



***European Aviation Safety Agency***

**EASA  
TYPE-CERTIFICATE  
DATA SHEET  
EASA.A.058**

**PZL M28**

**Polskie Zakłady Lotnicze Sp. z o. o.**

Wojska Polskiego 3  
39-300 Mielec  
POLAND

For models: PZL M28 00  
PZL M28 02  
PZL M28 05

Issue 01: October 24, 2005  
Issue 02: April 21, 2006  
Issue 03: December 21, 2006  
Issue 04: 14 Jun, 2013  
Issue 05: 03 Jul, 2013

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## **SECTION A: PZL M28 00**

### **A.I. General**

- |   |   |
|---|---|
| 1. Data Sheet No.:                                      | A.058 Issue: 01 Date: October 24, 2005  |
| 2. a) Type:   | PZL M28   |
| b) Model:   | PZL M28 00  |
| c) Variant:   | - passenger (18 pax) transport<br>- cargo transport<br>- passenger/cargo transport<br>- paradrop        |
| 3. Airworthiness Category:                              | Commuter  |
| 4. Type Certificate Holder:                             | Polskie Zakłady Lotnicze Sp. z o. o.  |
| 5. Manufacturer:  | Polskie Zakłady Lotnicze Sp. z o. o.  |
| 6. Certification Application Date:                      | Sep 14, 2004 (to EASA)  |
| 7. (Reserved) National Certifying Authority             | Civil Aviation Office, Poland   |
| 8. (Reserved) National Authority Type Certificate Date: | May 15, 1995<br><i>This EASA Type Certificate replaces the Polish CAO Type Certificate No. BB-199/1</i> |
| 9. Reserved   | none  |

### **A.II Certification Basis**

- |  |  |
|--|--|
| 1. Reference Date for determining the applicable requirements: | Oct 11, 1986                               |
| 2. Airworthiness Requirements:                                 | FAR Part 23, including Amendment 23 - 34   |
| 3. Special Conditions:   | None                                       |
| 3. Exemptions:   | None                                       |
| 4. Deviations:   | None                                       |
| 5. Equivalent Safety Findings:                                 | None                                       |
| 6. Requirements elected to comply:                             | none                                       |
| 7. Environmental Standards:                                    | FAR Part. 34 Subp. B, FAR Part. 36 App. G. |
| 8. (Reserved) Additional National Requirements:                | none                                       |
| 9. (Reserved)  | none                                       |

**A.III Technical Characteristics and Operational Limitations**

1. Type Design Definition: specification sheet No. 28.15.0000.000.000
2. Description: The PZL M28 Model 00 is a twin-engined high-wing cantilever turboprop STOL airplane of all-metal structure, with twin vertical tails and a tricycle non-retractable landing gear featuring a steerable nose wheel
3. Equipment:
  - Standard: As defined in Section 7 of the Airplane Flight Manual ref No. M28/LTO-3/27/95
  - Optional & Operational: As defined in Section 9 of the Airplane Flight Manual Ref. No. M28/LTO-3/27/95
4. Dimensions:
  - Length 13.10 m (43 ft)
  - Height 4.90 m (16 ft 1 in)
  - Wing span 22.06 m (72 ft 4 in)
  - Wing area 39.72 m<sup>2</sup> (427.5 sq. ft.)
5. Engine:
  - 5.1.1 Model: PT6A-65B turboprop with a free turbine, reduction ratio of 0.0568:1
  - 5.1.2 Type Certificate: E4EA
  - 5.1.3 Limitations: For power-plants limits refer to Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
  - 5.1.4. Engine Performance:
 

	Shaft Horse Power	Torque	Prop Speed	Turbine Speed	Exhaust Gas Temp.
	SHP	PSIG	rpm	%	°C
Takeoff	1100*	43.34	1700	104	820
Max. Continuous	1100**	43.34	1700	104	810
Max. Cruise	1000***	43.34	1700	104	800

\* attainable up to 50.5 °C; \*\* attainable up to 45.5 °C; \*\*\* attainable up to 42.5 °C
  - 5.1.5 Number of engines: 2
6. Load factors:
  - Flaps Up n=+3.0 , -1.0
  - Flaps Down n=+2.0 , 0
7. Propeller:
  - 7.1 Model: HC-B5MP-3D/M10876ANSK five-blade, all-metal, constant-speed, with WOODWARD speed governor (3032082A)
  - 7.2 Type Certificate: P44GL
  - 7.3 Number of blades: 5 (five)
  - 7.4 Diameter: 2.820 m (9 ft 3in)
  - 7.5 Sense of Rotation: Clockwise

8. Fluids:

- 8.1 Fuel: Aviation kerosene type JET A, JET A-1, JET A-2 and approved equivalents as per P&WC Bulletin No. 13044. Equivalents: F34, F35, F40, F43, F44, JP-4, JP-5, JP-8, AVTUR, AVTAG, AVTAC, CAN/C.G.SB.3.23-M86, CAN/C.G.SB.3.22-M86, CAN/C.G.SB.3.GP-24Ma, AIR 3404, AIR 3405, AIR 3407, RT acc. to GOST 16564-71.
- 8.2 Oil: Aero Shell Turbine Oil 500, Royco Turbine Oil 500, Mobil Jet Oil II, Castrol 5000, BP Turbo Oil 2380 - in accordance with Pratt & Whitney Bulletin No. 13001.
- 8.3 Coolant: N/A

9. Fluid capacities:

- 9.1 Fuel:
- Wing with no auxiliary tanks 1960 l (518 US Gal.)
  - Wing with auxiliary tanks 2440 l (645 US Gal.)
  - Extra long-ferry fuel tank inside fuselage 2090 l (552 US Gal.)
- 9.2 Oil: 2 x 9.45 l (2.5 US gal)
- 9.3 Coolant system capacity: N/A

10. Air Speeds:

Airspeed Limitations:	IAS (km/h)	CAS (km/h)
Max. Allowable Operating Speed $V_{MO}$	355	345
Design Maneuvering Speed, $V_A$	230	225
Max. Allowable Flap-Extended Speed, $V_{FE}$		
	Flaps 15°	215
	Flaps 40°	210
Max. Spoiler-Extended Speed, $V_{NS}$		
	- outboard spoilers	215
	- inboard spoilers	210
Minimum Control Speed, $V_{MC}$	135	130

11. Maximum Operating Altitude:

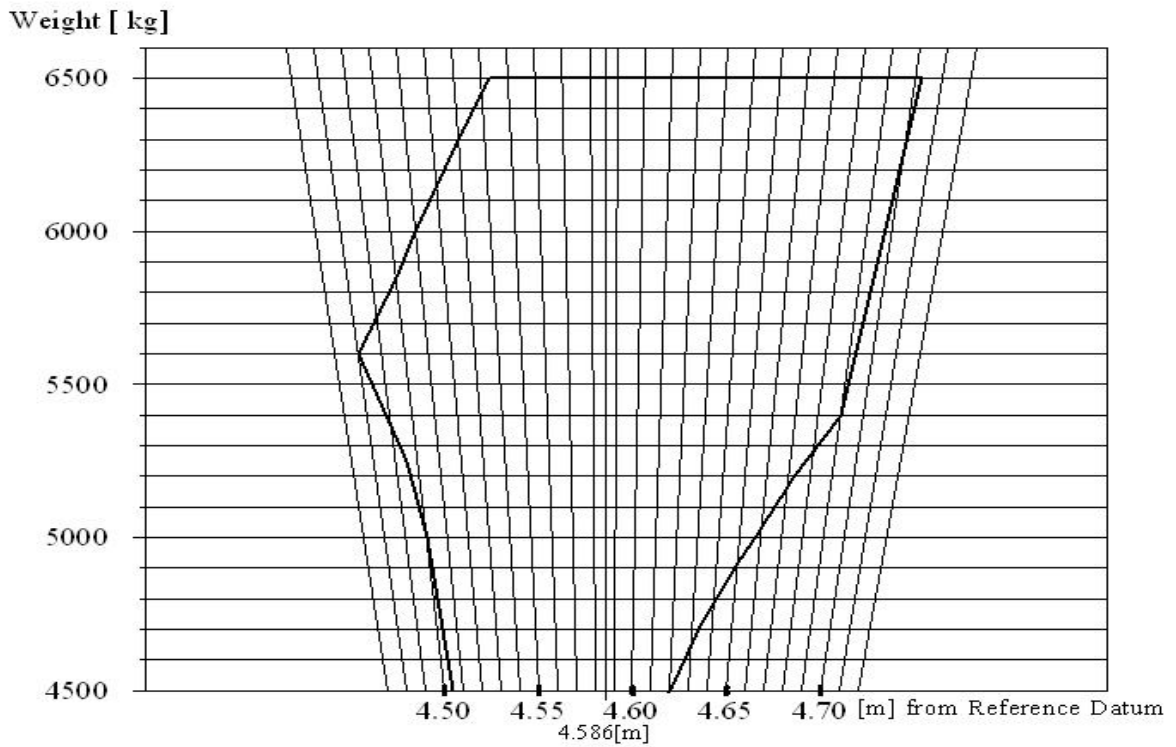
- without oxygen supply system 3000 m
- with oxygen supply system installed 4000 m
- cargo transport version with crew oxygen supply system provided 7620 m

12. Allweather Operations Capability:
- VFR flights, day and night
  - IFR flights, day and night

13. Weights:

- Max. Takeoff 6500 kg
- Max. Landing 6175 kg

14. Centre of Gravity Range:



15. Datum: 2.470 m (97.24 in) Frame No. 9, Forward  
(see fig. 6.1, AFM, Chapter 6)

16. Control Surface Deflections:

Ailerons:	Up	$22^{\circ} \pm 1^{\circ}$
	Down	$16^{\circ} 20' \pm 1^{\circ}$
Aileron Trim Tab:	Up	$14^{\circ} \pm 1^{\circ}$
	Down	$14^{\circ} \pm 1^{\circ}$
Elevator:	Up	$27^{\circ} \pm 1^{\circ}$
	Down	$19^{\circ} \pm 1^{\circ}$
Elevator Trim Tab: (Elevator Neutral)	Up	$15^{\circ} \pm 1^{\circ}$
	Down	$25^{\circ} \pm 1^{\circ}$
Rudder LH:	Inboard	$16^{\circ} \pm 1^{\circ}$
	Outboard	$22^{\circ} \pm 1^{\circ}$
Rudder RH:	Inboard	$16^{\circ} \pm 1^{\circ}$
	Outboard	$22^{\circ} \pm 1^{\circ}$
Rudder Trim Tab: (Rudder Neutral)	Left	$15^{\circ} \pm 1^{\circ}$
	Right	$15^{\circ} \pm 1^{\circ}$
Wing Flaps:	Takeoff	$15^{\circ} \pm 1^{\circ}$
	Landing	$40^{\circ} \pm 1^{\circ}$
Spoilers:	Inboard	$45^{\circ} \pm 1^{\circ}$
	Outboard	$60^{\circ} \pm 1^{\circ}$

17. Levelling Means: 1LP = LH and RH levelling point on frame No. 9  
(see fig. 6.1, AFM, Chapter 6)
18. Minimum Flight Crew: 2 (two) pilots
19. Maximum Passenger Seating Capacity: 18
20. Baggage/Cargo Compartments:  
Max. Baggage Compartment Load: 150 kg  
Max. Payload: 1750 kg
21. Wheels and Tyres: Main wheel tyre size 720 x 310 mm (28.30 x 12.20 in)  
Nose wheel tyre size (Type 6.50x10 – GOOD YEAR)  
561x169 mm (22.10x6.65 in)
22. Landing gear: Fixed, tricycle type, with a steerable nose wheel  
Nose Wheel Controlling Angle  $\pm 15^\circ$   
Nose Wheel Controlling Angle with Steering OFF  $\pm 50^\circ$
23. Max. Service Ceiling:  
- without oxygen-supply system 3000 m  
- with oxygen-supply system 4000 m  
- cargo transport configuration with oxygen system for the crew 7620 m
24. Operating Ambient Temperature Range:  $-50^\circ\text{C}$  to  $+50^\circ\text{C}$
25. (Reserved):

**A.IV   Operating and Service Instructions**

1. Flight Manual: Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
2. Technical Manual: PZL M28 Maintenance Manual Ref No. M28/4/95/LTO-33
3. Repair Manual: Repair Manual PZL M28 Airplane ref No. M28/1/2001
4. Manual for Operation: see related Flight Manual section 9.
5. Spare Parts Catalogue: Illustrated Parts Catalog, ref No. M28/14/97/LTO-3
6. Table of Dimensions, Limits and Clearances: see Chapter 6 of appropriate Maintenance Manual
7. Instruments and aggregates: see  
    for standard equipment:                             As defined in Section 7 of the Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,  
    for optional & operational  
    equipment:   As defined in Section 9 of the Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
8. Airplane Service Life, and Component TBOs :  
    Airplane Service Life, Component TBOs as defined in Sec. 4 of M28 Maintenance Manual (M28/4/95/LTO-33) .

**A.V   Notes**

1. Flight in known or forecast icing conditions is prohibited
2. This Type Certificate applies to aircraft S/N: AJEP1-01 and to AJE001-02 and up
3. When the ice protection system is installed, flight with this system operative is allowed but with consideration for note 1. (above).



## **SECTION B: PZL M28 02**

### **B.I. General**

1. Data Sheet No.: A.058 Issue: 01 Date: October 24, 2005
2. a) Type: PZL M28  
b) Model: PZL M28 02  
c) Variant: - passenger transport (18 passengers + 1 attendant seat)  
- passenger „Executive” (designation M28 02-E), 8 or 10 passenger seats (depending on seat model) + 2 attendants’ seats  
- cargo transport  
- mixed passenger/cargo transport  
- paradrop  
- liquid-cargo transportation  
- long-range ferry

For above listed versions the reinforced PZL M28 02-W variant with 7500 kg MTOW is approved.

3. Airworthiness Category: Commuter
4. Type Certificate Holder: Polskie Zakłady Lotnicze Sp. z o. o.
5. Manufacturer: Polskie Zakłady Lotnicze Sp. z o. o.
6. Certification Application Date: Sep 14, 2004 (to EASA)
7. National Certifying Authority Civil Aviation Office, Poland
8. National Authority Type Certificate Date: Feb 23, 1996  
*This EASA Type Certificate replaces the Polish CAO Type Certificate No. BB-199/1*
9. Reserved none

### **B.II Certification Basis**

1. Reference Date for determining the applicable requirements: Oct 11, 1986
2. Airworthiness Requirements: FAR Part 23, including Amendment 23 – 34. For flight in known and forecast icing (FIKI) see certification basis for PZL M2805 model for FIKI.
3. Special Conditions: None
3. Exemptions: None
4. Deviations: None
5. Equivalent Safety Findings: None
6. Requirements elected to comply: none
7. Environmental Standards: FAR Part. 34 Subp. B, FAR Part. 36 App. G.
8. (Reserved) Additional none

National Requirements:

9. (Reserved) none

**B.III Technical Characteristics and Operational Limitations**

1. Type Design Definition: specification sheet No. 28.15.0000.000.000
2. Description: The PZL M28 Model 02 is a twin-engine high-wing cantilever turboprop STOL airplane of all-metal structure, with twin vertical tails and a tricycle non-retractable landing gear featuring a steerable nose wheel
3. Equipment:
  - Standard: As defined in Section 7 of the Airplane Flight Manual ref No. M28/LTO-3/27/95
  - Optional & Operational: As defined in Section 9 of the Airplane Flight Manual Ref. No. M28/LTO-3/27/95
4. Dimensions:
  - Length 13.10 m (43 ft)
  - Height 4.90 m (16 ft 1 in)
  - Wing span 22.06 m (72 ft 4 in)
  - Wing area 39.72 m<sup>2</sup> (427.5 ft<sup>2</sup>)
5. Engine:
  - 5.1.1 Model: PT6A-65B turboprop with a free turbine, reduction ratio of 0.0568:1
  - 5.1.2 Type Certificate: E4EA
  - 5.1.3 Limitations: For power-plants limits refer to Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
  - 5.1.4. Engine Performance:
 

	Shaft Horse Power	Torque	Prop Speed	Turbine Speed	Exhaust Gas Temp.
	SHP	PSIG	rpm	%	°C
Takeoff	1100*	43.34	1700	104	820
Max. Continuous	1100**	43.34	1700	104	810
Max. Cruise	1000***	43.34	1700	104	800

\* attainable up to 50.5 °C; \*\* attainable up to 45.5 °C; \*\*\* attainable up to 42.5 °C
  - 5.1.5 Number of engines: 2
6. Load factors:
  - For model M28 02 (7000 kg MTOW) and M28 02-W (7500 kg MTOW)
  - Flaps Up n=+3.0 , -1.0
  - Flaps Down n=+2.0 , 0
  - For model M28 02, for long-range ferry only (7500 kg MTOW)
  - n=+2.8 , -1.0
  - n=+2.0 , 0
7. Propeller:
  - 7.1 Model: HC-B5MP-3D/M10876ANSK five-blade, all-metal, constant-speed, with WOODWARD speed governor (3032082A)
  - 7.2 Type Certificate: P44GL
  - 7.3 Number of blades: 5 (five)
  - 7.4 Diameter: 2.820 m (9 ft 3in)
  - 7.5 Sense of Rotation: Clockwise

8. Fluids:

- 8.1 Fuel: Aviation kerosene type JET A, JET A-1, JET A-2 and approved equivalents as per P&WC Bulletin No. 13044. Equivalents: F34, F35, F40, F43, F44, JP-4, JP-5, JP-8, AVTUR, AVTAG, AVTAC, CAN/C.G.SB.3.23-M86, CAN/C.G.SB.3.22-M86, CAN/C.G.SB.3.GP-24Ma, AIR 3404, AIR 3405, AIR 3407, RT acc. to GOST 16564-71.
- 8.2 Oil: Aero Shell Turbine Oil 500, Royco Turbine Oil 500, Mobil Jet Oil II, Castrol 5000, BP Turbo Oil 2380 - in accordance with Pratt & Whitney Bulletin No. 13001.
- 8.3 Coolant: N/A

9. Fluid capacities:

- 9.1 Fuel: 1766 kg (2278 l), (3894 lbs; 602 US Gal.)
- 9.2 Oil: 2 x 9.45 l (2.5 US gal)
- 9.3 Coolant system capacity: N/A

10. Air Speeds:

Airspeed Limitations:	IAS (km/h)	CAS (km/h)
Max. Allowable Operating Speed $V_{MO}$	355	345
Design Maneuvering Speed, $V_A$	230	225
for PZL M28 02-W variant:	244	238
Max. Allowable Flap-Extended Speed, $V_{FE}$		
Flaps 15°	215	210
Flaps 40°	200	190
Max. Spoiler-Extended Speed, $V_{NS}$		
- outboard spoilers	215	210
- inboard spoilers	215	210
Minimum Control Speed, $V_{MC}$	153	146

11. Maximum Operating Altitude:

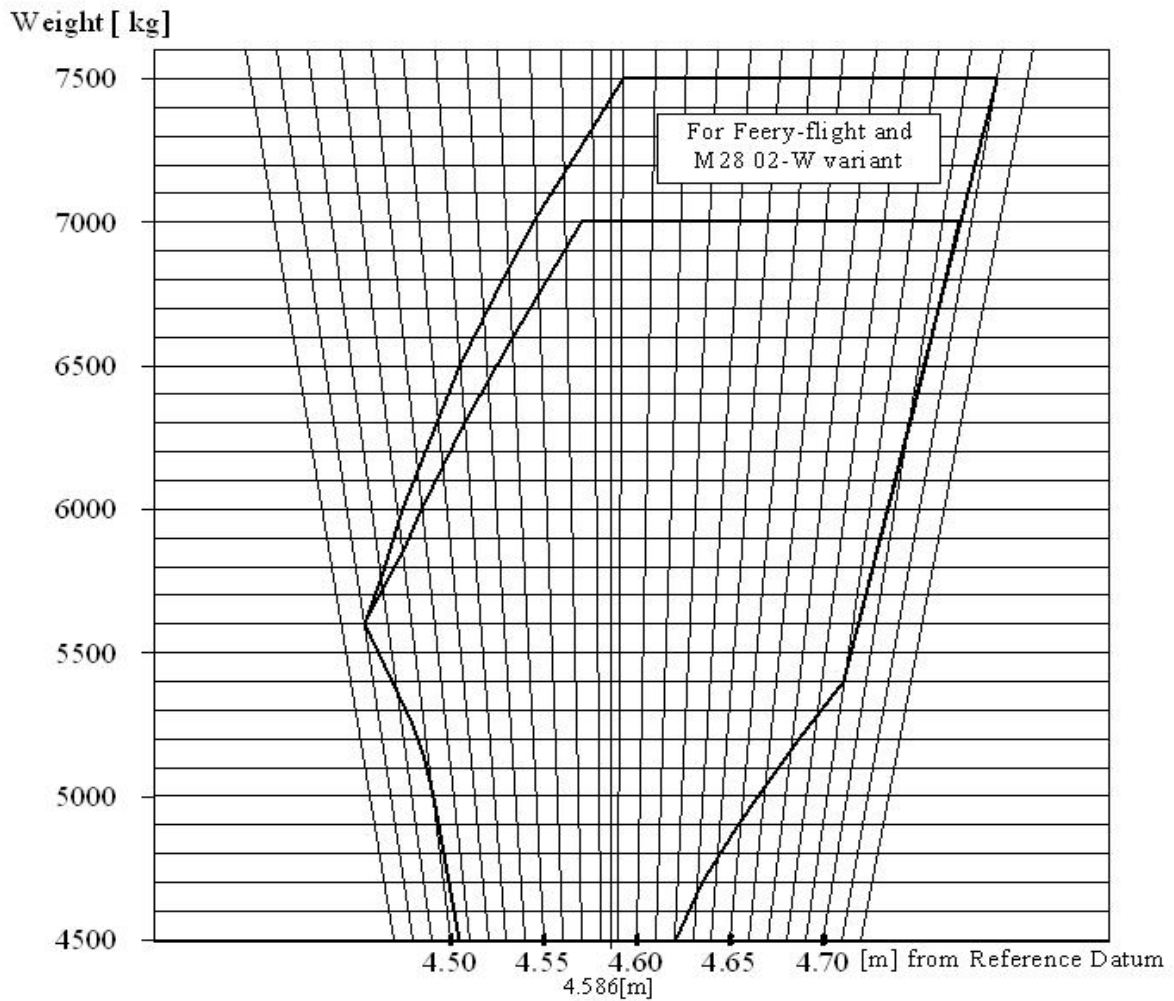
- without oxygen supply system 3000 m
- with oxygen supply system installed 4000 m
- cargo transport version with crew oxygen supply system provided 7620 m

12. Allweather Operations Capability: - VFR flights, day and night  
- IFR flights, day and night

13. Weights:

- Max. Takeoff 7000 kg
- Max. Landing 6650 kg
- Max. Takeoff for Ferry Flight 7500 kg
- Max. Takeoff and Landing for M28 02-W variant 7500 kg

14. Centre of Gravity Range:



15. Datum: 2.470 m (97.24 in) Frame No. 9, Forward  
(see fig. 6.1, AFM, Chapter 6)

16. Control Surface Deflections:

Ailerons:	Up	$22^{\circ} \pm 1^{\circ}$
	Down	$16^{\circ} 20' \pm 1^{\circ}$
Aileron Trim Tab:	Up	$14^{\circ} \pm 1^{\circ}$
	Down	$14^{\circ} \pm 1^{\circ}$
Elevator:	Up	$27^{\circ} \pm 1^{\circ}$
	Down	$19^{\circ} \pm 1^{\circ}$
Elevator Trim Tab: ( <i>elevator neutral</i> )	Up	$15^{\circ} \pm 1^{\circ}$
	Down	$25^{\circ} \pm 1^{\circ}$
Rudder LH:	Inboard	$16^{\circ} \pm 1^{\circ}$
	Outboard	$22^{\circ} \pm 1^{\circ}$
Rudder RH:	Inboard	$16^{\circ} \pm 1^{\circ}$
	Outboard	$22^{\circ} \pm 1^{\circ}$
Rudder Trim Tab: ( <i>rudder neutral</i> )	Left	$15^{\circ} \pm 1^{\circ}$
	Right	$15^{\circ} \pm 1^{\circ}$
Wing Flaps:	Takeoff	$15^{\circ} \pm 1^{\circ}$
	Landing	$40^{\circ} \pm 1^{\circ}$
Spoilers:	Inboard	$45^{\circ} \pm 1^{\circ}$
	Outboard	$60^{\circ} \pm 1^{\circ}$

17. Levelling Means: 1LP = LH and RH levelling point on frame No. 9  
(see fig. 6.1 AFM, Chapter 6)
18. Minimum Flight Crew: 2 (two) pilots
19. Maximum Passenger Seating Capacity:
- |   |   |
|---|---|
| Passenger Seating Capacity                        | 18 + 1 attendant seat   |
| Passenger Seating Capacity in "Executive" version | 8 or 10 passenger seats (depending on seat model) + 2 attendants' seats |
20. Baggage/Cargo Compartments:
- |                                     |           |
|-------------------------------------|-----------|
| Max. Baggage in Under Fuselage Pod: | 300 kg    |
| Max. Payload:                       | 2000 kg   |
| Max. Baggage on Baggage Shelf:      | 150 kg 1) |
| Max. Hoist Capacity:                | 700 kg 1) |
- 1) not applicable for „Executive" version
21. Wheels and Tyres: Main wheel tyre size 720 x 310 mm (28.30 x 12.20 in)  
Nose wheel tyre size (Type 6.50x10 – GOOD YEAR)  
561x169 mm (22.10x6.65 in)
22. Landing gear: Fixed, tricycle type, with a steerable nose wheel
- |  |        |
|--|--------|
| Nose Wheel Controlling Angle                   | ± 15 ° |
| Nose Wheel Controlling Angle with Steering OFF | ± 50 ° |
- for M28 02-W variant:
- Main Gear: rocker-type with a single-chamber shock absorber,
  - Nose Gear: rocker-type, with a double-chamber shock absorber,
- |  |        |
|--|--------|
| Nose Wheel Controlling Angle                   | ± 15 ° |
| Nose Wheel Controlling Angle with Steering OFF | ± 45 ° |
23. Max. Service Ceiling:
- |   |        |
|---|--------|
| - without oxygen-supply system                                  | 3000 m |
| - with oxygen-supply system                                     | 4000 m |
| - cargo transport configuration with oxygen system for the crew | 7620 m |
24. Operating Ambient Temperature Range: -50°C to + 50°C
25. (Reserved):

#### **B.IV Operating and Service Instructions**

- 1 Flight Manual: Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95.
- 2 Technical Manual: PZL M28 Maintenance Manual Ref No. M28/4/95/LTO-33.
3. Repair Manual: Repair Manual PZL M28 Airplane ref No. M28/1/2001
4. Manual for Operation: see related Flight Manual section 9.
5. Spare Parts Catalogue: Illustrated Parts Catalog, ref No. M28/14/97/LTO-3
6. Table of Dimensions, Limits and Clearances: see Chapter 6. Of appropriate Maintenance Manual
7. Instruments and aggregates: see  
for standard equipment:  
As defined in Section 7 of the Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,  
for optional & operational  
equipment:  
As defined in Section 9 of the Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
8. Airplane Service Life, and Component TBOs :  
Airplane Service Life, Component TBOs as defined in Sec. 4 of M28 Maintenance Manual (M28/4/95/LTO-33)

#### **B.V Notes**

1. [Reserved.]
2. PZL M28 02-W variant: is approved for operation on condition of execution of provisions included in Bulletin No. E/12.048/2001 only.
3. This Type Certificate applies to aircraft S/N: AJE001-01 and up. For flight in known and forecast icing (FIKI) this certificate applies for AJE001-01 airplane only.
4. When the ice protection system is installed, flight with this system operative is allowed but with consideration for note 3. (above).
5. Chapter 4. Of the Maintenance Manual Ref No. M28/4/95/LTO-33 related to the FIKI have been approved on the Chapter 4. Of the Maintenance Manual Ref. No.: M28/11/2002, approved for PZL M28 05 model for FIKI basis.

## **SECTION C :PZL M28 05**

### **C.I. General**

1. Data Sheet No.: A.058  
Issue: 01 Date: October 24, 2005  
PZL M28 05-SG variant : Issue: 02 Date: April 21, 2006
2. a) Type: PZL M28  
b) Model: PZL M28 05  
c) Variant:
  - passenger transport, max. 19 passengers;
  - cargo transport;
  - passenger/cargo transport mix, max. 18 passengers;
  - paradrop;
  - liquid-cargo transportation;
  - long-range ferry;
  - version of improved standard, max. 13 passengers
  - with the special equipment transportation/release system (designation PZL M28 05-S)
  - maritime patrol (designation PZL M28 05-MPW)
  - for Border Guard missions (designation PZL M28 05-SG)
3. Airworthiness Category: Commuter
4. Type Certificate Holder: Polskie Zakłady Lotnicze Sp. z o. o.
5. Manufacturer: Polskie Zakłady Lotnicze Sp. z o. o.
6. Certification Application Date: Sep 14, 2004 (to EASA)
7. (Reserved) National Certifying Authority: Civil Aviation Office, Poland
8. (Reserved) National Authority Type Certificate Date: Nov. 17, 1999 (acc. to BB-199/1)  
Apr. 18, 2002 (acc. to BB-216)  
*This EASA Type Certificate replaces the Polish CAO Type Certificates No. BB-199/1 and BB-216*
9. Reserved: none



**C.II**      **Certification Basis**

1. Reference Date for determining the applicable requirements: Oct 11, 1986 (acc to the BB-199/1)  
Feb 2, 1991 (acc to the BB-216)
2. Airworthiness Requirements:  
for airplanes S/N AJE001-19 up to AJE002-10 (Polish CAO TC No. BB199/1): FAR Pt. 23, Amendment 34, FAR Pt. 23, Amendment 42: Flight Data Recorder (23.1459), Voice Recorder (23.1457)  
FAR Pt. 23, Amendment 49: Installations, systems and airplane reliability analysis (23.1309)  
FAR Pt. 23, Amendment 50: Stall warning (23.207)  
FAR Pt. 34, Subpart B, FAR Pt. 36, Appendix G.  
  
for airplanes S/N AJE00301 and up : (Polish CAO TC No. BB216) FAR 23, Amendment 42,  
FAR 23, Amendment 49 : 23.1309,  
FAR 23, Amendment 50 : 23.49, 23.201, 23.203, 23.205, 23.207 and 23.1545  
  
for airplanes S/N AJE00301 and up for service life extension FAR 23, Amendment 48: 23.572, 23.574, 23.575, 23.629  
  
for airplanes with ice protection system installed, certified for FIKI, S/N AJE00301 and up FAR 23, Amendment 42,  
FAR 23, Amendment 43: 23.1419,  
FAR 23, Amendment 45: 23.1525,  
  
FAR 23, Amendment 49 : 23.775, 23.1307, 23.1309, 23.1323, 23.1326, 23.1351, 23.1353, and 23.1431  
FAR 23, Amendment 50 : 23.49, 23.63, 23.67, 23.69, 23.75, 23.201, 23.203, 23.207, 23.1325, 23.1559, 23.1581, 23.1583 and 23.1585  
FAR 23, Amendment 51: 23.929, 23.975 and 23.1093  
FAR 23, Amendment 53: 23.901  
FAR 23, Amendment 54: 23.903  
FAR 23, Amendment 62: 23.73
3. Special Conditions: None
3. Exemptions: None
4. Deviations: None
5. Equivalent Safety Findings: Equivalent Safety Level FAR 23.1361(a) - Master Switch Arrangement
6. Requirements elected to comply: None

- |  |  |
|--|--|
| 7. Environmental Standards:                        | FAR Part. 34 Subp. B, FAR Part. 36 App. G., and:<br>Annex 16 ICAO, Part II, Chapter 10: Aircraft<br>Noise Certification, |
| 8. (Reserved) Additional<br>National Requirements: | none   |
| 9. (Reserved)                                      | none   |

**C.III Technical Characteristics and Operational Limitations**

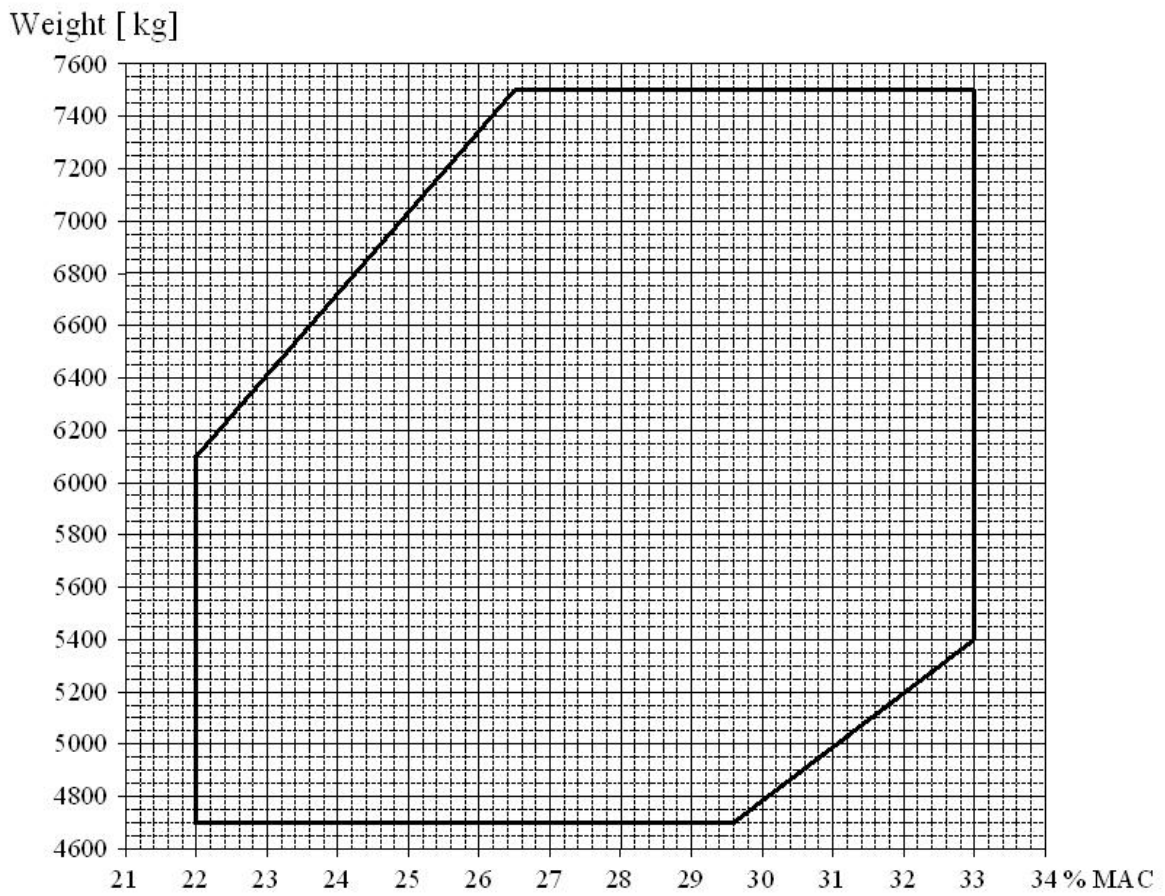
1. Type Design Definition: specification sheet No. 28.15.0000.000.000
2. Description: The PZL M28 Model 05 is a twin-engined high-wing cantilever turboprop STOL airplane of all-metal structure, with twin vertical tails and a tricycle non-retractable landing gear featuring a steerable nose wheel
3. Equipment:
  - Standard: As defined in Section 7 of the Airplane Flight Manual ref No. M28/LTO-3/27/95
  - Optional & Operational: As defined in Section 9 of the Airplane Flight Manual Ref. No. M28/LTO-3/27/95
4. Dimensions:
  - Length 13.10 m (43 ft)
  - Height 4.90 m (16 ft 1 in)
  - Wing span 22.06 m (72 ft 4 in)
  - Wing area 39.72 m<sup>2</sup> (427.5 ft<sup>2</sup>)
5. Engine:
  - 5.1.1 Model: PT6A-65B turboprop with a free turbine, reduction ratio of 0.0568:1
  - 5.1.2 Type Certificate: E4EA
  - 5.1.3 Limitations: For power-plants limits refer to Airplane Flight Manual, PZL M28 with PT6A-65B Engines ref No. M28/LTO-3/27/95,
  - 5.1.4. Engine Performance:
 

	Shaft Horse Power	Torque	Prop Speed	Turbine Speed	Exhaust Gas Temp.
	SHP	PSIG	rpm	%	°C
Takeoff	1100*	43.34	1700	104	820
Max. Continuous	1100**	43.34	1700	104	810
Max. Cruise	1000***	43.34	1700	104	800

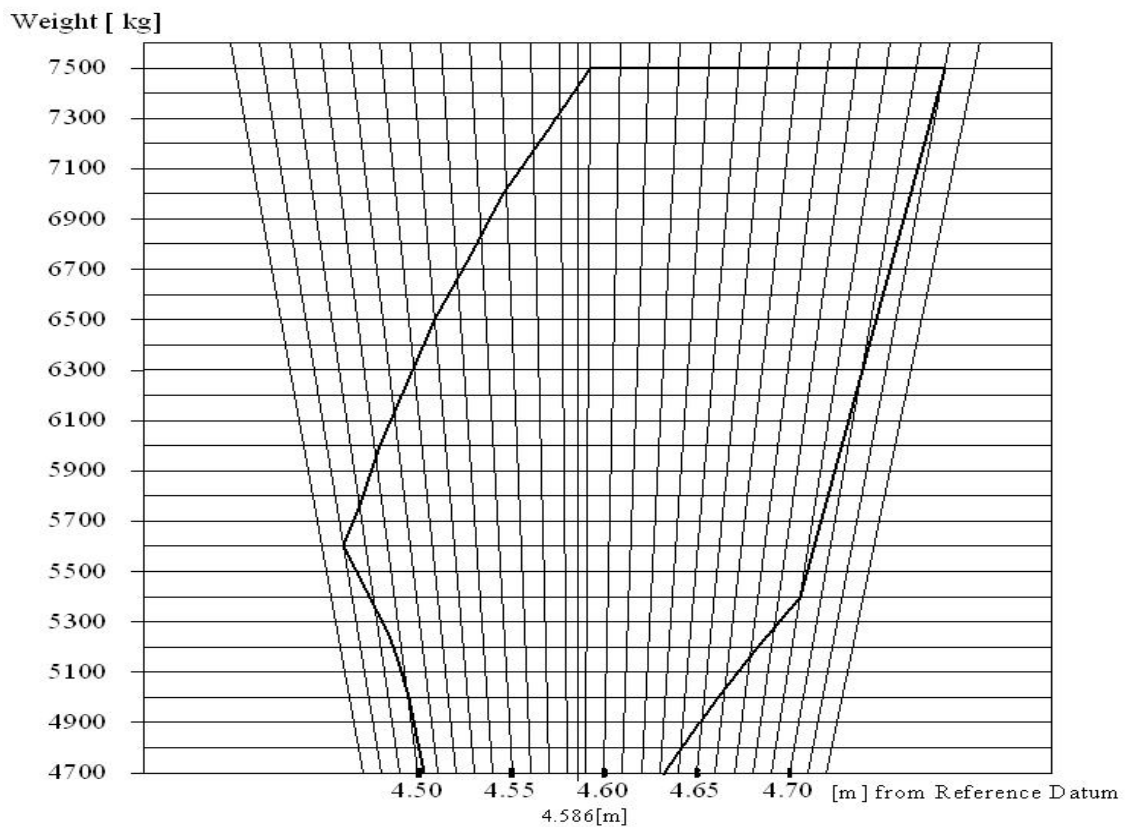
\* attainable up to 50.5 °C; \*\* attainable up to 45.5 °C; \*\*\* attainable up to 42.5 °C
  - 5.1.5 Number of engines: 2
6. Load factors:
  - Flaps Up n=+3.0 , -1.0
  - Flaps Down n=+2.0 , 0
7. Propeller:
  - 7.1 Model: HC-B5MP-3D/M10876ANSK five-blade, all-metal, constant-speed, with WOODWARD speed governor (3032082A) Hartzell Propeller Inc. (USA)
  - 7.2 Type Certificate: P44GL
  - 7.3 Number of blades: 5 (five)
  - 7.4 Diameter: 2.820 m (9 ft 3in)
  - 7.5 Sense of Rotation: Clockwise
8. Fluids:

- 8.1 Fuel: Aviation kerosene type JET A, JET A-1, JET A-2 and approved equivalents as per P&WC Bulletin No. 13044. Equivalents: F34, F35, F40, F43, F44, JP-4, JP-5, JP-8, AVTUR, AVTAG, AVTAC, CAN/C.G.SB.3.23-M86, CAN/C.G.SB.3.22-M86, CAN/C.G.SB.3.GP-24Ma, AIR 3404, AIR 3405, AIR 3407, RT acc. to GOST 16564-71.
- 8.2 Oil Aero Shell Turbine Oil 500, Royco Turbine Oil 500, Mobil Jet Oil II, Castrol 5000, BP Turbo Oil 2380 - in accordance with Pratt & Whitney Bulletin No. 13001.
- 8.3 Coolant: N/A
9. Fluid capacities:
- 9.1 Fuel: 1766 kg (2278 l), (3894 lbs; 602 US Gal.)
- 9.2 Oil: 2 x 9.45 l (2.5 US gal)
- 9.3 Coolant system capacity: N/A
10. Air Speeds:
- | Airspeed Limitations:                  | IAS [km/h] | CAS [km/h] |
|--|------------|------------|
| Max. Operating (Limit) Speed, $V_{mo}$ | 355        | 345        |
| Design Maneuvering Speed, $V_A$        | 244        | 238        |
| Max. Flaps-Extended Speed, $V_{FE}$    | Flaps 15°  | 215        |
|  | Flaps 40°  | 200        |
| Max. Spoiler-Deployed Speed, $V_{NS}$  | 215        | 210        |
| Minimum Control Speed, $V_{MC}$        | 153        | 146        |
11. Maximum Operating Altitude: 7620 m (25000 ft)
12. Allweather Operations Capability: VFR day and night, IFR day and night
13. Weights:
- |                |         |
|----------------|---------|
| Max. Takeoff   | 7500 kg |
| Max. Landing   | 7500 kg |
| Max. Zero-Fuel | 6900 kg |
| Max. Payload   | 2300 kg |
- Note:
- max. 2000 kg in Cargo/Passenger Cabin (inclusive of max. 40 kg on baggage shelf in fuselage rear part)
  - max. 300 kg in under fuselage baggage pod
- |                                   |         |
|-----------------------------------|---------|
| Minimum Weight for Flight         | 4700 kg |
| Max. Baggage in Underfuselage Pod | 300 kg  |
| Max. Baggage on Baggage Shelf     | 40 kg   |
| Hoist Lifting Capacity Max:       | 700 kg  |

14. Centre of Gravity Range:



M28 05 Airplane C.G. Range



15. Datum: 2.470 m (97.24 in) Frame No. 9, Forward  
(see AFM, Chapter 6, fig. 6.1)
16. Control Surface Deflections:
- |  |          |                                |
|--|----------|--------------------------------|
| Ailerons:                                | Up       | $22^{\circ} \pm 1^{\circ}$     |
|  | Down     | $16^{\circ} 20' \pm 1^{\circ}$ |
| Aileron Trim Tab:                        | Up       | $14^{\circ} \pm 1^{\circ}$     |
|  | Down     | $14^{\circ} \pm 1^{\circ}$     |
| Elevator:                                | Up       | $27^{\circ} \pm 1^{\circ}$     |
|  | Down     | $19^{\circ} \pm 1^{\circ}$     |
| Elevator Trim Tab:<br>(Elevator Neutral) | Up       | $15^{\circ} \pm 1^{\circ}$     |
|  | Down     | $25^{\circ} \pm 1^{\circ}$     |
| Rudder LH:                               | Inboard  | $16^{\circ} \pm 1^{\circ}$     |
|  | Outboard | $22^{\circ} \pm 1^{\circ}$     |
| Rudder RH:                               | Inboard  | $16^{\circ} \pm 1^{\circ}$     |
|  | Outboard | $22^{\circ} \pm 1^{\circ}$     |
| Rudder Trim Tab:<br>(Rudder Neutral)     | Left     | $15^{\circ} \pm 1^{\circ}$     |
|  | Right    | $15^{\circ} \pm 1^{\circ}$     |
| Wing Flaps:                              | Takeoff  | $15^{\circ} \pm 1^{\circ}$     |
|  | Landing  | $40^{\circ} \pm 1^{\circ}$     |
| Spoilers:                                | Inboard  | $45^{\circ} \pm 1^{\circ}$     |
|  | Outboard | $60^{\circ} \pm 1^{\circ}$     |
17. Levelling Means: 1LP = LH and RH levelling point on frame No. 9  
(see AFM, Chapter 6, fig. 6.1)
18. Minimum Flight Crew: 2 (two) pilots
19. Maximum Passenger Seating Capacity: - passenger transport, max. 19 passengers;  
- passenger/cargo transport mix, max 18 passengers;  
- version of improved standard, max 13 passengers
20. Baggage/Cargo Compartments: Max. payload.2300 kg (5070 lbs) i.e:  
- in cargo/passenger cabin max 2000 kg ( 4408 lbs)  
(on baggage shelf in fuselage rear part max 40 kg (88 lbs)  
- in underfuselage baggage pod - max. 300 kg (662 lbs)
21. Wheels and Tyres: Main wheel tyre size 720 x 310 mm (28.30 x 12.20 in)  
Nose wheel tyre size (Type 6.50x10 – GOOD YEAR)  
561x169 mm (22.10x6.65 in)

22. Landing gear: Fixed, tricycle type, with a steerable nose wheel
- Main Gear: rocker-type with a single-chamber shock absorber,
  - Nose Gear: rocker-type, with a double-chamber shock absorber,
- Nose Wheel Controlling Angle  $\pm 15^\circ$   
Nose Wheel Controlling Angle  $\pm 45^\circ$   
with Steering OFF
23. Max. Service Ceiling:
- without oxygen-supply system 3000 m
  - with oxygen-supply system 4000 m
  - cargo transport configuration with oxygen system for the crew 7620 m
24. Operating Ambient Temperature Range:  $-50^\circ\text{C}$  to  $+50^\circ\text{C}$
25. (Reserved):

**C.IV Operating and Service Instructions**

1. Flight Manual:  
For airplanes S/N AJE001-19\* up to AJE002-10\* :PZL M28 with PT6A-65B Engines:  
Airplane Flight Manual (P/N M28/14/99), Issue Dec. 1999.  
For airplanes S/N AJE00301\* and up : PZL M28 Airplane Flight Manual, Ref. No.:  
M28/10/2002, Issue April 2002.  
\*The serial number system of the M28 05 airplane is as follows: AJE001-XZ,  
AJE002-XZ, AJE003XZ and up. The XZ is the number of airplane in series.
2. Technical Manual:  
For airplanes S/N AJE001-19 up to AJE002-10 PZL M28 Maintenance Manual (P/N  
M28/4/95/PBD), Issue Dec. 1999, including Sec. 4: „AIRWORTHINESS  
LIMITATIONS” and Sec. 5: „MAINTENANCE SCHEDULE”,  
For airplanes S/N AJE00301 and up : PZL M28 Maintenance Manual, Ref. No.:  
M28/11/2002, Issue April 2002, including Sec. 4: "Airworthiness  
Limitations" and Sec. 5: "Maintenance Schedule".
3. Repair Manual: Repair Manual PZL M28 Airplane ref No. M28/1/2001
4. Manual for Operation: see related Flight Manual section 9.
5. Spare Parts Catalogue:  
For airplanes S/N AJE001-19 up to AJE002-10: Illustrated Parts Catalog, ref  
No. M28/14/97/LTO-3  
For airplanes S/N AJE00301 up to AJE00309: Illustrated Parts Catalog, ref  
No. M28/10/2004  
For airplanes S/N AJE00310 and up: Illustrated Parts Catalog, ref No. M28/04/2010
6. Table of Dimensions, Limits and Clearances: see Chapter 6. Of appropriate  
Maintenance Manual
7. Instruments and aggregates: see  
for standard equipment:  
for airplanes S/N AJE001-19 up to AJE002-10 As defined in Section 7 of the Airplane Flight  
Manual (M28/14/99)  
for airplanes S/N AJE00301 and up As defined in Section 7 of the PZL M28  
Airplane Flight Manual, Ref. No. M28/10/2002  
for optional & operational equipment  
for airplanes S/N AJE001-19 up to AJE002-10 As defined in Section 9 of the Airplane Flight  
Manual (M28/14/99 Issue)  
for airplanes S/N AJE00301 and up As defined in Section 9 of the PZL M28 Airplane  
Flight Manual, Ref. No. M28/10/2002
8. Airplane Service Life, and Component TBOs :  
a) For airplanes S/N AJE001-19 up to AJE002-10 as defined in Sec. 4 of M28  
Maintenance Manual Ref. No. M28/4/95/PBD, Issue Dec. 1999.  
b) For airplanes S/N AJE00301 and up as defined in Sec. 4 of M28 Maintenance  
Manual Ref. No. M28/11/2002, Issue April 2002.



**C.V Notes**

1. Flight in known icing condition is permitted, when certified IPS (ice protection system) is installed and is operational. This applies to S/N AJE00339 and up.
2. Flight in known icing condition is permitted, when certified IPS (ice protection system) is installed and is operational.. This applies to prior airplanes with Bulletin no. E/12.115/2013 "Installation of ice protection system certified for flight in known and forecast icing conditions" incorporated. From S/N AJE00339 and up the IPS is an option
3. Flight in known or forecast icing conditions is prohibited when certified IPS (ice protection system) is not installed. This applies to S/N from AJE001-19 up to AJE002-10 airplanes.
4. This Type Certificate applies to aircraft S/N: AJE001-19 up to AJE002-10, and to aircraft S/N AJE00301 and up.
5. For airplanes in service, if operators are going to extend the airframe service life, they must incorporate SB E/12.101R1/2012 (R1 or later) and use chap 4 of Rev 25 of MM M28/10/2002 dated July 9, 2012 or later EASA approved revisions. Any repairs/modifications done to airplanes with this modification must comply with the certification basis listed above on this TCDS. This modification must be accomplished after the airplane reaches 7800-8000 flight hours or landings (whichever is first).

## **ADMINISTRATIVE SECTION**

### **I. Acronyms**

AMM - Aircraft Maintenance Manual  
CRI - Certification Review Item  
FAR - Federal Aviation Regulations  
EASA - European Aviation Safety Agency  
IAS - Indicated Airspeed  
KIAS - Indicated Airspeed [knots]  
MAC - Mean Aerodynamic Chord  
POH - Pilot's Operating Handbook  
RPM - Rotations per Minute  
FIKI - Flight Into Known Icing  
SLD - Supercooled Large Droplets  
TCDS - Type Certificate Data Sheet

### **II. Type Certificate Holder Record**

Zakład Lotniczy „PZL Mielec” Sp. z o.o.  
Ul. Wojska Polskiego 3, 39-300 Mielec, POLAND

Polskie Zakłady Lotnicze Sp. z o.o.  
Ul. Wojska Polskiego 3, 39-300 Mielec, POLAND

### **III. Change Record**

<b>Issue</b>	<b>Date</b>	<b>Changes</b>	<b>TC Issue No. &amp; Date</b>
1	24 October 2005	Initial	01- 24 Oct 2005
2	21 April, 2006	Introduction of maritime patrol (designation PZL M2805-MPW) and Border Guard missions (designation PZL M28 05-SG) in Section3. Installation of ice protection system, approved on a non-hazard basis only. Flight in known or forecast icing conditions is prohibited	02- 21 Apr 2006
3	21,December, 2006	Corrections to Vmo 335 to 355 km/hr on Pages 11 and 18 Correction to propeller designation from HC-BP5MP-3D/M10876ANSK to HC-B5MP-3D/M10876ANSK on pages 11 and 18.	03- 21,Dec 2006
4.	14 June 2013	Transition to new TCDS layout and editorial changes. Introduction of airplane operation in icing conditions for model PZL M28 05 and PZL M28 02-W	04-14, Jun 2013

5. 03 July 2013

Information on entry of earlier approved Major Change with respect to the service life extension of earlier approved Major Change with respect to the Approval No 10036658. Editorial changes and misprint corrections.

05-03 July 2013

----- **END** -----