



European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

EASA.A.027

ZLIN Z 42 Series

Type Certificate Holder:

ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC

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

Issue 6: 2 November 2010

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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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan, n.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0001-0010; 0015-0026; 0028-0047
5. Certification Application Date: ---
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.

AIL. Certification Basis

1. Reference Date for determining the applicable requirements: ---
2. (Reserved)
3. (Reserved)
4. Airworthiness Requirements: FAR PART 23, Amdt 23-6 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None
7. EASA Exemptions: None
8. 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.

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

AIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 42 No. S-Z 42.0000.
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, kap. 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: Z – 42.6411
- 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: Z – 42.6413 (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 CAS	V_{NO}	226 km/h
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. All-weather Operations Capability: The aircraft is approved for VFR Day flights.

13. Maximum Weights:

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

14. Centre of Gravity Range: 21,8 % – 26,5 % MAC
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	$30^\circ \pm 1^\circ$
	down	$27^\circ + 1^\circ$
Rudder deflection	right and left	$30^\circ \pm 2^\circ$
Ailerons deflection	up	$21^\circ \pm 1^\circ$
	down	$17^\circ \pm 1^\circ$
Wing flaps positions	retracted	0°
	take-off	$14^\circ \pm 1^\circ$
	landing	$37^\circ \pm 1^\circ$

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. (Reserved) | |
| 21. Baggage/Cargo Compartments: | Max. 20 kg. |
| 22. Wheels and Tyres: | <p>Wheels of main gear K 22-0100-7 with tyre Barum 420 x 150 model, or
Wheels of main gear K 22-3100-7 with tyre Goodyear 6.00-6.5, P/N 607C41-1.</p> <p>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 Goodyear 5.00-5, P/N 505C61-8.</p> |

AIV. Operating and Service Instructions

1. Flight Manual:
 - In Czech language Letová příručka letounu Z 42, date of issue 1971
2. Technical Manual:
 - In Czech language Technický popis a návod k obsluze letounu ZLIN 42, date of issue 1971
3. Repair Manual:
 - In Czech language Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU, date of issue 1978
4. Catalogue of Spare Parts:
 - In Russian, Czech, German and English language
 Katalog ZLIN 42, date of issue 1971
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, date of issue 1976

 Album der Abmessungen, der Toleranz und Spielangaben Z 42, Z 42 M, Z 43 date of issue 1976

 Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43, date of issue 1976

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.
- 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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan, n.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0048; 0060-0190
5. Certification Application Date: ---
6. 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. Certification Basis

1. Reference Date for determining the applicable requirements: ---
2. (Reserved)
3. (Reserved)
4. Airworthiness Requirements: FAR PART 23, Amdt 23-13 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None
7. EASA Exemptions: None
8. 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.

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

BIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 42 M No. S-M 42.0000.
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: M – 137 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 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 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. All-weather Operations Capability: The aircraft is approved for VFR Day flights.

13. Maximum Weights:

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

14. Centre of Gravity Range:

19 % – 27 % MAC
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	$34^\circ + 0^\circ, -1^\circ$
	down	$27^\circ + 1^\circ$
Rudder deflection	right and left	$30^\circ \pm 2^\circ$
Ailerons deflection	up	$21^\circ \pm 1^\circ$
	down	$17^\circ \pm 1^\circ$
Wing flaps positions	retracted	0°
	take-off	$14^\circ \pm 1^\circ$
	landing	$37^\circ \pm 1^\circ$

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. (Reserved) | |
| 21. Baggage/Cargo Compartments: | Max. 20 kg |
| 22. Wheels and Tires: | <p>Wheels of main gear K 22-0100-7 with tire Barum 420 x 150 model, or
Wheels of main gear K 22-3100-7 with tire Goodyear 6.00-6.5, P/N 607C41-1.</p> <p>Wheel of nose gear K 23-0000-7 with tire Barum 350 x 135, or
Wheel of nose gear K 51-1100-7 with tire Goodyear 5.00-5, P/N 505C61-8.</p> |

BIV. Operating and Service Instructions

1. Flight Manual:
 - In Czech language Letová příručka Z 42 M, date of issue 1977
 - In English language Flight Manual of the ZLIN 42 M Aircraft, date of issue 1978
 - In German language Flughandbuch ZLIN 42 M, date of issue 1978
2. Technical Manual:
 - In Czech language Technický popis a návod k obsluze letounu Z 42 M, date of issue 1977
 - In English language Technical Manual of the ZLIN 42 M Aircraft, date of issue 1973
3. Repair Manual:
 - In Czech language Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU, date of issue 1978
4. Catalogue of Spare Parts:
 - In Russian, Czech, German and English language Katalog náhradních dílů Z 42 M, date of issue 1977
5. Table of Dimensions, Limits and Clearances:
 - In Czech, German and English language
issue Album rozměrů, tolerancí a vůlí Z 42, Z 42 M, Z 43, date of 1976
42, Album der Abmessungen, der Toleranz und Spielangaben Z Z 42 M, Z 43, date of issue 1976
Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43, date of issue 1976
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, date of issue 1997
 - 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, date of issue 1997
7. Instruments and Aggregates:
 - In Czech language Doc. No. PRA.081 Přístroje a agregáty, použité na letounech Z 42 M, Z 42 MU, Z 142 a Z 43, date of issue 1996

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.

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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan, n.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0011-0014; 0027; 0049-0059
5. Certification Application Date: ---
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. (Reserved)
3. (Reserved)
4. Airworthiness Requirements: FAR PART 23, Amdt 23-13 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None
7. EASA Exemptions: None
8. 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.

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

CIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 42 MU, No. S-MU 42.0000.
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:	<table> <tr> <td>Max. Take-off power (5 min.)</td><td></td></tr> <tr> <td>max. Power</td><td>133 kW (180 HP)</td></tr> <tr> <td>max. Engine speed</td><td>2 750 RPM</td></tr> <tr> <td>max. Consumption</td><td>61 l/h</td></tr> <tr> <td>max. Manifold pressure</td><td>100 ± 2 kPa</td></tr> <tr> <td>Max. Continuous power</td><td></td></tr> <tr> <td>max. Power</td><td>118 kW (160 HP)</td></tr> <tr> <td>max. Engine speed</td><td>2 680 RPM</td></tr> <tr> <td>max. Consumption</td><td>52 l/h</td></tr> <tr> <td>max. Manifold pressure</td><td>95 ± 2 kPa</td></tr> <tr> <td>Max. Cruising power</td><td></td></tr> <tr> <td>max. Power</td><td>103 kW (140 HP)</td></tr> <tr> <td>max. Engine speed</td><td>2 580 RPM</td></tr> <tr> <td>max. Consumption</td><td>43 l/h</td></tr> <tr> <td>max. Manifold pressure</td><td>87 kPa</td></tr> </table>	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
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max. Engine speed	2 580 RPM																														
max. Consumption	43 l/h																														
max. Manifold pressure	87 kPa																														
6. Load factors:	<table> <tr> <td>Category U</td><td>+5.0 g, -3.2 g</td></tr> <tr> <td>Category N</td><td>+3.8 g, -1.5 g</td></tr> </table>	Category U	+5.0 g, -3.2 g	Category N	+3.8 g, -1.5 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 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 CAS | | 270 km/h |
| Category N CAS | | 220 km/h |
| 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. All-weather Operations Capability: The aircraft is approved for VFR Day flights.
13. Maximum Weights: Max. Take-off and Landing weight:
Category U 920 kg
Category N 970 kg
Max. Variable Load:
Category U, N 200 kg
14. Centre of Gravity Range: 19 % – 27 % MAC
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 pu *Z 42 MU*
assignment of Gravity Centre, all lateral dimensions.
16. Control surface deflections:
- | | | |
|----------------------|----------------|--------------------------------------|
| Elevator deflection | up | $34^{\circ} + 0^{\circ}; -1^{\circ}$ |
| | down | $27^{\circ} + 1^{\circ}$ |
| Rudder deflection | right and left | $30^{\circ} \pm 2^{\circ}$ |
| Ailerons deflection | up | $21^{\circ} \pm 1^{\circ}$ |
| | down | $17^{\circ} \pm 1^{\circ}$ |
| Wing flaps positions | retracted | 0° |
| | take-off | $14^{\circ} \pm 1^{\circ}$ |
| | landing | $37^{\circ} \pm 1^{\circ}$ |
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. (Reserved)
21. Baggage/Cargo Compartments: Max. 20 kg

CIV. Operating and Service Instructions

1. Flight Manual:
 - In Czech language Letová příručka Z 42 MU, date of issue 1975
 - In English language Flight Manual ZLIN 42 MU, date of issue 1974
 - In German language Flugzeugbetriebshandbuch ZLIN 42 MU, date of issue 1974
2. Technical Manual:
 - In Czech language Technický popis a návod k obsluze letounu Z 42 MU, date of issue 1975
 - In English language Technical Manual ZLIN 42 MU, date of issue 1974
3. Repair Manual:
 - In Czech language Opravárenská příručka letounů Z 42, Z 42 M, Z 42 MU, date of issue 1978
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
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, date of issue 1976

Album der Abmessungen, der Toleranz und Spielangaben Z 42, Z 42 M, Z 43, date of issue 1976

Table of Dimensions, Limits and Clearances Z 42, Z 42 M, Z 43, date of issue 1976
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
 - In English language Manual for operation of Z 42 M, Z 42 MU
Doc. No. 232.071 aircraft without airframe overhaul, Part 1, Part 2, revision A, B, C, date issue 1997
7. Instruments and Aggregates:
 - In Czech language Přístroje a agregáty, použité na letounech Z 42 M,
Doc. No. PRA. 081 Z 42 MU, Z 142 a Z 43, date of issue 1996

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.

Z 42 MU

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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan, n.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0201-0460

Moravan, k.p.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0461-0524

MORAVAN a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0525-0540
5. Certification Application Date: November 22, 1977
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. Certification Basis

1. Reference Date for determining the applicable requirements: ---
2. (Reserved)
3. (Reserved)
4. Airworthiness Requirements: FAR PART 23, Amdt 23-13 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None

7. EASA Exemptions: None
8. 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.
9. EASA Environmental Standards: ICAO Annex 16/I, Chapter 10
FAR PART 36, App. G

DIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 142 No. S-Z 142.0001.
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:	125 litres
		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. All-weather Operations Capability:	The aircraft is approved for VFR Day flights.	
13. Maximum Weights:	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
14. Centre of Gravity Range:	20 % – 26 % MAC 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	$21^{\circ} \pm 1^{\circ}$	<i>Z 142</i>
	down	$17^{\circ} \pm 1^{\circ}$	
Wing flaps positions	retracted	0°	<i>Z 142</i>
	take-off	$14^{\circ} \pm 1^{\circ}$	
	landing	$37^{\circ} \pm 1^{\circ}$	

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. (Reserved)
21. Baggage/Cargo Compartments: Max. 20 kg.
22. Wheels and Tyres: Wheels of main gear K 22-0100-7 with tyre Mitas (Barum) 420 x 150 model 2, or
Wheels of main gear K 22-3100-7 with tyre Goodyear 6.00-6.5, P/N 607C41-1.

Wheel of nose gear K 23-0000-7 with tyre Mitas (Barum) 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre Goodyear 5.00-5, P/N 505C61-8.

DIV. Operating and Service Instructions

1. Flight Manual:
 - In Czech language Letová příručka Z 142, date of issue 1982
 - In English language Flight Manual of the ZLIN 142 Aircraft, date of issue 1989
 - In German language Flughandbuch ZLIN 142, date of issue 1982
2. Technical Manual:
 - In Czech language Technický popis pro letoun ZLIN 142, date of issue 1988
 - In English language Technical Manual Z 142, date of issue 1990
3. Repair Manual:
 - In Czech language Opravárenská příručka letounu ZLIN 142, date of issue 1988
4. Catalogue of Spare Parts:
 - In Russian, Czech, German and English language, date of issue 1988
Katalog náhradních dílů Z 142
Katalog der Ersatzteile Z 142
Catalogue of Spare Parts Z 142
5. Spare Parts Catalogue – Supplement
 - In Russian, Czech, German and English language
Dodatek ke Katalogu náhradních dílů letoun Z 142
Spare Parts Catalogue – Supplement Z 142
6. Table of Dimensions, Limits and Clearances:
 - In Russian, Czech, German and English language, date of issue 1982
Album rozměrů, tolerancí a vůlí Z 142
Album der Abmessungen, der Toleranz und Spielangabe Z 142
Table of Dimensions, Limits and Clearance Z 142
7. 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
date of issue 1996
 - 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
date of issue 1996
8. Instruments and Aggregates:
 - In Czech language
Doc. No. PRA. 081
Přístroje a agregáty, použité na letounech Z 42 M, Z 42 MU, Z 142 a Z 43, date of issue 1996

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.

Z 142

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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
S/N: 0541-0568

MORAVAN – AEROPLANES, a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0569-0572
5. Application Date: ---
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. Certification Basis

1. Reference Date for determining the applicable requirements: ---
2. (Reserved)
3. (Reserved)
4. Airworthiness Requirements: FAR PART 23, Amdt 23-20 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None
7. EASA Exemptions: None

8. 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 occurred 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.
9. EASA Environmental Standards: ICAO Annex 16/I, Chapter 10
FAR PART 36, App. G

EIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 142 C No. S-C142.0000.
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 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 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. All-weather Operations Capability:	The aircraft is approved for VFR Day and Night flights. IFR, not icing conditions.		
13. Maximum Weights:	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, U, N	200 kg	
14. Centre of Gravity Range:	20 % – 26 % MAC 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	$34^\circ + 0^\circ$; $- 1^\circ$ $31^\circ + 1^\circ$
	Rudder deflection	right and left	$30^\circ \pm 2^\circ$
	Ailerons deflection	up down	$21^\circ \pm 1^\circ$ $17^\circ \pm 1^\circ$
	Wing flaps positions	retracted take-off landing	0° $14^\circ \pm 1^\circ$ $37^\circ \pm 1^\circ$
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. (Reserved)			

21. Baggage/Cargo Compartments: Max. 20 kg
22. Wheels and Tyres:
- Wheels of main gear K 22-0100-7 with tyre
Mitas (Barum) 420 x 150 model 2, or
Wheels of main gear K 22-3100-7 with tyre
Goodyear 6.00-6.5, P/N 607C41-1.
- Wheel of nose gear K 23-0000-7 with tyre
Mitas (Barum) 350 x 135, or
Wheel of nose gear K 51-1100-7 with tyre
Goodyear 5.00-5, P/N 505C61-8

EIV. Operating and Service Instructions

1. Flight Manual:
 - In English language Flight Manual of the Z 142 C Aircraft, date of issue 1991
2. Maintenance Manual:
 - In Czech language Návod pro údržbu pro letoun ZLIN 142 C, část II,
date of issue 1993
 - In English language Maintenance Manual of the Z 142 C Aircraft Vol. I,
date of issue 1991
Maintenance Manual of the Z 142 C Aircraft Vol. II,
date of issue 1993
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
4. Table of dimensions, limits and clearances:
 - In Czech, English and German language
Album rozměrů, tolerancí a vůlí
Table of dimensions, limits and clearances
Album der Abmessungen, der Toleranz – und spielanlagen
ZLIN 142 C – Z 142 C-AF
date of issue 1994

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.

Z 142 C

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. Type Certificate Holder: ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA
4. Manufacturer: Moravan a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0573-0689, 0691-0730

MORAVAN - AEROPLANES a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0731-0767, 0769-0781

Moravan Aviation s.r.o.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0782-0789

ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECH REPUBLIC
S/N: 0768, 790 and up
5. Certification Application Date: February 13, 1989
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. Certification Basis

1. Reference Date for determining the applicable requirements: February 13, 1989
2. (Reserved)

3. (Reserved)
4. Airworthiness Requirement: FAR PART 23, Amdt. 23-36 (including)
5. Requirements elected to comply: None
6. EASA Special Conditions: None
7. EASA Exemptions: None
8. EASA Equivalent Safety Findings: § 23.177(a)(2), (3), Exception to verbal fulfilment.
An equivalent safety is provided.
9. EASA Environmental Standards: ICAO Annex 16/I, Chapter 10
FAR PART 36, App. G (Amdt. 36-20)

Z 242 L

FIII. Technical Characteristics and Operational Limitations

1. Type Design Definition: The specification list of Aircraft Z 242 L No. S-L242.0000;
the specification drawing No. L 242.0000
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 No. 003.012.
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
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Z 242 L

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
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9.3 Coolant system capacity:	None
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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. All-weather Operations Capability:	VFR Day and Night, IFR, not in icing conditions		
13. Maximum Weights:	Maximum Take-off Weight		
	Category A		970 kg
	Category U		1 020 kg
	Category N		1 090 kg
			<i>Z 242 L</i>
	Maximum Landing Weight		
	Category A		970 kg
	Category U		1 020 kg
	Category N		1 050 kg
	Maximum Variable Load		
	Category A		240 kg
	Category U		290 kg
	Category N		360 kg
14. Centre of Gravity Range:	19 % ÷ 26 % MAC 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 down	$34^{\circ} + 0^{\circ}; - 1^{\circ}$ $31^{\circ} + 1^{\circ}; - 0^{\circ}$
	Rudder deflection	right and left	$30^{\circ} \pm 2^{\circ}$
	Ailerons deflection	up down	$21^{\circ} \pm 1^{\circ}$ $17^{\circ} \pm 1^{\circ}$
	Wing flaps positions	retracted take-off landing	0° $14^{\circ} \pm 1^{\circ}$ $37^{\circ} \pm 1^{\circ}$
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. (Reserved)			
21. Baggage/Cargo Compartments:	Max. 20 kg (for category Normal)		

22. 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 with tyre
Goodyear 6.00-6.5, P/N 607C41-1.

Wheel of nose gear K 23-0000-7 with tyre
Barum 350 x 135 model 2, or
Wheel of nose gear K 51-1100-7 with tyre
Mitas 350 x 135 or with tyre
Goodyear 5.00-5, P/N 505C61-8

Z 242 L

FIV. Operating and Service Instructions

1. Flight Manual:
 - In Czech language
Letová příručka pro letoun ZLIN Z 242 L
date of issue 1992
 - In English language
Flight Manual of the ZLIN Z 242 L Aircraft
date of issue 1992
 - Doc. No. 003.012
For S/N up to 0689 including
Flight Manual of the ZLIN Z 242 L Aircraft
date of issue 1994
 - Doc. No. 003.012
For S/N 0691 and above
Flight Manual of the ZLIN Z 242 L Aircraft
date of issue 1994
2. Maintenance Manual:
 - In Czech language
Doc. No. 003.021.1
Návod pro údržbu letounu Z 242 L – část I,
Revidované vydání, date of issue 1996
 - Doc. No. 003.031.1
Návod pro údržbu letounu Z 242 L – část II,
Revidované vydání, date of issue 1997
 - In English language
Doc. No. 003.022.1
Maintenance Manual of the Z 242 L Aircraft
– Vol. I, Reissue, date of issue 1996
 - Doc. No. 003.032.1
Maintenance Manual of the Z 242 L Aircraft
– Vol. II, Reissue, date of issue 1998
3. Table of dimensions, limits and clearances:
 - In Czech English and German language
Doc. No. 003.050
Album rozměrů, tolerancí a vůlí
Table of dimensions, limits and clearances
Album der abmessungen, der toleranz-und
spielangaben Z 242 L, date of issue 1996
4. Illustrated parts catalog:
 - In Czech and English language
Doc. No. 003.040.2
Katalog náhradních dílů letounu Z 242 L
Illustrated parts catalog Z 242 L, date of
issue 1999

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.

Z 242 L

ADMINISTRATIVE SECTION

I Acronyms
 N/A

II Type Certificate Holder Record:

ZLIN AIRCRAFT a.s.
Letiště 1578
765 81 Otrokovice
CZECHOSLOVAKIA

Former:

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

Moravan, k.p.
Letiště 1578
765 81 Otrokovice

MORAVAN a.s.
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 August 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	2 November 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.