

**CIVIL AVIATION AUTHORITY  
CZECH REPUBLIC**

92-04 Change 3 AEROTECHNIK CZ, s.r.o. L 13 SEH VIVAT L 13 SDM VIVAT 1999-01-12
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**TYPE CERTIFICATE DATA SHEET NO. 92-04**

This Data Sheet which is a part of the Type Certificate No. 82-01, specifies the conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of Czech Republic.

**I. GENERAL**

1. Type Certificate Holder: AEROTECHNIK CZ, s.r.o.  
686 04 KUNOVICE  
CZECH REPUBLIC
2. Type Designation: L 13 SEH VIVAT  
L 13 SDM VIVAT
3. Category: „U“ (Utility)

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**Type: L 13 SEH VIVAT**

I. CERTIFICATION BASIS

1. Airworthiness Requirements:
  - 1.1 Basic Airworthiness Requirements  
Joint Airworthiness Requirements JAR-22, Sailplanes and Powered Sailplanes, including Change 4 issued 7.5.1987
  - 1.2 Additional Requirements  
LBA Preliminary direction for the Certification of motorgliders electric equipment 334-MS90  
ICAO Annex 16 and LSL Noise Regulations, valid from 1.1.89 including Change II-69/90

II. TECHNICAL DESCRIPTION

1. Type Definition Documents

List of Drawings for powered sailplane L 13 SEH VIVAT, condition to 30.6.1992

- The List of Drawings for powered sailplane L 13 SEH VIVAT S/N 930504, 930505, 930512 and higher, condition to 30.6.1992 is substituted by a new List of Drawings, condition to 31.7.1993.

2. Technical Description

All-metal powered sailplane with two seats of side-by-side arrangement. Single wheel retractable main landing gear, tail wheel and retractable outriggers. Wing with airbrakes on upper and lower surface.

The sailplanes of the S/N 930507, 930503 and lower are equipped with the wing flaps.

The sailplanes of the S/N 930513 and 980621 are equipped with the original L 13 SW wings instead of the L 23 SW ones; the maximum Takeoff weight of these sailplanes is limited at 705 kg.

3. Engine

Type Designation:	MIKRON III AE	
Type Certificate:	No. 92-05, issued 24.7.1992, CAA ČSFR (Czech and Slovak Federal Republic)	
Performance Data	Takeoff Power	48 kW (65 hp)
	Max. Cont. power	48 kW (65 hp)
	Cruise Power	35 kW (48 hp)
	Max. Permitted RPM	2860 rpm max. 3sec.
	Max. Continuous RPM	2600 rpm
	Idle RPM	500 rpm
	Cylinder Head Temperature	max. 260 °C (5 min) min. 40 °C
Fuel	Unleaded aviation gas	min. 72 okt. MM
	Unleaded automotive gas	min. 72 okt. MM

Oil Motor-car engine oil API performance rating SF minimum  
(viscosity accord. to the Engine Oper. and Maint. Manual)  
Oil pressure 500 kPa max. 150 kPa min.  
Oil Temperature 120 °C max. 40 °C min.

or

Type Designation MIKRON III B

Type Certificate: No. 92-05, issued 24.7.1992, CAA ČSFR  
+ Supplement No. 1, issued 5.5.1996, CAA Czech Republic

Performance Data  
Takeoff Power 55 kW (75 hp) max. 5 min.  
Max. Cont. Power 51 kW (69 hp)  
Cruise Power 37 kW (50 hp)  
Max. Permitted RPM 2860 rpm max. 3 sec.  
Max. Takeoff RPM 2760 rpm (max. 5 min.)  
Max. Cont. RPM 2600 rpm  
Idle RPM 700 rpm  
Cylinder Head Temperature max. 250 °C (5 min) min. 70 °C

Fuel Unleaded aviation gas min. 78 oct. MM  
Unleaded automotive gas min. 78 oct. MM

Oil Motor-car engine oil API performance rating SF minimum  
(viscosity accord. to the Engine Oper. and Maint. Manual)  
Oil pressure 500 kPa max. 150 kPa min.  
Oil Temperature 120 °C max. 40 °C min.

4. Propeller Ho-V 62R

Type Certificate No.32.130/13, issued 20. 9. 1972 by LBA  
Type Certificate Acceptance No., issued 3.9.1992 by  
CAA ČSFR

Number of blades 2

Diameter 1600 mm

Sense of Rotation anticlockwise at rear view

5. Speed limitations  
Never exceed speed  $V_{NE}$  205 km/h  
Rough air speed  $V_{RA}$  160 km/h  
Maneuvering speed  $V_A$  160 km/h  
Max. landing gear operating speed  $V_{LO}$  140 km/h  
Max. flap extended speed  $V_{FE}$  105 km/h  
(Valid for sailplanes with the wing flaps)

6. Weight limitations  
Max. Takeoff weights 720 kg  
Empty weight 500 kg  $\pm$  3 %  
Max. baggage weight 20 kg

The sailplanes of the S/N 930513 and 980621 are equipped with the original L 13 SW wings instead of the L 23 SW ones; the maximum Takeoff weight of these sailplanes is limited at 705 kg.

7. C.G. Position	Operating Range	24 ÷ 38.5 % MAC 1216 ÷ 1401 mm from a reference
	Empty Sailplane Range	33 ± 2.5 %MAC 1331 ± 32 mm from a reference
	The reference is defined by the supporting points under the firewall. The sailplane is positioned horizontally according to the leveling points 3 and 4 (specified by the Leveling Record).	
8. Load Factors	Maximum positive operating load factor at C.G.	+5.3
	Maximum negative operating load factor at C.G.	-2.65
9. Control Surface Deflections	specified in the Technical Description, Operating and Maintenance Manual	
10. Other Limitations	The powered sailplane is approved for VFR flights	
	Number of seats..2	Minimum crew...1
11. Minimum equipment	1 Airspeed indicator (up to 300 km/h) 1 Altimeter 1 Vertical speed indicator 1 Magnetic compass 1 Tachometer with a Engine hours 1 Fuel gauge 1 Oil thermometer 1 Oil pressure gauge 1 Cylinder head thermometer 1 V-A meter 1 Nitrogen pressure gauge in the center-section flange 2 Safety harness	

### III. Accompanying Documentation

#### 1. L 13 SEH Powered sailplane

##### Flight Manual

- Document No. 730931, Date of Issue 3/93, 2<sup>nd</sup> Edition  
valid for S/N 930504, 930505, 930512 and higher.
- Without Doc. No., Date of Issue 4/92  
valid for S/N 930507, 930503 and lower with wing flaps.
- Document No. 731931, Date of Issue 8/96 or a later issue  
valid for sailplanes with MIKRON III B engine installed.
- Supplement 1, Date of Issue 10/98  
valid for S/N 930513 and 980621 equipped with the original L 13 SW wings instead of the L 23 SW ones.

##### Technical Description, Operating and Maintenance Manual

- Document No. 730941, Date of Issue 8/93  
valid for S/N 930504, 930505, 930512 and higher.
- Document No. 730911, Date of Issue 2/92  
valid for S/N 930507, 930503 and lower with the wing flaps.
- Document No. 730941-D1, Date of Issue 5/96 or later issue  
valid for sailplanes with MIKRON III B engine installed.

- Supplement 1, Date of Issue 10/98  
valid for S/N 930513 and 980621 equipped with the original L 13 SW wings instead of  
the L 23 SW ones.

## 2. Engine

### Operating and Maintenance Manual

- Document No. 610901, Date of Issue 5/92  
valid for MIKRON III A engine and its versions.
- Document No. 620901, Date of Issue 2/96  
valid for MIKRON III B engine.

## 3. Propeller

Owner's Manual NR. E 0107.72 variable pitch propellers HO-V 62, HO-V 62R, 4<sup>th</sup> Edition,  
August 1982

**Type: L 13 SDM VIVAT**

I. CERTIFICATION BASIS

1. Airworthiness Requirements:
  - 1.1 Basic Airworthiness Requirements  
Joint Airworthiness Requirements JAR-22, Sailplanes and Powered Sailplanes,  
including Change 4 issued 7.5.1987, including Amendment 22/92/1
  - 1.2 LBA Preliminary direction for the Certification of motorgliders electric equipment  
334-MS90  
ICAO Annex 16 and LSL Noise Regulations, valid from 1.1.89  
including Change II-69/90

II. TECHNICAL DESCRIPTION

1. Type Definition Documents

List of Drawings for powered sailplane L 13 SDM VIVAT, condition to 1.5.1994

2. Technical Description

All-metal powered sailplane with two seats of side-by-side arrangement. Fixed two-wheel landing gear with tail wheel. Wing with airbrakes on upper and lower surface.

3. Engine

Type Designation:	MIKRON III AE		
Type Certificate:	No. 92-05, issued 24.7.1992, CAA ČSFR (Czech and Slovak Federal Republic)		
Performance Data	Takeoff Power	48 kW (65 hp)	
	Max. Cont. power	48 kW (65 hp)	
	Cruise Power	35 kW (48 hp)	
	Max. Permitted RPM	2860 rpm max.	3sec.
	Max. Continuous RPM	2600 rpm	
	Idle RPM	500 rpm	
	Cylinder Head Temperature	max. 260 °C (5 min)	min. 40 °C
Fuel	Unleaded aviation gas	min. 72 oct.	MM
	Unleaded automotive gas	min. 72 oct.	MM
Oil	Motor-car engine oil API performance rating SF minimum (viscosity accord. to the Engine Oper. and Maint. Manual)		
	Oil pressure	500 kPa max.	150 kPa min.
	Oil Temperature	120 °C max.	40 °C min.

*or*

Type Designation	MIKRON III B		
Type Certificate:	No. 92-05, issued 24.7.1992, CAA ČSFR + Supplement No. 1, issued 5.5.1996, CAA Czech Republic		
Performance Data	Takeoff Power	55 kW (75 hp)	max. 5 min.
	Max. Cont. Power	51 kW (69 hp)	
	Cruise Power	37 kW (50 hp)	
	Max. Permitted RPM	2860 rpm max.	3 sec.

	Max. Takeoff RPM	2760 rpm (max. 5 min.)
	Max. Cont. RPM	2600 rpm
	Idle RPM	700 rpm
	Cylinder Head Temperature	max. 250 °C (5 min) min. 70 °C
Fuel	Unleaded aviation gas	min. 78 oct. MM
	Unleaded automotive gas	min. 78 oct. MM
Oil	Motor-car engine oil API performance rating SF minimum (viscosity accord. to the Engine Oper. and Maint. Manual)	
	Oil pressure	500 kPa max. 150 kPa min.
	Oil Temperature	120 °C max. 40 °C min.
4. Propeller	Ho-V 62R	
Type Certificate	No.32.130/13, issued 20. 9. 1972 by LBA Type Certificate Acceptance No., issued 3.9.1992 by CAA ČSFR	
Number of blades	2	
Diameter	1600 mm	
Sense of Rotation	anticlockwise at rear view	
5. Speed limitations	Never exceed speed	$V_{NE}$ 205 km/h
	Rough air speed	$V_{RA}$ 160 km/h
	Maneuvering speed	$V_A$ 160 km/h
6. Weight limitations	Max. Takeoff weights	720 kg
	Empty weight	510 kg $\pm$ 3 %
	Max. baggage weight	15 kg
7. C.G. Position	Operating Range	24 $\div$ 38.5 % MAC 1216 $\div$ 1401 mm from a reference
	Empty Sailplane Range	33 $\pm$ 2.5 %MAC 1331 $\pm$ 32 mm from a reference
	The reference is defined by the supporting points under the firewall. The sailplane is positioned horizontally according to the leveling points 3 and 4 (specified by the Leveling Record).	
8. Load Factors	Maximum positive operating load factor at C.G.	+5.3
	Maximum negative operating load factor at C.G.	-2.65
9. Control Surface Deflections	specified in the Technical Description, Operating and Maintenance Manual	
10. Other Limitations	The powered sailplane is approved for VFR flights	
	Number of seats..2	Minimum crew...1

11. Minimum equipment
- 1 Airspeed indicator (up to 300 km/h)
  - 1 Altimeter
  - 1 Vertical speed indicator
  - 1 Magnetic compass
  - 1 Tachometer with a Engine hours
  - 1 Fuel gauge
  - 1 Oil thermometer
  - 1 Oil pressure gauge
  - 1 Cylinder head thermometer
  - 1 V-A meter
  - 1 Nitrogen pressure gauge in the center-section flange
  - 2 Safety harness

### III. Accompanying Documentation

#### 1. L 13 SDM Powered sailplane

##### Flight Manual

- Document No. 730951, Date of Issue 4/94  
valid for powered sailplanes with MIKRON III AE engine installed.
- Document No. 731951, Date of Issue 7/96  
valid for powered sailplanes with MIKRON III B engine installed.

##### Technical Description, Operating and Maintenance Manual

- Document No. 730961, Date of Issue 9/93  
valid for powered sailplanes with MIKRON III AE engine installed.
- Document No. 730961-D2, Date of Issue 4/96 or a later issue  
valid for powered sailplanes with MIKRON III B engine installed.

#### 2. Engine

##### Operating and Maintenance Manual

- Document No. 610901, Date of Issue 5/92  
valid for MIKRON III A engine and its versions.
- Document No. 620901, Date of Issue 2/96  
valid for MIKRON III B engine.

#### 3. Propeller

Owner's Manual NR. E 0107.72 variable pitch propellers HO-V 62, HO-V 62R, 4<sup>th</sup> Edition, August 1982