European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

PW-5 "Smyk"

Type Certificate Holder:

Zakład Szybowcowy „Jeżów”
Henryk Mynarski
ul. Długa 93
58-521 Jeżów Sudecki
POLAND

EASA TCDS No. A.087

For variants: PW-5 “Smyk”

Issue 01, 27 June 2006
Issue 02, 30 April 2008

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Change Record

Section A: PW-5 “Smyk”

A.I. General
Allgemeines

1.	Data Sheet No.: EASA.A.087 Kennblatt-Nr.	Issue: 2 Date: 30 April 2008 Ausgabe: Datum
2.	a) Type: (Muster) b) Variant: (Baureihe)	PW-5 "Smyk" PW-5 “Smyk”
3.	Airworthiness Category: Lufttüchtigkeitskategorie :	Sailplane, JAR 22 - Utility
4.	Type Certificate Holder: Halter der Musterzulasssung	Zakład Szybowcowy „Jeżów” Henryk Mynarski ul. Długa 93 58-521 Jeżów Sudecki POLAND
5.	Manufacturer: Hersteller	for serial numbers from 17.02.001 to 17.13.002: Wytwórnia Sprzętu Komunikacyjnego „PZL - Świdnik” S.A. Al. Lotników Polskich 1 21-045 Świdnik POLAND for serial numbers from 17.14.01: Zakład Szybowcowy „Jeżów” Henryk Mynarski ul. Długa 93 58-521 Jeżów Sudecki POLAND
6.	Polish CAA Certification Date Datum der Musterzulassung	10 March 1994 (TC No. BG-194)

7. This TCDS replaces Polish Type Certificate No. BG-194.

A.II. Certification Basis
Zulassungsbasis

1.	Certification Basis: Zulassungsbasis:	Defined 10 March 1994
2.	Airworthiness Requirements: Lufttüchtigkeitsforderungen:	JAR-22, Change 4, issued May 7, 1987, Amendments 22/90/1, 22/91/1.
3.	Requirements elected to comply: Gewählte Forderungen:	Directives for part strength certification of sailplanes and powered sailplanes from glass and carbon composites, issued by LBA, July 1991.
4.	Special Conditions: Sonderforderungen:	None
5.	Exemptions: Ausnahmen:	None
6.	Equivalent Safety Findings: Nachweise gleichwertiger Sicherheit:	None

A.III. Technical Characteristics and Operational Limitations

Technische Merkmale und Betriebsgrenzen

1. Type Design Definition: Musterdefinition:
   Drawing No. 17.00.000.00.00.

2. Description: Beschreibung:
   Single seat, “world class” glider. Cantilever mid-wing monoplane with standard tail unit (fixed stabilizer with elevator, fin and rudder). All composite glass-epoxy structure. Bipartite tapered wing with plate airbrakes protruding from upper surface. Fixed landing gear with nose wheel and auxiliary tail wheel. Main wheel with drum brake and shock absorber.

3. Equipment: Ausrüstung:

Minimum equipment:

airspeed indicator	PR-250S
altimeter	W-10S or PW-12
pilot safety belts	CT.J5-10-00 & CT.J5-70-00

Auxiliary equipment:

turn indicator	EZS-4 or EZS-5P
variometer	Wr-10U or Wrm-10
variometer	WRs-5D or WRs-5E with KWEC-2 and TM-420C
compass	KJ-13A
deck computer	L-NAV or LX-2000
acoustic variometer	CAV II
GPS	GPS-NAV 20 or 25
transceiver	FSG-70 or FSG-71M or AIR960
feeder	12V/6,5A

Any other typical glider equipment may be mounted inside instrument panel, but the mass of equipped instrument panel must not exceed 5 kg.

4. Dimensions: Abmessungen:

Span	13,44 m
Wing area	10,16 m²
Aspect Ratio	17,80
Length	6,22 m
Height	1,86 m

5. Launching Hooks: Schleppkupplungen:
   Safety hook „Europa G 88“, LBA Datasheet No. 60.230/2
   Nose tow hook „E 85“, LBA Datasheet No. 60.230/1

6. Weak links: Sollbruchstellen:
   Ultimate Strength: max. 700 daN

7. Air Speeds: Geschwindigkeiten:

Manoeuvring Speed	V_A	150 km/h
Never Exceed Speed	V_{NE}	dependent on altitude:

for S/N	up to 17.07.009	from 17.07.010
Altitude [m]	V_{NE} (IAS) [km/h]	
0 ÷ 3000	225	213
up to 5000	202	194
up to 7000	180	176
up to 9000	161	158
up to 11000	142	141

Maximum permitted speeds

- in rough air	V_{RA}	150 km/h
- in aero-tow	V_T	150 km/h
- in winch-launch	V_W	120 km/h

8. Operational Capability

VFR Day,
Cloud flying
High altitude flights for gliders equipped with oxygen installation

9. Masses:
Massen:

Max. Mass	300 kg
Empty Mass	180 – 190 kg

10. Centre of Gravity Range:
Schwerpunktsbereich:

For empty glider with standard equipment the permissible CG range depends on Empty Mass and it is illustrated in Maintenance Manual (fig. 7-2).

Centre of Gravity operational limits:

Forward Limit	235 mm aft of datum point (20,0% MAC)
Rearward Limit	410 mm aft of datum point (42,0% MAC)

MAC is 798 mm; 0% MAC is 75 mm behind the datum.

Datum:	Leading edge and wing-fuselage division plane intersection.
Leveling means:	Leading and trailing points of root chord (1000 mm) at the same level.

11. Seating Capacity:
Anzahl der Sitze:

1

12. Lifetime limitations:
Lebensdauerbegrenzte Teile:

Refer to Maintenance Manual

13. Other limitations:
Andere Beschränkungen:

Flights in icing conditions are forbidden.

Permissible altitude is 11 000 m.

Aerobatic in rough air is forbidden.

No winch-launching using nose hook.

No aero-towing using lower hook.

Manoeuvring load factor limits:	+5,3/-2,65	at V_A
	+4,0/-1,5	at V_{NE}

14. Deflection of control surfaces:
Ruderausschläge

Aileron	- up	26°	± 2°
	- down	13°	± 1°
Elevator:	- up	28°	± 2°
	- down	19°	± 1°
Rudder:	- left	35°	± 2°
	- right	35°	± 2°

A.IV. Operating and Service Instructions

Betriebs- und Instandhaltungsanweisungen

1. Flight Manuals:

document number	language	date of issue	the only country of use	notes
PW-5/IWL/II/94	Polish	1994.03.08		for s/n up to 17.07.009
PW-5/IWL/II/94	English	1994.03.08		for s/n up to 17.07.009
PW-5/IWL/II/94 A	German	1995.07.01	Austria	for s/n up to 17.07.009
PW-5/IWL/II/94 N	German	1996.06.15	Germany	for s/n up to 17.07.009
PW-5/IWL/III/97	Polish	1997.03.17		for s/n from 17.07.010
PW-5/IWL/III/97	English	1997.03.17		for s/n from 17.07.010
PW-5/IWL/III/97 A	German	1997.03.17	Austria	for s/n from 17.07.010
PW-5/IWL/III/97 N	German	1997.03.17	Germany	for s/n from 17.07.010
PW-5/IWL/I/98/ARG	English	1998.09.01	Argentina	for s/n from 17.12.018
PW-5/IWL/I/98/US	English	1998.06.15	USA	for s/n from 17.12.007
PW-5/IWL/II/04 Fm	French	2004.03.30	France	

2. Supplements for Flight Manual:

document number	language	date of issue	subject
PW-5/IWLU-4/II/97	Polish	1997.02.28	Użytkowanie szybowca wyposażonego w balast specjalny
PW-5/IWLU-4/II/97	English	1997.02.28	Operating the sailplane equipped with special ballast
PW-5/IWLU-6/III/00	Polish	2000.02.28	Użytkowanie szybowca wyposażonego w instalację ciśnienia energii całkowitej i sondę K-1
PW-5/IWLU-6/III/00	English	2000.02.28	Operating the sailplane equipped with pressure system and K-1 probe
PW-5/IWLU-7/I/08 Pm	Polish	2008.02.21	Użytkowanie aparatury tlenowej FLUID POWER A14
PW-5/IWLU-7/I/08 Am	English	2008.02.21	Operation of FLUID POWER A14 oxygen equipment
PW-5/IWLU-7/I/08 Aa	English	2008.02.21	Operation of FLUID POWER A14 oxygen equipment

3. Maintenance Manuals:

document number	language	date of issue	the only country of use	notes
PW-5/IOT/II/94	Polish	1994.03.08		
PW-5/IOT/II/94	English	1994.03.08		
PW-5/IOT/II/94 A	German	1996.04.01	Austria	
PW-5/IOT/II/94 N	German	1994.03.08	Germany	
PW-5/IOT/I/98/ARG	English	1998.09.01	Argentina	for s/n from 17.12.018
PW-5/IOT/I/98/US	English	1998.06.15	USA	for s/n from 17.12.007
PW-5/IOT/II/04 Fm	French	2004.03.30	France	

4. Supplements for Maintenance Manual:

document number	language	date of issue	subject
PW-5/IOTU-1/II/97	Polish	1997.02.28	Obsługa szybowca wyposażonego w balast specjalny
PW-5/IOTU-1/II/97	English	1997.02.28	Maintenance of the sailplane equipped with special ballast
PW-5/IOTU-2/II/00	Polish	2000.02.28	Użytkowanie szybowca wyposażonego w instalację ciśnienia i sondę K-1
PW-5/IOTU-2/II/00	English	2000.02.28	Operation of the sailplane equipped with pressure system and K-1 probe
PW-5/IOTU-3/I/08 Pm	Polish	2008.02.21	Zabudowa i obsługa aparatury tlenowej FLUID POWER A14
PW-5/IOTU-3/I/08 Am	English	2008.02.21	Operation and maintenance of FLUID POWER A14 oxygen equipment
PW-5/IOTU-3/I/08 Aa	English	2008.02.21	Operation and maintenance of FLUID POWER A14 oxygen equipment

Note: In document number notation
“m” means metrical system of units,
“a” means imperial system of units.

A.V. Notes
Bemerkungen

1. Serial Numbers:

   from 17.02.001 to 17.02.005,
   from 17.03.001 to 17.03.025,
   from 17.04.001 to 17.04.025,
   from 17.05.001 to 17.05.025,
   from 17.06.001 to 17.06.025,
   from 17.07.001 to 17.07.025,
   from 17.08.001 to 17.08.025,
   from 17.09.001 to 17.09.025,
   from 17.10.001 to 17.10.025,
   from 17.11.001 to 17.11.025,
   from 17.12.001 to 17.12.025,
   from 17.13.001 to 17.13.002,
   from 17.14.01

2. All glider outside surfaces must be white painted apart from registration number and anti-collision marks. Any colour marks (apart from wing-tip anti-collision marks) must not be applied on the upper surface of wings, fuselage and horizontal tail unit.
3. Any additional painting on control surfaces is forbidden. Mass balance of control surfaces must comply with requirements of Maintenance Manual.

Change Record

Issue	Date	Changes
Issue 01	27 June 2006	Transfer from Polish Type Certificate No. BG-194. to the EASA Type Design
Issue 02	30 April 2008	P-EASA.A.C.08936 - Increase of flight altitude limit from 5000 m to 11000 m