
Type Acceptance Report

TAR 18/21B/40

PZL-Bielsko SZD-55-1

TABLE OF CONTENTS

| | |
|--|----------|
| EXECUTIVE SUMMARY | 1 |
| 1. INTRODUCTION | 1 |
| 2. AIRCRAFT CERTIFICATION DETAILS | 1 |
| 3. APPLICATION DETAILS AND BACKGROUND INFORMATION | 2 |
| 4. NZCAR §21.43 DATA REQUIREMENTS | 4 |
| 5. NEW ZEALAND OPERATIONAL RULE REQUIREMENTS | 5 |
| ATTACHMENTS | 7 |
| APPENDIX 1 | 7 |

Executive Summary

New Zealand Type Acceptance has been granted to the PD-PS “PZL-Bielsko” SZD-55-1 glider based on validation of EASA Type Certificate number BG-163/1. 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 §21.191, 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. 18/21B/40 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 covers all models included on the State-of-Design type certificate which have been granted type acceptance in New Zealand. Appendix 1 details which models have been type accepted in accordance with the provisions of CAR Part 21B.

2. Aircraft Certification Details

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

Manufacturer: Allstar PZL Glider Sp. z.o.o. (since 22 March 2002)
Przedsiębiorstwo Doswiadczalno- Produkcyjne
Szybownictwa (PD-PS) "PZL-Bielsko"

Type Certificate: BG-163/1
Issued by: Republic of Poland, General Inspectorate of Civil Aviation

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

(i) **Model:** SZD-55-1

MCTOW: 350 kg [772 lb.]
500 kg [1102 lb.] – with water ballast

Max. No. of Seats: 1

Noise Standard: Not Applicable

3. Application Details and Background Information

The application for New Zealand type acceptance was from the importer Mr David Moody, dated 18 June 2018. The first-of-type example was serial number 551199108, registered ZK-GZD. The SZD-55-1 is a 15-metre Standard Class single-seat competition sailplane of all-composite construction with shoulder-mounted wing and T-tail.

Type Acceptance Certificate Number 18/21B/40 was granted on 9 January 2019 to the SZD-55-1 based on validation of EASA Type Certificate BG-163/1, Specific applicability is limited to the coverage provided by the operating documentation supplied. There are no special requirements for import into New Zealand.

The SZD-55-1 “Nexus” was an all-new design of glider developed to compete in the Standard Class, and first flew in 1988.

Note: On the TCDS there is also an SZD-55-1XM Model, which is a development of the original glider by the addition of a different water ballast wing tank. There were also changes to the aileron control system actuating levers and guides; rubber shock absorbers were introduced to the main landing gear rear leg; and the shape of the seat cushion is modified. However Allstar PZL advised that to their knowledge only one example of the model was produced, and there are no manuals available in English. Therefore it is not included in this type acceptance application.

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 BG-163

EASA Type Certificate Data Sheet no. BG-163/1 at Issue 4 dated March 15, 2004
– Model SZD-55-1 approved 13 February 1990

(2) Airworthiness design requirements:

(i) *Airworthiness Design Standards:*

The certification basis of the SZD-55-1 is JAR-22 at Change 4 dated 7 May 1987. This is an acceptable certification basis in accordance with NZCAR Part 21B Para §21.41, as JAR-22 is the basic standard for Sailplanes 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.

(ii) *Special Conditions:*

Nil

(iii) *Equivalent Level of Safety Findings:*

Nil

(iv) *Airworthiness Limitations:*

See TSM Section 3.5 – Allowed sailplane life-time

See Service Bulletin BE/R-12-55-1-09 – Extending of service life up to 12 000 FH

(3) Aircraft Noise and Engine Emission Standards:

(i) *Environmental Standard:*

Not Applicable

(4) Certification Compliance Listing:

Civil Aircraft Inspection Board – KCSP Statement No. BG 37/94 – SZD-55-1
(Includes a list of technical reports, and a “List of Deviations of SZD-55-1 Glider Characteristics in Respect to JAR-22 Requirements.”)

Glider SZD-55-1 – List of Compliance in Respect to JAR-22 Requirements

EASA Major Change Approval 10039816 – Lifetime extension up to 12000 FH

(5) Flight Manual:

PD-PS “PZL-Bielsko” SZD-55-1 Flight Manual – Issue IV
CAA Accepted as AIR 3877

(6) Operating Data for Aircraft:

(i) *Maintenance Manual:*

PD-PS “PZL Bielsko” Technical Description, Technical Service Manual, Periodic Works SZD-55-1 – Issue IV

Technical Service Manual Appendix No. 1 – Program and Results of Periodic Life-Time Inspection – Issue II

PD-PS “PZL Bielsko” Repair Manual for SZD-55-1 – Issue II

(ii) *Current service Information:*

Service Bulletins

(iii) *Illustrated Parts Catalogue:*

Spare Parts Catalogue – Issue I

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

See email from Allstar PZL Power of Attorney dated 21 November 2018

(8) Other information:

SZD-55 Nexus Index of Service Publications – Updated July 2012

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 |

CAR Part 91 – Subpart F – Instrument and Equipment Requirements

| PARA: | REQUIREMENT: | MEANS OF COMPLIANCE: |
|--------|---|---|
| 91.505 | Shoulder Harness if Aerobatic; >10 pax; Flight Training | Standard Equipment – See TCDS Section 9 |
| 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 – 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 – Single-seat glider [Superseded by §104.101(5)] |
| 91.529 | ELT - TSO C91a after 1/4/97 (or replacement) | <i>To be determined on an individual aircraft basis</i> |
| 91.531 | Oxygen Indicators - Volume/Pressure/Delivery | <i>Operational requirement – compliance as applicable</i> |
| 91.533 | Oxygen for Non-Pressurised Aircraft | <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 – Not turbojet or turbofan powered |
| 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> |

CAR 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 | Standard Equipment – See TCDS Section 9 Standard Equipment – See TCDS Section 9 Standard Equipment – See TCDS Section 9 Standard Equipment – See TCDS Section 9 <i>Operational requirement – compliance as applicable</i> Not Applicable Not Applicable – Certificated for Day VFR flight only |

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:

- Three-view drawing PZL-Bielsko SZD-55-1 Nexus
- Copy of EASA Type Certificate Data Sheet Number BG-163/1

Sign off

.....
David Gill
Team Leader Airworthiness

.....
Checked – Greg Baum
Airworthiness Engineer

Appendix 1

List of Type Accepted Variants:

| <i>Model:</i> | <i>Applicant:</i> | <i>CAA Work Request:</i> | <i>Date Granted:</i> |
|---------------|-------------------|--------------------------|----------------------|
| SZD-55-1 | D R Moody | 18/21B/40 | 9 January 2019 |