NOTE 8. Deleted by Revision 5, May 15, 1975.

NOTE 9. Deleted by Revision 20, August 20, 1993.

NOTE 10. 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.

NOTE 11. 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 FAA Approved Flight Manual Supplement for IFR Operations dated December 15, 1972, or later FAA approved revision. Minimum crew 2 (pilot and copilot) for IFR instrument operations.

NOTE 12. S/N 30504 thru 30596 and 30604 thru 30610, incorporating IFR No. 212-706-106, S/N 30597 thru 30603 and 30611 thru 30679 incorporating IFR Kit No. 212-706-041, S/N 30680 thru 30849 incorporating IFR Kit No. 212-706-109, and S/N 30850 and Sub incorporating IFR Kit No. 212-706-112, are eligible for IFR operations when operated in accordance with the limitations of the FAA Approved Flight Manual BHT-212-IFR-FM-1 dated 14 August 1995, or later FAA approved revision. Minimum crew 2 (pilot and copilot) for IFR instrument conditions. Installation of IFR Fin Kit No. 212-706-114 is not required for IFR operations of the Model 212.

NOTE 13. Compliance with Bell Service Bulletin No. 212-9 must be assured prior to issuing a U.S. Airworthiness Certificate for Bell Model 212 helicopters, S/N 30519, 30522, 30523, and 30524.

NOTE 14. Model 412 and 412EP helicopters incorporating IFR modification No. 412-705-006 are eligible for IFR operations when operated in accordance with the limitations of FAA Approved Flight Manual Revision 2 dated March 20, 1981, or later FAA approved revision, or later FAA approved Flight Manual. Minimum crew one (pilot) for IFR operations.

NOTE 15. Model 412 and 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 FAA Approved Flight Manual Supplement BHT-412-FMS-9, or FAA approved Flight Manual C-12-146-000/MB-002 for Model 412CF helicopters.

NOTE 16. Model 412 and 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 FAA Approved Flight Manual Supplement BHT-412-FMS-7 or BHT-412-FMS-26.

NOTE 17. 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 U.S. gallons and the usable becomes 211 U.S. gallons.

NOTE 18. Model 412 series helicopters equipped with Auxiliary Fuel Kit 412-706-007 have fuel capacities (including basic system) as follows:

412 (S/N 33108 thru 33213, 36001 thru 36086), 412EP

With Left or Right Auxiliary Tank:

419.1 U.S. gal. (+150.9) Total

412.1 U.S. gal. Usable

7 U.S. gal. Unusable

(See Note 1)

With Both Left and Right Auxiliary Tanks:

500.8 U.S. gal. (+150.6) Total

493.8 U.S. gal. Usable

7 U. S. gal. Unusable

(See Note 1)

412 (S/N 33001 thru 33107):

With Left or Right Auxiliary Tank:

295.8 U.S. gal. (+157.7) Total

293 U.S. gal. Usable

2.8 U.S. gal. Unusable

(See Note 1)

With Both Left and Right Auxiliary Tanks:

377.5 U.S. gal. (+151.2) Total

374.7 U.S. gal. Usable

2.8 U.S. gal. Unusable

(See Note 1)

412CF

With Left or Right Auxiliary Tank:
 408.2 U.S. gal (+149.9) Total
 399.0 U.S. gal. Usable
 9.2 U.S. gal. Unusable
 (See Note 1)

With Both Left and Right Auxiliary Tanks:
 489.9 U.S. gal. (+149.7) Total
 480.7 U.S. gal. Usable
 9.2 U.S. gal. Unusable
 (See Note 1)

NOTE 19. For Model 412 S/Ns 33001 thru 33107 complying with BHT Technical Bulletin 412-84-44 and operated in accordance with FAA Approved Flight Manual 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 thru 33213).

NOTE 20. Model 212 S/N 35001 and Sub and Model 412 series S/N 36001 and Sub, and 46400 and Sub (see note 33) are manufactured by Bell Helicopter Textron, a Division of Textron Canada Limited, under the Canadian Department of Transportation Manufacturers Approval No. 1-86.

Import Requirements: U. S. Standard Airworthiness Certificate may be issued on the basis of the Canadian Department of Transportation 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 H4SW and to be in condition for safe operation."

NOTE 21. Deleted by Revision 23, May 20, 1998.

NOTE 22. Deleted by Revision 20, August 20, 1993.

NOTE 23. Model 412 S/N 36020 thru 36086 having PT6T-3BE engines installed meet certification basis when operated in accordance with FAA Approved Flight Manual BHT-412-FM-3.

NOTE 24. Aircraft Model 412 S/N 33108 thru 33213 and S/N 36001 thru 36019 are eligible for improved hover operation when modified in accordance with BHTI Mod Drawing. 412-570-001-103 and operated in accordance with FAA Approved Flight Manual Supplement BHT-412-FMS-34.2.

NOTE 25. Deleted by Revision 21, June 23, 1994.

NOTE 26. Model 212 helicopter equipped with Increased Takeoff Horsepower Kit No. 212-704-153 and operated in accordance with FAA Approved Flight Manual Supplement BHT-212-FMS-29 are approved for operation with a takeoff (5 minutes) transmission torque of 104.3% (537 lb-ft) per engine.

NOTE 27. Model 412 S/N 36020 thru 36086 having 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 FAA Approved Flight Manual Supplement BHT-412-FMS-45.3.

NOTE 28. Model 212 S/N 35038 and Sub, and Model 412 S/N 36026, Model 412EP S/N 36037 and Sub, and Model 412CF S/N 46400 and Sub incorporate provisions for cockpit voice recorders and flight data recorders (Reference FAR 29.1457, 29.1459).

NOTE 29. Model 412 S/N 36020 thru 36086 having PT6T-3D engines installed but not modified with 412-706-029 Maximum Continuous Power Kit shall be operated in accordance with FAA Approved Flight Manual Supplement BHT-412-FMS-46.3.

NOTE 30. Model 412 (S/N 36001 thru 36086) and 412EP (S/N 36087 and Sub) 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 FAA Approved Flight Manual Supplement BHT-412-FMS-39.3 or 39.4 respectively.

NOTE 31. Model 412EP 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 FAA Approved Flight Manual Supplement BHT-412-FMS-38.4.

NOTE 32. Model 412EP helicopters equipped with Flight Director Kit No. 412-706-024 meet the certification basis when operated in accordance with FAA Approved Flight Manual Supplement BHT-412-FMS-37.4.

NOTE 33. Model 412CF helicopters are utility/tactical transport/rescue versions of the Model 412EP manufactured for the Canadian Military. The FAA approved Model 412CF helicopter is defined by Bell Helicopter Textron Drawing Number 412-900-004 Revision CA dated November 19, 1994, or later FAA approved revision. Prior to return to civil operations, the following must be accomplished:

- (a) The maintenance, overhaul and modifications records of each aircraft must be reviewed for changes made by the military services that may affect the airworthiness of the aircraft. Modifications, changes of equipment and major repairs must be approved by the FAA. All items that are not FAA approved must be removed from the aircraft.
- (b) Comply with all applicable FAA Airworthiness Directives.
- (c) Each deviation from the approved type design required for civil certification must be corrected per approved data.
- (d) Incorporate civil markings in accordance with markings installations 212-070-600-005/-121/-131 in lieu of military markings 412-070-600-101/-103/-105.
- (e) Install FAA approved radios as part of the type design.

NOTE 34. Bell Model 412 helicopters, S/N 34001 thru 34999, co-produced by Industri Pesawat Terbang Nusantara (IPTN), Republic of Indonesia, are not eligible for Airworthiness Certification in the United States unless Bell Helicopter Textron, Fort Worth, Texas, makes a determination of conformity to the Type Design and issues a statement to the fact on FAA Form 8130-9.

NOTE 35. Model 212 prior to S/N 31125 shall incorporate all equipment specified in TB 212-81-54 prior to operation with PT6T-3B engines.

NOTE 36. Model 412EP S/N 36072, 36082, 36119, 36122, 36123, 36126, 36127, and 36133 having PT6T-3DE engines installed shall be operated in accordance with FAA approved flight manual supplement BHT-412-FMS-53.4.

NOTE 37. Model 412 and 412EP having PT6T-3DF engines installed shall be operated in accordance with FAA approved flight manual supplement BHT-412-FMS-56.3 OR BHT-412-FMS-56.4.

NOTE 38. Model 412EP S/N 36095, 36125, 36144, 36145, 36151, 36161, 36162, 36164, and 36156 were delivered to the UK for military training. Subsequent to delivery extensive modifications to the cockpit were made which are not FAA approved. Prior to return to civil operations, the cockpit configuration must be returned to the FAA approved configuration for the Model 412EP.

NOTE 39. Model 412EP S/N's 36172, 36193, 36194 and 36195 were delivered to the Royal Thai Air Force in a FAA VFR approved configuration, Reference BHT-412-FMS-60.4. Due to Non FCC approved Radio/Avionic installations these aircraft are required to be reconfigured to an approved FAA IFR configuration prior to U.S. registration.

.....End.....