
TYPE-CERTIFICATE DATA SHEET

UK.TC.A.00015

for

G 109

Type Certificate Holder

Grob Aircraft SE

Lettenbachstrasse

86874 Tussenhausen-Mattsies

Germany

Model(s): G 109
 G 109B

Issue: 1

Date of issue: 28 September 2021

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Section 1 G 109

I. General

1. Type / Variant or Model

Type: G 109
Variant or Model: G 109

2. Airworthiness Category

“U” Utility Motorglider, Self-launching

3. Type Certificate Holder

Burkhart Grob Luft- und Raumfahrt GmbH & Co.
KG
Am Flugplatz
8939 Mattsies
Germany

GROB-Werke GmbH & Co. KG
Unternehmensbereich Burkhart Grob
Flugzeugbau
Am Flugplatz
8939 Mattsies
Germany

4. EASA Type Certification Application Date

-

5. State of Design Authority

LBA

6. State of Design Auth. Type Certification Date

10 April 1981

This TCDS cancels and replaces the German TCDS No. 817
(Grandfathered EASA TC)

7. EASA Type Certification Date

-

II. 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

3. Special Conditions

None

4. Exemptions

None

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 Notes 10 and 11).

6. Equivalent Safety Findings

None

7. Environmental Protection

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

III. Technical Characteristic and Operating 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 tyre brakes, Schempp-Hirth-type air brakes on the upper wing surface

3. Equipment

Min. required equipment:

1 Air speed indicator (up to 300 km/h / 162 kts)

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: 16.6m

1 Engine

1 Propeller

5. Engine 1

Model
Type Certificate
Limitations

Limbach L 2000 EB 1.A

EASA.E.083

Maximum RPM: 3400 min⁻¹

Maximum Continuous RPM: 3000 min⁻¹

a. Propeller 1

Model
Type Certificate

HO-V 62 R/L 160 BT

EASA.P.065

b. Propeller 2

Model
Type Certificate

HO-V 62R/L 160 T

EASA.P.065

6. Engine 2

| | |
|------------------|--|
| Model | Limbach L 2400 EB 1.AA |
| Type Certificate | EASA.E.084 |
| Limitations | Maximum RPM: 3200 min ⁻¹ |
| | Maximum Continuous RPM: 2800 min ⁻¹ |

a. Propeller

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

7. Engine 3

| | |
|------------------|--|
| Model | ROTAX 912A |
| Type Certificate | EASA.E.121 |
| Limitations | Maximum RPM: 5800 min ⁻¹ |
| | Maximum Continuous RPM: 5500 min ⁻¹ |

a. Propeller 1

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

b. Propeller 2

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

c. Propeller 3

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

Engine 1 with Propeller 1, see Note 7

Engine 2, designation according to Limbach TM 17, see Note 9

Engine 3, see Notes 10 and 11

8. Fluids

| | |
|----------|------------------------|
| Fuel: | Refer to Flight Manual |
| Oil: | Refer to Flight Manual |
| Coolant: | Refer to Flight Manual |

9. Fluid Capacities

| | |
|-------|--------------------|
| Fuel: | Max. capacity: 80L |
| | Max. useable: 78L |

10. Load Factors

| | |
|--|----------------|
| Airbrakes retracted at or below V_M : | +5.3g / -2.65g |
| Airbrakes retracted at or below V_{NE} : | +4.0g / -1.5g |

11. Air Speeds

| | |
|-----------------------------|--------------------|
| Manoeuvring Speed V_M | 185 km/h (99 kts) |
| Rough Air Speed V_B | 185 km/h (99 kts) |
| Never Exceed Speed V_{NE} | 240 km/h (129 kts) |

12. Approved Operations Capability

VFR Day
Cloud flying not permitted
Aerobatic manoeuvres not permitted

13. Launch methods

Self-launch

14. Maximum Masses

a) Masses 1 (see Note 5)

Maximum Take-off Mass: 810kg
Max. Mass of non-lifting parts: 640kg

b) Masses 2 (see Note 6)

Maximum Take-off Mass: 825kg
Max. Mass of non-lifting parts: 640kg

15. Centre of Gravity Range

380mm – 465 mm aft of datum

16. Datum

Wing leading edge at root rib

17. Levelling Means

Fuselage dorsal level 500mm in front of the fin

18. Control Surface Deflections

Refer to Maintenance Manual

19. Minimum Flight Crew

1 Single pilot operation: left seat

20. Maximum Passenger Seating Capacity

1

21. Baggage/Cargo Compartments

Max. 20kg

22. Lifetime limitations

Refer to Maintenance Manual

IV. Operating and Service Instructions

1. Flight Manual

Flughandbuch GROB G 109, Ausgabe Marz 1981, LBA-anerkannt

2. Maintenance Manual

Wartungshandbuch GROB G 109, Ausgabe Marz 1981

3. Structural Repair Manual

Reparaturanleitung GROB G 109

4. Operating Manual and Maintenance Manual for Engine and Propeller

a) For Engine 1 and Propeller 1 and 2:

- Betreibshandbuch – 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
- b) 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
- c) 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

V. Notes

1. **Manufacturing 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. **Motorgliders 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: 15m

Slightly modified wing structure

Maximum take-off mass: 800kg

Max. Mass of non-lifting parts: 620kg

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 Operations:

- 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 Hoffman 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**
9. **The subsequent installation of the engine Limbach L 2400 EB 1.AA in combination with the propeller Muhlbauer 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 contain in Service Bulletin No. 817-27-AIC, LBA approved, is permitted. Service Bulletin and related documents can be obtained from

LSV Aichac e.V.

Reiherweg 2

86551 Aichach

11. The installation of the 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 2 G 109B

I. General

1. Type / Variant or Model

Type: G 109
Variant or Model: G 109B

2. Airworthiness Category

“U” Utility Motorglider, Self-launching

3. Type Certificate Holder

Burkhart Grob Luft- und Raumfahrt GmbH & Co.
KG
Am Flugplatz
8939 Mattsies
Germany

GROB-Werke GmbH & Co. KG
Unternehmensbereich Burkhart Grob
Flugzeugbau
Am Flugplatz
8939 Mattsies
Germany

4. EASA Type Certification Application Date

-

5. State of Design Authority

LBA

6. State of Design Auth. Type Certification Date

10 Nov. 1983

This TCDS cancels and replaces the German TCDS No. 817
(Grandfathered EASA TC)

7. EASA Type Certification Date

-

II. Certification Basis

8. Reference Date for determining the applicable requirements

-

This TCDS cancels and replaces the German TCDS No. 817
(Grandfathered EASA TC)

9. 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 Notes 8 and 9

10. Special Conditions

Preliminary Standards for Structural Substantiation of Sailplane and Powered Sailplane Components Consisting of Glass 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 Note 8)

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

AZ.: 1334-M592 (refer to Note 8)

11. Exemptions

None

12. Deviations

None

13. Equivalent Safety Findings

None

14. Environmental Protection

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

III. Technical Characteristic and Operating Limitations

1. Type Design Definition

For engines from 1 to 5:

Master Record Index 109B dated 15 July 1983

For engine 6:

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 tyre brakes, Schempp-Hirth-type air brakes on the upper wing surface

3. Equipment

Min. required equipment:

Refer to aircraft flight manual

4. Dimensions

Span: 17.4m

1 Engine

1 Propeller

5. Engine 1

Model
Type Certificate
Limitations

GROB 2500 E1
LBA Germany TC 4601
Maximum RPM: 3400 min⁻¹
Maximum Continuous RPM: 3000 min⁻¹

a. Propeller

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

6. Engine 2

Model GROB 2500 E1/V
Type Certificate LBA Germany TC 4601
Limitations Maximum RPM: 3400 min⁻¹
Maximum Continuous RPM: 3000 min⁻¹

a. Propeller

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

7. Engine 3

Model GROB 2500 D1
Type Certificate LBA Germany TC 4601
Limitations Maximum RPM: 3400 min⁻¹
Maximum Continuous RPM: 3000 min⁻¹

a. Propeller

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

8. Engine 4

Model GROB 2500 D1/V
Type Certificate LBA Germany TC 4601
Limitations Maximum RPM: 3400 min⁻¹
Maximum Continuous RPM: 3000 min⁻¹

a. Propeller

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

9. Engine 5

Model L 2400 EB 1.AA
Type Certificate LBA Germany TC 4607
Limitations Maximum RPM: 3200 min⁻¹
Maximum Continuous RPM: 2800 min⁻¹

a. Propeller

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

10. Engine 6

Model Rotax 912iSc3 Sport
Type Certificate EASA.E.121
Limitations Maximum RPM: 5800 min⁻¹
Maximum Continuous RPM: 5500 min⁻¹

a. Propeller

Model MTV-21-A-C-F/CF170-05
Type Certificate EASA P.101

11. Fluids

| | |
|----------|------------------------|
| Fuel: | Refer to Flight Manual |
| Oil: | Refer to Flight Manual |
| Coolant: | Refer to Flight Manual |

12. Fluid Capacities

| | |
|-------|---------------------|
| Fuel: | Max. capacity: 100L |
| | Max. useable: 98L |

13. Load Factors

| | |
|--|----------------|
| Airbrakes retracted at or below V_M : | +5.3g / -2.65g |
| Airbrakes retracted at or below V_{NE} : | +4.0g / -1.5g |

14. Air Speeds

| | |
|-----------------------------|--------------------|
| Manoeuvring Speed V_M | 170 km/h (91 kts) |
| Rough Air Speed V_B | 170 km/h (91 kts) |
| Never Exceed Speed V_{NE} | 240 km/h (129 kts) |

15. Approved Operations Capability

VFR Day
Cloud flying not permitted
Aerobatic manoeuvres not permitted

16. Launch methods

Self-launch

17. Maximum Masses

| | |
|---------------------------------|-------|
| Maximum Take-off Mass: | 850kg |
| Max. Mass of non-lifting parts: | 670kg |

18. Centre of Gravity Range

271mm – 427 mm aft of datum

19. Datum

Wing leading edge at a wing span of 1.3m

20. Levelling Means

Fuselage level at door frame

21. Control Surface Deflections

Refer to Maintenance Manual

22. Minimum Flight Crew

1 Single pilot operation: left seat

23. Maximum Passenger Seating Capacity

1

24. Baggage/Cargo Compartments

Max. 20kg

25. Lifetime limitations

Refer to Maintenance Manual

IV. Operating and Service Instructions

TCDS No.: UK.TC.A.00015

Date: 28 September 2021

AW-DAW-TP-004 Version 1 dated 12 March 2021

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Issue: 1
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1. Flight Manual

For Engine 1 to 5:

Flight Manual GROB G 109B. Issue September 1983,
LBA approved

For 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

a) 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 Approved

b) For 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 Approved

c) For Engine 6 and Propeller:

- Operations and Maintenance Manual for Engine Type Rotax 912
- Operations and Maintenance Manual for the Propeller Type MTV-21

V. Notes

1. Manufacturing 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. Motorgliders of this model are certified for flights in accordance with Visual Flight Rules (VFR day).
4. Reserved
5. Deleted
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. AM 4601-5 (as of S/N 251)Dated 5. Feb 1986, LBA approved, is permitted
 - GROB 2500 D1/V (engine for motorglider with double ignition and installed vacuum pump) according to the information contained in GROB Modification Information No. AM 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 Muhlbauer 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 ROTAX Type 912iSc3 Sport in combination with the propeller MTV-21-A-C-F/CF170-05 according to Change Note OAM 817-30 (Service Bulletin OSB 817-71) is permitted.

Section 3 Administration

I. Acronyms and Abbreviations

| Acronym / Abbreviation | Definition |
|------------------------|---------------------------------------|
| CFRP | Carbon Fibre Reinforced Plastic |
| GFRP | Glass Fibre Reinforced Plastic |
| CRI | Certification Review Item |
| CS | Certification Specification |
| CAA | Civil Aviation Authority |
| EASA | European Union Aviation Safety Agency |
| g | Load Factor |
| Kg | Kilogram |
| L | Litres |
| LBA | Luftfahrt-Bundesamt |
| min | Minute |
| RPM | Revolutions per minute |
| TC | Type Certificate |
| TCDS | Type Certificate Data Sheet |
| TCH | Type Certificate Holder |
| VFR | Visual Flight Rules |
| V _m | Design Manoeuvring Speed |
| V _B | Rough Air Speed |
| V _{NE} | Never Exceed Speed |

II. Type Certificate Holder Record

| TCH Record | Period |
|---|----------------------|
| Grob Aircraft SE Lettenbachstrasse 9 86874 Tussenhausen-Mattsies Germany | Present. No changes. |

III. Amendment Record

| TCDS Issue No. | TCDS Issue Date | Changes | TC Issue and Date |
|-----------------------|------------------------|--|--------------------------|
| 1 | 28 Sep 2021 | This certificate supersedes grandfathered LBA TCDS No. 817. Introduction of Rotax 912iSc3 Sport engine and MTV-21-A-C-F/CF170-05 propeller for GROB G 109B | Issue 1 28 Sep 2021 |

– END –