
Type Acceptance Report

TAR 8/21B/12

Schleicher ASH 26 E

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
2. ICAO TYPE CERTIFICATE DETAILS	1
3. TYPE ACCEPTANCE DETAILS	2
4. NZCAR §21.43 DATA REQUIREMENTS	3
5. ADDITIONAL NEW ZEALAND REQUIREMENTS	5
APPENDIX 1	6

Executive Summary

New Zealand Type Acceptance has been granted to the Schleicher ASH 26 E based on validation of LBA Type Certificate number L883. 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.8/21B/12 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:	Alexander Schleicher GmbH & Co.
Type Certificate:	Musterzulassungsschein Nr. 883
Issued by:	Luftfahrt-Bundesamt, Bundesrepublik Deutschland
Model(s):	ASH 26 E
MCTOW	525 kg [1157 lb.]
Max. No. of Seats:	1
Noise Standard:	Noise Protection Requirements for Aircraft, Issue January 1, 1991
Engine:	Midwest AE 50 R
	Data Sheet: 4611
	Issued by: Luftfahrt-Bundesamt

Propeller: KS 1 C 154 R 108
Data Sheet: 32.110/18
Issued by: Luftfahrt-Bundesamt

3. Type Acceptance Details

The application for New Zealand type acceptance was from the importer Mr D N Tillman, dated 3 September 2007. The first-of-type example was serial number 26111, registered ZK-GRL. The ASH 26 E is a single-seat self-launching all-composite 18m span glider.

Type Acceptance Certificate Number 8/21B/12 was granted on 3 October 2007 to the Schleicher ASH 26 E based on validation of LBA Type Certificate number 883. Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The ASH 26 E is the powered version of the ASH 26, and conversion is possible via Technical Note TN no.1, although only by the manufacturer. It uses the same Norton-based rotary power unit system as the two-seat ASH 25 M.

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) ICAO Type certificate:

LBA Type Certificate Number 883

LBA Powered-Sailplane-Data Sheet number883 at Issue 3 dated 14.11.1997
– Model ASH 26 E approved 7 August 1995

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the ASH 26 E is the Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes JAR 22, Issue June 27, 1989, Change 4, including Amendments 22/90/1, 22/91/1 and 22/92/1. Compliance was also shown with the Standards for the substantiation of the stress analysis of sailplane and powered sailplane components made from fiberglass and carbon fiber-reinforced plastics, issue July 1991. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as JAR-22 is an accepted equivalent standard for powered gliders specified in Advisory Circular 21-1. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.

(ii) *Special Conditions:*

Nil

(iii) *Equivalent Level of Safety Findings:*

JAR 22.207(c) – LBA found that buffeting as stall warning was not fully within the given limits. As NPA 22B-31 was in discussion then, compliance with that was taken as an Equivalent Level of Safety. (NPA 22B-31 is now incorporated in CS 22, which is the same as JAR 22 Change 6).

(iv) *Exceptions:*

JAR 22.697(c)(2) – TM3 incorporates a change to the dive brakes, a second paddle is added to the design. The hand force to retract the dive brakes at V_A increased to a value higher than 20 daN. It was found that the only need to retract the dive brakes at high speeds will occur during aerotow. As it is possible to set V_T to more reasonable speeds this was done additionally in TM3. With this, the hand load for retraction was reduced to 20 daN. This was accepted by LBA.

(v) *Airworthiness Limitations:*

See the applicable Maintenance Manual

(3) Environmental Certification:

Noise emission measurements were carried out in accordance with German LSL requirements and ICO Annex 16, Chapter 10. These established a noise level of 62.4 dB(A) – See Flight Manual Section 1.2.

(4) Certification Compliance Listing:

Compliance Checklist ASH 26 E and ASH 26 dated 17. Mai 1995

(5) Flight Manual: LBA-Approved Flight Manual for Powered Sailplane ASH 26 E – Issue July 95 – CAA Accepted as AIR 3015

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

Maintenance Manual for the Powered Sailplane ASH 26 E – Issue January 2005

(ii) *Current service Information:*

Table of AD-Notes and Technical Notes – Model: ASH 26 E

(iii) *Illustrated Parts Catalogue:*

Not produced

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

Letter from Urwin Kremer, Director Alexander Schleicher GmbH dated 26.09.07

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.

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	Seating and Restraints - Shoulder Harness required if certified for aerobatics; >10 pax; Flight Training	JAR 22.1307 – Four-part safety harness (symmetric) required minimum equipment – See TCDS Section III paragraph 11
91.507	Pax Information Signs - Smoking, safety belts fastened	Not Applicable – Less than ten passenger seats
91.509	Minimum Instruments and Equipment	Not Applicable to gliders (See NZCAR Part 104)
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	Not Applicable – Superseded by §104.101(5)
91.529	ELT - TSO C91a after 1/4/97 (or replacement)	<i>Operational requirement – compliance as applicable</i>
91.531	Oxygen Indicators - Volume/Pressure/Delivery	Not fitted as standard
91.533	Oxygen for Unpressurized Aircraft	Not fitted as standard
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>To be determined on an individual aircraft basis</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 – (i) A variometer (ii) Turn & Slip/Artificial Horizon (iii) Radio transceiver	Required as Minimum Equipment – See TCDS Section III para. 11 Required as Minimum Equipment – See TCDS Section III para. 11 <i>Operational requirement – compliance as applicable</i> Required as Minimum Equipment – See TCDS Section III para. 11 <i>Operational requirement – compliance as applicable</i> } } Displayed digitally on the ILEC engine control unit } } } Not Applicable – ASH 26 E is only approved for VFR flight }

Attachments

The following documents form attachments to this report:

Photographs first-of-type example ASH 26 E s/n 26111 ZK-GDD
Three-view drawing Alexander Schleicher Model ASH26E
Copy of LBA Powered Sailplane-Data Sheet Number 883

Sign off

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David Gill
Team Leader Airworthiness

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Checked – AWE Beth Coughlan
Date: 3 October 2007

Appendix 1

List of Type Accepted Variants:

<i>Model:</i>	<i>Applicant:</i>	<i>CAA Work Request:</i>	<i>Date Granted:</i>
ASH 26 E	D N Tillman	8/21B/12	3 October 2007