CIVIL AVIATION AUTHORITY
OF THE CZECH REPUBLIC

74-01
Revision 5
MORAVAN-AEROPLANES a.s.
Model Z 726
Model Z 726 K
11.04.2007

TYPE CERTIFICATE DATA SHEET No. 74-01

This data sheet, which is a part of Type Certificate No. 74 – 01 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Czech Republic.

Model	Application Date	Certification Date
Z 726	-	10.06.1974
Z 726 K	-	17.06.1974

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Model Z 726

I. General

1.	Data Sheet No.:	74-01
2.	Model:	Z 726
3.	Airworthiness category:	Normal (N) Acrobatic (A)
4.	Type Certificate Holder:	MORAVAN – AEROPLANES, a.s. Letiště 1578, 765 81 Otrokovice.
5.	Manufacturer:	Moravan, n.p. Letiště 1578, 765 81 Otrokovice.
6.	Application Date:	-
7.	Certificate Date:	10.06.1974

II. Certification Basis

1.	Certification Basis:	FAR PART 23, Amdt. 23-13 including	
2.	Special Conditions:	None.	
3.	Exemptions:	§ 23.177(a)(2), (3)	Static directional and lateral stability
		§ 23.613(c), § 23.615	Material strength properties and design values, Design properties
		§ 23.955(c)	Fuel flow
		§ 23.991(b)	Fuel pumps
		§ 23.993(d), § 23.1183(a)	Fuel system lines and fittings and components
		§ 23.1013(e), § 23.1019	Oil tanks, Oil strainer or filter
		§ 23.1145(c)	Ignition switches
		§ 23.1381 – § 23.1401	Instrument lights, Anticollision light system
		§ 23.1545(a), (b)	Airspeed indicator

4. Equivalent Safety Findings:

§ 23.177(a)(2), (3) – Some requirements for directional and lateral stability and aileron control stick force curve in straight, steady slips are not fully met. It is admitted with regard to very good aircraft controllability and to the fact that dangerous tendencies do not occur and abnormal pilot's skills or effort are not needed.

§ 23.613(c), § 23.615 – Materials and design values used for aircraft design and construction comply with the Czechoslovak State Standard and specifications valid for the Czechoslovak aviation industry. It is admitted with regard to the fact that the requirement sense is met.

§ 23.955(c) – Requirement for flow rate of fuel supplied by fuel pump to the engine is not met. It is admitted with regard to the fact that fuel flow is higher than engine consumption at maximum power.

§ 23.991(b) – The aircraft is not equipped with emergency pump for fuel supply recovery in case of main fuel pump failure. It is admitted with regard to these reasons:

- The engine is equipped with high-pressure pump, which is joined with low-pressure pump to a single aggregate. A failure of this aggregate could cause contemporaneous break of fuel supply by both supply and injection pumps. In such case, no emergency pump could ensure sufficient fuel supply to finish the flight without abnormal pilot's skills or effort. A failure of low-pressure pump has not been occurred yet and its occurrence is extremely improbable.

§ 23.993(d), § 23.1183(a) – Requirement for hoses fire resistance is not met. It is admitted with regard to experiences from operation of the aircraft of former type.

§ 23.1013(e), § 23.1019 – Oil tank outlet is provided with the screen, which does not restrict oil flow. A surface of the screen is multiple bigger than cross section of the outlet fitting, thus safety level is kept.

§ 23.1145(c) – Requirement for protection of magnetos changeover switch against dangerous change over is not met. It is admitted with regard to the shape and location of the changeover switch.

§ 23.1381 to 23.1401 – The aircraft is not equipped with lighting for night operation.

§ 23.1545(a), (b) – Requirement for a scale for CAS speed is not met. Airspeed indicator scale and its colour markings are done in IAS.

5. Environmental Standards:

None.

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	The specification list of Z 726 Aircraft, No. S-Z 726.000.	
2. Description:	The Z 726 aircraft is two-seat, low wing, single-engine, cantilever monoplane.	
3. Equipment:	Master equipment list is stated in "Flight Manual Z 726", section 6.	
4. Dimensions:	Span:	9.875 m
	Length:	7.975 m
	Height:	2.060 m
	Wing Area:	14.890 m^2
5. Engine:		
5.1. Model:	M 137 AZ	
5.2. Type Certificate:	69-01, issued by SLI	
5.3. Limitations:	Take-off power	
	Max. Power	132 kW (180 HP)
	Max. Engine speed	2 750 1/min
	Max. Consuption	61 l/hod
	Max. Manifold pressure	100 kPa
	Continuous power	
	Max. Power	118 Kw (160 HP)
	Max. Engine speed	2 680 1/min
	Max. Consuption	52 l/hod
	Max. Manifold pressure	95 kPa
	Cruising power	
	Max. Power	103 Kw (140 HP)
	Max. Engine speed	2 580 1/min
	Max. Consuption	43 l/hod
	Max. Manifold pressure	88 kPa
6. Propeller:		
6.1. Model:	V 503 A	
6.2. Type Certificate:	69-02, issued by SLI	
6.3. Number of blades:	2	
6.4. Diameter:	2 000 mm	
6.5. Sense of Rotation:	Left, in flight direction.	

7. Fuel:	Not-ethylated aviation gasoline, with minimum 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.	
	BL 78	
	BP 100L	
	AVGAS 80	
	AVGAS 100 LL (DEFENCE STANDARD 91/90, ASTM D910)	
8. Oil:	For engine operation are recommended mineral oils with minimal kinematic viscosity of 20 $mm^2 s^{-1}$ at 100°C, which percentual carbon residue does not exceed the value of 0.29 %.	
	MS 20 – Running in	
	AEROSHELL Oil 100 – Running in	
	Aeroshell W100	
	Aeroshell W120 (in tropical climates)	
	ELF Aviation AD 100	
	BP Aero D 100	
	TOTAL Aero D 100	
9. Air Speeds:	Never exceed speed limit V_{NE} category A, N	 300 km/h IAS
	Normal operating speed limit V_{NO} category A category N	 232 km/h IAS 220 km/h IAS
	Design manoeuvring speed limit V_A category A category N	 235 km/h IAS 194 km/h IAS
	Maximum flaps extended speed limit V_{FE} category A, N	 152 km/h IAS
	Maximum open landing gear speed V_{LE} category A, N	 300 km/h IAS
	Maximum landing gear operating speed V_{LO} category A, N	 140 km/h IAS
	Maximum permissible Snap Maneuver Speed	160 km/h IAS
10. Load factors:	For category Acrobatic (A) For category Normal (N)	+6.0 g, -3.0 g +3.8 g, -1.5 g
11. Maximum Operating Altitude:	4 500 m	

12. Weights:	Max. Take-off weight:			
	- For category Acrobatic (A)		940 kg	
	- For category Normal (N)		1 000 kg	
	Max. Landing weight:			
	- For category Acrobatic (A)		940 kg	
	- For category Normal (N)		950 kg	
	Max. Variable Load:			
	- For category Acrobatic (A)		250 kg	
	- For category Normal (N)		300 kg	
	Standard empty weight:			
	- For category Acrobatic (A)		690 kg ± 3 %	
	- For category Normal (N)		700 kg ± 3 %	
13. Centre of Gravity Range:	17.5 % – 28.5 % MAC			
14. Datum:	The back part of fire wall; from it are measured, for purpose assignation of Gravity Centre, all horizontal length.			
15. Mean Aerodynamic Cord (MAC):	1 568 mm			
16. Leveling Means:	There is 850 mm below basic plane, see point 2, 3, 4 on the fuselage.			
17. Minimum Flight Crew:	1			
18. Number of seats:	2, (includes crew)			
19. Baggage/Cargo Compartments:	None.			
20. Control surface deflections:	Elevator deflection	up	28°	± 1°
		down	24°	± 1°
	Elevator trim tab	up	25°	± 2°
		down	40°	± 2°
	Rudder deflection	right and left	28°	± 2°
	Rudder trim tab	left	5°	± 2°
		right	30°	± 2°
	Ailerons deflection	up	108 mm (+ 5; - 3) mm	
		down	98 mm (+ 5; - 3) mm	
	Wing flaps positions			
		retracted	0°	
		take-off	15°	± 2°
		landing	40°	+ 5°, - 3°
21. Wheels and Tyres:	Wheels of main gear landing K 12-0100.00 with tyre Mitas (Barum) 420 x 150 model 2			
	Tail wheel K 13-0000.00 with tyre Mitas (Barum) 260 x 85			
22. Other Limitations:	The aircraft is approved for VFR Day flights.			

IV. Operating and Service Instructions

1. Flight manual:
   - In Czech language
     Letová příručka Z 726, date of issue August 1974
   - In English language
     Flight Manual Z 726 ZLIN UNIVERSAL, date of issue April 1977
2. Maintenance Manual:
   - In Czech language
     Doc. No.: Do – Z 726 – 2011 — Technický popis a návod k obsluze Z 726 date of issue August 1974
   - In English language
     Doc. No.: Do – Z 726 – 2011 — Technical Manual Z 726 ZLIN UNIVERSAL, date of issue August 1974
3. Overhaul Mnual:
   - In Czech language
     Opravárenská příručka Z 726 ZLIN UNIVERSAL, issued 1978
4. Ilustrated parts catalogue:
   - In Russian, Czech, German and English language, issued 1975
     Katalog Z 726 ZLIN UNIVERSAL

V. Notes

1. EASA TC No. EASA.A.353 was issued for model Z 726 aircraft on 28.3.2007.

Model Z 726 K

I. General

1.	Data Sheet No.:	74-01
2.	Model:	Z 726 K
3.	Airworthiness category:	Normal (N) Utility (U)
4.	Type Certificate Holder:	MORAVAN – AEROPLANES, a.s. Letiště 1578, 765 81 Otrokovice.
5.	Manufacturer:	Moravan, n.p. Letiště 1578, 765 81 Otrokovice.
6.	Application Date:	-
7.	Certificate Date:	17.06.1974

II. Certification Basis

1.	Certification Basis:	FAR PART 23, Amdt. 23-13 including	
2.	Special Conditions:	None.	
3.	Exemptions:	§ 23.177(a)(2), (3)	Static directional and lateral stability
		§ 23.613(c), § 23.615	Material strength properties and design values, Design properties
		§ 23.955(c)	Fuel flow
		§ 23.991(b)	Fuel pumps
		§ 23.993(d), § 23.1183(a)	Fuel system lines and fittings and components
		§ 23.1013(e), § 23.1019	Oil tanks, Oil strainer or filter
		§ 23.1145(c)	Ignition switches
		§ 23.1381 – § 23.1401	Instrument lights, Anticollision light system
		§ 23.1545(a), (b)	Airspeed indicator

4. Equivalent Safety Findings:

§ 23.177(a)(2), (3) – Some requirements for directional and lateral stability and aileron control stick force curve in straight, steady slips are not fully met. It is admitted with regard to very good aircraft controllability and to the fact that dangerous tendencies do not occur and abnormal pilot's skills or effort are not needed.

§ 23.613(c), § 23.615 – Materials and design values used for aircraft design and construction comply with the Czechoslovak State Standard and specifications valid for the Czechoslovak aviation industry. It is admitted with regard to the fact that the requirement sense is met.

§ 23.955(c) – Requirement for flow rate of fuel supplied by fuel pump to the engine is not met. It is admitted with regard to the fact that fuel flow is higher than engine consumption at maximum power.

§ 23.991(b) – The aircraft is not equipped with emergency pump for fuel supply recovery in case of main fuel pump failure. It is admitted with regard to these reasons:

The engine is equipped with high-pressure pump, which is joined with low-pressure pump to a single aggregate. A failure of this aggregate could cause contemporaneous break of fuel supply by both supply and injection pumps. In such case, no emergency pump could ensure sufficient fuel supply to finish the flight without abnormal pilot's skills or effort. A failure of low-pressure pump has not been occurred yet and its occurrence is extremely improbable.

§ 23.993(d), § 23.1183(a) – Requirement for hoses fire resistance is not met. It is admitted with regard to experiences from operation of the aircraft of former type.

§ 23.1013(e), § 23.1019 – Oil tank outlet is provided with the screen, which does not restrict oil flow. A surface of the screen is multiple bigger than cross section of the outlet fitting, thus safety level is kept.

§ 23.1145(c) – Requirement for protection of magnetos changeover switch against dangerous change over is not met. It is admitted with regard to the shape and location of the changeover switch.

§ 23.1381 to 23.1401 – The aircraft is not equipped with lighting for night operation.

§ 23.1545(a), (b) – Requirement for a scale for CAS speed is not met. Airspeed indicator scale and its colour markings are done in IAS.

5. Environmental Standards:

None.

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	The specification list of Z 726 Aircraft, No. S-K 726.000	
2. Description:	The Z 726 K aircraft is two-seat, low wing, single-engine, cantilever monoplane.	
3. Equipment:	Master equipment list is stated in “Flight Manual Z 726 K”, section 6.	
4. Dimensions:	Span:	9.875 m
	Length:	7.975 m
	Height:	2.060 m
	Wing Area:	14.890 m^2
5. Engine:		
5.1. Model:	M 337 AK	
5.2. Type Certificate:	72-08, issued by SLI	
5.3. Limitations:	Take-off power	
	Max. Power	154 kW (210 HP)
	Max. Engine speed	2 750 1/min
	Max. Consuption	56 l/hod
	Max. Manifold pressure	118 kPa
	Continuous power	
	Max. Power	125 Kw (107 HP)
	Max. Engine speed	2 600 1/min
	Max. Consuption	52 l/hod
	Max. Manifold pressure	98 kPa
	Cruising power	
	Max. Power	103 Kw (140 HP)
	Max. Engine speed	2 400 1/min
	Max. Consuption	42 l/hod
	Max. Manifold pressure	90 kPa
6. Propeller:		
6.1. Model:	V 503 A	
6.2. Type Certificate:	73-03, issued by SLI	
6.3. Number of blades:	2	
6.4. Diameter:	2 000 mm	
6.5. Sense of Rotation:	Left, in flight direction.	

7.	Fuel:	Not-ethylated aviation gasoline, with minimum 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.	
		BL 78	
		BP 100L	
		AVGAS 80	
		AVGAS 100 LL (DEFENCE STANDARD 91/90, ASTM D910)	
8.	Oil:	For engine operation are recommended mineral oils with minimal kinematic viscosity of 20 $mm^2 s^{-1}$ at 100°C, which percentual carbon residue does not exceed the value of 0.29 %.	
		MS 20 – Running in	
		AEROSHELL Oil 100 – Running in	
		Aeroshell W100	
		Aeroshell W120 (in tropical climates)	
		ELF Aviation AD 100	
		BP Aero D 100	
		TOTAL Aero D 100	
9.	Air Speeds:	Never exceed speed limit V_{NE} category U, N	300 km/h IAS
		Normal operating speed limit V_{NO} category U, N	220 km/h IAS
		Design manoeuvring speed limit V_A category U category N	203 km/h IAS 194 km/h IAS
		Maximum flaps extended speed limit V_{FE} category U, N	152 km/h IAS
		Maximum open landing gear speed V_{LE} category U, N	300 km/h IAS
		Maximum landing gear operating speed V_{LO} category U, N	140 km/h IAS
10.	Load factors:	For category Utility (U) For category Normal (N)	+4.4 g, -2.2 g +3.8 g, -1.5 g
11.	Maximum Operating Altitude:	4 500 m	

12. Weights:	Max. Take-off weight:			
	- For category Utility (U)		940 kg	
	- For category Normal (N)		1 000 kg	
	Max. Landing weight:			
	- For category Utility (U)		940 kg	
	- For category Normal (N)		950 kg	
	Max. Variable Load:			
	- For category Utility (U)		250 kg ± 3 %	
	- For category Normal (N)		300 kg ± 3 %	
	Standard empty weight:			
	- For category Utility (U)		690 kg ± 3 %	
	- For category Normal (N)		700 kg ± 3 %	
13. Centre of Gravity Range:	17.5 % – 28.5 % MAC			
14. Datum:	The back part of fire wall; from it are measured, for purpose assignation of Gravity Centre, all horizontal length.			
15. Mean Aerodynamic Cord (MAC):	1 568 mm			
16. Leveling Means:	There is 850 mm below basic plane, see point 2, 3, 4 on the fuselage.			
17. Minimum Flight Crew:	1			
18. Number of seats:	2, (includes crew)			
19. Baggage/Cargo Compartments:	None.			
20. Control surface deflections:	Elevator deflection	up	28°	± 1°
		down	24°	± 1°
	Elevator trim tab	up	25°	± 2°
		down	40°	± 2°
	Rudder deflection	right and left	28°	± 2°
	Rudder trim tab	left	5°	± 2°
		right	30°	± 2°
	Ailerons deflection	up	108 mm (+ 5; - 3) mm	
		down	98 mm (+ 5; - 3) mm	
	Wing flaps positions			
		retracted	0°	
		take-off	15°	± 2°
		landing	40°	+ 5°, - 3°
21. Wheels and Tyres:	Wheels of main gear landing K 12-0100.00 with tyre Mitas (Barum) 420 x 150 model 2			
	Tail wheel K 13-0000.00 with tyre Mitas (Barum) 260 x 85			
22. Other Limitations:	The aircraft is approved for VFR Day flights.			

IV. Operating and Service Instructions

1. Flight manual:
   - In Czech language
     Letová příručka Z 726 K, Issue Ref. No. 2264/704/74
2. Maintenance Manual:
   - In Czech language
     Technický popis Z 726 K, date of issue July 1983

V. Notes

1. EASA TC No. EASA.A.353 was issued for model Z 726 K aircraft on 28.3.2007.