

**DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

G43EU Revision 6 Grob Aircraft AG GROB G 109 GROB G 109B May 29, 2015
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**TYPE CERTIFICATE DATA SHEET No. G43EU**

This data sheet, which is part of Type Certificate No. G43EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder:                   **GROB Aircraft AG  
Lettenbachstrasse 9  
86874 Tussenhausen-Mattsies  
Germany**

Type Certificate Holder Record:      Grob Aerospace GmbH i.l. transferred TC G43EU to GROB Aircraft AG on February 2009.

Grob Aerospace GmbH transferred TC G43EU to Grob Aerospace GmbH i.l. on August 2008.

Burkhart Grob Luft – und Raumfahrt GmbH & Co. KG transferred TC G43EU to Grob Aerospace GmbH on December 2006.

GROB-WERKE GMBH & Co. KG transferred TC G43EU to Burkhart Grob Luft – und Raumfahrt GmbH & Co. KG on November 1989.

**L. Model GROB G 109, Self-Launching (Powered) Glider, Utility Category, approved 9 August 1982**

Engine.   Limbach L 2000 1.A

Fuel.   Aviation gasoline 100LL or minimum ROZ 96 octane

Engine Limits.                               For all operations 3400 r.p.m. (80 hp)

Propeller and Propeller Limits.         Hoffman HO-V 62-R/L 160 T

Diameter range       maximum 65 in  
                                  minimum 61 in  
                                  (No further reductions permitted)

Blade Angle settings - 3 fixed positions: start, cruise, and feather

Spinner: Hoffman VP 30-81

Airspeed Limits (IAS).                     Maximum Airspeeds in calm air

$V_{NE}$ (never exceed)	kts	mph	km/h
0 - 6500 ft	130	149	240
6,501-10,000 ft	122	140	225
10,001-13,000 ft	116	133	214
13,001-16,500 ft	110	126	203
16,501-20,000 ft	104	119	192
With Airbrakes extended	130	149	240

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<u>Airspeed Limits (IAS), cont'd.</u>	V <sub>b</sub> (in rough air)	100	115	185
	V <sub>A</sub> (maneuvering)	100	115	185
<u>C.G. Range.</u>	15.0 in. to 18.3 in. (380 mm to 465 mm) aft of datum.			
<u>Empty Weight C.G.</u>	See Flight Manual			
<u>Datum.</u>	Wing leading edge at root rib			
<u>Leveling Means.</u>	Level on top surface of fuselage between 20 in. in front of vertical stabilizer, see Flight Manual.			
<u>Maximum Weight.</u>	1820 lbs (825 kg)			
<u>Minimum Crew</u>	One pilot			
<u>No. of Seats.</u>	Two, (3.6 in. (90 mm) aft of datum).			
<u>Maximum Baggage.</u>	44 lbs (39 in. aft of datum).			
<u>Fuel Capacity.</u>	Total: 21.1 U.S. gal. (41 in. aft of datum) (See Note 1.)			
<u>Oil capacity</u>	2.6 qt. total (54 in. forward of datum)			
<u>Control Surface Movements.</u>	<p>Aileron: Up 4.21 ± 0.40 in. (107 ± 10 mm)            Measurement radius 9.5 in. (242 mm) on inboard of aileron            Down 2.50 +0.20/-0.40 (63 +5/-10 mm)</p> <p>Stabilizer: Up 4.3 ± 0.45 in. (108 ± 12 mm)            Measurement radius 11.0 in. (282 mm) on middle of stabilizer            Down 3.9 ± 0.40 in. (97 ± 10 mm)</p> <p>Rudder: Left 8.6 ± 0.60 in. (215 ± 15 mm)            Measurement radius 16.4 in. (420 mm) on bottom of rudder            Right 8.6 ± 0.60 in. (215 ± 15 mm)</p> <p>Trim: Up 1.6 ± 0.20 in. (40 ± 5 mm)            Measurement radius 4.0 in. (100 mm) on inboard of trim tab            Down 1.2 ± 0.20 in. (31 ± 5 mm)</p> <p>All measured from hinge line. (See GROB G 109 Instructions for Continued Airworthiness).</p>			
<u>Serial Nos. Eligible.</u>	See Import Requirements			

## **II. Model GROB G 109B, Self-Launching (Powered) Glider, Utility Category, approved 2 April 1984**

(Similar to G 109 except for engine, wing, and cockpit configuration)

<u>Engine.</u>	GROB 2500 E 1
<u>Fuel.</u>	Aviation gasoline 100LL or minimum ROZ 96 octane
<u>Engine Limits.</u>	For all operations 3400 r.p.m. (80 hp)
<u>Propeller and Propeller Limits.</u>	Hoffman HO-V 62-R/L 160 BT

Propeller and Propeller Limits, cont'd.

Diameter range    maximum 63 in  
                           minimum 62.5 in  
                           (No further reductions permitted)  
 Blade Angle settings - 3 fixed positions: start, cruise, and feather  
 Spinner: Hoffman VP 30-82

Airspeed Limits (IAS).

Maximum Airspeeds in calm air

$V_{NE}$ (never exceed)	<u>kts</u>	<u>mph</u>	<u>km/h</u>
0- 6500 ft	130	149	240
6,501-10,000 ft	122	140	225
10,001-13,000 ft	116	133	214
13,001-16,500 ft	110	126	203
16,501-20,000 ft	104	119	192
With Airbrakes extended	130	149	240
$V_b$ (in rough air)	92	106	170
$V_A$ (maneuvering)	92	106	170

C.G. Range.

11.1 in. to 16.8 in. (232 mm to 427 mm) aft of datum.

Empty Weight C.G.

See Flight Manual

Datum.

Wing leading edge at span distance of 4.3 ft (91.3 M) out of oblique wing-fuselage fairing.

Leveling Means.

Level on edge of door frame. (See flight manual.)

Maximum Weight.

1874 lbs (850 kg)

Minimum Crew

One pilot

No. of Seats.

Two, 3.3 in. (83 mm) aft of datum.

Maximum Baggage.

44 lbs (39 kg) (28.3 in. aft of datum).

Fuel Capacity.

Total: 26.4 U.S. gal. (39.4 in. aft of datum) (See Note 1.)

Oil capacity

3.7 qt. total (58.3 in. forward of datum)

Control Surface Movements.

Aileron: Up    4.0 ± 0.40 in. (102 ± 10 mm)  
                   Measurement radius 9.25 in. (235 mm) on inboard of aileron  
                   Down    2.0 ± 0.20 (51 ± 5 mm)

Stabilizer: Up    4.4 ± 0.43 in. (112 ± 11 mm)  
                   Measurement radius 11.54 in. (293 mm) on middle of stabilizer  
                   Down    4.0 ± 0.40 in. (102 ± 10 mm)

Rudder: Left    8.3 ± 0.60 in. (210 ± 15 mm)  
                   Measurement radius 16.54 in. (420 mm) on bottom of rudder  
                   Right    8.3 ± 0.60 in. (210 ± 15 mm)

Trim: Up    0.94 ± 0.16 in. (24 ± 4 mm)  
                   Measurement radius 2.68 in. (68 mm) on inboard of trim tab  
                   Down    0.94 ± 0.16 in. (24 ± 4 mm)

All measured from hinge line. (See GROB G 109B Instructions for Continued Airworthiness).

Serial Nos. Eligible.

See Import Requirements

**Data Pertinent to all Models**Certification Basis.

FAR 21.23, 21.29, and 21.50 effective February 1, 1965, Amendment 21-1 through 21-53.

For Model GROB G 109

Compliance with FAR 21.23 has been shown utilizing the provisions of Advisory Circular 21.23-1, dated 12 January, 1981, Section 5, paragraph a. The airworthiness requirements met under this provision are the Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR22) dated 1 April, 1980, and Section 5, paragraph (e)(6) of Advisory Circular 21.23-1 dated 12 January, 1981. FAR 23.471, 23.473, 23.477, 23.479, 23.481, 23.483, 23.485, 23.493, and 23.497 in effect on 23 June, 1981.

Type Certificate No. G43EU issued 9 August, 1982.

Date of Application for Type Certificate 23 June, 1981.

For Model GROB G 109B

Compliance with FAR 21.23 has been shown utilizing the provisions of Advisory Circular 21.23-1, dated 12 January, 1981, Section 5, paragraph a. The airworthiness requirements met under this provision are the Joint Airworthiness Requirements for Sailplanes and Powered Sailplanes (JAR22) dated 1 April, 1980, including Amendments 1 through 2, and Section 5, paragraph (e)(6) of Advisory Circular 21.23-1 dated 12 January, 1981. FAR 23.471, 23.473, 23.477, 23.479, 23.481, 23.483, 23.485, 23.493, and 23.497 in effect on 11 November, 1983.

Type Certificate No. G43EU issued 2 April, 1984.

Date of Application for Type Certificate 11 November, 1983.

For all Models

The German Airworthiness Authority, the Luftfahrt-Bundesamt (LBA), originally type certificated glider Models GROB G 109, and GROB G 109B under its Type Certificate No. 817. The FAA validated these products under U.S. Type Certificate No. G43EU. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of these products on behalf of Germany. EASA released Type Certificate No. EASA.A.249 for these glider models but at this time, EASA has maintained the LBA Type Certificate Data Sheet No. 817.

Import Requirements.For Model GROB G 109

Model G 109 gliders: Serial numbers 6001 through 6159 are eligible for a U.S. Standard Airworthiness Certificate when:

## 1) Either:

- (a) The FAA inspector is provided with the original Export Certificate of Airworthiness issued by a representative of the German Civil Aviation Authority, the LBA, on behalf of the European Community, containing the following statement: "The glider covered by this certificate has been examined, tested, and found to conform to the type design approved under FAA Type Certificate G43EU and is in a condition for safe operation."

Or,

- (b) The glider has been modified in accordance with the LBA approved GROB Technical Information TM817-5.

Import Requirements, cont'd.

- 2) The glider is found to be in condition for safe operation by the FAA inspector.
- 3) All other import requirements for the G 109 of this TCDS are satisfied.

Modifications pre-dating the issuance of this Type Certificate and not included in paragraph 1 and 2 of this note, and modifications dated after the issuance of this Type Certificate not covered by note contained in the Service Information paragraph of this Type Certificate must be assumed not to be approved under this Type Certificate.

For Model GROB G 109B

Model G 109B gliders: Serial numbers 6200 through 6445, and 6501 through 6579, except 6577 (fatigue test vehicle) are eligible for a U.S. Standard Airworthiness Certificate when:

- 1) Either:
  - (a) The FAA inspector is provided with the original Export Certificate of Airworthiness issued by a representative of the German Civil Aviation Authority, the LBA on behalf of the European Community, containing the following statement: "The glider covered by this certificate has been examined, tested, and found to conform to the type design approved under FAA Type Certificate G43EU and is in a condition for safe operation."
  - Or,
  - (b) The glider has been modified in accordance with the LBA approved GROB Technical Information TM817-14.
- 2) The glider is found to be in condition for safe operation by the FAA inspector.
- 3) All other import requirements for the G 109B of this TCDS are satisfied.

Modifications pre-dating the issuance of this Type Certificate and not included in paragraph 1 and 2 of this note, and modifications dated after the issuance of this Type Certificate not covered by note contained in the Service Information paragraph of this Type Certificate must be assumed not to be approved under this Type Certificate.

Equipment.For Model GROB G 109

The equipment approved for the GROB G 109 is listed in the GROB G 109 Master Equipment.

The Required Equipment for the kinds of Approved Operations are listed in the LBA approved GROB Flight Manual, dated 15 June, 1982. LBA approved GROB G 109 Flight Manual, dated 15 June, 1982, is required.

For Model GROB G 109B

The equipment approved for the GROB G 109B is listed in the GROB G 109B Master Equipment List dated 21 November, 1983.

The Required Equipment for the kinds of Approved Operations are listed in the LBA approved GROB G 109B Flight Manual, LBA approved 1 February, 1984. GROB G 109B Flight Manual, LBA approved 1 February, 1984, is required.

Service Information.

Each of the documents listed below may state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003 – by the German Airworthiness Authority (LBA).

- Service bulletins

Service Information, cont'd.

- Structural repair manuals
- Vendor manuals
- Aircraft flight manuals
- Overhaul and maintenance manuals

The FAA accepts such documents and considers them FAA-approved for type design data unless one of the following conditions exist:

- The documents change the limitations, performance, or procedures of the FAA approved manuals.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate case-by-case approval to EASA on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

Available Documents for Model GROB G 109:

Flight Manual, LBA Approved 15 June, 1982.

Instructions for Continued Airworthiness dated 5 April, 1982.

Available Documents for Model GROB G 109:B

Flight Manual, LBA Approved 1 February, 1983.

Instructions for Continued Airworthiness dated 1 October, 1983.

NOTES

## NOTE 1.

Current weight and balance data including list of equipment included in the certificated empty weight, and loading instructions, when necessary, must be provided for each glider at the time of original certification, **and at all times thereafter**. The certificated empty weight and corresponding center of gravity locations must include the following:

For Model GROB G 109

- a) Unusable fuel of 3 lb. (41 in. aft of datum).
- b) Undrainable engine oil of 0.2 lb. (54 in. forward of datum)

For Model GROB G 109B

- a) Unusable fuel of 3 lb. (34.4 in. aft of datum).
- b) Undrainable engine oil of 0.1 lb. (58.3. forward of datum)

## NOTE 2.

The placards listed in section II of the LBA approved GROB G 109 or GROB G 109B Flight Manual must be displayed.

## NOTE 3.

Section 6 of the GROB G 109/G 109B Instructions for Continued Airworthiness (LBA Approved 15 June, 1982 for Model G 109 and 1 October, 1983, for Model G 109B) specifies mandatory replacement times, structured inspection intervals, and related structural procedures. The Airworthiness Limitations may not be changed without FAA approval.

## NOTE 4.

All external portions of the powered glider exposed to sunlight must be painted white except wing tips, nose of fuselage and rudder.

## NOTE 5.

Removed.

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