
Type Acceptance Report

TAR 98/21B/6 – Revision 2

AIRBUS HELICOPTERS EC155/AS365/SA365 Series

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Executive Summary

New Zealand Type Acceptance has been granted to the Airbus EC155/AS365/SA365 “Dauphin” Series based on validation of Type Certificate number EASA.R.105. There are no special requirements for import.

Applicability is currently limited to the Models and/or serial numbers detailed in Section 2, which are now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with NZCAR §21.191, 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(c).

NOTE: The information in this report was correct as at the date of issue. The report is generally only updated when an application is received to revise the Type Acceptance Certificate. For details on the current type certificate holder and any specific technical data, refer to the latest revision of the State-of-Design Type Certificate Data Sheet referenced herein.

1. Introduction

This report details the basis on which Type Acceptance Certificate No. 98/21B/6 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.

The report notes the status of all models included under the State-of-Design type certificate which have been granted type acceptance in New Zealand, which are listed in Section 2. The history of the EC155/AS365/SA365 Series type acceptance in New Zealand under type certificate EASA.R.105 is listed in Appendix 1.

2. Aircraft Certification Details

(a) State-of-Design Type and Production Certificates:

Manufacturer: Airbus Helicopters
Eurocopter (until 6 January 2014)
Eurocopter France (until 30 May, 1997)
Aerospatiale (until 31 December, 1991)

Type Certificate: EASA.R.105
Issued by: European Aviation Safety Agency

Supersedes:
Type Certificate: Certificat de Navigabilite de Type Numero 86
Issued by: Direction Generale de l'Aviation Civile – Republic Francaise

Production Approval: EASA.21G.0070 (since 1 February 2018)

(b) Models Covered by the Part 21B Type Acceptance Certificate:

(i) **Model:** SA 365 C1, SA 365 C2, SA 365 C3

MCTOW: 3400 kg (7495 lb) – SA 365 C1
3500 kg (7716 lb) – SA 365 C2, SA 365 C3

Max. No. of Seats: 13 – 1 pilot and 12 passengers

Noise Standard: Not Applicable

Engine: Turbomeca Arriel 1A1 – SA 365 C1
Turbomeca Arriel 1A2 – SA 365 C2
Turbomeca Arriel 1C – SA 365 C3
Type Certificate: EASA.E.073
Issued by: European Aviation Safety Agency

(ii) **Model:** SA 365 N, SA 365 N1, AS 365 N2, AS 365 N3

MCTOW: 3850 kg (8488 lb) – SA 365 N
4000 kg (8818 lb) – SA 365 N after SB No. 01-01
4100 kg (9039 lb) – SA 365 N1
4250 kg (9369 lb) – AS 365 N2
4300 kg (9480 lb) – AS 365 N3

Max. No. of Seats: 14 – 1 pilot and 13 passengers

Noise Standard: ICAO Annex 16

Engine: Turbomeca Arriel 1C – SA 365 N
Turbomeca Arriel 1C1 – SA 365 N1
Turbomeca Arriel 1C2 – AS 365 N2
Type Certificate: EASA.E.073
Issued by: European Aviation Safety Agency

Turbomeca Arriel 2C – AS 365 N3
Type Certificate: EASA.E.001
Issued by: European Aviation Safety Agency

(iii) **Model:** EC 155 B, EC 155 B1

MCTOW: 4800 kg (10582 lb) – EC 155 B
4850 kg (10692 lb) – EC 155 B1
4920 kg (10847 lb) – EC 155 B1 with mod.s [see TCDS]

Max. No. of Seats: 15 – 1 pilot and 14 passengers

Noise Standard: ICAO Annex 16

Engine: Turbomeca Arriel 2C1 – EC 155 B
Turbomeca Arriel 2C2 – EC 155 B1
Type Certificate: EASA.E.001
Issued by: European Aviation Safety Agency

Note: Refer to Advisory Circular 21-1 Appendix 2 for the New Zealand type acceptance status of any engines listed above.

3. Application Details and Background Information

The application for New Zealand type acceptance of the Model SA 365 C1 was from the importer Mr Dave McIlroy dated 5th November 1997. The first-of-type example was serial number 5031 registered ZK-HPR. The SA 365 Dauphin is a 13-seat twin-turbine-engined Category A IFR-capable general-purpose helicopter.

Type Acceptance Certificate Number 98/06 was granted to the SA 365 C1 on 11 June 1998, based on validation of DGAC Type Certificate Number 86. There are no special requirements for import into New Zealand.

This report was raised to Revision 1 to add the SA 365 N Dauphin 2, after application by Rick Lucas Helicopters Ltd dated 12 October 2004. (There had been one example of the SA365N Dauphin 2 previously in New Zealand, ZK-HXW in 1987-91. However it was not registered as of 1 July 1995 and was therefore not covered by the transitional arrangements of Appendix A, and type acceptance was required.) The first-of-type example was serial number 6051 registered ZK-HYX. Type Acceptance was granted to the SA 365 N on 11 November 2004.

Revision 2 of this report was issued to add the EC 155 B1 helicopter. The first-of-type example was serial number 6968 registered as ZK-ICT. The opportunity was taken to add all existing models of the Series under the type certificate in accordance with current policy, and update the report to the latest format and EASA jurisdiction. Type acceptance was granted on 4 May 2022.

Model History:

The Aerospatiale SA 365 Dauphin 2 was a twin-engined version of the original SA 360 Dauphin transport category helicopter, which first flew in 1975. Each subsequent model is essentially an incremental development with a more powerful engine and higher gross weight. For example the SA 365 C1 is basically identical to the original SA 365 C except for the installation of an uprated 498 kW Arriel 1A1 engine in place of the 486 kW Arriel 1A. (Aerospatiale Service Bulletin No. 01.03 dated March 26, 1979 provided for conversion of the Model SA365C into the Model SA365C1).

Note: The Model SA365C type certification was surrendered on 1 February 2018. All existing examples have now been converted to a later model.

The SA 365 N Series was a major airframe upgrade of the Dauphin 2 with 522 kW Arriel 1C engines and uprated transmission, and a more conventional tricycle configuration undercarriage which is now retractable.

The EC 155 B (originally known as the AS 365 N4) is a development of the AS 365 N3, with 40% larger cabin area, new five-bladed Spheriflex main rotor system and the Thales MEGHAS advanced integrated digital flight control system. The EC 155 B1 variant has uprated engines.

4. NZCAR §21.43 Data Requirements

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) State-of-Design Type certificate:

EASA Type Certificate Number EASA.R.105

Type Certificate Data Sheet number EASA.R.105 at Issue 6 dated 9 Dec 2020

- Model SA 365 C1 approved 26 March 1979
- Model SA 365 C2 approved 18 February 1980
- Model SA 365 C3 approved 14 January 1982
- Model SA 365 N approved 9 April 1981
- Model SA 365 N1 approved 28 July 1983
- Model AS 365 N2 approved 25 October 1989
- Model AS 365 N3 approved 6 October 1997
- Model EC 155 B approved 9 December 1998
- Model EC 155 B1 approved 16 July 2002

Supersedes:

DGAC CDN de Type No.86 – SA 365 C1 approved 26 March 1979

DGAC Type Certificate Data Sheet No. 159 – Issue No.21, February 2005

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the SA 365 C Series is FAR Part 29 effective February 1, 1965 plus amendments 29-1 through 29-11. For French certification additional and special requirements were specified in DGAC letter 4092 dated May 5, 1977. FAA imposed Special Conditions No. 29-69-EU-21 dated April 6, 1976, while for IFR approval compliance was required with the Airworthiness Criteria for Helicopter Instrument Flight dated December 15, 1978.

For the SA/AS 365 N Series the certification basis was updated to FAR 29, Amendment 29-16, plus additional and special requirements in DGAC letters 53116, 941225 and 964425. For the EC 155 B Series the certification basis was updated to JAR 29, first issue, effective 5 November 1993.

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

(ii) *Exemptions:*

EC 155 B Series: (Reversions to FAR 29):

CRI C-01 FAR 29.561(b)(3), Amendment 29-16 Emergency Landing Conditions – Eurocopter requested a reversion to the original AS 365 N certification basis. (FAR Part 29 Amendment 16), because the top-down procedure in the spirit of NPA 21-7 is considered usable for the determination of the EC 155B certification basis.

CRI C-06 FAR 29.571, Amendment 29-16 (for metallic fuselage and mechanical components issued from previous AS 365 models only) Fatigue Evaluation of Structure – Eurocopter requested a partial reversion to the original AS 365N certification basis for §29.571 (FAR 29 Amendment 16) for mechanical parts issued from previous models the EC 155B is derived from, and for the whole metallic fuselage, because this would need a new fatigue evaluation of these parts by fatigue tests and also because they were not originally designed according to this new concept (choice of materials or of detail design for example).

CRI D-03 FAR 29.785, Amendment 29-24 Seat, Safety belts and Harness – Eurocopter requested a reversion to FAR 29 Amendment 24 for paragraph § 29-785. Dispensation was requested based on the increase in safety because the EC 155 B internal seat structure is identical to the AS332 Super Puma; and the cost, weight penalty and substantial time delay to develop all new crashproof seats and fixations was not justified.

CRI F-02 FAR 29.1305(a)(4)(i), Amendment 29-16 Low Fuel Warning – Eurocopter requested reversion to the AS 365 N certification basis for § 29-1305 (FAR 29 Amdt. 16), because the VEMD provides the crew with a low fuel warning when remaining usable fuel is 10 minutes.

Exemption from JAR 29 first issue:

CRI C-02 JAR 29.562 Emergency dynamic Landing Conditions – Eurocopter requested a dispensation from § JAR 29-562. This paragraph had been introduced in FAR 29 by amendment 29 of the 13th of December 1989. This was granted as per §29.561(b)(3) above.

CRI C-03 JAR 631 Bird Strike (for optional installations taken from previous AS 365 versions and to a certain extent for windshield) (specific to EC155B1 not equipped with serial Mod 07 56B32) – A hazard analysis covering the whole helicopter was provided. Compliance was shown for the basic EC 155B, except for the windshield. Nevertheless, to provide for a better protection against bird strikes, the EC 155B basic design will include the Triplex windshield proposed as an option on previous AS365 models. For this windshield, the bird strike protection has been shown for a 2 pound bird at 146 kt speed.

CRI E-01 JAR 29.952 Fuel System Crash Resistance – Eurocopter requested dispensation from § JAR 29-952, introduced in FAR 29 by Amdt. 35 of 2 November 1994. This was granted based on the substantial weight increase that would result and the development costs.

(iii) Special Conditions:

SA 365 C Series:

Copy of DGAC letter 4092 dated 5 May, 1977:

Plus Annex 1 English Translation – Special Conditions covered:

§29.903(a) : Engine Type Certification ; §29.867 : Lightning protection of structure
Special Flight Conditions - T/O Power Check Procedures, Engine Failure Warning System
Special Propulsion Conditions - Powerplant Controls, Turbine Engine Bleed Air System
Special Systems and Equipment Condition - Operation without electrical power

SA365N Series:

Copy of DGAC letter 53116 – Requirement for Certification of SA 365 N2, plus Annex 1 French Complimentary Condition, Annex 2 SA 365 Helicopter Special Conditions and Annex 3 Special Condition applicable to SA 365 N and SA 366 G Helicopters – These were special conditions for the helicopter (Take off Power Check Procedures, Engine Failure Warning System, Powerplant Controls, Turbine Engine Bleed Air System, Operation Without Electrical Power), and for the powerplant requiring Air Intake Protection Against Ingestion of Foreign Objects.

Complementary conditions defined in DGAC FR letter 941225 for SAR system certification dated 19 May 1994.

SA365N3:

Complementary and special conditions defined in DGAC FR letter 964425, dated 10 February 1997. – These related to the use of new technology (digital engine control); Engine operation and reliability must be demonstrated over a minimum of 150 hours; Special Equipment conditions for HIRF; and Super Contingency conditions related to OEI ratings.

EC 155 B Series:

CRI F-01 HIRF (High Intensity Radiated Fields) – To ensure the rotorcraft's critical and essential electronic systems are adequately protected against interference from HIRF compliance with JAA INT/POL/29/1 was considered adequate to ensure that protection.

CRI B-01 Minimum In Flight Experience – The EC155B1 has increased capabilities and a new engine model. In the spirit of JAR 21-35 (f) and AC 21-35 (AC 29-2C refers) this defines a minimum number of flight hours. (Because the EC 155 B and B1 have very similar definitions, and Eurocopter used the same helicopter in support of flight tests for the two versions.)

CRI C-05 Ingestion of Hail – It must be demonstrated the engine protection screens will allow the engines to be protected from the effects of hail at the lower of the following two speeds: V_H and V_{NE} . This special condition was notified on the previous versions of the AS 365.

CRI F-12 Non-rechargeable Lithium Battery installations – Recent experience (FAA ADs 2013-15-07 and 2013-18-09) has shown non-rechargeable lithium batteries and systems have certain failure, operational, and maintenance characteristics that can present hazards that can affect safety and reliability. EASA established detailed criteria to show there was no hazard due to internal failures, fast-discharging, or flammability, and ensure batteries are not unsafe.

CRI E-06 Loss of Oil from Gearboxes Utilising a Pressurized Lubrication System – After a fatal accident in 2009, the FAA, EASA and TCCA set up a “Joint Certification Team” in order to review Part/CS 29 rules and AC which affect the likelihood of loss of transmission oil and the consequences of such an event. This Special Condition is considered necessary to add a paragraph to §29.1521 requiring that any duration of continued operation after gearbox loss of oil is substantiated by test data and reduced by a safety factor derived by analysis.

(iv) Equivalent Level of Safety Findings:

EC 155 B Series:

CRI B-02 JAR 29.173-175 Static Longitudinal Stability – Eurocopter requested that the static longitudinal stability requirements of JAR 29.173 and 29.175 be replaced by those proposed by the PHQHWG (defined in the Appendix attached to the CRI). This allows neutral or negative stability in limited areas of the flight envelope, provided that the rotorcraft exhibits adequate compensating characteristics. The change also defines more precisely the conditions for the demonstration of static longitudinal stability in autorotation.

CRI D-05 JAR 29.807(c) Passenger Emergency Exits – The objective is to permit an emergency evacuation with the helicopter on its side. The EC155B is not compliant with JAR 29.807(c), which requires enough openings in the top, bottom or ends of fuselage. In EC155B (same as for AS365), emergency exits (3 type IV windows on each side) are directly accessible from each seat row, and are similar to AS332L2, which has been proven by an emergency evacuation test. In addition the push out window allows easy jettisoning in an emergency.

CRI E-04 JAR 29.923(p)(1) Rotor Drive endurance Test – This requires gearboxes to be tested at least three 10-hour cycles with a lubricant temperature not lower than the maximum operating value. The EC 155B tail gear box was not tested in the prescribed

conditions. The shortfall is compensated by the following factors: same design as for the TGB fitted to previous AS 365N1/N2/N3 models with more than 2 million satisfactory flight hours; similar operating conditions; and the lubricant used on EC155B offering better performance.

CRI E-01 JAR 29.923 and JAR 29.927(b)(2) Rotor Drive System and Control Mechanism Tests and Additional Tests – The EC155B1 uses the same EC155B gearbox but with increased 2 min and continuous OEI ratings. Eurocopter proposed to use the EC155B endurance tests with an additional two-stage approach of new tests on the test bench.

CRI E-07 JAR 29.923 and JAR 29.927(b)(2) Rotor Drive System and Control Mechanism Tests and Additional Tests – In 2016 AH proposed an upgrade of the EC 155 B1 Main Gearbox. The upgrade includes design changes to the gears, bearings, oil pumps and various reinforcement undertakings that will aid durability and maintainability. The CRI defined substantiation of the overspeed test (§ 29.927(d)) by analytic demonstration.

CRI E-05 JAR 29.955(b) Fuel Transfer System – The EC155B RHS fuel system has a 100 kg greater capacity than the LHS system, so fuel transfer is required to maintain balance. In lieu of an automatic fuel management function Eurocopter proposed a Flight Manual procedure, justified on the basis of the reduction of workload by the Avionique Nouvelle EFIS, low duration of the fuel transfer period and the installation of a 4-axis autopilot.

CRI E-03 JAR 29.1151 Rotor Brake Indication – The switch should be located on the rotor brake assembly, but not on the control or actuator. On the EC155B the on indication, as well as inhibition of the engine starter, is located on the lever. This was accepted on the basis of FMECAs and as the link between the control and rotor brake assembly is purely mechanical.

CRI F-05 JAR 29.1303(j) V_{NE} Aural Warning – This requires a speed warning device that gives effective aural warning whenever speed exceeds V_{NE} plus 3 knots. The EC155B airspeed indicator (ASI) on the PFD displays a red line that gives V_{NE} corresponding to the flight phase. This visual warning red line changes into a red strip when speed exceeds V_{NE} .

CRI F-09 JAR 29.1401(d) Red Anti-collision Light – For the NVG mission Eurocopter wanted to install a red anti-collision light with chromaticity coordinates that lie outside the boundaries of aviation red specified in JAR §29.1397(a). This had been approved on the EC135 for the same customer and is in common use on military aircraft, but was accepted because the NVG red anti-collision light was shown to be sufficiently visible during flight test.

CRI F-07 JAR 29.1545(b)(4) Airspeed Indicator Marking – The ASI on the EC155B does not use a green arc or line for the normal operating range. This type of EFIS is now approved on many aircraft, allows more flexibility in the design of the display, and flight test has shown the markings are simple and indicate the operating condition at a glance.

CRI F-06 JAR 29.1549(b) Power plant Instrument Marking – Normal engine parameter operating ranges are not displayed as a green arc or range on the instrument, but instead non-normal ranges have special attention-getting devices only available on electronic screens, which has been verified as satisfactory by flight test.

CRI B-03 JAR 29 Appendix B § IV for Speed Stability – With AFCS selected speed stability in five flight conditions: climb, cruise, slow cruise, descent and approach, has to be shown. For these trim conditions, speed must return within 10% of the trimmed value when the control force is slowly released. Although this was not achieved through the required speed range the first motion was always convergent and no divergent phenomenon or oscillation was noticed. The flight test pilot had no difficulty in stabilizing any speed even in severe turbulence.

(v) Airworthiness Limitations:

See Airworthiness Limitations Section (ALS) of the Master Servicing Manual.

(3) Aircraft Noise and Engine Emission Standards:*(i) Environmental Standard:*

The Models AS 365 N2 and later have been certificated for noise under ICAO Annex 16, Volume 1.

(ii) Compliance Listing:

TCDS for Noise EASA.R.105 at Issue 3 dated 19 February 2020.

Model:	MTOW:	Take-off EPNL:	Overflight EPNL:	Approach EPNL:
AS 365 N2	4250 kg	93.2	91.2	96.1
AS 365 N3	4300 kg	93.0	90.5	96.1
EC 155 B / B1	4800 kg	92.2	88.9	95.7

(4) Certification Compliance Listing:

Aerospatiale Report No. 365A.05.0403 – SA 365 C Certification File in Compliance with Federal Aviation Regulation Part 29 – 3rd Edition 9 April 1979

List of Descriptive and Certification Reports for SA 365

Aerospatiale Note Technique – SA 365C1 Definition Drawn Up for the French and Foreign Airworthiness Type Certificates – Defines the SA365C1 with respect to the SA365C as the addition of Modification No. 07.1588 comprising: installation of Arriel 1A1 engine; new Ng indicator markings; and modification of the paint scheme.

Doc. 365A.05.6207 AS 365N Structural Strength Margins Weight = 4100 kg

Doc. 365A.05.1100 Substantiation of Main Rotor Blades Fitted on 365N – 365G

Doc. 365A.05.8022 Service Life Time TBO – 365N Main Production Assemblies

Aerospatiale Document 365A.05.8030 Service Life Limits for Production Components on the 365N with 3850 kg Maximum Weight – dated 23.03.1983

Doc. 365A.04.4258 Distribution Electrique Repartition Panneux Disjoncteurs

Aerospatiale Report H/EV No.13.263 SA 365 N Dauphin Certification 22.10.80

Extreme Centre of Gravity Values – Controllability and Maneuverability

Aerospatiale Report H/EV No.13.273 SA 365 N Dauphin Certification 24.10.80

Controllability and Maneuverability – Failure of One Engine

Report H/EV No.13.275 SA 365 N Certification – FAR 29-79 Unsafe Zone

Aerospatiale Report H/EV No.13.276 SA 365 N Dauphin Certification 23.10.80
FAR 29-1509 Maximum and Minimum Power-Off (Autorotation) Rotor Speed

Report H/EV No.13.314 SA 365 N – Performance at Minimum Operating Speed

Report H/EV No.13.390 SA 365 N Dauphin Certification – Cooling Tests
Report H/EV No.13.460 SA 365 N Cert. – Twin-Engine Climb Performance
Report H/EV No.13.618 SA 365 N – Fuel System Operation in Hot Weather
Report H/EV No.13.629 SA 365 N Dauphin Certification – Take-Off Category A
Report H/EV No.13.631 SA 365 N Dauphin Certification – Climb on One Engine
Report H/EV No.13.754 SA 365 N Dauphin Certification – Category B Take-Off
Aerospatiale Report H/EV No.15.572 SA 365 N Dauphin Certification 22.02.83
Extension of the Operating Envelope to $H_P = 20000$ Ft.
Aerospatiale Report H/EV No.15.995 SA 365 N Dauphin Certification 20.07.83
Extension of Maximum Gross Weight from 3850 kg to 4000 kg
Report H/EV No.16.048 SA 365 N Dauphin – IFR Certification for 4000 kg GW

Document 365ABN-0106 – EC 155 B1 Compliance Record Document
Document 365A.04.6068 – AS365N4 Concession with Regard to JAR 29.562
Document 365A.04.6069 – AS365N4 Concession with Regard to JAR 29.952
Document 365A.04.6271 – EC155-AS365N4 Compliance with JAR 29.807(c)

(5) Flight Manual: DGAC-Approved Flight Manual Dauphin SA 365 C1 “A” Code
CAA Accepted as AIR 2613

DGAC-Approved Flight Manual Dauphin SA 365 C2 “A” Code
CAA Accepted as AIR 3976

DGAC-Approved Flight Manual Dauphin SA 365 C3 “A” Code
CAA Accepted as AIR 3977

DGAC-Approved Flight Manual Dauphin SA 365 N “A” Code
CAA Accepted as AIR 2882

DGAC-Approved Flight Manual Dauphin SA 365 N1 “A” Code
CAA Accepted as AIR 3978

DGAC-Approved Flight Manual Dauphin AS 365 N2 “A” Code
CAA Accepted as AIR 3979

DGAC-Approved Flight Manual Dauphin AS 365 N3 “A” Code
CAA Accepted as AIR 3980

EASA-Approved Flight Manual EC 155 B “A” Code – CAA
Accepted as AIR 3981

EASA-Approved Flight Manual EC 155 B1 “A” Code – CAA
Accepted as AIR 3982

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

O.R.I.O.N. contains Maintenance Manuals for the following models:

SA365C/C1/C2/C3; SA365N; SA365N1; AS365N2/N3; EC155B

O.R.I.O.N. contains Description & Operations Manuals for the following models:

SA365C/C1/C2/C3; SA365N; SA365N1; AS365N2/N3; EC155B

O.R.I.O.N. contains Wiring Diagram Manuals for the following models:

SA365C/C1/C2/C3; SA365N; SA365N1; AS365N2/N3; EC155B

O.R.I.O.N. contains Fault Isolation Manuals for the following models:

SA365N; SA365N1; AS365N2/N3

O.R.I.O.N. contains Repair Manuals for the following models:

SA365C/C1/C2/C3;

O.R.I.O.N. contains Mechanical Repair Manuals for the following models:

SA365N; SA365N1; AS365N2/N3

O.R.I.O.N. contains Master Servicing Manuals for the following models:

EC155B; EC155B1

O.R.I.O.N. contains Structural Repair Manuals for the following models:

SA365N; SA365N1; AS365N2/N3; EC155B

O.R.I.O.N. contains A Standard Practices Manual for all models

(ii) *Current service Information:*

ASB and SB are available for all SA365/AS365/EC155 models on AirbusWorld Helicopters O.R.I.O.N. and pdf Publications

(iii) *Illustrated Parts Catalogue:*

O.R.I.O.N. contains IPC for the following models:

SA365C/C1/C2/C3; SA365N; SA365N1; AS365N2; AS365N3; EC155B

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

MoT 2171 form from Aerospatiale dated 9 December 1987

Confirmation fax from Eurocopter International Pacific Ref.BD/1006/F0251

The manufacturer now provides publications access through the AirbusWorld Helicopters customer portal <https://idp.airbushelicopters.com/>

Note: O.R.I.O.N. is the Airbus Helicopters Tech Data interactive viewer system.

(8) Other information:

Master Minimum Equipment Level (EASA) for AS 365N/N1/N2

Master Minimum Equipment Level (EASA) for AS 365 N3

Master Minimum Equipment Level (EASA) for EC 155 B/B1

EASA Operational Suitability Data (OSD), Flight Crew Data (FCD) – Dauphin Helicopters Family SA365N, SA365N1, AS365N2, AS365N3/N3+, EC155B/B1

Certification Document 365 A 04 6346 – EC155 – DC Generation and Distribution System – Electrical Load Analysis

5. New Zealand Operational Rule Compliance

Compliance with the retrospective airworthiness requirements of NZCAR Part 26 has been assessed as they are a prerequisite for the grant of an airworthiness certificate.

Civil Aviation Rules 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 Appendix B # .35	Not Applicable – Agricultural Aircraft only

Appendix E - Helicopters

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
E.1	Doors and Exits	FAR Part 29 §29.783(c) and (e)
E.2.1	Emergency Exit Marking	FAR Part 29 §29.809(c)

Compliance with the following additional NZ operating requirements has been reviewed for the SA 365 C1 and were found to be covered by either the original certification requirements or the basic build standard of the aircraft, except as noted:

Civil Aviation Rules Part 91

Subpart F – Instrument and Equipment Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
91.505	Shoulder Harness if Aerobatic; >10 pax; Flight Training	FAR §29.785(b)
91.507	Pax Information Signs – Smoking, safety belts fastened	See Flight Manual Section 7.11 para 2.2.2
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 FAR §29.1303(b) FAR §29.1303(c) FAR §29.1305(a)(3) FAR §29.1305(a)(11) FAR §29.1305(a)(6)
91.511 Night	(1) Turn and Slip (2) Position Lights	See FM #7.1 Page 2 Item 15 See FM Section 7.11 para 1
91.517 IFR	(1) Gyroscopic AH (2) Gyroscopic DI (3) Gyro Power Supply (4) Sensitive Altimeter	See FM #7.1 Page 2 Item 3 Not fitted as standard FAR §29.1331(a)(3) FAR §29.1303(b)
91.519	IFR Communication and Navigation Equipment	Operating Rule – Compliance as applicable
91.523	Emergency Equipment: (a) More Than 10 pax – First Aid Kits per Table 7 – Fire Extinguishers per Table 8 (b) More than 20 pax – Axe readily acceptable to crew (c) More than 61 pax – Portable Megaphones per Table 9	Operating Rule – Compliance as applicable Operating Rule – Compliance as applicable Not Applicable – Less than 20 passengers Not Applicable – Less than 61 passengers
91.529	ELT – TSO C91a after 1/4/97 (or replacement)	Operating Rule – Compliance as applicable
91.531	Oxygen Indicators – Volume/Pressure/Delivery	Operating Rule – Compliance as applicable
91.533	Oxygen for Unpressurised Aircraft: >30 min above FL100 – Supplemental for crew, 10% Pax – Therapeutic for 3% of Pax Above FL100 – Supplemental for all Crew, Pax – Therapeutic for 1% of Pax – 120l PBE for each crew member	Operating Rule – Compliance as applicable Maximum Service Ceiling of SA 365 C Series is 15,000 ft. Maximum Service Ceiling of SA 365 N Series is 20,000 ft. Maximum Operating Altitude of EC 155 B is 15,000 ft.
91.541	SSR Transponder and Altitude Reporting Equipment	Operating Rule – Compliance as applicable
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>

Civil Aviation Rules Part 135**Subpart F – Instrument and Equipment Requirements**

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
135.355	Seating & Restraints – Shoulder harness flight-crew seats	FAR §29.785(b)
135.357	Additional Instruments (Powerplant and Propeller)	FAR 29 is an 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))	
135.367	Cockpit Voice Recorder	Operating Rule – Compliance as applicable
135.369	Flight Data Recorder	Operating Rule – Compliance as applicable
135.371	Additional Attitude Indicator	Operating Rule – Compliance as applicable
	Required Equipment: The AS 365N3 and EC155 can be fitted with the Honeywell AR204C or AR602C Solid State CVFDR (TSO C124a/ED56) – Post Modification 07-31B74 this is replaced by L3Harris Model FA5001 SSCVFDR (TSO C123/124, ED112)	Not Applicable – Flight Manual only requires single pilot
		Not Applicable – Not turbo jet or turbofan powered

NOTES: 1. A Design Rule reference in the Means of Compliance column indicates the Design Rule was directly equivalent to the CAR requirement, and compliance is achieved for the basic aircraft type design by certification against the original Design Rule.

2. The CAR Compliance Tables above were correct at the time of issue of the Type Acceptance Report. The Rules may have changed since that date and should be checked individually.

3. Some means of compliance above are specific to a particular model/configuration. Compliance with Part 91/119 operating requirements should be checked in each case, particularly oxygen system capacity and emergency equipment.

Attachments

The following documents form attachments to this report:

Copy of Type Certificate Data Sheet Number EASA.R.105

Sign off


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David Gill
Team Leader Aircraft Inspection



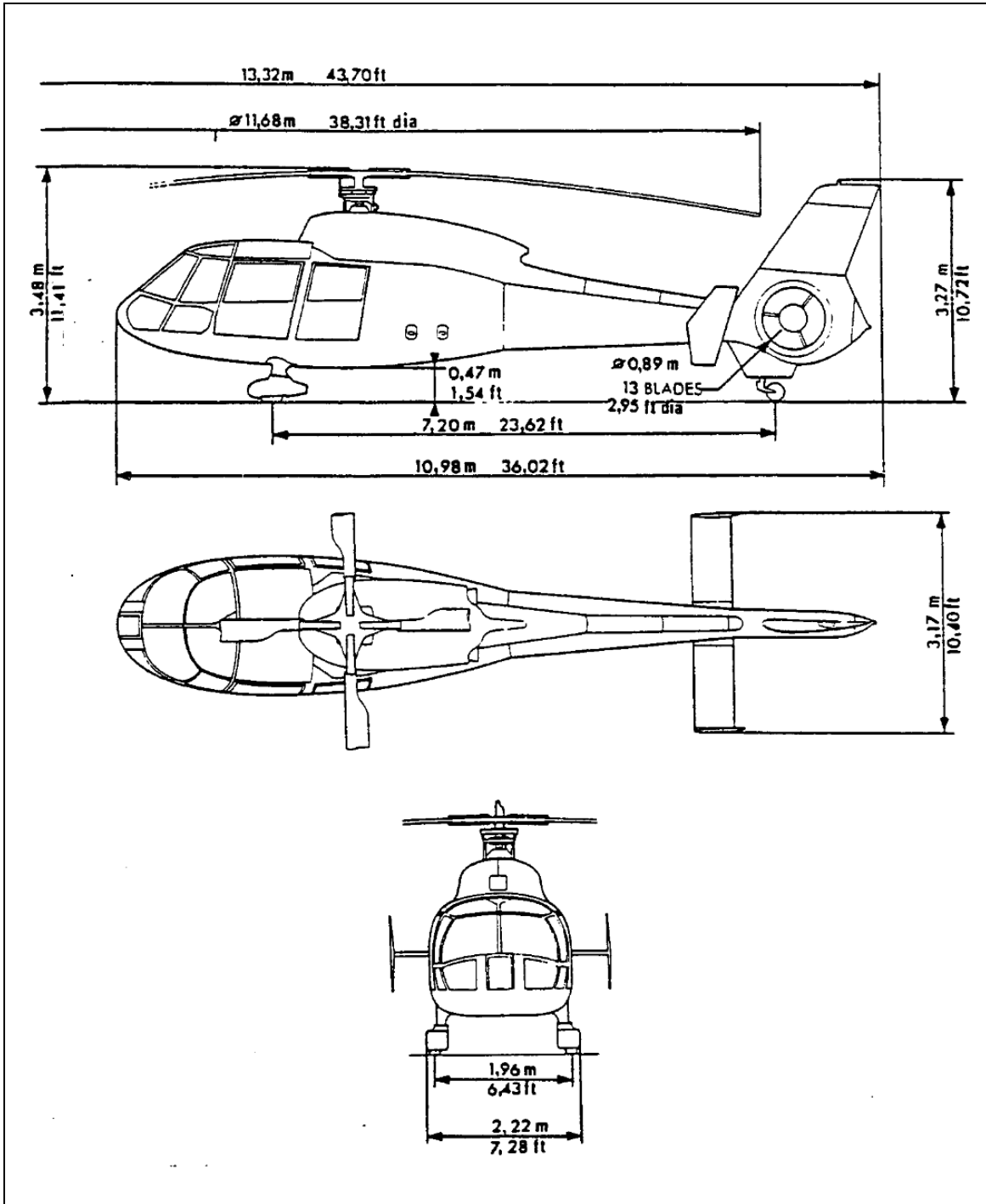
.....
Checked – John Marshall
Airworthiness Inspector

Appendix 1**List of Type Accepted Variants:**

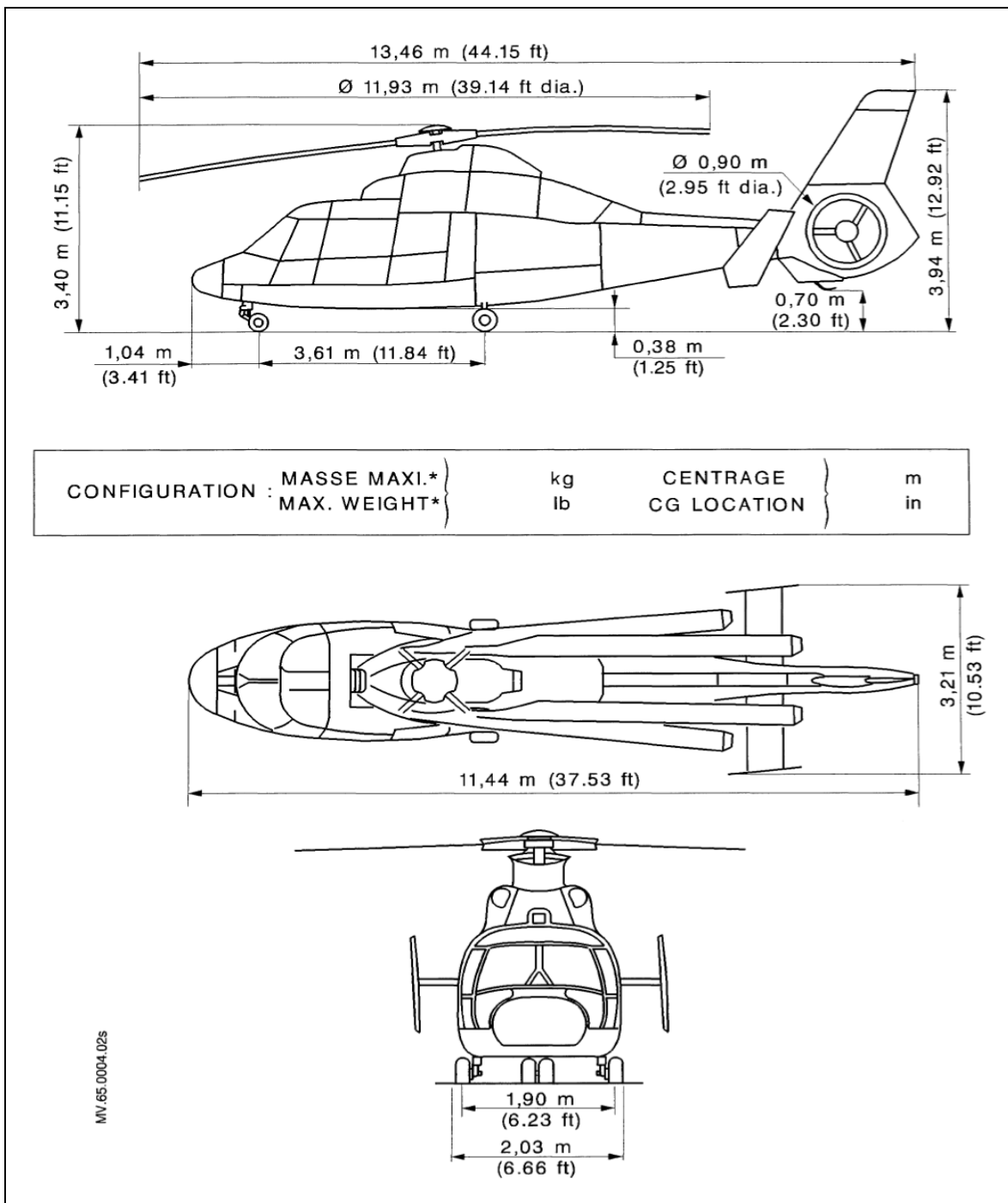
Model:	Applicant:	CAA Work Request:	Date Granted:
SA 365 C1	D. L. McIlroy	98/21B/6	11 June 1998
SA 365 N	Rick Lucas Helicopters Ltd	5/21B/13	11 November 2004
SA 365 C2, C3	Airbus New Zealand Ltd	22/21B/4	4 May 2022
AS 365 N1, N2, N3	Airbus New Zealand Ltd	22/21B/4	4 May 2022
EC 155 B, B1	Airbus New Zealand Ltd	22/21B/4	4 May 2022

Appendix 2

3-View Drawing Aerospatiale SA 365 C1 Dauphin



3-View Drawing Eurocopter AS 365 N Dauphin 2



3-View Drawing Airbus Helicopters EC 155 B1

