TYPE-CERTIFICATE
DATA SHEET

NO. EASA.A.056

for
AIRPLANE

Type Certificate Holder
Polskie Zaklady Lotnicze Sp. Z o.o.

Wojska Polskiego 3
39-300 Mielec
POLAND

For models: PZL M18
PZL M18A
PZL M18AS
PZL M18B
PZL M18BS
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  3. Manufacturer ............................................................................................................. 20
  4. EASA Type Certification Application Date .................................................................. 20
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  4. EASA Type Certification Application Date ................................................................................. 25
  5. State of Design Authority ........................................................................................................... 25
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SECTION A: PZL M18

A.I. General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18
   1.3 Variant: agricultural, fire fighting
2. Airworthiness Category:
   Normal
   Restricted (overload)
   Restricted (fire-fighting overload)
   Wojska Polskiego 3
   39-300 Mielec
   POLAND
4. EASA Type Certification Application Date:
   Normal: 8 April 1975
   Restricted (overload): 5 May 1980
   Restricted (fire-fighting overload): 14 January 1991
   Note: State of Design Authority certification application date for grandfathered products
5. State of Design Authority: Polish CAO
6. State of Design Authority Type Certificate Date
   Normal: 27 September 1978
   Restricted (overload): 13 July 1981
   Restricted (fire-fighting overload): 20 August 1993
7. EASA Type Certification Date: 24 October 2005

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements:
   8 April 1975
2. Airworthiness Requirements:
   Normal: 14 CFR Part 23, including Amdt. 23-16
   Restricted (overload): Civil Aeronautics Manual 8, Second Edition, on the basis of the Type
   Certificate in Normal Category under 14 CFR Part 23, including Amdt. 23-16
3. Special Conditions: None
4. Exemptions: None
5. (Reserved) Deviations: None
6. Equivalent Safety Findings: None
7. Environmental Protection: 14 CFR Part 36

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18, Sheet No. 8
2. Description: All metal, low wing, with non retractable tailwheel landing gear, single piston agricultural and fire-fighting airplane
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18 “DROMADER” equipped with ASz-62IRm18 engine”
4. Dimensions: Span: 17.7 m
Length: 9.5 m
Height: 3.7 m (parking)
Wing area: 40 m²
5. Engine
   5.1. Model: ASz-62IR-M18
   5.2 Type Certificate: EASA.E.140
   5.3 Limitations:

<table>
<thead>
<tr>
<th>HP</th>
<th>RPM</th>
<th>Manifold Pressure (mm Hg)</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-O Power (5 minutes), minimum</td>
<td>980</td>
<td>2200</td>
<td>1050</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>823</td>
<td>2100</td>
<td>900</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>804</td>
<td>2100</td>
<td>900</td>
</tr>
</tbody>
</table>

6. Load factors:
   Normal: +3.4 g, -1.4 g
   Restricted (overload): +3.0 g, -1.2 g
   Restricted (fire-fighting overload): +2.8 g, -1.1 g

7. Propeller
   7.1 Model: AW-2-30
   7.2 Type Certificate: PL DB-122
   7.3 Number of blades: 4
   7.4 Diameter: 3.3 m
   7.5 Sense of Rotation: clockwise in flight direction

8. Fluids
   8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:
   - GOST 1012-72
   - D.Eng. RD 2485
8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80

8.3 Coolant: N/A

9. Fluid capacities

9.1 Fuel:
- 414 l (usable fuel 400 l) with outer wings installed in accordance with Dwg. No. D22.000.00.1K L/R
- 726 l (usable fuel 712 l) with outer wings installed in accordance with Dwg. No. D22.000.00.5K L/R

9.2 Oil: 70 l (usable oil 35 l)

9.3 Coolant system capacity: N/A

10. Air Speeds:

Never Exceed Speed Limit $V_{NE}$
- Normal: 280 km/h CAS
- Restricted (overload): 230 km/h CAS
- Restricted (fire-fighting overload): 230 km/h CAS

Design Manoeuvring Speed Limit $V_A$ 228 km/h CAS

Normal Operating Speed $V_{NO}$
- Normal: 230 km/h CAS
- Restricted (overload): 200 km/h CAS
- Restricted (fire-fighting overload): 200 km/h CAS

Maximum Flaps Extended Speed Limit $V_{FE}$ 200 km/h CAS

11. Flight Envelope:

Maximum Operating Altitude: 4000 m

Ambient Air Temperature Operating Limits:
- (a) +45°C to +15°C without engine cylinder winterization shields
- (b) +15°C to -10°C with or without engine cylinder shields, optional
- (c) -10°C to -30°C with engine cylinder shields installed

12. Approved Operations Capability:

Day and night operation under VFR conditions.
Flight in icing conditions is prohibited.

13. Maximum Masses:

Maximum Takeoff Weight MTOW
- Normal: 4200 kg
- Restricted (overload): 4700 kg
- Restricted (fire-fighting overload): 5300 kg
Maximum Landing Weight                       4200 kg

Maximum Hopper Load

Normal:                                                1500 kg
Restricted (overload):                        2000 kg
Restricted (fire-fighting overload):  2200 kg

14. Centre of Gravity Range:

Normal: from 23% to 31% MAC
Restricted (overload): from 28% to 31% MAC at MTOW
Restricted (fire-fighting overload): from 29.2% to 31% MAC at MTOW
Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.

15. Datum:

Wing leading edge

16. Control surface deflections:

Aileron: Up  21° ±1°
         Down  17° ±1°

Rudder:  Left  23° ±1°
         Right 23° ±1°

Elevator: Up  27° ±1°
          Down 17° ±1°

Aileron Trim
Tab:

Up  7°30’ ±2°
Tab:

Down 7°30’ ±2°

Rudder Trim
Tab:

Left 13° ±2°
Tab:

Right 13° ±2°

Elevator Trim
Tab:

Up  10° ±1°
Tab:

Down 17° ±1°

17. Levelling Means:

Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew:                    1 (Pilot)
19. Maximum Passenger Seating Capacity: 1 (Pilot)
20. Baggage/ Cargo Compartments: Max. 30 kg
21. Wheels and Tyres:

Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube

22. (Reserved)
A.IV. Operating and Service Instructions

5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”

A.V. Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18 "DROMADER" must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane in restricted category and with optional equipment (such as: auxiliary fuel system, ARL-1601 ADF, KR-85 ADF, engine cylinder shields, cockpit heating system, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18 "DROMADER”

NOTE 3: The aircraft may be operated in the fire-fighting overload version with the weight of 5300 kg upon installation of the partition with air containers in the hopper acc. to Dwg. No. D99.300.00.0.
SECTION B: PZL M18A

B.I. General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18A
   1.3 Variant: agricultural, fire fighting

2. Airworthiness Category:
   Normal
   Restricted (overload)
   Restricted (fire-fighting overload)

   Wojska Polskiego 3
   39-300 Mielec
   POLAND

4. EASA Type Certification Application Date:
   Normal: 12 November 1981
   Restricted (overload): 12 November 1981
   Restricted (fire-fighting overload): 14 January 1991

Note: State of Design Authority certification application date for grandfathered products

5. State of Design Authority: Polish CAO

6. State of Design Authority Type Certificate Date
   Normal: 14 February 1984
   Restricted (overload): 14 February 1984
   Restricted (fire-fighting overload): 20 August 1993

7. EASA Type Certification Date: 24 October 2005

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements:
   8 April 1975

2. Airworthiness Requirements:
   Normal: 14 CFR Part 23, including Amdt. 23-16
   Restricted (overload): Civil Aeronautics Manual 8, Second Edition, on the basis of the Type
   Certificate in Normal Category under 14 CFR Part 23, including Amdt. 23-16

3. Special Conditions: None
4. Exemptions: None
5. (Reserved) Deviations: None
6. Equivalent Safety Findings: None
7. Environmental Protection: 14 CFR Part 36

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18, Sheet No. 8
2. Description: All metal, low wing, with non retractable tailwheel landing gear, single piston agricultural and fire-fighting airplane, equipped with additional mechanic cabin
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18 “DROMADER” equipped with ASz-62IRm18 engine”
4. Dimensions: Span: 17.7 m
Length: 9.5 m
Height: 3.7 m (parking)
Wing area: 40 m²
5. Engine
5.1. Model: ASz-62IR-M18
5.2 Type Certificate: EASA.E.140
5.3 Limitations:

<table>
<thead>
<tr>
<th>Power</th>
<th>HP</th>
<th>RPM</th>
<th>Manifold Pressure (mm Hg)</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-O Power (5 minutes), minimum</td>
<td>980</td>
<td>2200</td>
<td>1050</td>
<td>S.L.</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>823</td>
<td>2100</td>
<td>900</td>
<td>1500 m</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>804</td>
<td>2100</td>
<td>900</td>
<td>S.L.</td>
</tr>
</tbody>
</table>

6. Load factors:
   Normal: +3.4 g, -1.4 g
   Restricted (overload): +3.0 g, -1.2 g
   Restricted (fire-fighting overload): +2.8 g, -1.1 g

7. Propeller
7.1 Model: AW-2-30
7.2 Type Certificate: PL DB-122
7.3 Number of blades: 4
7.4 Diameter: 3.3 m
7.5 Sense of Rotation: clockwise in flight direction
8. Fluids

8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:
- GOST 1012-72
- D.Eng. RD 2485
- ASTM - D910-75
- MIL-G-5572F
- RH-95/130

8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80

8.3 Coolant: N/A

9. Fluid capacities

9.1 Fuel: - 414 l (usable fuel 400 l) with outer wings installed in accordance with Dwg. No. D22.000.00.1K L/R
- 726 l (usable fuel 712 l) with outer wings installed in accordance with Dwg. No. D22.000.00.5K L/R

9.2 Oil: 70 l (usable oil 35 l)

9.3 Coolant system capacity: N/A

10. Air Speeds:

Never Exceed Speed Limit $V_{NE}$
- Normal: 280 km/h CAS
- Restricted (overload): 230 km/h CAS
- Restricted (fire-fighting overload): 230 km/h CAS

Design Manoeuvring Speed Limit $V_{A}$ 228 km/h CAS

Normal Operating Speed $V_{NO}$
- Normal: 230 km/h CAS
- Restricted (overload): 200 km/h CAS
- Restricted (fire-fighting overload): 200 km/h CAS

Maximum Flaps Extended Speed Limit $V_{FE}$ 200 km/h CAS

11. Flight Envelope:

Maximum Operating Altitude: 4000 m

Ambient Air Temperature Operating Limits:
- (a) $+45^\circ$ C to $+15^\circ$ C without engine cylinder winterization shields
- (b) $+15^\circ$ C to $-10^\circ$ C with or without engine cylinder shields, optional
- (c) $-10^\circ$ C to $-30^\circ$ C with engine cylinder shields installed

12. Approved Operations Capability:

Day and night operation under VFR conditions.
Flight in icing conditions is prohibited.
13. Maximum Masses:

Maximum Takeoff Weight MTOW
- Normal: 4200 kg
- Restricted (overload): 4700 kg
- Restricted (fire-fighting overload): 5300 kg

Maximum Landing Weight: 4200 kg

Maximum Hopper Load*
- Normal: 1500 kg
- Restricted (overload): 2000 kg
- Restricted (fire-fighting overload): 2200 kg

*) - Max. hopper load limitations with occupant in mechanic cabin in acc. with NOTE 3

14. Centre of Gravity Range:
- Normal: from 23% to 31% MAC
- Restricted (overload): from 28% to 31% MAC at MTOW
- Restricted (fire-fighting overload): from 29.2% to 31% MAC at MTOW

Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.

15. Datum:
- Wing leading edge

16. Control surface deflections:
- Aileron:
  - Up: 21° ±1°
  - Down: 17° ±1°
- Rudder:
  - Left: 23° ±1°
  - Right: 23° ±1°
- Elevator:
  - Up: 27° ±1°
  - Down: 17° ±1°
- Aileron Trim Tab:
  - Up: 7°30' ±2°
  - Down: 7°30' ±2°
- Rudder Trim Tab:
  - Left: 13° ±2°
  - Right: 13° ±2°
- Elevator Trim Tab:
  - Up: 10° ±1°
  - Down: 17° ±1°

17. Levelling Means:
- Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew:
- 1 (Pilot)

19. Maximum Passenger Seating Capacity:
- 2 (including pilot)

20. Baggage/ Cargo Compartments:
- Max. 30 kg

21. Wheels and Tyres:
- Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
- Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube
B.IV. Operating and Service Instructions


5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”

B.V. Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18 "DROMADER" (including Supplement No. 8, effective on PZL M18A "DROMADER" model) must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane in restricted category and with optional equipment (such as: auxiliary fuel system, ARL-1601 ADF, KR-85 ADF, engine cylinder shields, cockpit heating system, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18 “DROMADER”.

NOTE 3: To prevent exceeding the airplane C.G. range limits with an occupant in mechanic’s cabin, the following max. hopper load limitations apply:
(a) Fire fighting version:
   - with full fuel tanks of 414 l total capacity - 700 kg
   - with full fuel tanks of 726 l total capacity - 400 kg
(b) Dusting version with "TRANSLAND" spreader:
   - with full fuel tanks of 414 l total capacity - 600 kg
   - with full fuel tanks of 726 l total capacity - 200 kg
(c) Dusting version with D98.670.00.1 spreader:
   - with full fuel tanks of 414 l total capacity - 400 kg
   - with full fuel tanks of 726 l total capacity - 100 kg
(d) Medium and coarse droplet spraying version:
   - with full fuel tanks of 414 l total capacity - 400 kg
- with full fuel tanks of 726 l total capacity - 100 kg
(e) Spraying atomizer version:
  - it is prohibited to carry load in the hopper with fuel amount exceeding 350 l.

NOTE 4: It is prohibited to perform operational flight with an occupant in mechanic's cabin.

NOTE 5: The aircraft may be operated in the fire-fighting overload version with the weight of 5300 kg upon installation of the partition with air containers in the hopper acc.to Dwg. No. D99.300.00.0.
SECTION C: PZL M18AS

(a) Trainer – dual control version (with instructor’s cockpit installed)

C.I(a). General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18AS
   1.3 Variant: agricultural, fire fighting

2. Airworthiness Category: Normal

   Wojska Polskiego 3
   39-300 Mielec
   POLAND

4. EASA Type Certification Application Date: 25 June 1987
   Note: State of Design Authority certification application date for grandfathered products

5. State of Design Authority: Polish CAO

6. State of Design Authority Type Certificate Date: 26 March 1990

7. EASA Type Certification Date: 24 October 2005

C.II(a). EASA Certification Basis

1. Reference Date for determining the applicable requirements:
   8 April 1975

2. Airworthiness Requirements:
   14 CFR Part 23, including Amdt. 23-16

3. Special Conditions: None

4. Exemptions: None

5. (Reserved) Deviations: None

6. Equivalent Safety Findings: None

7. Environmental Protection: 14 CFR Part 36

C.III(a). Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18AS, Sheet No. 2

2. Description: All metal, low wing, with non retractable tailwheel landing gear, single piston agricultural and fire-fighting airplane, equipped with additional mechanic cabin and instructor’s cockpit for training
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18 “DROMADER” equipped with ASz-62IRm18 engine”

4. Dimensions: Span: 17.7 m  
Length: 9.5 m  
Height: 3.7 m (parking)  
Wing area: 40 m²

5. Engine  
5.1 Model: ASz-62IR-M18  
5.2 Type Certificate: EASA.E.140  
5.3 Limitations:  
<table>
<thead>
<tr>
<th>HP</th>
<th>RPM</th>
<th>Manifold Pressure (mm Hg)</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>980</td>
<td>2200</td>
<td>1050</td>
<td>S.L.</td>
</tr>
<tr>
<td>823</td>
<td>2100</td>
<td>900</td>
<td>1500 m</td>
</tr>
<tr>
<td>804</td>
<td>2100</td>
<td>900</td>
<td>S.L.</td>
</tr>
</tbody>
</table>

6. Load factors: +3.4 g, -1.4 g

7. Propeller  
7.1 Model: AW-2-30  
7.2 Type Certificate: PL DB-122  
7.3 Number of blades: 4  
7.4 Diameter: 3.3 m  
7.5 Sense of Rotation: clockwise in flight direction

8. Fluids  
8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:  
- GOST 1012-72  
- D.Eng. RD 2485  
- ASTM - D910-75  
- MIL-G-5572F  
- RH-95/130  

8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80

8.3 Coolant: N/A

9. Fluid capacities  
9.1 Fuel: - 726 l (usable fuel 712 l) with outer wings installed in accordance with Dwg. No. D22.000.00.5K L/R
9.2 Oil: 70 l (usable oil 35 l)
9.3 Coolant system capacity: N/A

10. Air Speeds:
   Never Exceed Speed Limit $V_{NE}$
   - Normal: 280 km/h CAS
   - Restricted (overload): 230 km/h CAS
   - Restricted (fire-fighting overload): 230 km/h CAS
   Design Manoeuvring Speed Limit $V_{A}$: 228 km/h CAS
   Normal Operating Speed $V_{NO}$
   - Normal: 230 km/h CAS
   - Restricted (overload): 200 km/h CAS
   - Restricted (fire-fighting overload): 200 km/h CAS
   Maximum Flaps Extended Speed Limit $V_{FE}$: 200 km/h CAS

11. Flight Envelope:
   Maximum Operating Altitude: 4000 m
   Ambient Air Temperature Operating Limits:
   (a) $+45^\circ$ C to $+15^\circ$ C without engine cylinder winterization shields
   (b) $+15^\circ$ C to $-10^\circ$ C with or without engine cylinder shields, optional
   (c) $-10^\circ$ C to $-30^\circ$ C with engine cylinder shields installed

12. Approved Operations Capability:
   Day and night operation under VFR conditions.
   Flight in icing conditions is prohibited.

13. Maximum Masses:
   - Maximum Takeoff Weight MTOW: 4200 kg
   - Maximum Landing Weight: 4200 kg
   - Maximum Hopper Load*: 800 kg
   *) - For applicable load limitations depending on the number of occupants on board, see NOTES 3 and 5

14. Centre of Gravity Range: from 23% to 31% MAC
   Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.

15. Datum: Wing leading edge

16. Control surface deflections:
   Aileron: Up $21^\circ \pm 1^\circ$
   Down $17^\circ \pm 1^\circ$
   Rudder: Left $23^\circ \pm 1^\circ$
17. Levelling Means: Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity: 2 (instructor-pilot and student-pilot)

20. Baggage/Cargo Compartments: None

21. Wheels and Tyres:
   - Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
   - Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube

22. (Reserved)

C.IV(a). Operating and Service Instructions


5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”
C.V(a). Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18 "DROMADER" (including Supplement No. 14, effective on PZL M18AS "DROMADER" Trainer model) must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane with optional equipment (such as: ARL-1601 ADF, KR-85 ADF, engine cylinder shields, cockpit heating system, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18 "DROMADER ".

NOTE 3: It is prohibited to perform flights with an occupant in mechanic's cabin and with luggage in the baggage compartment. Mechanic's cabin equipment (seat and fire extinguisher) and baggage compartment should be removed. Note: Any other possible loading and equipment configurations should be checked to be within C.G. range limits (Fig. 9.14.7 in Supplement No. 14 of the Aircraft Flight Manual).

NOTE 4: It is prohibited to perform solo flights with a pilot only in the instructor's (front) cockpit.

NOTE 5: M18AS "DROMADER" Trainer model is approved to perform agricultural training flights in spraying version only.

NOTE 6: M18AS "DROMADER" Trainer model with dual control system is approved to perform training flights in fire fighting version with the liquid load of max 500 l (bottom part of hopper filled).
(b) Trainer – Operational, single-control version (standard hopper installed)

C.I(b). General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18AS
   1.3 Variant: agricultural, fire fighting

2. Airworthiness Category:
   Normal
   Restricted (overload)
   Restricted (fire-fighting overload)

   Wojska Polskiego 3
   39-300 Mielec
   POLAND

4. EASA Type Certification Application Date:
   Normal: 25 June 1987
   Restricted (overload): 25 June 1987
   Restricted (fire-fighting overload): 14 January 1991

Note: State of Design Authority certification application date for grandfathered products

5. State of Design Authority: Polish CAO

6. State of Design Authority Type Certificate Date
   Normal: 26 March 1990
   Restricted (overload): 26 March 1990
   Restricted (fire-fighting overload): 20 August 1993

7. EASA Type Certification Date: 24 October 2005

C.II(b). EASA Certification Basis

1. Reference Date for determining the applicable requirements:
   8 April 1975

2. Airworthiness Requirements:
   Normal: 14 CFR Part 23, including Amdt. 23-16

3. Special Conditions: None

4. Exemptions: None

5. (Reserved) Deviations: None
6. Equivalent Safety Findings: None
7. Environmental Protection: 14 CFR Part 36

C.III(b). Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18AS, Sheet No. 2
2. Description: All metal, low wing, with non retractable tailwheel landing gear, single piston agricultural and fire-fighting airplane, equipped with additional mechanic cabin and standard hopper installed
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18 “DROMADER” equipped with ASz-62IRm18 engine”
4. Dimensions: Span: 17,7 m
   Length: 9,5 m
   Height: 3,7 m (parking)
   Wing area: 40 m²
5. Engine
   5.1. Model: ASz-62IR-M18
   5.2 Type Certificate: EASA.E.140
   5.3 Limitations:
<table>
<thead>
<tr>
<th>HP</th>
<th>RPM</th>
<th>Manifold Pressure (mm Hg)</th>
<th>Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-O Power (5 minutes), minimum</td>
<td>980</td>
<td>2200</td>
<td>1050</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>823</td>
<td>2100</td>
<td>900</td>
</tr>
<tr>
<td>Max. Continuous Power, minimum</td>
<td>804</td>
<td>2100</td>
<td>900</td>
</tr>
</tbody>
</table>
6. Load factors:
   Normal: +3.4 g, -1.4 g
   Restricted (overload): +3.0 g, -1.2 g
   Restricted (fire-fighting overload): +2.8 g, -1.1 g
7. Propeller
   7.1 Model: AW-2-30
   7.2 Type Certificate: PL DB-122
   7.3 Number of blades: 4
   7.4 Diameter: 3.3 m
   7.5 Sense of Rotation: clockwise in flight direction
8. Fluids

8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:
- GOST 1012-72
- D.Eng. RD 2485
- ASTM - D910-75
- MIL-G-5572F
- RH-95/130

8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80

8.3 Coolant: N/A

9. Fluid capacities

9.1 Fuel: 726 l (usable fuel 712 l) with outer wings installed in accordance with Dwg. No. D22.000.00.5K L/R

9.2 Oil: 70 l (usable oil 35 l)

9.3 Coolant system capacity: N/A

10. Air Speeds:

Never Exceed Speed Limit $V_{NE}$
- Normal: 280 km/h CAS
- Restricted (overload): 230 km/h CAS
- Restricted (fire-fighting overload): 230 km/h CAS

Design Manoeuvring Speed Limit $V_{A}$ 228 km/h CAS

Normal Operating Speed $V_{NO}$
- Normal: 230 km/h CAS
- Restricted (overload): 200 km/h CAS
- Restricted (fire-fighting overload): 200 km/h CAS

Maximum Flaps Extended Speed Limit $V_{FE}$ 200 km/h CAS

11. Flight Envelope:

Maximum Operating Altitude: 4000 m

Ambient Air Temperature Operating Limits:
(a) $+45^\circ$ C to $+15^\circ$ C without engine cylinder winterization shields
(b) $+15^\circ$ C to $-10^\circ$ C with or without engine cylinder shields, optional
(c) $-10^\circ$ C to $-30^\circ$ C with engine cylinder shields installed

12. Approved Operations Capability:

Day and night operation under VFR conditions.
Flight in icing conditions is prohibited.

13. Maximum Masses:

Maximum Takeoff Weight MTOW
- Normal: 4200 kg
Restricted (overload): 4700 kg
Restricted (fire-fighting overload): 5300 kg

Maximum Landing Weight 4200 kg
Maximum Hopper Load*
   Normal: 1500 kg
   Restricted (overload): 2000 kg
   Restricted (fire-fighting overload): 2200 kg
)* - Max. hopper load limitations with occupant in mechanic cabin in acc. with NOTE 3

14. Centre of Gravity Range:
   Normal: from 23% to 31% MAC
   Restricted (overload): from 28% to 31% MAC at MTOW
   Restricted (fire-fighting overload): from 29.2% to 31% MAC at MTOW
Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.

15. Datum: Wing leading edge

16. Control surface deflections:
   Aileron: Up 21° ±1°
            Down 17° ±1°
   Rudder: Left 23° ±1°
            Right 23° ±1°
   Elevator: Up 27° ±1°
             Down 17° ±1°
   Aileron Trim Up 7°30' ±2°
                Down 7°30' ±2°
   Rudder Trim Left 13° ±2°
                 Right 13° ±2°
   Elevator Trim Up 10° ±1°
                  Down 17° ±1°

17. Levelling Means:
   Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity: 2 (including pilot)

20. Baggage/ Cargo Compartments: Max. 30 kg

21. Wheels and Tyres: Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
                        Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube

22. (Reserved)
C.IV(b). Operating and Service Instructions

5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”

C.V(b). Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18 "DROMADER" (including Supplement No. 14, effective on PZL M18AS "DROMADER" Trainer model) must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane in restricted category and with optional equipment (such as: RL-1601 ADF, KR-85 ADF, engine cylinder shields, cockpit heating system, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18 "DROMADER".

NOTE 3: To prevent exceeding the airplane C.G. range limits with an occupant in mechanic's cabin, the following max. hopper load limitations apply:
   (a) Fire fighting version: 400 kg
   (b) Dusting version with "TRANSLAND" spreader: 200 kg
   (c) Dusting version with D98.670.00.1 spreader: 100 kg
   (d) Medium and coarse droplet spraying version: 100 kg
   (e) Spraying atomizer version:
       - It is prohibited to carry load in the hopper with fuel amount exceeding 350 l.

NOTE 4: It is prohibited to perform operational flight with an occupant in mechanic's cabin.

NOTE 5: The aircraft may be operated in the fire-fighting overload version with the weight of 5300 kg upon installation of the partition with air containers in the hopper acc.to Dwg. No. D99.300.00.0.
SECTION D: PZL M18B

D.I. General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18B
   1.3 Variant: agricultural, fire fighting

2. Airworthiness Category:
   Normal
   Restricted

   Wojska Polskiego 3
   39-300 Mielec
   POLAND

4. EASA Type Certification Application Date:
   Normal: 7 November 1991
   Restricted: 7 November 1991
   For M18B with Asz-62IR-M18/k9-BB or K9-BB engine:
   5 September 2002

   Note: State of Design Authority certification application date for grandfathered products

5. State of Design Authority: Polish CAO

6. State of Design Authority Type Certificate Date
   Normal: 27 January 1994
   Restricted: 27 January 1994
   M18B with Asz-62IR-M18/k9-BB or K9-BB engine:
   23 March 2005

7. EASA Type Certification Date: 24 October 2005

D.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements:
   8 April 1975

2. Airworthiness Requirements:
   Normal: 14 CFR Part 23, including Amdt. 23-16
   Restricted (overload): Civil Aeronautics Manual 8, Second Edition, on the basis of the Type
   Certificate in Normal Category under 14 CFR Part 23, including Amdt. 23-16

3. Special Conditions: None
4. Exemptions: None
5. (Reserved) Deviations: None
6. Equivalent Safety Findings: None
7. Environmental Protection: 14 CFR Part 36

D.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18, Sheet No. 10
2. Description: All metal, low wing, with non retractable tailwheel landing gear, single piston agricultural and fire-fighting airplane, equipped with additional mechanic cabin, with modified horizontal tail elevator, rudder, flap control system
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18B “DROMADER” equipped with ASz-62IRm18 engine”
4. Dimensions: Span: 17.7 m, Length: 9.5 m, Height: 3.7 m (parking), Wing area: 40 m²
5. Engine
   5.1. Model: ASz-62IR-M18 or Asz-62IR-M18/K9-BB
   5.2 Type Certificate: EASA.E.140
   5.3 Limitations:
       Asz-62IR-M18:
       | HP  | RPM | Manifold Pressure (mm Hg) | Altitude |
       |-----|-----|--------------------------|----------|
       | 980 | 2200| 1050 S.L.                |          |
       | 823 | 2100| 900 1500 m              |          |
       | 804 | 2100| 900 S.L.                |          |
       Asz-62IR-M18/K9-BB:
       | HP  | RPM | Manifold Pressure (mm Hg) | Altitude |
       |-----|-----|--------------------------|----------|
       | 1000| 2200| 1120 S.L.                |          |
       | 967 | 2150| 1050 1500 m             |          |
       | 930 | 2150| 1050 S.L.                |          |
6. Load factors:
   Normal: +3.4 g, -1.4 g
   Restricted: +2.8 g, -1.1 g
7. Propeller

7.1 Model: AW-2-30
7.2 Type Certificate: PL DB-122
7.3 Number of blades: 4
7.4 Diameter: 3.3 m
7.5 Sense of Rotation: clockwise in flight direction

8. Fluids

8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:
- GOST 1012-72
- D.Eng. RD 2485
- ASTM - D910-75
- MIL-G-5572F
- RH-95/130

8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80

8.3 Coolant: N/A

9. Fluid capacities

9.1 Fuel: 726 l (usable fuel 712 l)
9.2 Oil: 70 l (usable oil 35 l)
9.3 Coolant system capacity: N/A

10. Air Speeds:

Never Exceed Speed Limit $V_{NE}$
- Normal: 280 km/h CAS
- Restricted: 230 km/h CAS
Design Manoeuvring Speed Limit $V_A$
- Normal: 228 km/h CAS
Normal Operating Speed $V_{NO}$
- Normal: 230 km/h CAS
- Restricted: 200 km/h CAS
Maximum Flaps Extended Speed Limit $V_{FE}$: 200 km/h CAS

11. Flight Envelope:

Maximum Operating Altitude: 4000 m

Ambient Air Temperature Operating Limits:
- (a) $+45^\circ$ C to $+15^\circ$ C without engine cylinder winterization shields
- (b) $+15^\circ$ C to $-10^\circ$ C with or without engine cylinder shields, optional
- (c) $-10^\circ$ C to $-30^\circ$ C with engine cylinder shields installed
12. Approved Operations Capability:
   Day and night operation under VFR conditions.
   Flight in icing conditions is prohibited.

13. Maximum Masses:
   Maximum Takeoff Weight MTOW*
   Normal: 4200 kg
   Restricted: 5300 kg
   )* - See NOTE 6
   Maximum Landing Weight
   Maximum Hopper Load**
   Normal: 1500 kg
   Restricted: 2200 kg
   )** - See NOTES 3, 6

14. Centre of Gravity Range***:
   Normal: from 23% to 31% MAC
   Restricted: from 29.2% to 31% MAC at MTOW
   Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.
   )*** - See NOTE 5

15. Datum:
   Wing leading edge

16. Control surface deflections:
   Aileron:
   Up 21° ±1°
   Down 17° ±1°
   Rudder:
   Left 23° ±1°
   Right 23° ±1°
   Elevator:
   Up 27° ±1°
   Down 17° ±1°
   Aileron Trim
   Up 7°30' ±2°
   Tab: Down 7°30' ±2°
   Rudder Trim
   Left 13° ±2°
   Tab: Right 13° ±2°
   Elevator Trim
   Up 10° ±1°
   Tab: Down 17° ±1°
   Flaps for Takeoff: 15°
   Flaps for Landing: 30°

17. Levelling Means:
   Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew:
   1 (Pilot)

19. Maximum Passenger Seating Capacity:
   2 (including pilot)

20. Baggage/ Cargo Compartments:
   Max. 30 kg
21. Wheels and Tyres: Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube

22. (Reserved)

D.IV. Operating and Service Instructions


   )** - For airplane with Asz-62IR-M18/K9-BB engine: “Airplane Description and Service Manual. PZL M18B “DROMADER” equipped with ASz-62IRm18 engine” with Supplement 7.31


5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”

D.V. Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18 "DROMADER" (including Supplement No. 17, effective on PZL M18B "DROMADER" model) must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane in restricted category and with optional equipment (such as: auxiliary fuel system, ARL-1601 ADF, KR-85 ADF, engine cylinder shields, cockpit heating
system, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18 "DROMADER".

NOTE 3: To prevent exceeding the airplane C.G. range limits with in occupant in mechanic's cabin, hopper load shall be limited, as follows:
Fire fighting version:
- With max. fuel load - 50 kg
- With 400 l of fuel - 200 kg

NOTE 4: It is prohibited to perform operational flight with an occupant in mechanic's cabin.

NOTE 5: For the spraying version with AU-3000 and AU-5000 atomizers, the rearmost C.G. position in 32% MAC is permitted within the whole range of weights.

NOTE 6: To maintain safe rate of climb not less than 1.5 m/s at the rated power, the maximum takeoff weight is limited to 4800 kg in dusting version with big spreader (Dwg. No. D98.670.00.1). Maximum hopper load results from calculations of the airplane takeoff weight.
SECTION E: PZL M18BS

Trainer – dual control version (with instructor’s cockpit installed)

E.I. General

1. Type/ Model/ Variant
   1.1 Type: PZL M18
   1.2 Model: PZL M18BS
   1.3 Variant: agricultural, fire fighting

2. Airworthiness Category: Normal

   Wojska Polskiego 3
   39-300 Mielec
   POLAND

4. EASA Type Certification Application Date: 25 June 1987

   Note: State of Design Authority certification application date for grandfathered products

5. State of Design Authority: Polish CAO

6. State of Design Authority Type Certificate Date: 15 March 1997

7. EASA Type Certification Date: 5 February 1998

E.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements: 8 April 1975

2. Airworthiness Requirements:
   14 CFR Part 23, including Amdt. 23-16

3. Special Conditions: None

4. Exemptions: None

5. (Reserved) Deviations: None

6. Equivalent Safety Findings: None

7. Environmental Protection: 14 CFR Part 36

E.III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Drawing No. M18BS, Sheet No. 3

2. Description: Trainer – dual control airplane for training in agricultural and fire-fighting flight. All metal, low wing, with non retractable tailwheel landing gear, single piston airplane
3. Equipment: Approved equipment list is stated in document “Airplane Description and Service Manual. PZL M18B "DROMADER" equipped with ASz-62IRm18 engine”

4. Dimensions: Span: 17,7 m
   Length: 9,5 m
   Height: 3,7 m (parking)
   Wing area: 40 m²

5. Engine
   5.1 Model: ASz-62IR-M18
   5.2 Type Certificate: EASA.E.140
   5.3 Limitations:
      | HP  | RPM | Manifold Pressure (mm Hg) | Altitude |
      |-----|-----|--------------------------|----------|
      | T-O Power (5 minutes), minimum | 980  | 2200 | 1050 | S.L. |
      | Max. Continuous Power, minimum  | 823  | 2100 | 900  | 1500 m |
      | Max. Continuous Power, minimum  | 804  | 2100 | 900  | S.L.  |

6. Load factors: +3.4 g, -1.4 g

7. Propeller
   7.1 Model: AW-2-30
   7.2 Type Certificate: PL DB-122
   7.3 Number of blades: 4
   7.4 Diameter: 3.3 m
   7.5 Sense of Rotation: clockwise in flight direction

8. Fluids
   8.1 Fuel: Minimum grade 91 aviation gasoline with tetraethyl load content of max. 3.3 g per 1 kg of fuel, in accordance to:
             - GOST 1012-72
             - D.Eng. RD 2485
             - ASTM - D910-75
             - MIL-G-5572F
             - RH-95/130
   8.2 Oil: Mineral oil with or without detergents, min. viscosity 20 cSt at 100°C, min. viscosity index 80
   8.3 Coolant: N/A

9. Fluid capacities
   9.1 Fuel: 726 l (usable fuel 712 l)
9.2 Oil: 70 l (usable oil 35 l)

9.3 Coolant system capacity: N/A

10. Air Speeds:
- Never Exceed Speed Limit $V_{NE}$: 280 km/h CAS
- Design Manoeuvring Speed Limit $V_A$: 228 km/h CAS
- Normal Operating Speed $V_{NO}$: 230 km/h CAS
- Maximum Flaps Extended Speed Limit $V_{FE}$: 200 km/h CAS

11. Flight Envelope:
- Maximum Operating Altitude: 4000 m
- Ambient Air Temperature Operating Limits:
  - (a) $+45^\circ$ C to $+15^\circ$ C without engine cylinder winterization shields
  - (b) $+15^\circ$ C to $-10^\circ$ C with or without engine cylinder shields, optional
  - (c) $-10^\circ$ C to $-30^\circ$ C with engine cylinder shields installed

12. Approved Operations Capability:
- Day and night operation under VFR conditions.
- Flight in icing conditions is prohibited.

13. Maximum Masses:
- Maximum Takeoff Weight MTOW: 4200 kg
- Maximum Landing Weight: 4200 kg
- Maximum Hopper Load: 500 kg (bottom part of hopper filled)

14. Centre of Gravity Range: from 23% to 31% MAC
- Mean Aerodynamic Chord (MAC) is 2.261 m. 0% MAC is 0.004 m aft of wing leading edge.

15. Datum: Wing leading edge

16. Control surface deflections:
- Aileron:
  - Up: $21^\circ \pm 1^\circ$
  - Down: $17^\circ \pm 1^\circ$
- Rudder:
  - Left: $23^\circ \pm 1^\circ$
  - Right: $23^\circ \pm 1^\circ$
- Elevator:
  - Up: $27^\circ \pm 1^\circ$
  - Down: $17^\circ \pm 1^\circ$
- Aileron Trim
  - Up: $7^\circ 30' \pm 2^\circ$
  - Down: $7^\circ 30' \pm 2^\circ$
- Rudder Trim
  - Left: $13^\circ \pm 2^\circ$
  - Right: $13^\circ \pm 2^\circ$
- Elevator Trim
  - Up: $10^\circ \pm 1^\circ$
  - Down: $17^\circ \pm 1^\circ$
- Flaps for Takeoff: $15^\circ$
17. Levelling Means: Levelling points are shown on Fig. 4.1 of Aircraft Description and Service Manual.

18. Minimum Flight Crew: 1 (Pilot)

19. Maximum Passenger Seating Capacity: 2 (instructor-pilot and student-pilot)

20. Baggage/ Cargo Compartments: None

21. Wheels and Tyres: Main Wheel Dwg. No. D41.500.00.1 with tire 800x260W3 with inner tube
Tail Wheel Dwg. No. D43.500.00.1 or D43.500.00.3 with tire 380x150 with inner tube

22. (Reserved)

E.IV. Operating and Service Instructions

1. Flight Manual: “Aircraft Flight Manual. PZL M18 “DROMADER” equipped with ASz-62IRm18 engine” together with mandatory supplements as contained in Section 9 thereof including Supplement No 20 effective on the PZL M18BS Trainer model or “Aircraft Flight Manual. PZL M18B “DROMADER” equipped with ASz-62IRm18 engine” together with mandatory supplements as contained in Section 9 thereof including Supplement No 8 effective on the PZL M18BS Trainer model


5. Illustrated Parts Catalogue: “M18 Parts and Assemblies Catalog”
E.V. Notes

NOTE 1: All inscriptions and placards as required in the approved Aircraft Flight Manual of PZL M18B "DROMADER", including Supplement No. 8, effective on PZL M18BS "DROMADER" Trainer model, must be installed on each airplane in the specified configuration and at appropriate location. Limitations specified on the placards must read in the same units (knots, MPH, km/h) as the airspeed indicator.

NOTE 2: The airplane with operational-optional equipment (such as: engine cylinder shields, KR-85 ADF, etc.) installed, shall be operated in accordance with Section 9 of the Aircraft Flight Manual of PZL M18B "DROMADER".

NOTE 3: To eliminate possible exceedance of the aft center-of-gravity position limit for the airplane fitted with spraying equipment, and in particular with long spray booms installed, the airplane takeoff weight is hereby limited to 4100 kg for the spraying configuration.

NOTE 4: It is prohibited to perform flights with an occupant in mechanic's cabin and with luggage in the baggage compartment. Mechanic's cabin equipment (seat and fire extinguisher) and baggage compartment should be removed.

NOTE 5: Solo flights of student-pilot shall be performed on the PZL M18B model.

NOTE 6: It is prohibited to perform solo flights with a pilot only in the instructor's (front) cockpit.

NOTE 7: M18BS "DROMADER" Trainer model is approved for training flights with fire-fighting and agricultural equipment in spraying configuration only.
SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations
None

II. Type Certificate Holder Record
Current:
Polskie Zaklady Lotnicze Sp. z o.o.
Wojska Polskiego 3
39-300 Mielec
POLAND

III. Change Record

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