



EASA

**TYPE-CERTIFICATE
DATA SHEET**

EASA.A.038

SWIFT S-1

Type Certificate Holder:

ZAKŁADY LOTNICZE Margański & Mysłowski S.A.

ul. Strażacka 60
43-300 Bielsko-Biała
POLAND

Models: SWIFT S-1

Issue 02, 23/05/2016

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Section A: SWIFT S-1**A.I. General**

1. Data Sheet No.: EASA.A.038
2. a) Type: SWIFT S-1
b) Model:
c) Variant:
3. Airworthiness Category: Sailplane - Aerobatic (A) Category
4. Manufacturer: Zakład Remontów i Produkcji Sprzętu Lotniczego Edward Margański
ul. Cieszyńska 321
43-300 Bielsko-Biała
POLAND
5. Polish CAA Certification Date 12 August 1992
6. The EASA TC replaces Polish Type Certificate No. BG-181 (TCDS No. BG-181, issue II, dated 30 December 1992)

A.II. Certification Basis

1. Reference Date for determining the applicable requirements: May 1990
2. Airworthiness Requirements: JAR-22, Change 4, issued on 7 May 1987
3. Special Conditions: None
4. Exemptions:
 - Landing gear and airbrakes operating forces exceed limit 20 daN. (JAR 22.143 & 22.145).
 - Stall warning outside the required limit 1,05-1,10 V_{S1} (JAR 22.207).
 - Fuselage structure verified up to 77% of emergency landing ultimate loads (JAR 22.561).
5. Deviations: None
6. Equivalent Safety Findings: None
7. Requirements elected to comply: None
8. Environmental Standards: None

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: List of drawings, 5 November 1992
2. Description: Single-seat, mid-wing glider with conventional tailplane arrangement. All composite construction (GFRP).
Wing equipped with Schempp-Hirth airbrake, extended on upper surface only, and Friese-type aileron.
Horizontal tailplane split in stabiliser and elevator, and vertical - in fin and rudder.
Retractable main landing gear, with wheel brake.
3. Equipment: Minimum equipment:
 - airspeed indicator,
 - altimeter,
 - accelerometer,
 - stall warning device,
 - 5-point pilot harness,
 - parachute or back cushion (8 cm thick).
4. Dimensions: Span: 12,68 m
Length: 6,91 m
Height: 1,74 m (flight attitude)
Wing area: 11,73 m²
5. Tow release:
 - nose towing hook
TOST E85 or SZD-III
 - CG towing hook (option)
TOST Europa G 88
6. Weak links: Ultimate strength:
for winch launch 745 daN
for aero-tow 745 daN
7. Load factors: +10,0 / -7,5 over the whole airspeed range
8. Air Speeds (IAS) :
Never Exceed Speed V_{NE} 287 km/h
Manoeuvring Speed V_A 236 km/h
Rough Air Speed V_{RA} 236 km/h
Max Aero-tow Speed V_T 151 km/h
Max Winch-launch Speed V_W 140 km/h
9. Operational Capability: Approved for VFR-day conditions.
10. Masses: Maximum mass: 410 kg
Maximum mass of non-lifting parts: 260 kg

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11. Centre of Gravity Range: Empty glider with standard equipment:
 Forward limit: 620 mm aft of the datum
 Rearward limit: 640 mm aft of the datum
 Centre of Gravity operational limits:
 Forward limit: 257 mm aft of the datum
 (26,0% MAC)
 Rearward limit: 414 mm aft of the datum
 (41,9% MAC)
 MAC is 984 mm;
 0% MAC is situated at 1,3 mm aft of the datum.
12. Datum: Wing leading edge at root rib.
13. Levelling Means: Leading and trailing edge at root rib at the same level.
14. Seating Capacity: 1 pilot
15. Lifetime limitations: Refer to the Technical Service Manual
16. Other limitations: The following is prohibited:
 - night flying,
 - flight in icing conditions.
17. Control surface deflections:
- | | | |
|-----------|---------|-----------------|
| Aileron: | - up | 22° ±1° |
| | - down | 17° ±1° |
| Elevator: | - up | 25° +1° / -1,5° |
| | - down | 25° +1° / -1,5° |
| Rudder: | - left | 30° +1° / -2° |
| | - right | 30° +1° / -2° |

A.IV. Operating and Service Instructions

1. Flight Manuals:
- | | |
|---------|---|
| English | ● Flight Manual SWIFT S-1, Issue II, December 1992. |
| German | ● Flughandbuch SWIFT S-1, Ausg. III, Juli 2003, LBA-anerkannt. |
| Polish | ● <i>Instrukcja Użytkowania w Locie SWIFT S-1, wydanie II, grudzień 1992.</i> |
2. Maintenance Manuals:
- | | |
|---------|--|
| English | ● Technical Service and Maintenance Manual SWIFT S-1, Issue II, December 1992. |
| German | ● Wartungshandbuch SWIFT S-1, Ausg. III, April 2003. |
| Polish | ● <i>Instrukcja Obsługi Technicznej, Prace Okresowe, SWIFT S-1, wydanie II, grudzień 1992.</i> |
3. Instructions for equipment installed (in every case - the latest approved version):
- TOST, Operating manual for E85 tow release.
 - TOST, Operating manual for Europa G88 safety release.
 - SZD, Operating manual for SZD III tow release.
 - TOST, Installation and operating manual for TOST aircraft wheels.

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A.V. Notes:

1. Serial Numbers:
P-05, P-06, P-08 and from S/N 101 to S/N 125
2. Upper surface of wings, horizontal tail plane and fuselage, exposed to sun radiation, must be painted white. No colour markings allowed on these surfaces.

Administrative section

I. Acronyms

MAC Mean Aerodynamic Chord
S/N Aircraft Serial Number
VFR Visual Flight Rules

II. Type Certificate Holder Record

ZAKŁADY LOTNICZE Margański & Mysłowski S.A.
ul. Strażacka 60
43-300 Bielsko-Biała
POLAND

III. Change Record

Issue	Date	Changes
Issue 01	23/06/2005	Transfer from Polish Type Certificate No. BG-181 to the EASA Type Design
Issue 02	23/05/2016	Editorial corrections and rearrangement to EASA TCDS current format.