
Type Acceptance Report

TAR 7/21B/13 – Revision 1

Agusta-Bell AB 212/412

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Executive Summary

New Zealand Type Acceptance has been granted to the Agusta-Bell AB-212 and AB-412 Series based on validation of EASA Type Certificate number RAI A157. There are no special requirements for import.

Applicability is currently limited to the Models and/or serial numbers detailed in Appendix 1, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.177, subject to any outstanding New Zealand operational requirements being met. (See Section 5 of this report for a review of compliance of the basic type design with the operating Rules.) Additional variants or serial numbers approved under the foreign type certificate can become type accepted after supply of the applicable documentation, in accordance with the provisions of NZCAR §21.43(b).

1. Introduction

This report details the basis on which Type Acceptance Certificate No.7/21B/13 was granted in the Standard Category in accordance with NZCAR Part 21 Subpart B.

Specifically the report aims to:

- (a) Specify the foreign type certificate and associated airworthiness design standard used for type acceptance of the model(s) in New Zealand; and
- (b) Identify any special conditions for import applicable to any model(s) covered by the Type Acceptance Certificate; and
- (c) Identify any additional requirements which must be complied with prior to the issue of a NZ Airworthiness Certificate or for any subsequent operations.

2. ICAO Type Certificate Details

Manufacturer:	Agusta S.p.A.
Type Certificate:	A 157
Issued by:	Registro Aeronautico Italiano (RAI) *
	*See further details under Section 3
Model:	AB 212
MCTOW	5080 kg [11,200 lb]
Max. No. of Seats:	15
Noise Standard:	Not Applicable
Engine:	PT6T-3 or PT6T-3B
	Type Certificate: E-10
	Issued by: Transport Canada

Model: AB 412

MCTOW 5260 kg [11,600 lb]
5400 kg [11,900 lb] s/n 25600 and on, or earlier serial numbers
with embodiment of modification P/N 412-075-008-111

Max. No. of Seats: 15

Noise Standard: FAR Part 36 at Amendment 36-14

Engine: PT6T-3B, PT6T-3BE or PT6T-3D
Type Certificate: E-10
Issued by: Transport Canada

3. Type Acceptance Certificate

The application for type acceptance of the AB412 was from the importer Helicopters (NZ) Ltd, dated 2 November 2006. The first-of-type example was serial number 25626, registered ZK-HIU. The Agusta-Bell AB412 Series is a 15-seat twin-turbine Transport Category helicopter approved for IFR non-icing operations and Category A performance.

Type Acceptance Certificate Number 7/21B/12 was granted on 30 November 2006 to the Agusta AB412 "SP" based on validation of EASA Type Certificate number RAI A157. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

This report was raised to Revision 1 to include the AB212 variant. The applicant was Oceania Aviation Limited and the first-of-type example was serial number 5522 registered ZK-IIIJ. Type acceptance was granted on 25 May 2012.

EASA assumed responsibility for all European type certificates (except types excluded under Annex II) as of 28 September 2003. Under EASA regulatory responsibility Agusta has now issued their own AB412 Series MM and IPC to replace the original Bell manuals. (See Information Letter AB412-08-005.) Bell publications are still used for the AB212.

The AB212/412 are license-built versions of the Bell 212/412 and are identical except for any optional Agusta equipment kits. (Many Bell substantiation reports were used as the basis of issue of the Italian type certificate.) Information Letter AB412 96-006 lists the equivalent Bell Serial numbers that have the same manufacturing standard as the Agusta serial numbers. (The AB412 was produced in the same 412SP and 412EP versions. The 412SP is the marketing name for the 412 with increased fuel capacity and higher MAUW.)

4. NZCAR §21.43 Type Data

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents, or were already held by the CAA:

(1) ICAO Type certificate:

RAI Certificato di Omologazione del Tipo di Aeromobile No. A 157

Specifica di Omologazione del Tipo di Aeromobile SO/A 157 Rev.13 16 Dec 1998

– Model AB 212 approved 6 March 1976

– Model AB 412 approved 2 March 1983 (Transport Category B)

– Model AB 412 approved 27 June 1994 (Transport Category A)

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the Model AB 212 is FAR Part 29 including Amendments 29-1 and 29-2, plus some specified paragraphs at Amendment 29-3, and Guidelines for Helicopter Certification Using Vertical Takeoff Techniques from Ground Level and Elevated Heliports (Applicable to CAR 7/FAR 29 Category A helicopters) and IFR instrument requirements for Bell Model 212 helicopters per FAA letter dated 1, July 1970. One Special Condition was applied and the helicopter complies with Category A engine isolation requirements and the requirements for ditching.

The same certification basis was used for the Model AB 412 except one additional paragraph was updated to FAR 29 Amendment 29-3 and later IFR standards were called up. (Airworthiness Criteria for Helicopter Instrument Flight – Dec 15, 1978)

This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41 and Advisory Circular 21-1A, as FAR 29 is the basic standard for Transport Category Helicopters called up under Part 21 Appendix C. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.

(ii) *Special Conditions:*

Special Conditions No.29-12-SW-1 Amendment No.1 Bell 212/412 – Some additional requirements were imposed on the Model 212/412 based on later FAR 29 Amendment provisions.

(iii) *Equivalent Level of Safety Findings:*

Nil

(iv) *Airworthiness Limitations:*

See Agusta-Bell AB212 Airworthiness Limitations Manual

See Agusta-Bell AB412 Maintenance Manual Chapter 4

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

AB412 noise certification is based on the equivalent Bell 412, which is certificated under FAR Part 36 Subpart H, including Amendments 36-1 through 36-14.

(ii) *Compliance Listing:*

Bell Helicopter Report 412-099-094 Volume 1 – June 1991 – Noise Certification Compliance of the Model 412 Helicopter: This showed the 412SP helicopter in standard configuration to be in full compliance with FAR Part 36 Subpart H for classification as a Stage 2 Helicopter up to MCTOW. The Effective Perceived Noise Level are 93.4 EPNd(B) for the Flyover condition, 95.6 EPNd(B) for the Approach condition and 93.2 EPNd(B) for the Takeoff condition.

(4) Certification Compliance Listing:

Not applicable – AB212 type certificate issued on basis of FAA Bell 212 approval.

Elicottero Bell 412 – Elenco Reports Bell – Situazione al 18 Agosto 1981
(List of Bell Reports used for AB412 ENAC certification.)

Relazione N, 412-03-07 – Elicottero AB 412 N/C 25600 E Successivi – Tabelle di Conformita per Ottenere l’Approvazione RAI ad Operare in Categoria “A”

(5) Flight manual: EASA-Approved Flight Manual for the Helicopter AB412 S/N 25600 and on – CAA Accepted as AIR 2982

FAA-Approved Rotorcraft Flight Manual Bell 212 – Document Number BHT-212-VFR-FM-1 – CAA Accepted as AIR 3209

Note: The AB 212 is not FAA-certificated and there is no Flight Manual available in the English language for s/n 5568 and earlier. Because of the similarity it was agreed to accept the use of the Bell 212 Flight manual. Agusta stated they had no technical objection in principle. (See email dated 21 February 2012.) The Bell manual is also called up on the German LBA TCDS No.3064 for the AB212.

(6) Operating Data for Aircraft and Engine:

(i) *Maintenance Manual:*

Airworthiness Limitations Manual AB212
Agusta specifies use of the Bell 212 Maintenance Manual BHT-212-MM
[See AgustaWestland My Fleet – List of Applicable Publications]

AB 412-MM Maintenance Manual
AB412-MPM Maintenance Planning Manual

Structural Repair Manual for Bell Medium Series Helicopters – BHT-MED-SRM-1
Bell Corrosion Control Guide – Publication CSSD-PSE-87-001
Bell Helicopter Electrical Standard Practices Manual – Pub. BHT-ELEC-SPM
Bell Helicopter Standard Practices Manual – Publication BHT-ALL-SPM

(ii) *Current service Information:*

Agusta Service Bulletins, Technical Bulletins and Service Information Letters

(iii) *Illustrated Parts Catalogue:*

Agusta uses the Bell 212 Illustrated Parts Breakdown Manual BHT-212-I.P.B.
AB 412-IPC Illustrated Parts Catalogue

Note: See Information Letter AB412-06-003 Interchangeability of Agusta Bell and Bell Helicopter Parts. This states that “*Original Bell Helicopter components are therefore applicable to Agusta-Bell products when supplied or authorised by Agusta only.*”

(7) Agreement from manufacturer to supply updates of data in (5) and (6):

CAA 2171 from Agusta S.p.A. Customer Support Engineering dated 20/11/06

Access to publications is now provided at www.myfleet.agustawestland.com

(8) Other information:

Agusta Information Letter AB412-06-003 – Interchangeability of Agusta Bell and Bell Helicopter Parts

Bell Helicopter Report No.412-970-004 – Preliminary Electrical Load Analysis for Model 412 Helicopter in production FAA/IFR Configuration – dated 10/9/80

Bell Helicopter Spec. No. 412-947-001 – Detail Specification for Model 412 Commercial Helicopter (S/N 33001-33100) – dated 2 September 1981

Agusta Report 412-00-65 Master Minimum Mission Equipment List (MMEL)

Agusta Report 412-00-28 – AB412 Helicopter from S/N 25600 and Subsequent (Differences Respect B412 from S/N 33108 and Subsequent) Rev.B dated 29-7-91

E-AB212-PT6T-1 – Flight Manual AB212 Helicopter Model – Issued 15 May 1997

5. Additional New Zealand Requirements

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 is a prerequisite for the grant of a type acceptance certificate.

CAR Part 26 – Subpart B – Additional Airworthiness Requirements

Appendix B - All Aircraft

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
B.1	Marking of Doors and Emergency Exits	<i>To be determined on an individual aircraft basis</i>
B.2	Crew Protection Requirements – CAM 8 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

Appendix E - Helicopters

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
E.1	Doors and Exits	FAR Part §29.783(c) and (e)
E.2.1	Emergency Exit Marking	FAR Part §29.809(c)

Compliance with the following additional NZ operating requirements has been reviewed and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

CAR Part 91 – Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Seating and Restraints – Safety belt/Shoulder Harness	Standard fit – See BHT-IPB
91.507	Pax Information Signs - Smoking, safety belts fastened	N/A – Has direct communication with cockpit (See Note 5 of TCDS for a limitation on any partitions or linings).
91.509 Min. VFR	(1) ASI (2) Machmeter (3) Altimeter (4) Magnetic Compass (5) Fuel Contents (6) Engine RPM (7) Oil Pressure	FAR §29.1303(a) N/A – No Mach limitations FAR §29.1303(b) FAR §29.1303(c) FAR §29.1305(a)(3) FAR §29.1305(a)(11) FAR §29.1205(a)(6)
		(8) Coolant Temp (9) Oil Temperature (10) Manifold Pressure (11) Cylinder Head Temp. (12) Flap Position (13) U/c Position (14) Ammeter/Voltmeter
		N/A – Turbine powered. FAR §29.1305(a)(8) N/A – Turbine powered. N/A – Turbine powered. N/A – Not fitted N/A – Fixed undercarriage. FAR §29.1251(b)(6)
91.511	Night VFR Instruments and Equipment	<i>Operating Rule – Compliance to be determined by operator</i>
91.513	VFR Communication Equipment	<i>Operating Rule – Compliance to be determined by operator</i>
91.517	IFR Instruments and Equipment	<i>Operating Rule – Compliance to be determined by operator</i>
91.519	IFR Communication and Navigation Equipment	<i>Operating Rule – Compliance to be determined by operator</i>
91.523 Emrgcy Eqpmt.	(a) More Than 9 pax - First Aid Kits per Table 7 - Fire Extinguishers per Table 8 (b) More than 20 pax - Axe readily accessible to crew (c) More than 61 pax - Portable Megaphones per Table 9	<i>Operating Rule – Compliance to be determined by operator</i> <i>Operating Rule – Compliance to be determined by operator</i> Not Applicable – Less than 20 passenger seats Not Applicable – Less than 61 passenger seats
91.529	ELT - TSO C91a or C126 after 1/4/97 (or replacement)	<i>Operating Rule – Compliance to be determined by operator</i>
91.531	Oxygen Indicators - Volume/Pressure/Delivery	<i>Operating Rule – Compliance to be determined by operator</i>
91.533	Oxygen for Non-Pressurised Aircraft	Not fitted as standard.
91.541	SSR Transponder and Altitude Reporting Equipment	<i>Operating Rule – Compliance to be determined by operator</i>
91.543	Altitude Alerting Device - Turbojet or Turbofan	Not Applicable – Not turbojet or turbofan powered
91.545	Assigned Altitude Indicator	Not Applicable – Aeroplanes only
A.15	ELT Installation Requirements	<i>To be determined on an individual aircraft basis</i>

CAR Part 135 – Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
135.355	Seating and Restraints – Shoulder harness flight-crew seats	FAR §29.785(b)
135.357	Additional Instruments (Powerplant and Propeller)	FAR 29 is a Part 21 Appendix C airworthiness standard
135.359	Night Flight	Landing light, Pax compartment
135.361	IFR Operations	Speed, Alt, spare bulbs/fuses
135.363	Emergency Equipment (Part 91.523 (a) and (b))	<i>Operating Rule – Compliance to be determined by operator</i>
135.367	Cockpit Voice Recorder	<i>Operating Rule – Compliance to be determined by operator</i>
135.369	Flight Data Recorder	<i>Operating Rule – Compliance to be determined by operator</i>
135.371	Additional Attitude Indicator	Not Applicable – Not turbo jet or turbofan powered

Attachments

The following documents form attachments to this report:

Photographs first-of-type example AB412SP s/n 25626 ZK-HIU
Three-view drawing Agusta-Bell Model AB 412
Copy of EASA Type Certificate Data Sheet Number SO/A 157

Sign off

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David Gill
Team Leader Airworthiness

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Checked – Peter Gill
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
AB 412 (s/n 25600-25669)	Helicopters (NZ) Ltd	7/21B/13	30 November 2006
AB 212 (up to s/n 5568)	Oceania Aviation Ltd	12/21B/9	28 May 2012