
Type Acceptance Report

TAR 98/21B/3 – Revision 1

SCHLEICHER ASH 25 Series

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Executive Summary

New Zealand Type Acceptance has been granted to the Schleicher ASH 25 Series based on validation of EASA Type Certificate number A.213. 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/3 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 Schleicher ASH 25 Series type acceptance in New Zealand is listed in Appendix 1.

2. Aircraft Certification Details

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

Manufacturer: Alexander Schleicher GmbH & Co.
Type Certificate: A.213
Issued by: European Aviation Safety Agency
Production Approval: DE.21G.0010

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

(i) **Model:** ASH 25

MCTOW: 750 kg (1654 lb.)
Max. No. of Seats: 2
Noise Standard: Not Applicable

(ii) **Model:** ASH 25 E

MCTOW: 750 kg (1654 lb.)
790 kg (1742 lb.) – with Technical Note 21
Max. No. of Seats: 2
Noise Standard: ICAO Annex 16, Volume 1

Engine: Rotax 275
Type Certificate: EASA.E.210

Propeller: MT 130 L 108-1B or MT 130 L 95-1B
Type Certificate: EASA.P.006

(iii) **Model:** ASH 25 M

MCTOW: 790 kg (1742 lb.)
Max. No. of Seats: 2
Noise Standard: ICAO Annex 16, Volume 1

Engine: Midwest Aero Engines AE50R or IAE50R-AA
Type Certificate: EASA.E.085

Propeller: Technoflug KS 1 C 154 R 110
Type Certificate: LBA 32.110/18/PR
Schleicher AS2F1-1/R153-92-N1
Type Certificate: EASA.P.004

3. Application Details and Background Information

The application for New Zealand type acceptance of the Schleicher ASH 25 was from the importer and agent on behalf of the owner, Alpine Soaring of Omarama, dated 22 September 1997. The first-of-type example was serial number 104 registered ZK-GTF. The ASH 25 is a tandem two-seat 25 metre span (26.4 m with optional winglets) Open Class glider. It is a mid-wing glider of composite construction, with four-part wing (optionally with winglets as per A.V.7), flaps, Schempp-Hirth dive brakes on the wing upper surface, provision for water ballast in the wing, and T-tail.

Type Acceptance Certificate No. 98/03 was granted to the Schleicher ASH 25 on 28 October 1997 based on validation of LBA Type Certificate number 364. There are no special requirements for import into New Zealand.

The application for New Zealand type acceptance of the ASH 25 M was from the importer and Schleicher agent on behalf of the owner, Hawkes Bay Sailplanes Ltd, dated 24 September 1998. The first-of-type example was serial number 167 registered ZK-GRJ. Type Acceptance Certificate No. 99/14 was granted on 5 October 1998 to the ASH 25 M based on validation of LBA Type Certificate number 858.

The application for New Zealand type acceptance of the ASH 25 E was from the ASH 25E Syndicate, dated 18 August 2003. The first-of-type example was serial number 25062 registered ZK-GZQ. Type Acceptance Certificate No. 4/21B/5 was granted on 15 October 2003 to the ASH 25 E.

Type History:

The ASH 25 first flew in 1986 and within a couple of years had set five world records for speed over a triangular course varying from 330 km./ 205.1 miles to 1,380 km/ 857.0 miles. It is the production version of the one-off two-place ASW-22-2 using an adaption of the fuselage of the Akaflieg Stuttgart FS-31. A flight test evaluation measured a best L/D of 54.3 : 1 without turbulator tape or special sealing.

The ASH 25 E was the first powered version using a retractable 19 kW/25 bhp Rotax 275 sustainer engine. The ASH 25 M is the self-launching version using the Norton-developed AE 50R single-rotor wankel-type rotary engine. The Models ASH 25 and ASH 25 E can be converted into the ASH 25 M in accordance with LBA-Approved Technical Note No.13 dated Nov.14 1997, but only by the manufacturer.

This report was raised to Revision 1 to combine three previous reports, update the format and note the change in jurisdiction to an EASA type certificate.

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:

Type Certificate Number EASA.A.213

Type Certificate Data Sheet Number EASA.A.213 at Issue 4 dated 23 April 2020

- Model ASH 25 LBA-approved 22 December 1987
- Model ASH 25 E LBA-approved 20 December 1989
- Model ASH 25 M LBA-approved 14 November 1997

Supersedes:

LBA Musterzulassungsschein Nr. 364 – ASH 25

LBA Musterzulassungsschein Nr. 858 – ASH 25 E, ASH 25 M

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the ASH 25 is the Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes JAR 22, at Change 1 dated 18 May, 1981, plus Amendment 22/84/1. In addition compliance was shown with JAR 22.375 at Amendment 22/90/1 dated 12 February, 1991 (covering winglets), and the Preliminary Standards for the Structural Substantiation of Glass and Carbon Fibre Reinforced Plastic Components for Sailplanes and Powered Sailplanes, issue January 1981. For the ASH 25 E and M powered versions the certification basis was upgraded to JAR 22 at Change 4 dated January 29, 1988, and the Standards for Structural Substantiation of composite sailplanes raised to the issue May 1986. For the ASH 25 M the Standards for the substantiation of the electric equipment of powered sailplanes dated September 15, 1992 was added. (Reference I 334-MS 92).

This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as JAR-22 is the basic standard for Normal Category Airplanes called up under Part 21 Appendix C and Advisory Circular 21-1A. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23. The ASH 25 Series is approved for Day VFR flight, while some models are suitable for cloud flying without water ballast as specified in the Flight Manual or applicable Technical Note.

(ii) *Special Conditions:*

Nil. (Included in certification basis.)

(iii) *Equivalent Level of Safety Findings:*

ASH 25 E and ASH 25 M:

Letter from LBA Ref. I 412-858/98 dated 06 March 98 addressing NZ type acceptance of the ASH 25 M and confirming the certification basis:

“An equivalent level of safety finding was made concerning JAR 22.51, accepting Amendment 22/94/1 as applicable airworthiness standard.”

The TCDS for the ASH 25 E also refers to JAR 22.1093(b) – JAR 22.1305 (f)x.

(iv) *Exemptions:*

ASH 25 E and ASH 25 M:

“Exemptions were granted regarding JAR 22.73(b), concerning the flap positions 1 and 2 and JAR 22.75, concerning the glideslope to be slightly better than 1:7.”

(v) *Airworthiness Limitations:*

See the Sailplane Maintenance Manual for airframe life limitations

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

The ASH 25 E/M versions have been certificated for noise. The original LBA certification referenced the local German regulations, as follows:

ASH 25 E LSL Kapitel VI, Amendment 1, dated 1 Jan 1989

ASH 25 M German LSL Chapter X, Issue January 1, 1991

Under the EASA TCDS this has been updated to ICAO Annex 16, Chapter 1

(ii) *Compliance Listing:*

TCDS for Noise number EASA.A.213 at Issue 02 dated 06 June 2019

(4) Certification Compliance Listing:

Compliance Checklist ASH 25 dated 19.03.1990

JAR-22 Compliance Checklist ASH 25E (in German Language)

Compliance Checklist ASH 25 M dated 11.09.1997

(5) Flight Manual: LBA-Approved Flight Manual for Glider Model ASH 25
CAA Accepted as AIR 2596

LBA-Approved Flight Manual for Powered Sailplane ASH 25 E
CAA accepted as AIR 2839

LBA-Approved Flight Manual for Powered Sailplane ASH 25 M
CAA Accepted as AIR 2635

(6) Operating Data for Aircraft, Engine and Propeller:

(i) *Maintenance Manual:*

Maintenance Manual and Repair Manual for the Sailplane ASH 25

Maintenance Manual and Repair Manual for the Powered Sailplane ASH 25 E

Maintenance Manual and Repair Manual for the Powered Sailplane ASH 25 M

Manual for ROTAX – Engine Type 275 1st Edition

Mid-West Engines Ltd AE50R Rotary Manual for Operation, Installation & Maintenance – Report No. Production (P) 002

Technoflug – Operation and Installation Manual P3 for the Two Blade Composite Propellers with Fixed Pitch KS 1 G/C – Issue 2

(ii) Current service Information:

Mid-West Engines Ltd Service Bulletins SB 001 and SB 002 – Schleicher letter dated 19 February 1998 states “Number one is already incorporated to all ASH 25 M.” Number two introduces a new fan impeller and is a production option.

(iii) Illustrated Parts Catalogue:

Not produced

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

Letter from Director Schleicher Segelflugzeugbau dated 04.09.1997 (ASH 25)

CAA2171 from Director Alexander Schleicher Segelflugzeugbau dated 20.02.98

Letter from Manufacturer Schleicher dated 4 September 2003 (ASH 25 E)

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 Appdx. B # .35	Not Applicable – Agricultural Aircraft only

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:

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	Required Equipment – See TCDS §.III.3.a
91.507	Pax Information Signs - Smoking, safety belts fastened	Not Applicable – Two-seat glider
91.509	Minimum Instruments and Equipment	Not Applicable – Glider
91.511	Night VFR Instruments and Equipment	Not Applicable – Certificated for Day VFR flight only
91.513	VFR Communication Equipment	<i>Operational requirement – compliance as applicable</i>
91.517	IFR Instruments and Equipment	Not Applicable – Certificated for Day VFR flight only
91.519	IFR Communication and Navigation Equipment	Not Applicable – Certificated for Day VFR flight only
91.523	Emergency Equipment	N/A – Two-seat glider [Superseded by §104.101(5)]
91.529	ELT – TSO C126 after 1/4/2008 – Appendix A.15	<i>Operational requirement – compliance as applicable</i>
91.531	Oxygen Indicators - Volume/Pressure/Delivery	Optional factory oxygen provisions – See MM §II.4
91.533	Oxygen for Non-Pressurised Aircraft For flight >30 min above FL100 – Supplemental for crew	<i>Operational requirement – compliance as applicable</i>
91.541	SSR Transponder and Altitude Reporting Equipment	<i>Operational requirement – compliance as applicable</i>
91.543	Altitude Alerting Device - Turbojet or Turbofan	Not Applicable – Certificated for Day VFR flight only
91.545	Assigned Altitude Indicator	Not Applicable – Certificated for Day VFR flight only
A.15	ELT Installation Requirements	<i>Operational requirement – compliance as applicable</i>

Civil Aviation Rules Part 104

Subpart C – Equipment and Maintenance Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
104.101	(1) Airspeed Indicator (2) Altimeter (Adjustable for barometric pressure) (3) Magnetic Compass (4) Safety Harness for each seat (5) A First Aid Kit (6) For powered gliders – (i) Fuel gauge for each main fuel tank (ii) Oil Pressure Gauge or warning device (iii) A tachometer or engine governor light (7) For IMC flight –	Required as Minimum Equipment – See TCDS Section #*.III.3 Required as Minimum Equipment – See TCDS Section #*.III.3 <i>Operational requirement – compliance as applicable</i> Required as Minimum Equipment – See TCDS Section #*.III.3 <i>Operational requirement – compliance as applicable</i> Displayed by (required) ILEC Engine Control Unit N/A – Total loss system (Has an oil supply [level sensor] light) Displayed by (required) ILEC Engine Control Unit Not Applicable

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.

Attachments



The following documents form attachments to this report:

Three-view drawing Schleicher Model ASH 25 M
Copy of Type Certificate Data Sheet Number EASA.A.213

Sign off



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David Gill
Team Leader Aircraft Inspection



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Checked – Glen Somerville
Certification Engineer

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
ASH 25	D L & A M Hamilton	98/21B/3	28 October 1997
ASH 25 M	Hawkes Bay Sailplanes Limited	99/21B/14	5 October 1998
ASH 25 E	ASH 25 E Syndicate	4/21B/5	15 October 2003

Appendix 2

3-View Drawing ASH 25 M

