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# TYPE-CERTIFICATE DATA SHEET

NO. EASA TC NO.

for  
**G 109**

Type Certificate Holder  
**Grob Aircraft AG**

Lettenbachstrasse 9  
86874 Tussenhausen-Mattsies  
Germany

For models: G 109  
G 109B



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**Section A: G 109**

**A.I General**

1. Type/ Model/ Variant
  - 1.1 Type: G 109
  - 1.2 Model: G 109
2. Airworthiness Category "U" Utility Motorglider, self-launching
3. Manufacturer  
  
Burkhart Grob Luft- und Raumfahrt GmbH & Co.  
KG  
Am Flugplatz  
8939 Mattsies  
  
GROB-Werke GmbH & Co. KG  
Unternehmensbereich Burkhart Grob  
Flugzeugbau  
Am Flugplatz  
8939 Mattsies
4. EASA Type Certification Application Date -
5. State of Design Authority LBA
6. State of Design Auth. Type Certificate Date 10.04.1981  
  
This EASA TCDS cancels and replaces the German TCDS No 817.
7. EASA Type Certification Date -

**A.II EASA Certification Basis**

1. Reference Date for determining the applicable requirements -
2. Airworthiness Requirements JAR-22, edition 01.04.1980  
  
Standards for Structural Substantiation of Sailplane Components consisting of Glass Fibre Reinforced Plastics, issued March 1965  
(Richtlinien zur Führung des Festigkeitsnachweises für Bauteile aus glasfaserverstärkten Kunststoffen von Segelflugzeugen, Ausgabe März 1965)
3. Special Conditions -
4. Exemptions -



## 5. Deviations

For the installation of the Rotax Type 912A engine (3): Airworthiness requirements for sailplanes and powered sailplanes JAR-22 dated 15.03.1982 as amended on 27 June 1989 (Change 4 of the original English edition) in the affected paragraphs (see A.V10 and A.V11).

(Für den Einbau des Motors Rotax Type 912A (3): Lufttüchtigkeitsforderungen für Segelflugzeuge und Motorsegler JAR-22 vom 15.03.1982 Änderungsstand 27. Juni 1989 (Change 4 der englischen Originalausgabe) in den betroffenen Punkten (see A.V10 und A.V11.)

## 6. Equivalent Safety Findings

-

## 7. Environmental Protection

ICAO Annex 16, Volume 1 (see TCDSN for further detail)

### **A.III Technical Characteristics and Operational Limitations**

#### 1. Type Design Definition

List of Drawings 109 dated 15.04.1981

#### 2. Description

Single-engine, two-seater. low-wing cantilever monoplane in GRP/CRP construction, T-tail, side-by-side seats, main landing gear with two spring legs and equipped with single tire brakes, Schempp-Hirth-type air brakes on the upper wing surface

#### 3. Equipment

Min. required equipment:

- 1 A.S.I. up to 300 km/h
- 1 Altimeter
- 1 RPM indicator with time counter
- 1 Oil pressure indicator
- 1 Oil temperature indicator
- 1 Ampere meter
- 1 Fuel capacity indicator
- 1 Magnetic Compass
- 1 Cylinder head temperature gauge
- 2 4-belt Seat Harnesses

#### 4. Dimensions

Span: 16,6 m

1 engine

1 propeller



## 5. Engines:

### 5.1 Engine 1

5.1.1.1 Model	Limbach L 2000 EB 1.A
5.1.1.2 Type Certificate	EASA.E.083
5.1.1.3 Max RPM	3400 1/min
5.1.1.4 Maximum Continuous RPM	3000 1/min

### 5.1.2 Propeller 1

5.1.2.1 Model	HO-V 62 R/L 160 BT
5.1.2.2 Type Certificate	EASA.P.065

### 5.1.3 Propeller 2

5.1.3.1 Model	HO-V 62 R/L 160 T
5.1.3.2 Type Certificate	EASA.P.065

### 5.2 Engine 2

5.2.1.1 Model	Limbach L 2400 EB.1.AA
5.2.1.2 Type Certificate	EASA.E.084
5.2.1.3 Max RPM	3200 1/min
5.2.1.4 Maximum Continuous RPM	2800 1/min

### 5.2.2 Propeller

5.2.2.1 Model	MTV-1-A/L 160-03
5.2.2.2 Type Certificate	LBA Germany TC 32.130/53

### 5.3 Engine 3

5.3.1.1 Model	ROTAX 912A
5.3.1.2 Type Certificate	EASA.E.121
5.3.1.3 Max RPM	5800 1/min
5.3.1.4 Maximum Continuous RPM	5500 1/min

### 5.3.2 Propeller 1

5.3.2.1 Model	HO-V352 F-S1/S 170 FQ
5.3.2.2 Type Certificate	LBA Germany TC 32.130/88

### 5.3.3 Propeller 2

5.3.3.1 Model	HO-V62 HS/170 FA
5.3.3.2 Type Certificate	EASA.P.065

### 5.3.4 Propeller 3

5.3.4.1 Model	MTV 21A-C-F/( )175-05
5.3.4.2 Type Certificate	EASA.P.101

Engine 1 with Propeller 1, see A.V7

Engine 2, designation according to Limbach TM 17, see A.V9

Engine 3 see A.V10 and A.V11.



6. Fluids:	
6.1 Fuel:	refer to Flight Manual
6.2 Oil:	refer to Flight Manual
6.3 Coolant:	refer to Flight Manual
7. Fluid capacities:	
7.1 Fuel:	
7.1.1 Max. capacity	80,0 l
7.1.2 Max. usable	78,0 l
8. Load Factors	
8.1 Airbrakes retracted at or below $V_M$	+ 5.3 g /- 2.65 g
8.2 Airbrakes retracted at or below $V_{NE}$	+ 4.0 g ./- 1.5 g
9. Air Speeds	
9.1 Design Manoeuvring Speed $V_M$	185 km/h
9.2 Rough Air Speed $V_B$	185 km/h
9.3 Never Exceed Speed $V_{NE}$	240 km/h
10. Approved Operations Capability	VFR Day Cloud flying not permitted Aerobatic manoeuvres not permitted
11. Launch methods	Self-launch
12. Maximum Masses	
12.1 Masses 1 (see A.V5)	
12.1.1 Maximum Take-off Mass	810 kg
12.1.2 Max. Mass of non-lifting parts	640 kg
12.2 Masses 2 (see A.V6)	
12.2.1 Maximum Take-off Mass	825 kg
12.2.2 Max. Mass of non-lifting parts	640 kg
13. Centre of Gravity Range	
13.1 Maximum Forward C.G. behind datum	380 mm
13.2 Maximum aft C.G. behind datum	465 mm
14. Datum	Leading edge at root rib
15. Levelling Means	Fuselage dorsal level 500 mm in front of the fin
16. Control Surface Deflections	refer. to Maintenance Manual
17. Minimum Flight Crew	1 Single pilot operation: left seat
18. Maximum Passenger Seating Capacity	1
19. Baggage/ Cargo Compartments	max. 20 kg
20. Lifetime limitations	refer to Maintenance Manual



#### **A.IV Operating and Service Instructions**

1. Flight Manual
  - Flughandbuch GROB G 109, Ausgabe März 1981, LBA-anerkannt
2. Maintenance Manual
  - Wartungshandbuch GROB G 109, Ausgabe März 1981
3. Structural Repair Manual
  - Reparaturanleitung GROB G 109
4. Operating Manual and Maintenance Manual for Engine and Propeller for Engine 1 and Propeller 1 and 2:
  - Betriebshandbuch - Flugmotoren für Motorsegler: Limbach L 2000 und weitere Baureihen, LBA-anerkannt
  - Betriebs- und Wartungshandbuch für die Baureihen, HO-V 62 und HO-V 62-R, LBA-anerkannt
- for Engine 2 and Propeller:
  - Betriebs- und Wartungshandbuch Limbach L 2400 und Baureihen, LBA-anerkannt
  - Einbauhandbuch Limbach L 2400
  - Betriebs- und Einbauanweisung Elektrische Verstellpropeller E-118, LBA-anerkannt
- for Engine 3 and Propeller:
  - Betriebshandbuch für ROTAX Motor Type 912 A
  - Operation and maintenance manual of the related propeller by Hoffmann Propeller
  - Operation and Installation Manual E-124 by MT-Propeller Entwicklung

#### **A.V Notes**

1. Manufacture of this aircraft is only authorized as an industrial product.
2. All components which are exposed to sunlight (with the exception of the areas for registration marks and coloured warning paint) must have a white surface.
3. Motorglider of this model are certified for flights in accordance with Visual Flight Rules (VFR day).
4. reserved
5. The following deviations from the basic model apply to serial numbers 6001 and 6010:
  - Span: 15 m
  - Slightly modified wing structure
  - Maximum Take-off Mass: 800 kg
  - Max. Mass of non-lifting parts: 620 kg
  - Flughandbuch GROB G 109, Werk-Nr. 6001, Ausgabe März 1981, LBA-anerkannt
  - Flughandbuch GROB G 109, Werk-Nr. 6010, Ausgabe März 1981, LBA-anerkannt
  - Wartungshandbuch GROB G 109, Werk-Nr. 6001, Ausgabe März 1981
  - Wartungshandbuch GROB G 109, Werk-Nr. 6010, Ausgabe März 1981
6. The optional increase of the maximum masses from 810 kg to 825 kg according to the information contained in GROB Service Bulletin No. 817-1, LBA approved, is permitted, except for serial numbers 6001 and 6010.
  - Related, deviating Instructions for Operation:
    - a) Flughandbuch GROB G 109, Issue März 1981 with Revision dated 12. Mai 1981, LBA-anerkannt.
    - b) Wartungshandbuch GROB G 109, Issue März 1981 with Revision dated 12. Mai 1981.
7. The subsequent installation of the propeller Hoffmann HO-V 62 R/L 160 BT according to the information contained in GROB Service Bulletin No. 817-22, LBA approved, is permitted.
8. deleted (CVFR does not exist in the EU regulatory framework anymore)





9. The subsequent installation of the engine Limbach L 2400 EB 1.AA in combination with the propeller Mühlbauer MTV-1-A/L 160-3 according to the information contained in GROB Service Bulletin No. 817-24, LBA approved, is permitted (modified engine designation according to Limbach TM 17).
10. The installation of the engine ROTAX Type 912A (3) in combination with the propeller HO-V62 HS/170 FA or MTV 21A-C-F/( )175-05 according to the information contained in Service Bulletin No. 817-27-AIC, LBA approved, is permitted. Service Bulletin and related documents can be obtained from  
LSV Aichach e.V.  
Reiherweg 2  
86551 Aichach
11. The installation of the engine ROTAX Type 912A (3) in combination with the propeller HO-V352 F-S1/S 170 FQ according to the information contained in GROB Service Bulletin No. 817-42, LBA approved, is permitted.



**Section B: G 109B**

**B.I General**

1. Type/ Model/ Variant
  - 1.1 Type: G 109
  - 1.2 Model: G 109B
2. Airworthiness Category "U" Utility Motorglider, self-launching
3. Manufacturer  
  
Burkhart Grob Luft- und Raumfahrt GmbH & Co.  
KG  
Am Flugplatz  
8939 Mattsies  
  
GROB-Werke GmbH & Co. KG  
Unternehmensbereich Burkhart Grob  
Flugzeugbau  
Am Flugplatz  
8939 Mattsies
4. EASA Type Certification Application Date -
5. State of Design Authority LBA
6. State of Design Auth. Type Certificate Date 10 Nov. 1983  
This EASA TCDS cancels and replaces the German TCDS No 817.
7. EASA Type Certification Date -

**B.II EASA Certification Basis**

1. Reference Date for determining the applicable requirements -
2. Airworthiness Requirements  
  
Joint Airworthiness Requirements (JAR-22)  
Sailplanes and Powered Sailplanes,  
Change 2  
  
Joint Airworthiness Requirements (JAR-22)  
Sailplanes and Powered Sailplanes,  
Change 4 , Refer to B.V8 and B.V9
3. Special Conditions  
  
Preliminary Standards for Structural  
Substantiation of Sailplane and Powered  
Sailplane Components Consisting of Class or  
Carbon Fibre Reinforced Plastics  
Issue January 1981



Addition to JAR-22 for Variable Pitch Propellers with (electrical) infinitely variability from Start to Feather position

LBA Note II 11-693.4/5186 dated 9 May 1988 (refer to B.V8)

Guidelines concerning proof of compliance for the electrical system of powered sail-planes dated 15 Sept. 1992

AZ.: 1334-M592 (refer to B.V8)

- |                               |  |
|-------------------------------|--|
| 4. Exemptions                 | -  |
| 5. Deviations                 | -  |
| 6. Equivalent Safety Findings | -  |
| 7. Environmental Protection   | ICAO Annex 16, Volume 1 (see TCDSN for further detail) |

### **B.III Technical Characteristics and Operational Limitations**

- |                                |  |
|--------------------------------|--|
| 1. Type Design Definition      | For engines from 1 to 5:<br>Master Record Index 109B dated 15 July 1983<br>For engine 6:<br>List of Drawings ZG-G109B-000001   |
| 2. Description                 | Single-engine, two-seater. low-wing cantilever monoplane in GRP/CRP construction, T-tail, side-by-side seats, main landing gear with two spring legs and equipped with single tire brakes, Schempp-Hirth-type air brakes on the upper wing surface |
| 3. Equipment                   | Minimum required equipment:<br>refer to aircraft flight manual   |
| 4. Dimensions                  | Span: 17.4 m   |
| 5. Engines:                    | 1 engine<br>1 propeller  |
| 5.1 Engine 1                   |  |
| 5.1.1.1 Model                  | GROB 2500 E1   |
| 5.1.1.2 Type Certificate       | LBA Germany TC 4601  |
| 5.1.1.3 Max RPM                | 3400 1/min   |
| 5.1.1.4 Maximum Continuous RPM | 3000 1/min   |
| 5.1.2 Propeller                |  |
| 5.1.2.1 Model                  | HOFFMANN HO-V 62 R/L 160 BT  |
| 5.1.2.2 Type Certificate       | EASA.P.065   |



5.2	Engine 2	
5.2.1.1	Model	GROB 2500 E1/V
5.2.1.2	Type Certificate	LBA Germany TC 4601
5.2.1.3	Max RPM	3400 1/min
5.2.1.4	Maximum Continuous RPM	3000 1/min
5.2.2	Propeller	
5.2.2.1	Model	HOFFMANN HO-V 62 R/L 160 BT
5.2.2.2	Type Certificate	EASA.P.065
5.3	Engine 3	
5.3.1.1	Model	GROB 2500 D1
5.3.1.2	Type Certificate	LBA Germany TC 4601
5.3.1.3	Max RPM	3400 1/min
5.3.1.4	Maximum Continuous RPM	3000 1/min
5.3.2	Propeller	
5.3.2.1	Model	HOFFMANN HO-V 62 R/L 160 BT
5.3.2.2	Type Certificate	EASA.P.065
5.4	Engine 4	
5.4.1.1	Model	GROB 2500 D1/V
5.4.1.2	Type Certificate	LBA Germany TC 4601
5.4.1.3	Max RPM	3400 1/min
5.4.1.4	Maximum Continuous RPM	3000 1/min
5.4.2	Propeller	
5.4.2.1	Model	HOFFMANN HO-V 62 R/L 160 BT
5.4.2.2	Type Certificate	EASA.P.065
5.5	Engine 5	
5.5.1.1	Model	L 2400 EB 1.AA
5.5.1.2	Type Certificate	LBA Germany TC 4607
5.5.1.3	Max RPM	3200 1/min
5.5.1.4	Maximum Continuous RPM	2800 1/min
5.5.2	Propeller	
5.5.2.1	Model	MTV-1-A/L 160-03
5.5.2.2	Type Certificate	LBA Germany TC 32.130/53
5.6	Engine Type 6	
5.6.1.1	Model	Rotax 912iSc3 Sport
5.6.1.2	Type Certificate	EASA E.121
5.6.1.3	Max RPM	5800 1/min
5.6.1.4	Maximum Continuous RPM	5500 1/min
5.6.2	Propeller	
5.6.2.1	Model	MTV-21-A-C-F/CF170-05
5.6.2.2	Type Certificate	EASA P.101



6. Fluids:	
6.1 Fuel:	refer to Flight Manual
6.2 Oil:	refer to Flight Manual
6.3 Coolant:	refer to Flight Manual
7. Fluid capacities:	
7.1 Fuel:	
7.1.1 Max. capacity	100 l
7.1.2 Max. usable	98,0 l
8. Load Factors	
8.1 Airbrakes retracted at or below VM	+ 5.3 g /- 2.65 g
8.2 Airbrakes retracted at or below VNE	+ 4.0 g /- 1.5 g
9. Air Speeds	
9.1 Design Manoeuvring Speed $V_M$	170 km/h
9.2 Rough Air Speed $V_B$	170 km/h
9.3 Never Exceed Speed $V_{NE}$	240 km/h
10. Approved Operations Capability	VFR Day Cloud flying not permitted Aerobatic manoeuvres not permitted
11. Launch methods	Self-launch
12. Maximum Masses	
12.1 Maximum mass	850 kg
12.2 Maximum mass of all non-lifting parts	670 kg
13. Centre of Gravity Range	
13.1 Maximum Forward C.G. behind datum	271 mm
13.2 Maximum aft C.G. behind datum	427 mm
14. Datum	Wing Leading Edge at a wing span of 1,3 m
15. Levelling Means	Fuselage level at door frame
16. Control Surface Deflections	refer to Maintenance Manual
17. Minimum Flight Crew	1 Single pilot operation: left seat
18. Maximum Passenger Seating Capacity	1
19. Baggage/ Cargo Compartments	max 20 kg
20. Lifetime limitations	refer to Maintenance Manual

#### **B.IV Operating and Service Instructions**

1. Flight Manual  
for Engine 1 to 5
  - Flight Manual GROB G 109B. Issue September 1983, LBA approvedfor Engine 6
  - Flight Manual GROB G 109B Rotax, Doc. No. 1G-109BR-1E
2. Maintenance Manual  
for Engine 1 to 5



- Maintenance Manual GROB G 109B, Issue September 1983  
for Engine 6
  - Maintenance Manual GROB G 109B Rotax, Doc. No. 1G-109BR-2E
- 3. Structural Repair Manual
  - Repair Instructions GROB G 109B. Issue September 1983
- 4. Operating Manual and Maintenance Manual for Engine and Propeller  
for Engine 1 to 4 and Propeller:
  - Operations Manual - Aircraft Engine for Motorglider GROB 2500, Issue May 1983, LBA approved
  - Operations and Maintenance Manual for the Propeller Types HO-V 62 and HO-V 62-R. LBA approvedfor Engine 5 and Propeller:
  - Operations and Maintenance Manual Limbach L 2400 and Types, LBA approved
  - Operations and Installation Instructions for Electrical Variable Pitch Propeller E-118, LBA approvedfor Engine 6 and Propeller:
  - Operations and Maintenance Manual for Engine Type Rotax 912.
  - Operations and Maintenance Manual for the Propeller Type MTV-21.



## **B.V Notes**

1. Manufacture of this aircraft is only authorized as an industrial product.
2. All components which are exposed to sunlight (with the exception of the areas for registration marks and coloured warning paint) must have a white surface.
3. Motorglider of this model are certified for flights in accordance with Visual Flight Rules (VFR day).
4. reserved
5. deleted (CVFR does not exist in the EU regulatory framework anymore)
6. The installation of the engine GROB 2500 D1 (engine for motorgliders with double ignition) according to the information contained in GROB Modification Information No. 817-7, dated 1 Oct. 1984, LBA approved, is permitted.
7. The installation of the engine
  - GROB 2500 E1/V (engine for motorglider with single ignition and installed vacuum pump) according to the information contained in
    - o GROB Service Bulletin No. 4601-3 (S/N 001 thru 250)
    - o GROB Modification Information No. ÄM 4601-5 (as of S/N 251)dated 5. Februar 1986, LBA approved,
  - GROB 2500 D1/V (engine for motorglider with double ignition and installed vacuum pump) according to the information contained in GROB Modification Information No. ÄM 4601-3, dated 2 May 1985, LBA approved,  
is permitted.
8. The subsequent installation of the engine Limbach L 2400 EB 1.AA in combination with the propeller Mühlbauer MTV-1-A/L 160-3 according to the information contained in GROB Service Bulletin No. 817-30, LBA approved, is permitted.
9. The installation of the engine ROTAX 912iSc3 Sport in combination with the propeller MTV-21-A-C-F/CF170-05 according to Change Note OÄM 817-30 (Service Bulletin OSB 817-71) is permitted.



**Section C: Administrative Section**

**C.I Acronyms & Abbreviations**

g	Load factor
Kg	Kilogram
l	Litres
LBA	Luftfahrt-Bundesamt
min	Minute
RPM	Revolutions per minute
TC	Type Certificate
TCDS	Type Certificate Data Sheet
VFR	Visual flight rules
V <sub>M</sub>	Design Manoeuvring Speed
V <sub>B</sub>	Rough Air Speed
V <sub>NE</sub>	Never Exceed Speed

**C.II Type Certificate Holder Record**

**Burkhard Grob Luft- und Raumfahrt GmbH & Co. KG**

8939 Mattsies  
Am Flugplatz  
Germany

**Dr. hc. Mult. Dipl.-Ing. Burkhard Grob e.K.**

Unternehmensbereich Luft- und Raumfahrt  
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**GROB Aircraft AG**

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86874 Tussenhausen-Mattsies  
Germany

**GROB Aircraft SE**

Lettenbachstrasse 9  
86874 Tussenhausen-Mattsies  
Germany

**C.III Change Record**

Issue	Date	Changes	TC Issue No. & Date
01	28 June 2021	Initial Issue to cancel and replace the German TCDS No 817	

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