
Type Acceptance Report

TAR 4/21B/13

Slingsby T65A Vega

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Executive Summary

New Zealand Type Acceptance has been granted to the Slingsby T65A Vega based on validation of UK CAA Type Certificate number BG3. There are no special requirements for import. The T65A Vega is now eligible for the issue of an Airworthiness Certificate in the Standard Category in accordance with CAR §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.)

1. Introduction

This report details the basis on which Type Acceptance Certificate No.4/21B/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. Foreign Type Certificate Details

Type Certificate: No. BG3

Issued by: UK Civil Aviation Authority

Manufacturer: Slingsby Engineering Limited

Model: T65A Vega

MCTOW 440 kg. (970 lb.) [with water ballast]
352 kg. (775 lb.) [without water ballast]

Noise Standard: Not Applicable

The certification basis of the T65A Vega is the OSTIV Airworthiness Requirements for Sailplanes issued September 1971 Category U and LFSM Airworthiness Requirements for Sailplanes translated May 1967. This is in conformity with BCAR Section E Chapter E1-1 Para 5-1 and is regarded as providing an equivalent level of airworthiness as BCAR Section E. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as OSTIV requirements were the predecessor to JAR 22, which is the basic standard for gliders called up under Advisory Circular 21-1A. There are no non-compliances and no additional special conditions have been prescribed by the Director under §21.23.

3. Type Acceptance Certificate

The application for New Zealand type acceptance was from the importer, Mr D Howard, dated 23 October 2003. The first-of-type example was serial no.1920, registered ZK-GSV. The T65A is a single-seat all-composite 15 metre standard class T-tail glider.

Type Acceptance Certificate No. 4/21B/13 was granted on 1st February 2005 to the T65A based on validation of UK CAA Type Certificate BG3. There are no special requirements for import into New Zealand.

The T65A Vega was an all-new design intended for competition with a unique single-lever operation for the combined flaps/air brakes system. The flaps are linked with the ailerons to provide camber change along the full length of the wing. The latter is of foam-plastic sandwich construction with a single boom carbon-fibre spar and turned down wingtips. There is provision for 195 lb. of water ballast in wing tanks. The canopy is a one-piece bubble, and coupling of the controls is automatic after rigging. The T65D is a version with increased ballast capacity (350 lb.) and MAUW, as described in §5.1 of the Flight Manual, although it is not listed on the TCDS. (AAN 17338 refers to the T65 Variants A & D.)

S/n 1920 had been converted to T65-17L standard, through embodiment of a modification to fit wing extensions by British company Sailplane Services Limited, which is no longer in existence. The Flight manual was “amended in accordance with the T65-17L Type Record.” Unfortunately no copies of either the modification itself or the referenced type record were available, although the British Gliding Association confirmed it had been approved by the BGA Technical committee as a major modification after assessment against BCAR Section E. The re-designation was not adopted in New Zealand.

4. 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:

UK CAA TCDS No. BG3 – Slingsby T65A Vega – Issue 1 July 1978

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

(3) Certification compliance listing:

T65A Vega Type Record – (Photocopy provided through CASA)

UK CAA AAN 15487 – T65A Certification in the Special Category (Short Term)

UK CAA AAN 15487 Issue 2 – T65A Certification in the Transport Category

CAA AAN 15487 Issue 2 Addendum 1 – Approval of Mod.14 Alternate Rudder

CAA AAN 17338 – SEL Mod. No.37 – Increase in MTWA of T65 Variants A & D

(4) Flight manual: Slingsby T.65A – Vega Manual – Section 1 Flight Manual
UK CAA Approval No. DAI/2243/46 – CAA Accepted as AIR 2854

(5) Illustrated Parts Catalogue: None produced.

(6) Maintenance manual and service data for aircraft:

Slingsby T.65A – Vega Manual – includes:

Section 2 Repair Manual

Section 3 Service Manual

Section 4 Mandatory Instructions/Inspections

Section 5 Addendums (Data for T65D version with increased water ballast.)

Vickers Slingsby Technical Instructions

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

CAA 2171 from Slingsby Aviation Airworthiness Co-ordinator dated 30-01-04

(8) Additional information:

BGA Certificate of Airworthiness No. 2580 – T65-17L Vega works no. 1920

Vega T65 Manual Amendment – T65-17L – Pages 5.2.a and b

Logbook entry – Vega BGA 2580 Conversion to T65-17L Standard

Sailplane Services Limited dated 22 May 1990

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	Not Applicable – Single-seat canopy
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	<i>To be determined on an individual aircraft basis</i>
91.507	Pax Information Signs - Smoking, safety belts fastened	Not Applicable – Single-seat glider
91.509	Minimum Instruments and Equipment	Not Applicable – Powered aircraft only
91.511	Night VFR Instruments and Equipment	Not Applicable – Flight by night is prohibited (See BG3)
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 – Single-seat glider [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	<i>Operational requirement – compliance as applicable</i>

91.533	Oxygen for Non-Pressurised Aircraft (required for >30 min above FL100)	Operational requirement – compliance as applicable [FM §1.1 states there is provision for 610 litre oxygen cylinder – High pressure oxygen pipe ready installed]
91.541	SSR Transponder and Altitude Reporting Equipment	Operational requirement – compliance as applicable
91.543	Altitude Alerting Device - Turbojet or Turbofan	Not Applicable – Glider
91.545	Assigned Altitude Indicator	Not Applicable – Certificated for Day VFR flight only
A.15	ELT Installation Requirements	To be determined on an individual aircraft basis

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 (7) For IMC - (i) A variometer (ii) Turn & Slip/Artificial Horizon (iii) Radio transceiver	Fitted as Standard – See FM §1.2.0 Schedule of Equipment [Aircraft approved or comply with TSO C2 – Std: Winter 6FMS4] Fitted as Standard – See FM §1.2.0 Schedule of Equipment [Aircraft approved or comply with TSO C10 – Std: Smiths Mk.20A] Fitted as Standard – See FM §1.2.0 Schedule of Equipment To be determined on an individual aircraft basis To be determined on an individual aircraft basis Not Applicable Required for cloud flying – See FM §1.2.0 Schedule of Equipment Required for cloud flying – See FM §1.2.0 Schedule of Equipment Operational requirement – compliance as applicable

Attachments

The following documents form attachments to this report:

- Photographs first-of-type example serial number 1920 ZK-GSV
- Three-view drawing Vickers-Slingsby Model T65A Vega
- Copy of UK CAA Type Certificate Data Sheet Number BG3

Sign off

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David Gill
Team Leader Airworthiness

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Checked – AWE
Date: 1 February 2005