European Union Aviation Safety Agency

TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.027

for
ZLIN Z-42 Series

Type Certificate Holder
ZLIN AIRCRAFT a.s.
Letiště 1887
765 02 Otrokovice
CZECH REPUBLIC

For models: Z 42, Z 42 M, Z 42 MU, Z 142, Z 142 C, Z 242 L

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SECTION A: Z 42

AI. General

1.	a) Type:	Z 42	
	b) Model:	---	
2.	Airworthiness Category:	Aerobatic (A)	(see Note 2)
		Utility (U)	(see Note 2)
		Normal (N)	(see Note 2)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC	
4.	EASA Type Application Date:	---	
5.	State of Design Authority	CAA Czech Republic	
6.	CAA CZ Type Certificate Date:	September 07, 1970	
7.	EASA Type Certificate Date:	22-Mar-2007 (reissue, EASA)	

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 70 – 05.

AII. EASA Certification Basis

1.	Reference Date for determining the applicable requirements:	---
2.	Airworthiness Requirements:	FAR PART 23, Amdt 23-6 (including)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviation	None
6.	EASA Equivalent Safety Findings:	§ 23.177(a)(2) – Good controllability around longitudinal axis of the aircraft. § 23.613(c); § 23.615 – Used materials and results of calculation are sufficiently satisfactory (they are in compliance with ČSN and specifications effective for aeronautical industry). § 23.955 – The fuel flow is closed with battery stopcock and is higher by 50 % than the consumption at start. § 23.991(b) – Failure of low-pressure fuel pump is extremely improbable.

§ 23.1013(e); § 23.1019 – The screen area at oil tank outlet is several times larger than the outlet pipe union section.

§ 23.1183(–) - The hoses materials safety is proved by operation experience.

§ 23.1323 – Aerodynamical repair is on safe side; the speed reached at the cruising power of engine is lower than the speed at which already occurs undesirable distortion.

7. EASA Environmental Standards: ICAO Annex 16/I, Chapter 6

AIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: TPF 01-0019-69

2. Description: The Z 42 aircraft is two-seat, low wing, single-engine, cantilever monoplane.

3. Equipment: Approved equipment list is stated in document Technický popis a návod k obsluze letounu Z 42, Chapter 5".

4. Dimensions:

Span:	9.11 m
Length:	7.07 m
Height:	2.69 m
Wing Area:	13.15 m^2

5. Engine:

5.1 Model: M 137 A

5.2 Type Certificate: EASA approved (CAA CZ TC No. 69-01) (see Note 3)

5.3 Limitations:

Max. Take-off power (5 min.)	
max. Power	133 kW (180 HP)
max. Engine speed	2 750 RPM
max. Consumption	61 l/h
max. Manifold pressure	100 ± 2 kPa
Max. Continuous power	
max. Power	118 kW (160 HP)
max. Engine speed	2 680 RPM
max. Consumption	52 l/h
max. Manifold pressure	95 ± 2 kPa
Max. Cruising power	
max. Power	103 kW (140 HP)
max. Engine speed	2 580 RPM
max. Consumption	43 l/h
max. Manifold pressure	87 kPa

6. Load factors:

Category A	+6.0 g, -3.5 g
Category U	+4.4 g, -2.5 g
Category N	+3.8 g, -1.5 g

7. Propellers:

7.1.1 Model:	Z42.6411
7.1.2 Type Certificate:	EASA approved (CAA CZ TC No. 70-06) (see Note 4)
7.1.3 Number of blades:	2
7.1.4 Diameter:	2 050 mm
7.1.5 Sense of Rotation:	Anticlockwise in flight direction

or

7.2.1 Model:	Z42.6413 (towing)
7.2.2 Type Certificate:	EASA approved (EASA.P.176 replacing CAA CZ TC No. 70-07) (see Note 5)
7.2.3 Number of blades:	2
7.2.4 Diameter:	2 050 mm
7.2.5 Sense of Rotation:	Anticlockwise in flight direction

8. Fluids:

8.1 Fuel: Non-ethylated aviation gasoline with min. 72 octanes. Application of ethylated fuels is only permitted in case that the T.E.L. content does not exceed the value of 0.06% vol.

LBZ 72

LBZ 78

LBE 80

LBE 87

Shell 80

ESSO 80

AVGAS 100 LL
(DEFENCE STANDARD 91/90, ASTM D910)

8.2 Oil: Mineral oils are recommended for engine operation with min. kinematic viscosity of 20 cSt at 100°C, whose percentual carbon residue does not exceed the value of 0.4.

MS 20

Aeroshell W100

Aeroshell W120 (in tropical climates)

8.3 Coolant: None

9. Fluid capacities:

9.1 Fuel:	Total:	130 litres
	Usable:	127 litres

2 x 65 litres in main tanks

9.2 Oil: Minimum 7 liters - Maximum 12 liters

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	315 km/h CAS
Normal Operating Speed	v_{NO}	226 km/h CAS
Design Manoeuvring Speed Limit	v_A	
Category A		260 km/h CAS
Category U		230 km/h CAS
Category N		227 km/h CAS
Maximum Flaps Extended Speed Limit	v_{FE}	185 km/h CAS

11. Maximum Operating Altitude:

Category A	5 000 m
Category U	4 350 m
Category N	4 050 m

12. Approved Operations Capability: The aircraft is approved for VFR Day flights.

13. Maximum Masses:

Max. Take-off and Landing weight:

Category A	840 kg
Category U	920 kg
Category N	970 kg

Max. Variable Load:

Category A, U, N	200 kg

Empty weight

Category A, U, N	625 kg

14. Centre of Gravity Range: 19,0 % – 27,0 % bMAC
M.A.C. is 1 460 mm; 0 % M.A.C. is 300 mm aft reference datum.

15. Datum: The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.

16. Control Surface Deflections:

Elevator deflection	up	30º ± 1º
	down	27° + 1°
Rudder deflection	right and left	30° ± 2°
Ailerons deflection	up	21° ± 1°
	down	17° ± 1°
Wing flaps positions	retracted	0°
	take-off	14° ± 1°
	landing	37° ± 1°

17. Levelling Means: Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.

18. Minimum Flight Crew: 1 (Pilot)

19.	Maximum Passenger Seating Capacity:	2 (including crew)
20.	Baggage/Cargo Compartments:	Max. 20 kg.
21.	Wheels and Tyres:	Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135
22.	Reserved	

AIV. Operating and Service Instructions

1. Flight Manual:
   - In Czech language — Letová příručka letounu Z 42,
     Initial issue 1971 or later approved revisions

2. Technical Manual:
   – In Czech language — Technický popis a návod k obsluze letounu ZLIN 42,
     Initial issue 1971 or later approved revisions

6. Repair Manual:
   - In Czech language — Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU,
     Initial issue 1978 or later approved revisions

7. Catalogue of Spare Parts:
   – In Russian, Czech, German and English language — Katalog ZLIN 42,
     Initial issue 1971 or later approved revisions

8. Table of Dimensions, Limits and Clearances:
   - In Czech, German and English language
     Album rozměrů, tolerancí a vůlí Z 42, Z 42 M, Z 43
     Album der Abmessungen, der Toleranz und Spielangaben Z 42, Z 42 M, Z 43
     Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43,
     Initial issue 1976 or later approved revisions

AV. Notes

Note 1: The Z 42 aircraft have been converted by the aircraft manufacturer to the models:
Z 42 M S/N: 0006
Z 42 MU S/N: 0003-0004; 0007-0008; 0010; 0015; 0017-0026; 0028-0045; 0047

Note 2: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z42/55a and Z42/56a or later revision of each is required.

Note 3: The EASA type certification standard includes that of CAA Cz TCDS No. 69-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 4: The EASA type certification standard includes that of CAA Cz TCDS No. 70-06 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: The EASA type certification standard includes that of CAA Cz TCDS No. 70-07 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 6: The EASA TC EASA.P.176 issued to Ales Kremen on 19 August 2010 replaced the Czech TC.

SECTION B: Z 42 M

BI. General

1.	a) Type:	Z 42	
	b) Model:	Z 42 M	
2.	Airworthiness Category:	Aerobatic (A)	(see Note 2)
		Utility (U)	(see Note 2)
		Normal (N)	(see Note 2)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC	
4.	EASA Type Application Date:	---	
5.	State of Design Authority	CAA Czech Republic	
5.	CAA CZ Type Certificate Date:	October 30, 1973	
7.	EASA Type Certificate Date:	21-Mar-2007 (reissue, EASA)	

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 73-06.

BII. EASA Certification Basis

1.	Reference Date for determining the applicable requirements:	**---**
2.	Airworthiness Requirements:	FAR PART 23, Amdt 23-13 (including)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviation	None
6.	EASA Equivalent Safety Findings:	§ 23.33 – In the Flight manual is a notice – limitation of revolutions of the propeller is met in normal category at maximal flight weight up to a height of 600 m MSA. § 23.177(a)(2) – Sufficient controllability in critical regimes of flight. § 23.613I; § 23.615 – Used materials and calculation results are convenient. § 23.955 – The fuel flow is higher than the consumption at take-off regime.

§ 23.991(b) – The engine is equipped with a high-pressure pump connected with a low-pressure pump to one aggregate, the low-pressure pump breakdown is extremely improbable.

§ 23.1013I; § 23.1019 – The screen area at oil tank outlet is several times larger than the outlet pipe union section.

§ 23.1183(–) – The hoses material safety is verified by experiences from operation.

§ 23.1323 – At the speeds over 200 km/h, there is made a correction on the safe side.

§ 23.1389(b); §23.1391; §23.1393; §23.1395; §23.1397; § 23.1401 – Landing lights, anti-collision lights are convenient with respect to the night flights exclusiveness.

7. EASA Environmental Standards: ICAO Annex 16/I, Chapter 6

BIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: TPF 01-0034-73

2. Description: The Z 42 M aircraft is two-seat, low wing, single-engine, and cantilever monoplane.

3. Equipment: Approved equipment list is stated in document Technical manual of the ZLIN Z 42M Aircraft, Chapter 4.

4. Dimensions:

Span:	9.11 m
Length:	7.07 m
Height:	2.69 m
Wing Area:	13.15 m^2

5. Engine:

5.1. Model: M137 AZ

5.2. Type Certificate: EASA approved (CAA CZ TC No. 69-01) (see Note 3)

5.3 Limitations:

Max. Take-off power (5 min.)

max. Power	133 kW (180 HP)
max. Engine speed	2 750 RPM
max. Consumption	61 l/h
max. Manifold pressure	100 ± 2 kPa

Max. Continuous power

max. Power	118 kW (160 HP)
max. Engine speed	2 680 RPM
max. Consumption	52 l/h
max. Manifold pressure	95 ± 2 kPa

Max. Cruising power:

max. Power	103 kW (140 HP)
max. Engine speed	2 580 RPM
max. Consumption	43 l/h
max. Manifold pressure	87 kPa

6. Load factors:

Category A	+6.0 g, -3.5 g
Category U	+5.0 g, -3.2 g
Category N	+3.8 g, -1.5 g

7. Propeller:

7.1 Model: V 503 A

7.2 Type Certificate: EASA approved (CAA CZ TC No. 69-02) (see Note 4)

7.3 Number of blades: 2

7.4 Diameter: 2 000 mm

7.5 Sense of Rotation: Anticlockwise in flight direction.

8. Fluids:

8.1 Fuel: Non-ethylated aviation gasoline, with min. 72 octanes. Application of ethylated fuels is only permitted in case that the T.E.L. content does not exceed the value of 0.06% vol.

LBZ 72

LBZ 78

LBE 80

LBE 87

Shell 80

ESSO 80

AVGAS 100 LL
(DEFENCE STANDARD 91/90, ASTM D910)

8.2 Oil: AERO SHELL 100 (a mineral oil) or equivalent – is recommended for running-in (max. up to 50 hours).

AERO SHELL W 100 or equivalent – is recommended for after-running-in operation in temperate climatic area.

AERO SHELL W 120 or equivalent – is recommended for after-running-in operation in tropical area.

AERO SHELL W 80 or AERO SHELL W 65 or equivalent – is recommended for after-running-in operation during winter or in polar area.

8.3 Coolant: None

9. Fluid:

9.1 Fuel:

Total:	130 litres
Usable:	127 litres

2 x 65 litres in main tanks

9.2 Oil: Minimum 7 liters – Maximum 12 liters

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	315 km/h CAS
Normal Operating Speed Limit	v_{NO}	226 km/h CAS
Design Manoeuvring Speed Limit	v_A	
Category A,U		270 km/h CAS
Category N		220 km/h CAS
Maximum Flaps Extended Speed Limit	v_{FE}	185 km/h CAS
Maximum Speed Limit for flicked figures		
Category A		160 km/h CAS

11. Maximum Operating Altitude:

Category A, U	4 250 m
Category N	3 800 m

12. Approved Operations Capability: The aircraft is approved for VFR Day flights.

13. Maximum Masses:

Max. Take-off and Landing weight:	
Category A, U	920 kg
Category N	970 kg
Max. Variable Load:	
Category A, U, N	200 kg
Empty weight	
Category A, U, N	645 kg

14. Centre of Gravity Range: 19 % – 27 % bMAC
M.A.C. is 1 460 mm; 0 % M.A.C. is 300 mm aft reference datum.

15. Datum: The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.

16. Control surface deflections:

Elevator deflection	up	34º + 0°, -1º
	down	27° + 1°
Rudder deflection	right and left	30° ± 2°
Ailerons deflection	up	21° ± 1°
	down	17° ± 1°
Wing flaps positions	retracted	0°
	take-off	14° ± 1°
	landing	37° ± 1°

17. Levelling Means: Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.

18. Minimum Flight Crew: 1 (Pilot)

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

20. Baggage/Cargo Compartments: Max. 20 kg

21. Wheels and Tires:	Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or Wheels of main gear K 22-3100-7 with tyre Mitas 420 x 150 model 2 or Goodyear 6.00-6.5. Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135, or Wheel of nose gear K 51-1100-7 with tyre Mitas 350 x 135 or Goodyear 5.00-5.
22. Reserved	

BIV. Operating and Service Instructions

1. Flight Manual:
   - In Czech language — Letová příručka Z 42 M,
     Initial issue September 1977 or later approved revisions
   - In English language — Flight Manual of the ZLIN 42 M Aircraft,
     Initial issue 1978 or later approved revisions
   - In German language — Flughandbuch ZLIN 42 M,
     Initial issue 1978 or later approved revisions

2. Technical Manual:
   - In Czech language — Technický popis a návod k obsluze letounu Z 42 M,
     Initial issue October 1977 or later approved revisions
   - In English language — Technical Manual of the ZLIN 42 M Aircraft,
     Initial issue April 1973 or later approved revisions

3. Repair Manual:
   - In Czech language — Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU,
     Initial issue 1978 or later approved revisions

4. Catalogue of Spare Parts:
   - In Russian, Czech, German and English language
     Katalog náhradních dílů Z 42 M,
     Initial issue or later approved revisions

5. Table of Dimensions, Limits and Clearances:
   - In Czech, German and English language
     Album rozměrů, tolerancí a vůlí Z 42, Z 42 M, Z 43,
     Album der Abmessungen, der Toleranz und Spielangaben Z 42, Z 42 M, Z 43
     Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43,
     Initial issue 1976 or later approved revisions

6. Manual for Operation:
   - In Czech language Doc. No. 232.071 — Příručka pro provoz letounů Z 42 M, Z 42 MU bez generálních oprav draku část 1 a 2, prohlídka A, B, C,
     Initial issue 30.1.1997 or later approved revisions
   - In English language Doc. No. 232.071 — Manual for operation of Z 42 M, Z 42 MU aircraft without airframe overhaul, Part 1, Part 2, revision A, B, C,
     Initial issue 30.1.1997 or later approved revisions

7. Instruments and Aggregates:
   - In Czech language Doc. No. PRA.081.1 — Přístroje a agregáty, použité na letounech Z 42 M, Z 42 MU Z 142 a Z 43,
     Initial issue 10.1.2012 or later approved revisions

BV. Notes

Note 1: The Z 42 M aircraft have been converted by the manufacturer to the models:
Z 42 MU S/N: 0048

Note 2: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z42/54a, Z42/55a and Z42/56a or later revision of each is required.

Note 3: The EASA type certification standard includes that of CAA CZ TCDS No. 69-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 4: The EASA type certification standard includes that of CAA CZ TCDS No. 69-02 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: On the aircraft Z 42 M is permitted operation with BA95/98 automotive gasoline “MOGAS” under the conditions mentioned in Information Service Bulletin Z42/28b (in latest edition).

SECTION C: Z 42 MU

CI. General

1.	a) Type:	Z 42	
	b) Model:	Z 42 MU	
2.	Airworthiness category:	Utility (U)	(see Note 3)
		Normal (N)	(see Note 3)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC	
4.	EASA Type Application Date:	---	
5.	State of Design Authority	CAA Czech Republic	
6.	CAA CZ Type Certificate Date:	01-Feb-1974	
7.	EASA Type Certificate Date:	22-Mar-2007 (reissue, EASA)	

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 73-06.

CII. Certification Basis

1.	Reference Date for determining the applicable requirements:	---
2.	Airworthiness Requirements:	FAR PART 23, Amdt 23-13 (including)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviation	None
6.	EASA Equivalent Safety Findings:	§ 23.33 – In the Flight manual is a notice – limitation of revolutions of the propeller is met in normal category at maximal flight weight up to a height of 600 m MSA. § 23.177(a)(2) – Sufficient controllability in critical regimes of flight. § 23.613(c); § 23.615 – Used materials and calculation results are convenient. § 23.955 – The fuel flow is higher than the consumption at take-off regime. § 23.991(b) – The engine is equipped with a high-pressure pump connected with a low-pressure pump to one aggregate, the low-pressure pump breakdown is extremely improbable.

§ 23.1013(e); § 23.1019 – The screen area at oil tank outlet is several times larger than the outlet pipe union section.

§ 23.1183(–) - The hoses material safety is verified by experiences from operation.

§ 23.1323 – At the speeds over 200 km/h, there is made a correction on the safe side.

§ 23.1389(b); §23.1391; §23.1393; §23.1395; §23.1397; § 23.1401 – Landing lights, anti-collision lights are convenient with respect to the night flights exclusiveness.

7. EASA Environmental Standards: ICAO Annex 16/I, Chapter 6

CIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: TPF 01-0019-69

2. Description: The Z 42 MU aircraft is two-seat, low wing, single-engine, and cantilever monoplane.

3. Equipment: Approved equipment list is stated in Flight manual for the ZLIN Z 42MU Aircraft, Chapter 4.

4. Dimensions:

Span:	9.11 m
Length:	7.07 m
Height:	2.69 m
Wing Area:	13.15 m^2

5. Engine:

5.1.1 Model: M 137 A

5.1.2 Type Certificate: EASA approved (CAA CZ TC No. 69-01) (see Note 4)

5.1.3 Limitations:

Max. Take-off power (5 min.)

max. Power	133 kW (180 HP)
max. Engine speed	2 750 RPM
max. Consumption	61 l/h
max. Manifold pressure	100 ± 2 kPa

Max. Continuous power

max. Power	118 kW (160 HP)
max. Engine speed	2 680 RPM
max. Consumption	52 l/h
max. Manifold pressure	95 ± 2 kPa

Max. Cruising power

max. Power	103 kW (140 HP)
max. Engine speed	2 580 RPM
max. Consumption	43 l/h
max. Manifold pressure	87 kPa

or

5.2.1 Model: M 137 AZ

5.2.2 Type Certificate: EASA approved (CAA CZ TC No. 69-01) (see Note 4)

5.2.3 Limitations:

Max. Take-off power (5 min.)	
max. Power	133 kW (180 HP)
max. Engine speed	2 750 RPM
max. Consumption	61 l/h
max. Manifold pressure	100 ± 2 kPa
Max. Continuous power	
max. Power	118 kW (160 HP)
max. Engine speed	2 680 RPM
max. Consumption	52 l/h
max. Manifold pressure	95 ± 2 kPa
Max. Cruising power	
max. Power	103 kW (140 HP)
max. Engine speed	2 580 RPM
max. Consumption	43 l/h
max. Manifold pressure	87 kPa

6. Load factors:

Category U	+5.0 g, -3.2 g
Category N	+3.8 g, -1.5 g

7. Propeller:

7.1 Model: V 503 A

7.2 Type Certificate: EASA approved (CAA CZ TC No. 69-02) (see Note 5)

7.3 Number of blades: 2

7.4 Diameter: 2 000 mm

7.5 Sense of Rotation: Anticlockwise in flight direction.

8. Fluids:

8.1 Fuel: Non-ethylated aviation gasoline, with min. 72 octanes. Application of ethylated fuels is only permitted in case the T.E.L. content does not exceed the value of 0.06% vol.

LBZ 72

LBZ 78

LBE 80

LBE 87

Shell 80

ESSO 80

AVGAS 100 LL
(DEFENCE STANDARD 91/90, ASTM D910)

8.2 Oil: AERO SHELL 100 (a mineral oil) or equivalent – is recommended for running-in (max. up to 50 hours).

AERO SHELL W 100 or equivalent – is recommended for after-running-in operation in temperate climatic area.

AERO SHELL W 120 or equivalent – is recommended for after-running-in operation in tropical area.

AERO SHELL W 80 or AERO SHELL W 65 or equivalent – is recommended for after-running-in operation during winter or in polar area.

8.3 Coolant: None

9. Fluid capacities:

9.1 Fuel: Total: 130 litres
Usable: 127 litres

2 x 65 litres in main tanks

9.2 Oil: Minimum 7 litres – Maximum 12 litres

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	315 km/h CAS
Normal Operating Speed Limit	v_{NO}	226 km/h CAS
Design Manoeuvring Speed Limit	v_A	
Category U		270 km/h CAS
Category N		220 km/h CAS
Maximum Flaps Extended Speed Limit	v_{FE}	185 km/h CAS

11. Maximum Operating Altitude:

Category U	4 250 m
Category N	3 800 m

12. Approved Operations Capability: The aircraft is approved for VFR Day flights.

13. Maximum Masses:

Max. Take-off and Landing weight:	
Category U	920 kg
Category N	970 kg
Max. Variable Load:	
Category U, N	200 kg
Empty weight	
Category U, N	645 kg

14. Centre of Gravity Range: 19 % – 27 % bMAC
M.A.C. is 1 460 mm; 0 % M.A.C. is 300 mm aft reference datum.

15. Datum: The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.

16. Control surface deflections:	Elevator deflection	up down	34º + 0°, -1º 27° + 1°
	Rudder deflection	right and left	30° ± 2°
	Ailerons deflection	up down	21° ± 1° 17° ± 1°
	Wing flaps positions	retracted take-off landing	0° 14° ± 1° 37° ± 1°

17. Levelling Means: Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.

18. Minimum Flight Crew: 1 (Pilot)

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

20. Baggage/Cargo Compartments: Max. 20 kg

21. Wheels and Tires: Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or
Wheels of main gear K 22-3100-7 with tyre Mitas 420 x 150 model 2 or Goodyear 6.00-6.5.

Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre Mitas 350 x 135 or Goodyear 5.00-5.

22. Reserved

CIV. Operating and Service Instructions

1. Flight Manual:
   - In Czech language — Letová příručka Z 42 MU,
     Initial issue March 1975 or later approved revisions

   In English language — Flight Manual ZLIN 42 MU,
   Initial issue 1974 or later approved revisions

   In German language — Flugzeugbetriebshandbuch ZLIN 42 MU,
   Initial issue March 1974 or later approved revisions

2. Technical Manual:
   - In Czech language — Technický popis a návod k obsluze letounu Z 42 MU,
   - *Initial issue April 1975 or later approved revisions*

   - In English language — Technical Manual ZLIN 42 MU,
     Initial issue April 1974 or later approved revisions

3. Repair Manual:
   - In Czech language — Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU,
     Initial issue 1978 or later approved revisions

4. Catalogue Supplement:
   - In Czech, German and English language
     ZLIN 42 MU – Dodatek ke katalogu Z 42
     ZLIN 42 MU – Nachtrag zum Katalog Z 42
     ZLIN 42 MU – Supplement of the Z 42 Catalogue
     Initial issue January 1974 or later approved revisions

5. Table of Dimensions, Limits and Clearances:
   - In Czech, German and English language
     Album rozměrů, tolerancí a vůlí Z 42, Z 42 M, Z 42 MU, Z 43,
     Album der Abmessungen, der Toleranz und Spielangaben Z 42, Z 42 M, Z 43,
     Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43,
     Initial issue 1976 or later approved revisions

6. Manual for Operation:
   - In Czech language — Příručka pro provoz letounů Z 42 M, Z 42 MU
     Doc. No. 232.071 — bez generálních oprav draku část 1 a 2, prohlídka A, B, C
     Initial issue 30.1.1997 or later approved revisions

   – In English language — Manual for operation of Z 42 M, Z 42 MU aircraft
     Doc. No. 232.071 — without airframe overhaul, Part 1, Part 2, revision A, B, C,
     Initial issue 30.1.1997 or later approved revisions

7. Instruments and Aggregates:
   - In Czech language — Přístroje a agregáty, použité na letounech Z 42 M, Z 42 MU,
     Doc. No. PRA. 081.1 — Z 142 a Z 43,
     Initial issue 10.1.2012 or later approved revisions

CV. Notes

Note 1: Model has been approved under original Czech CAA Type Certificate No. 73-06 dated November 30, 1973, Supplement No. 1 dated February 01, 1974.

Note 2: The Z 42 MU aircraft have been converted by the aircraft manufacturer to the models:
Z 42 M S/N: 0011; 0027

Note 3: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z42/54a, Z42/55a and Z42/56a or later revision of each is required.

Note 4: The EASA type certification standard includes that of CAA Cz TCDS No. 69-01 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: The EASA type certification standard includes that of CAA Cz TCDS No. 69-02 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 6: On the aircraft Z 42 MU is permitted operation with BA95/98 automotive gasoline “MOGAS” under the conditions mentioned in Information Service Bulletin Z42/28b (in latest edition).

SECTION D: Z 142

DI. General

1.	a) Type:	Z 42	
	b) Model	Z 142	
2.	Airworthiness category:	Aerobatic (A)	(see Note 2)
		Utility (U)	(see Note 2)
		Normal (N)	(see Note 2)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC	
4.	EASA Type Application Date:	November 22, 1977	
5.	State of Design Authority	CAA Czech Republic	
6.	CAA CZ Type Certificate Date:	January 28, 1980	
7.	EASA Type Certificate Date	22-Mar-2007 (reissue, EASA)	

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 80-01.

DII. EASA Certification Basis

1.	Reference Date for determining the applicable requirements:	---
2.	Airworthiness Requirements:	FAR PART 23, Amdt 23-13 (including)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviations	None
6.	EASA Equivalent Safety Findings:	§ 23.177 (a)(2), (3) – Ample controllability of the airplane in specified conditions. § 23.1013(e) – The level of safety is retained with the multiple area of the strainer surface. § 23.1183(a) – The safety of hose materials is proved by experience in operation. § 23. 1323 – At the speeds above 240 km/hr, the accomplished correction is on the safe side. § 23.1383(a); § 23.1389(b); § 23.1391; § 23.1393; § 23.1395; § 23.1401 – The measurement of light intensity and of colour shade of position and anti-collision lights has not been performed.

It is permitted with respect to the fact that night flights are prevailingly of training character and are performed in a determined area.

7. EASA Environmental Standards: ICAO Annex 16/I, Chapter 10

FAR PART 36, App. G

DIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: TPF 01-0041-78

2. Description: The Z 142 aircraft is two-seat, single-engine, low wing cantilever monoplane.

3. Equipment: Approved equipment list is stated in document Flight manual of the ZLIN Z 142 aircraft, Chapter 6.

4. Dimensions:

Span:	9.160 m
Length:	7.330 m
Height:	2.750 m
Wing Area:	13.15 m^2

5. Engine:

5.1 Model: M 337 AK

5.2 Type Certificate: EASA approved (CAA CZ No. 94-06) (see Note 3)

5.3 Limitations:

Max. Take-off power	
max. Power	154 kW (210 HP)
max. Engine speed	2 750 RPM
max. Consumption	61 l/h
max. Manifold pressure	118 kPa
Continuous power	
max. Power	125 kW (170 HP)
max. Engine speed	2 600 RPM
max. Consumption	56 l/h
max. Manifold pressure	98 kPa
Cruising power	
max. Power	103 kW (140 HP)
max. Engine speed	2 400 RPM
max. Consumption	42 l/h
max. Manifold pressure	90 kPa

6. Load factors:

Category A	+6.0 g -3.5 g
Category U	+5.0 g -3.0 g
Category N	+3.8 g -1.5 g

7. Propeller:

7.1 Model: V 500 A

7.2 Type Certificate: EASA approved (CAA CZ TC No. 73-03) (see Note 4)

7.3 Number of blades: 2

7.4 Diameter: 2 000 mm

7.5 Sense of Rotation: Anticlockwise in flight direction

8. Fluids:

8.1 Fuel: LBZ 78

SHELL 80

ESSO 80 (TEO max. 0.06 % volume)

Grade 100/130 (TEO max. 0.06 % volume)

AVGAS 100 LL
(DEFENCE STANDARD 91/90, ASTM D910)AVGAS 100L (gr. 100/130)

8.2 Oil: AERO SHELL 100 (a mineral oil) or equivalent – is recommended for running-in (max. up to 50 hours).

AERO SHELL W 100 or equivalent – is recommended for after-running-in operation in temperate climatic area.

AERO SHELL W 120 or equivalent – is recommended for after-running-in operation in tropical area.

AERO SHELL W 65 or equivalent – is recommended for after-running-in operation during winter or in polar area.

8.3 Coolant: None

9. Fluid capacities:

9.1 Fuel:

Total:	Category A:	125 litres
	Category N:	225 litres
Usable:	Category A:	122 litres
	Category N:	220 litres

2 x 60 litres in main tanks
2 x 50 litres in auxiliary wing tip tanks
1 x 5 litres in aerobatic tank

9.2 Oil: Minimum 7 litres – Maximum 12 litres

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	
Category A, U		333 km/h IAS
Category N		332 km/h IAS
Normal Operating Speed Limit	v_{NO}	
Category A, U		273 km/h IAS
Category N		272 km/h IAS

	Design Manoeuvring Speed Limit	v_A	
	Category A		284 km/h IAS
	Category U		264 km/h IAS
	Category N		235 km/h IAS
	Maximum Flaps Extended Speed Limit	v_{FE}	
	Category A, U		189 km/h IAS
	Category N		188 km/h IAS
11. Maximum Operating Altitude:	Category A		5 000 m
	Category U		4 700 m
	Category N		4 300 m
12. Approved Operations Capability:	The aircraft is approved for VFR Day flights.		
13. Maximum Masses:	Max. Take-off and Landing weight:		
	Category A		970 kg
	Category U		1 020 kg
	Category N		
	– Take-off weight		1 090 kg
	– Landing weight		1 050 kg
	Max. Variable Load:		
	Category A		240 kg
	Category U		290 kg
	Category N		360 kg
	Empty weight		
	Category A, U, N		730 kg
14. Centre of Gravity Range:	20 % – 26 % bMAC M.A.C. is 1 460 mm; 0 % M.A.C. is 300 mm aft reference datum.		
15. Datum:	The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.		
16. Control surface deflections:	Elevator deflection	up	34° + 0°; - 1°
		down	31° + 1°
	Rudder deflection	right and left	30° ± 2°
	Ailerons deflection	up	21° ± 1°
		down	17° ± 1°
	Wing flaps positions	retracted	0°
		take-off	14° ± 1°
		landing	37° ± 1°
17. Levelling Means:	Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.		
18. Minimum Flight Crew:	1 (Pilot)		
19. Maximum Passenger Seating Capacity:	2 (including crew)		
20. Baggage/Cargo Compartments:	Max. 20 kg.		

21. Wheels and Tyres:

Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or
Wheels of main gear K 22-3100-7 with tyre Mitas 420 x 150 model 2 or Goodyear 6.00-6.5.

Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre Mitas 350 x 135 or Goodyear 5.00-5.

22. Reserved

DIV. Operating and Service Instructions

1. Flight Manual:
   - In Czech language — Letová příručka Z 142,
     Initial issue 1982 or later approved revisions
   - In English language — Flight Manual of the ZLIN 142 Aircraft,
     Initial issue 1989 or later approved revisions
   - In German language — Flughandbuch ZLIN 142,
     Initial issue 1982 or later approved revisions

2. Technical Manual:
   - In Czech language — Technický popis pro letoun ZLIN 142,
     Initial issue 1988 or later approved revisions
   - In English language — Technical Manual Z 142,
     Initial issue 1990 or later approved revisions

3. Repair Manual:
   - In Czech language — Opravárenská příručka letounu ZLIN 142,
     Initial issue 1988 or later approved revisions

4. Catalogue of Spare Parts:
   - In Czech and English language
     Katalog náhradních dílů Z 142
     Catalogue of Spare Parts Z 142
     Initial issue September 2010 or later approved revisions

5. Table of Dimensions, Limits and Clearances:
   - In Russian, Czech, German and English language
     Album rozměrů, tolerancí a vůlí Z 142
     Album der Abmessungen, der Toleranz und Spielangabe Z 142
     Table of Dimensions, Limits and Clearance Z 142
     Initial issue 1982 or later approved revisions

6. Manual for Operation:
   - In Czech language Doc. No. Z002.071 — Příručka pro provoz letounu Z 142 bez generálních oprav draku část 1, část 2, prohlídka A, B, C
     Initial issue 1.6.1996 or later approved revisions
   - In English language Doc. No. Z002.071 — Manual for Operation of Z 142 Aircraft without airframe overhaul Part 1, Part 2, Revision A, B, C
     Initial issue 1.6.1996 or later approved revisions

7. Instruments and Aggregates:
   - In Czech language Doc. No. PRA. 081.1 — Přístroje a agregáty, použité na letounech Z 42 M, Z 42 MU Z 142 a Z 43,
     Initial issue 10.1.2012 or later approved revisions

DV. Notes

Note 1: Following Z 142 aircraft have been converted by the aircraft manufacturers to the models: Z 142 C S/N: 0524, 0535

Note 2: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z142/53a, Z142/54a and Z142/55a or later revision of each is required.

Note 3: The EASA type certification standard includes that of CAA CZ TCDS No. 94-06 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 4: The EASA type certification standard includes that of CAA CZ TCDS No. 73-03 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: On the aircraft Z 142 is permitted operation with BA95/98 automotive gasoline “MOGAS” under the conditions mentioned in Information Service Bulletin Z142/21b (in latest edition).

SECTION E: Z 142 C

EI. General

1.	a) Type:	Z 42	
	b) Model:	Z 142 C	
2.	Airworthiness category:	Aerobatic (A)	(see Note 2)
		Utility (U)	(see Note 2)
		Normal (N)	(see Note 2)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC	
4.	EASA Type Application Date:	---	
5.	State of Design Authority	CAA Czech Republic	
6.	CAA CZ Type Certificate Date:	July 18, 1991	
7.	EASA Type Certificate Date:	22-Mar-2007 (reissue, EASA)	

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 80-01.

EII. EASA Certification Basis

1.	Reference Date for determining the applicable requirements:	---
2.	Airworthiness Requirements:	FAR PART 23, Amdt 23-20 (including)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviations:	None
6.	EASA Equivalent Safety Findings:	§ 23.177 (a)(2), (3) – Ample controllability of the airplane in specified conditions. § 23.1013(e); § 23.1019(b) – The active strainer input area is thirty-times larger than the critical outlet section. The strainer blocking has never occured during operation. Dangerous blocking is prevented by scheduled inspection periods. The airplane is provided with a duplicate oil pressure checking system. § 23.1323 – At the speeds above 240 km/h, the accomplished correction is on the safe side.
7.	EASA Environmental Standards:	ICAO Annex 16/I, Chapter 10 FAR PART 36, App. G

EIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: TPF 01-0118-94

2. Description: The Z 142 C aircraft is two-seat, single-engine, low wing cantilever monoplane.

3. Equipment: Approval equipment list is stated in document Flight manual of the ZLIN Z 142C aircraft, Chapter 6.

4. Dimensions:

Span:	9.160 m
Length:	7.330 m
Height:	2.750 m
Wing Area:	13.15 m^2

5. Engine:

5.1 Model: M 337 AK

5.2 Type Certificate: EASA approved (CAA CZ TC No. 94-06) (see Note 3)

5.3 Limitations:

Max. Take-off power	
max. Power	154 kW, (210 HP)
max. Engine speed	2 750 RPM
max. Manifold pressure	118 kPa
Continuous power	
max. Power	125 kW, (170 HP)
max. Engine speed	2 600 RPM
max. Manifold pressure	98 kPa
Cruising power	
max. Power	103 kW, (140 HP)
max. Engine speed	2 400 RPM
max. Manifold pressure	90 kPa

6. Load factors:

Category A	+6.0 g, -3.5 g
Category U	+5.0 g, -3.0 g
Category N	+3.8 g, -1.5 g

7. Propeller:

7.1 Model: V 500 A

7.2 Type Certificate: EASA approved (CAA CZ TC No. 73-03) (see Note 4)

7.3 Number of blades: 2

7.4 Diameter: 2 000 mm

7.5 Sense of Rotation: Anticlockwise in flight direction.

8. Fluids:

8.1 Fuel: LBZ 78

SHELL 80

ESSO 80 (TEO max. 0.06 % volume)

Grade 100/130 (TEO max. 0.06 % volume)

AVGAS 100 LL
(DEFENCE STANDARD 91/90, ASTM D910)

8.2 Oil: AERO SHELL 100 (a mineral oil) or equivalent – is recommended for running-in (max. up to 50 hours).

AERO SHELL W 100 or equivalent – is recommended for after-running-in operation in temperate climatic area.

AERO SHELL W 120 or equivalent – is recommended for after-running-in operation in tropical area.

AERO SHELL W 65 or equivalent – is recommended for after-running-in operation during winter or in polar area.

8.3 Coolant: None

9. Fluid capacities:

9.1 Fuel:

Total:	for category A:	125 litres
	for category N:	225 litres
Usable:	for category A:	122 litres
	for category N:	220 litres

2 x 60 litres in main tanks
2 x 50 litres in auxiliary wing tip tanks
1 x 5 litres in aerobatic tank

9.2 Oil: Minimum 7 litres – Maximum 12 litres

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	
Category A, U		333 km/h IAS
Category N		332 km/h IAS
Normal Operating Speed Limit	v_{NO}	
Category A, U		273 km/h IAS
Category N		272 km/h IAS
Design Manoeuvring Speed Limit	v_A	
Category A		284 km/h IAS
Category U		264 km/h IAS
Category N		235 km/h IAS
Maximum Flaps Extended Speed Limit	v_{FE}	
Category A, U		189 km/h IAS
Category N		188 km/h IAS

11. Maximum Operating Altitude:

Category A	4 750 m
Category U	4 500 m
Category N	4 300 m

12. Approved Operations Capability: The aircraft is approved for VFR Day and Night flights. IFR, not icing conditions.

13. Maximum Masses:

Max. Take-off and Landing weight:

Category A	970 kg
Category U	1 020 kg
Category N	
- Take-off weight	1 090 kg
- Landing weight	1 050 kg

Max. Variable Load:

Category A	240 kg
Category U	290 kg
Category N	360 kg

Empty weight

Category A, U, N	730 kg

14. Centre of Gravity Range:

20 % – 26 % bMAC
M.A.C. is 1 460 mm; 0 % M.A.C. is 300 mm aft reference datum.

15. Datum:

The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.

16. Control surface deflections:

Elevator deflection	up	34° + 0°; - 1°
	down	31° + 1°
Rudder deflection	right and left	30° ± 2°
Ailerons deflection	up	21° ± 1°
	down	17° ± 1°
Wing flaps positions	retracted	0°
	take-off	14° ± 1°
	landing	37° ± 1°

17. Levelling Means:

Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.

18. Minimum Flight Crew:

1 (Pilot)

19. Maximum Passenger Seating Capacity:

2 (including crew)

20. Baggage/Cargo Compartments:

Max. 20 kg

21. Wheels and Tyres:

Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or
Wheels of main gear K 22-3100-7 with tyre Mitas 420 x 150 model 2 or Goodyear 6.00-6.5.

Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre Mitas 350 x 135 or Goodyear 5.00-5

22. Reserved

EIV. Operating and Service Instructions

1. Flight Manual:
   - In English language — Flight Manual of the Z 142 C Aircraft,
     Initial issue October 21, 1991 or later approved revisions

2. Maintenance Manual:
   - In Czech language — Návod pro údržbu pro letoun ZLIN 142 C, část II,
     Initial issue 1.11.1993 or later approved revisions
   - In English language — Maintenance Manual of the Z 142 C Aircraft Vol. I,
     Initial issue 15.7.1991 or later approved revisions

     Maintenance Manual of the Z 142 C Aircraft Vol. II,
     Initial issue November 1, 1993 or later approved revisions

3. Catalogue of spare parts:
   - In Czech, English and German language
     Katalog náhradních dílů Z 142 C
     Catalogue of spare parts Z 142 C
     Katalog der Ersatzteile Z 142 C
     Initial issue 1994 or later approved revisions

4. Table of dimensions, limits and clearances:
   - In Czech, English and German language
     Album rozměrů, tolerancí a vůlí ZLIN 142 C - Z 142 C-AF
     Table of dimensions, limits and clearances ZLIN 142 C - Z 142 C-AF
     Album der Abmessungen, der Toleranz – und spielanlagen ZLIN 142 C - Z 142 C-AF
     Initial issue or later approved revisions

EV. Notes

Note 1: The Z 142 C aircraft have been converted by the aircraft manufacturer to the models: Z 242 L, S/N: 0541

Note 2: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z142C/30a, Z142C/31a and Z142C/32a or later revision of each is required.

Note 3: The EASA type certification standard includes that of CAA CZ TCDS No. 94-06 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 4: The EASA type certification standard includes that of CAA CZ TCDS No. 73-03 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: On the aircraft Z 142 C is permitted operation with BA95/98 automotive gasoline “MOGAS” under the conditions mentioned in Information Service Bulletin Z142C/13b (in latest edition).

SECTION F: Z 242 L

FI. General

1.	a) Type:	Z 42
	b) Model:	Z 242 L
2.	Airworthiness category:	Aerobatic (A) (see Note 1) Utility (U) (see Note 1) Normal (N) (see Note 1)
3.	Manufacturer:	ZLIN AIRCRAFT a.s. Letiště 1887 765 02 Otrokovice CZECH REPUBLIC
4.	EASA Type Application Date:	---
5.	State of Design Authority	CAA Czech Republic
6.	CAA CZ Type Certificate Date:	April 22, 1992
7.	EASA Type Certificate Date:	01-Feb-2005 (reissue, EASA)

The EASA Type Certificate replaces the CAA CZ Type Certificate No. 92-03

FII. EASA Certification Basis

1.	Reference Date for determining the applicable requirements:	February 13, 1989
2.	Airworthiness Requirement:	FAR PART 23, Amdt. 23-36 (including). See Note 5)
3.	EASA Special Conditions:	None
4.	EASA Exemptions:	None
5.	EASA Deviations:	None
6.	EASA Equivalent Safety Findings:	§ 23.177(a)(2), (3), Exception to verbal fulfilment. An equivalent safety is provided.
7.	EASA Environmental Standards:	ICAO Annex 16/I, Chapter 10 FAR PART 36, App. G (Amdt. 36-20)

FIII. Technical Characteristics and Operational Limitations

1.	Type Design Definition:	TPF 01-0088-89 The list of principal structural elements is stated in TPF 01-0088-89, Enclosure No. 10

2. Description: The Z 242 L aircraft is two-seat, low wing, single-engine, cantilever monoplane.

3. Equipment: Master equipment list is stated in document Flight manual of the ZLIN Z 242 L aircraft, Chapter 6.

4. Dimensions:

Span:	9.340 m
Length:	6.940 m
Height:	2.950 m
Wing Area:	13.860 m^2

5. Engine:

5.1 Model: TEXTRON Lycoming AEIO-360-A1B6

5.2 Type Certificate: EASA approved (FAA TC No. 1E10) (see Note 2)

5.3 Limitations:

Max. Continuous power (MT)	
max. Power	149 kW
max. Engine speed	2 700 RPM
max. Consumption	61 l/h
max. Manifold pressure	101 kPa
Cruising (75 % MC)	
max. Power	112 kW
max. Engine speed	2 450 RPM
max. Consumption	46.5 l/h
max. Manifold pressure	82 kPa
Cruising (65 % MC)	
max. Power	97 kW
max. Engine speed	2 350 RPM
max. Consumption	36 l/h
max. Manifold pressure	78 kPa

6. Load factors:

Category A	+6.0 g, -3.5 g
Category U	+5.0 g, -3.0 g
Category N	+3.8 g, -1.5 g

7. Propellers:

7.1.1 Model: MTV-9-B-C/C-188-18a

7.1.2 Type Certificate: EASA approved (LBA TC No. 32.130/65) (see Note 3)

7.1.3 Number of blades: 3

7.1.4 Diameter: 1 880 mm

7.1.5 Sense of Rotation: Clockwise in flight direction

or

7.2.1 Model: HC-C3YR-4BF/FC6890

7.2.2 Type Certificate: EASA approved (FAA TC No. P25EA) (see Note 4)

7.2.3 Number of blades: 3

7.2.4 Diameter: 1 780 mm

7.2.5 Sense of Rotation: Clockwise in flight direction.

8. Fluids:

8.1 Fuel: Aviation gasoline 100L, 100LL or BL 95
(see service instruction of Engine manufacturer)

8.2 Oil: See Airplane Flight manual

8.3 Coolant: None

9. Fluid capacities:

9.1 Fuel:

Total:	Category A:	120 litres
	Category N:	230 litres
Usable:	Category A:	117 litres
	Category N:	225 litres

2 x 60 litres in main tanks
2 x 55 litres in auxiliary wing tip tanks

9.2 Oil: Minimum 4 litres – Maximum 8 litres

9.3 Coolant system capacity: None

10. Air Speeds:

Never Exceed Speed Limit	v_{NE}	319 km/h IAS
Normal Operating Speed Limit	V_{NO}	250 km/h IAS
Design Manoeuvring Speed Limit	v_A	
Category A		265 km/h IAS
Category U		248 km/h IAS
Category N		224 km/h IAS
Maximum Flaps Extended Speed Limit	v_{FE}	184 km/h IAS
Maximum Permissible Snap Manoeuvre Speed Limit		
Category A		175 km/h IAS

11. Maximum Operating Altitude:

Category A	4 800 m
Category U	4 600 m
Category N	4 500 m

12. Approved Operations Capability: VFR Day and Night, IFR, not in icing conditions

13. Maximum Masses:

Maximum Take-off Weight

Category A	970 kg
Category U	1 020 kg
Category N	1 090 kg

Maximum Landing Weight

Category A	970 kg
Category U	1 020 kg
Category N	1 050 kg

Maximum Variable Load

Category A	225 kg / 215 kg
Category U	275 kg / 265 kg
Category N	345 kg / 345 kg

Empty weight

Category A, U, N	745 kg (for MTV).
Category A, U, N	755 kg (for Hartzell

14. Centre of Gravity Range: 19 % ÷ 26 % bMAC
M.A.C. is 1 504 mm; 0 % M.A.C. is 368.4 mm aft reference datum.

15. Datum: The rear part of firewall; from it are measured, for purpose of assignation of Gravity Centre, all lateral dimensions.

16. Control Surface Deflections:

Elevator deflection	up	34° + 0°; - 1°
	down	31° + 1°; - 0°
Rudder deflection	right and left	30° ± 2°
Ailerons deflection	up	21° ± 1°
	down	17° ± 1°
Wing flaps positions	retracted	0°
	take-off	14° ± 1°
	landing	37° ± 1°

17. Levelling Means: Levelling points on left and right side of airplane fuselage to be levelled. Measurement plane to be min. 600 mm below.

18. Minimum Flight Crew: 1 (Pilot)

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

20. Baggage/Cargo Compartments: Max. 20 kg (for category Normal)

21. Wheels and Tyres: Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model 2 or
Wheels of main gear K 22-3100-7 with tyre Mitas 420 x 150 model 2 or Goodyear 6.00-6.5.

Wheel of nose gear K 23-0000-7 with tyre Barum 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre Mitas 350 x 135 or Goodyear 5.00-5

22. Reserved

FIV. Operating and Service Instructions

1. Flight Manual:
   – In Czech language — Letová příručka pro letoun ZLIN Z 242 L
     Doc. No. 003.011.1 — *Initial issue 20.3.2011 or later approved revisions*

   – In English language — Flight Manual of the ZLIN Z 242 L Aircraft
     Doc. No. 003.012.1 — *Initial issue 20.3.2011 or later approved revisions*

2. Maintenance Manual:
   – In Czech language — Návod pro údržbu letounu Z 242 L - část I,
     Doc. No. 003.021.1 — *Initial issue 1.3.1996 or later approved revisions*

     Doc. No. 003.031.1 — Návod pro údržbu letounu Z 242 L - část II,
     Initial issue 1.5.1997 or later approved revisions

   – In English language — Maintenance Manual of the Z 242 L Aircraft - Vol. I
     Doc. No. 003.022.1 — *Initial issue Mar 1, 1996 or later approved revisions*

     Doc. No. 003.032.1 — Maintenance Manual of the Z 242 L Aircraft - Vol. II
     Initial issue May 1, 1998 or later approved revisions

3. Table of dimensions, limits and clearances:
   – In Czech English and German language
     Doc. No. 003.050 — Album rozměrů, tolerancí a vůlí Z 242 L
     Table of dimensions, limits and clearances Z 242 L
     Album der abmessungen, der toleranz-und spielangaben Z 242 L,
     Initial issue 1996 or later approved revisions

4. Illustrated parts catalog:
   – In Czech and English language — Katalog náhradních dílů letounu Z 242 L
     Doc. No. 003.040.5 — Illustrated parts catalog Z 242 L,
     Initial issue July 2019 or later approved revisions

FV. Notes:

Note 1: For operation of the airplane in other than the Normal Category, compliance with the applicable parts of Mandatory Service Bulletins Z242L/49a, Z242L/51a and Z242L/52a or later revision of each is required.

Note 2: The EASA type certification standard includes that of FAA TCDS No. 1E10 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 3: The EASA type certification standard includes that of LBA TCDS No. 32.130/65 based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 4: The EASA type certification standard includes that of FAA TCDS No. P25EA based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

Note 5: For below listed EASA Major Changes, the Certification Basis was amended as follows:

- EASA Major Change Approval No. 10042932 - Issue of a new version of Flight Manual of the Z 242 L - applicable Amdt. 23-41 for: §23.1581, §23.1583, §23.1585, §23.1587, §23.1589),
- EASA Major Change Approval No. 10049740 - Installation of avionics Garmin 500 - applicable Amdt. 23-57 for: §23.1, §23.29, §23.303, §23.305, §23.307, §23.561, §23.575, §23.603, §23.605, §23.607, §23.611, §23.613, §23.771, §23.773, §23.777, §23.867, §23.1301, §23.1303, §23.1309, §23.1311, §23.1321, §23.1322, §23.1323, §23.1325, §23.1327, §23.1331, §23.1351, §23.1353, §23.1357, §23.1359, §23.1365, §23.1367, §23.1381, §23.1431, §23.1501, §23.1525, §23.1529, §23.1541, §23.1543, §23.1545, §23.1581, §23.1583, §23.1585, G23),
- EASA Major Change Approval No. 10068085 – Revision No. 4 of Flight Manual of the Z 242 L aircraft - §23.1323 (Amdt. 23-42), §23.1525, §23.1583 (Amdt. 23-45).

Note 6: Based on Service Letter No. 124, the Z 242 L aircraft “S/N 0840” has an installed engine model TEXTRON Lycoming AEIO-390-A1A6 with maximum certified take-off power 157 kW (210 HP) and approved for reduced power of 2500 R.P.M. operations.

SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

N/A

II. Type Certificate Holder Record

Current:

ZLIN AIRCRAFT a.s.
Letiště 1887
765 02 Otrokovice
CZECH REPUBLIC

Former:
Moravan, n.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA

Moravan, k.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA

Moravan a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC

MORAVAN-AEROPLANES a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC

Moravan Aviation s.r.o.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC

III. Change Record

Issue	Date	Changes
Issue 1	04-Feb-2005	Transfer of ZLIN Z 242 L Type Design to EASA
Issue 2	23-Mar-2007	Transfer of ZLIN Z 42 as basic Type Design under this TC / TCDS Transfer of ZLIN Z 42 M, Z 42 MU, Z 142, and Z 142 C
Issue 3	24-Aug-2009	Change of Company's Name
Issue 4	23-July 2010	Editorial corrections Revision into standard EASA TCDS format

Issue 5	25-Aug-2010	Change to the reference to the TC of the Z-42.6413 propeller which =was issued with TC EASA.P.176 on 19 August 2010.
Issue 6	02-Nov-2010	Corrections to Section F, Z-242 L, serial numbers manufactured by each company and the removal of certain serial numbers of airframes that were used solely for testing purposes.
Issue 7	25-April-2016	Editorial and formal correction Revision of actual accompanying documentation
Issue 8	24-July-2020	Conversion of this TCDS into the EASA template for TCDS Implementation of approved alternative fuel for model Z 42M, Z 42MU, Z 142, Z 142 C Clarification of applicability of certification basis for Major Type Design Change beyond the original certification basis New engine model for Z 242 L S/N 0840
Issue 9	18-Aug-2020	Correction in Section FV, Note 6 – specification of engine operation

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