
Type Acceptance Report

TAR 99/14

Schleicher ASH 25 M

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Introduction

This report details the basis on which Type Acceptance Certificate No.99/14 was granted in the standard category in accordance with NZCAR Part 21 Subpart B.

Specifically the report aims to:

- (a) Record the airworthiness certification standard used for type acceptance of the applicable model in New Zealand;
- (b) Summarise any outstanding requirements which must be complied with for the issue of a NZ Airworthiness Certificate to any models covered by the Type Acceptance Certificate.

Foreign Type Certificate Details

Type Certificate: Musterzulassungsschein Nr. 858

Issued by: Luftfahrt-Bundesamt, Bundesrepublik Deutschland

Manufacturer: **Alexander Schleicher GmbH & Co.**

Model: **ASH 25 M**

Engine: Midwest Aero Engines AE 50R

Propeller: Technoflug KS 1 C 154 R 110

MCTOW 790 kg (1742 lb.)

Noise Category: German LSL Chapter X, Issue January 1, 1991

The certification basis of the ASH 25 M is the Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes JAR 22, issue March 15, 1982, at Change 4 dated Jan 29, 1988. Compliance was also shown with the Standards for the substantiation of the stress analysis of sailplane and powered sailplane components made from fiberglass- and carbonfiber-reinforced plastics, issue May 1986, and the Standards for the substantiation of the electric equipment of powered sailplanes, issue Sept. 15, 1992 (Ref: I 334-MS 92). One equivalent safety and two exceptions were granted by LBA.

JAR-22 is an acceptable certification basis for sailplanes and powered sailplanes in accordance with Advisory Circular 21-1A. There are no non-compliances and no special conditions have been prescribed by the Director under §21.23. The ASH 25 M is approved for Day VFR flight only. Winglets are optional on the aircraft.

Type Acceptance Application

The application for New Zealand type acceptance 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 as ZK-GRJ.

Type Acceptance Certificate No.99/14 was granted on 5 October 1998.

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

Type Data

The type data requirements of NZCAR Part 21B Para §21.43 have been satisfied by supply of the following documents:

(1) Type certificate:

LBA Musterzulassungsschein Nr.858 issued 14 November 1997

Powered Sailplane Data Sheet No. 858 for ASH 25 M Issue 1 dated 14.11.1997

(2) Airworthiness design requirements: Already held by the CAA.

(3) Certification compliance listing:

Compliance Checklist ASH 25 M dated 11.09.1997

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.”

“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.”

(4) Flight manual: Flight Manual for the powered sailplane ASH 25 M Issue June 1997
- LBA Approved 14 Nov. 1997 - CAA Accepted as AIR 2635

(5) Illustrated Parts Catalogue: None produced

(6) Maintenance manual and service data for aircraft, engine and propeller:

Schleicher ASH 25 M Maintenance Manual/Repair Manual – June 1997

Mid-West Engines Ltd AE50R Rotary Manual for Operation, Installation & Maintenance – Report No. Production (P) 002 dated 10 Oct 94

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.

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

(7) Agreement from manufacturer to supply updates of data in (4), (5) and (6):

CAA2171 from Director Alexander Schleicher Segelflugzeugbau dated 2/20/98

Additional New Zealand Certification requirements

Compliance with the following additional NZ 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 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>

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	JAR 22.1307) - Fitted as Std – See Flight Manual Section 7.9
91.507	Pax Information Signs - Smoking, safety belts fastened	N/A – Less than 10 passenger seats
91.509	(1) ASI	JAR 22.1303(a)(1)
Min.	(2) Machmeter	N/A
VFR	(3) Altimeter	JAR 22.1303(a)(2)
	(4) Magnetic Compass	JAR 22.1303(b)(4)
	(5) Fuel Contents	JAR 22.1305(b)
	(6) Engine RPM	JAR 22.1305(a)
	(7) Oil Pressure	JAR 22.1305(d)
91511	Night VFR Instruments and Equipment	N/A – Certificated for Day VFR flight only
91.517	IFR Instruments and Equipment Requirements	N/A – Certificated for VFR flight only
91.517	Emergency equipment	N/A – Superseded by §104.101(5)
91.529	ELT - TSO C91a after 1/4/97 (or replacement) Appendix A.15 – Installation Requirements	<i>To be determined on an individual aircraft basis</i> The Flight Manual Section 7.13 addresses a suitable location
91.531	Oxygen Indicators - Volume/Pressure/Delivery	Factory oxygen system available – rear seat fittings standard
91.533	>30 min above FL100 - Supplemental for crew, 10% Pax - Therapeutic for 3% of Pax	<i>To be fitted as required</i>
91.541	SSR Transponder and Altitude Reporting Equipment	<i>To be fitted as required</i>
91.543	Altitude Alerting Device - Turbojet or Turbofan	N/A – Reciprocating engine
91.545	Assigned Altitude Indicator	N/A – Certificated for VFR flight only

Civil Aviation Rules Part 104

Subpart C - Equipment and Maintenance Requirements

PARA:	REQUIREMENT:	MEANS OF COMPLIANCE:
104.10	(1) Airspeed Indicator	Fitted as Standard – See Flight Manual Section 2.13
1	(2) Altimeter (Adjustable for barometric pressure)	Fitted as Standard – See Flight Manual Section 2.13
	(3) Magnetic Compass	Fitted as Standard – See Flight Manual Section 2.13
	(4) Safety Harness for each seat	Fitted as Standard – See Flight Manual Section 2.13
	(5) A First Aid Kit	<i>To be determined on an individual aircraft basis</i>
	(6) For powered gliders –	
	(i) Fuel gauge for each main fuel tank	Fitted as Standard – See Flight Manual Section 7.9 ✕
	(ii) Oil Pressure Gauge or warning device	Fitted as Standard – See Flight Manual Section 7.9 ✕
	(iii) A tachometer or engine governor light	Fitted as Standard – See Flight Manual Section 7.9 ✕
	(8) For IMC –	✕ Displayed digitally on ILEC Control Unit
	(i) A variometer	}
	(ii) Turn & Slip/Artificial Horizon	} Required for IMC Flight *
	(iii) Radio transceiver	}
		* All available as Additional Equipment per the MM §12.1

Summary

Type Acceptance Certificate No.99/14 has been granted to the Schleicher ASH 25 M and all serial numbers are now eligible for the issue of a New Zealand Airworthiness Certificate in the Standard Category in accordance with CAR §21.177, subject to any outstanding operational requirements noted above being met.

Attachments

The following documents form attachments to this report:

Three-view drawing Schleicher Model ASH 25 M
Copy of LBA Type Certificate/Powered Sailplane Data Sheet Nr.858

Sign off

David Gill
Airworthiness Engineer

Date: 5 October 1998