

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

G01CE
Revision 5
DG Flugzeugbau GmbH
DG-800A
DG-800B
DG-808C

October 20, 2016

TYPE CERTIFICATE DATA SHEET No. G01CE

This data sheet, which is part of Type Certificate No. G01CE 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: DG Flugzeugbau GmbH
Otto-Liliental-Weg 2
D 76646 Bruchsal
Germany

Type Certificate Holder Record: Glaser-Dirks Flugzeugbau GmbH transferred TC G01CE to DG Flugzeugbau GmbH on July 30, 1996

I. Model DG-800A, Self-Launching (Powered) Glider, Utility Category, approved February 29, 1996

Engine. Rotax 505

Fuel. Automotive fuel minimum (Relative Octane Rating) RON 96 octane, or Aviation gasoline 100 LL
Mixed with Super-2-stroke oil in mixing ratio of 1:50

Engine Limits. Take off power: 31.7 KW (43 HP) at 6200 r.p.m.
Max. Continuous power: 29.5 KW (40 HP) at 6100 r.p.m.

Propeller and Propeller Limits. MT 136 R7S-1B
Diameter range maximum 53.74 in. (1365 mm)
minimum 53.35 in. (1355 mm)
(No further reductions permitted)

Airspeed Limits (IAS).

V_{NE} (never exceed)	168 mph	270 km/h	146 knots
V_B (in rough air)	118 mph	190 km/h	103 knots
V_A (maneuvering)	118 mph	190 km/h	103 knots
Retraction and extension of the power plant	68 mph	110 km/h	59 knots
V_{NE} (Power plant extended)	118 mph	190 km/h	103 knots
V_{FE} (Wing flaps extended)			
(+5°, +8°)	118 mph	190 km/h	103 knots
(L)	93 mph	150 km/h	81 knots

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Airspeed Limits (IAS) cont'd.

V _{LO} (Landing Gear operating)	118 mph	190 km/h	103 knots
V _T (Aero-tow)	118 mph	190 km/h	103 knots
V _W (Winch launch)	93 mph	150 km/h	81 knots

C.G. Range. 9.37 in. to 15.08 in. (238 to 383 mm) aft of Datum.

Empty Weight C.G. See Flight Manual. (Record of Weight and Balance)

Datum. Wing leading edge at wing root

Leveling Means. Aft fuselage midline horizontal and Aft fuselage boom slope 1000:37 (tail down)

Maximum Weight. 1157 lbs (525 Kg)

No. of Seats. One, in front of datum.

Maximum Baggage. 33 lb (15 kg) 6.7 in. (171 mm) aft of datum.

Fuel Capacity. Total 13.86 U.S. gal. (52.5 l)

	Capacity	Location Aft of Datum
Fuselage tank	5.94 U.S.Gal. (22.5 l)	13.2 in. (335 mm)
Each wing tank (optional)	3.96 U.S. Gal. (15 liter)	6.7 in. (171 mm)

Water Capacity. Each wing 13.2 U.S. gal (50 liter) 6.7 in. (171 mm) aft of datum

Tow Release. The C.G. tow release (installed in front of the main wheel) is suitable for winch and auto launching, and aerotow.

Caution: If an additional front hook is installed (below the instrument console), it is to be used only for aerotow.

Warning: Winch launching is not permitted at the front hook even in the case that no C.G. hook is installed.

Nose hook: Tost E 85, LBA TCDS No. 60.230/1

Safety hook: TOST Europa G 88, LBA TCDS No. 60.230/2

Control Surface Movements.

Aileron at flap setting: 0 degrees:

Up 1.65 ± .12 in. (42 ± 3 mm)

Down 0.83 ± .12 in. (21 ± 3 mm)

Measurement radius 4.8 in. (122 mm) from hinge line

Elevator: Up 1.81 ± .08 in. (46 ± 2 mm)

Down 1.81 ± .08 in. (46 ± 2 mm)

Measurement radius 5.3 in. (134 mm) from hinge line

Rudder: 6.5 +0/-0.2 in. (165 +0/-5 mm) to the right and left.

Measurement radius 12.52 in. (318 mm) from hinge line.

Wing flaps: Flap setting - 14° Up: 0.75 ± .12 in (19 ± 3 mm)

Flap setting - 0° 0.0 in. (0 mm)

Flap setting - L Down: 1.5 ± .12 (38 ± 3 mm)

Measurement radius 4.8 in. (122 mm) from hinge line

Serial Nos. Eligible.

See Import Requirement

Certification Basis.

- 1) FAR 21.23, 21.29 and 21.50 effective February 1, 1965 including Amendment 21-1 through 21-53.
- 2) Joint Airworthiness requirements for Sailplanes and Powered Sailplanes (JAR-22) Change 4 dated May 7, 1987, as Amended by Orange Papers 22/90/1, 22/91/1, and 22/92/1, and the requirements imposed by FAA AC21.17-2 dated July 13, 1989 as follows:
 - 22.177(b) Including AC 21.17-2 par. 6.c.(6)(i)(D)
 - 22.777 Including AC 21.17-2 par. 6.c.(7)(i)
 - 22.779 Including ACX 21.17-2 par. 6.c.(7)(ii)
 - 22.903(b) Including AC 21.17-2 par. 6.c.(7)(iii)
 - 22.1093 Including AC 21.17-2 par. 6.c.(7)(iv)
 - 22.1147 Including AC 21.17-2 par. 6.c.(7)(v)
 - 22.1153 Including AC 21.17-2 par. 6.c.(7)(vi)
 - 22.1545 Including AC 21.17-2 par. 6.c.(6)(iii)
 - 22.1555 Including AC 21-17-2 par. 6.c.(7)(vii)
- 3) Exemption No. 4988 to 14CFR45, Effective April 20, 1964, Amendments 45-1 through 45-16, Section 45.11(a) and (d) (External Identification Plate), pursuant to 14CFR11, Effective November 10, 1962, Amendments 11-1 through 11-36, Section 11.25 and 11.27.
- 4) Type Certificate No. G01CE issued February 29, 1996.
- 5) Date of Application for Type Certificate May 5, 1994.
- 6) The German Airworthiness Authority, the Luftfahrt-Bundesamt (LBA), originally type certificated this glider under its Type Certificate Number 873. The FAA validated this product under U.S. Type Certificate Number G01CE. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Germany. The EASA TCDS number is EASA.A.067.

Import Requirements.

The FAA can issue a U.S. airworthiness certificate based on a German Airworthiness Authority Export Certificate of Airworthiness (Export C of A) signed by a representative of the Luftfahrt-Bundesamt (LBA) on behalf of the European Community. The Export C of A should contain the following statement: "The aircraft covered by this certificate has been examined, tested, and found to conform to the type design approved under U.S. Type Certificate No. G01CE and to be in a condition for safe operation."

All model DG-800A gliders are eligible for a U.S. Standard Airworthiness Certificate, if all import requirements of this TCDS are satisfied.

All prematurely imported DG-800A gliders are eligible for a U.S. Standard Airworthiness Certificate, if Glaser-Dirks "U.S. Airworthiness Certification of "Prematurely" exported sailplanes." Service Bulletin 873-2, has been complied with, and if all import requirements of this TCDS are satisfied.

All model DG-800LA gliders are eligible for a U.S. Standard Airworthiness Certificate as a Model DG-800A when Glaser-Dirks "U.S. Airworthiness Certification of "Prematurely" exported sailplanes." Service Bulletin 873-2, has been complied with, and if all import requirements of this TCDS are satisfied.

Modifications pre-dating the issuance of this Type Certificate and not included in any of the above paragraphs 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.

Import Requirements cont'd.

The U.S. airworthiness certification basis for aircraft type certificated under 14CFR21 section 21.29 exported from countries other than the country of manufacturer (e.g. third party country) is section 21.183(d).

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the glider for certification. In addition, the DG-800A Flight Manual, LBA-approved dated February 1994, is required.

Service Information.

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003 – by the Luftfahrt-Bundesamt (LBA).

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- 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.

NOTESNOTE 1.

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

unusable fuel of 0.13 U.S. gal (0.5 liter)

NOTE 2.

The placards listed in the flight manual must be displayed. A complete listing of placards is in the Instructions for Continued Airworthiness Manual (Maintenance Manual).

NOTE 3.

Airworthiness Limitations of the DG-800A. Instructions for continued airworthiness, dated February 1994 is FAA-approved. It specifies mandatory replacement times, and structural repair procedures. These 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 the surfaces for the registration Nos. and anti-collision paint as specified by the manufacturer.

NOTE 5.

Major structural repairs must be accomplished at FAA certificated repair stations rated for composite aircraft structure work, or by a certified mechanic in accordance with DG Flugzeugbau GmbH (or Glaser-Dirks) repair methods approved by FAA.

NOTE 6.

Information essential for the proper operation, maintenance and Inspection of the glider is contained in the Model DG-800A Flight Manual and Maintenance Manual.

II. Model DG-800B, Self-Launching (Powered) Glider, Utility Category, approved May 22, 1998

<u>Engine.</u>	SOLO 2625 01		
<u>Fuel.</u>	Automotive fuel minimum (Relative Octane Rating) RON 95 octane, or Aviation gasoline 100 LL Mixed with Super-2-stroke oil in mixing ratio of 1:50		
<u>Engine Limits.</u>	Take off power:	39 KW (53 HP) at 6250 r.p.m.	
	Max. Continuous power:	39 KW (53 HP) at 6250 r.p.m.	
	Max - r.p.m.:	6600	Max - continuous r.p.m.: 6300
<u>Propeller and Propeller Limits.</u>	KS-1G-152-R-122-() - B		
	Diameter range	maximum 60.04 in. (1525 mm) minimum 59.65 in. (1515 mm)	
	(No further reductions permitted)		
<u>Airspeed Limits (IAS).</u>	V_{NE} (never exceed)	168 mph	270 km/h 146 knots
	V_B (in rough air)	118 mph	190 km/h 103 knots
	V_A (maneuvering)	118 mph	190 km/h 103 knots
	Retraction and extension of the power plant	68 mph	110 km/h 59 knots
	V_{NE} (Power plant extended)	118 mph	190 km/h 103 knots
	V_{FE} (Wing flaps extended)		
	(+5°, +8°)	118 mph	190 km/h 103 knots
	(L)	93 mph	150 km/h 81 knots
	V_{LO} (Landing Gear operating)	118 mph	190 km/h 103 knots
	V_T (Aero-tow)	118 mph	190 km/h 103 knots
	V_W (Winch launch)	93 mph	150 km/h 81 knots
<u>C.G. Range.</u>	9.37 in. to 15.08 in. (238 to 383 mm) aft of Datum.		
<u>Empty Weight C.G.</u>	See Flight Manual. (Record of Weight and Balance)		
<u>Datum.</u>	Wing leading edge at wing root		
<u>Leveling Means.</u>	Aft fuselage midline horizontal and Aft fuselage boom slope 1000:37 (tail down)		
<u>Maximum Weight.</u>	1157 lbs (525 Kg)	18 in span	
	1157 lbs (525 Kg)	15 in tow launch	
	1058 lbs (480 Kg)	15 in self launch	
<u>No. of Seats.</u>	One, in front of datum.		
<u>Maximum Baggage.</u>	33 lbs (15 kg) 6.7 in. (171 mm) aft of datum.		
<u>Fuel Capacity.</u>	Total	13.86 U.S. gal. (52.5 l)	
		Capacity	Location Aft of Datum
	Fuselage tank	5.94 U.S.Gal. (22.5 l)	13.2 in. (335 mm)
	Each wing tank (optional)	3.96 U.S. Gal. (15 liter)	6.7 in. (171 mm)

Water Capacity.

Each wing 13.2 U.S. gal (50 liter) 6.7 in. (171 mm) aft of datum

Tow Release.

The C.G. tow release (installed in front of the main wheel) is suitable for winch and auto launching, and aerotow.

Caution: If an additional front hook is installed (below the instrument console), it is to be used only for aerotow.

Warning: Winch launching is not permitted at the front hook even in the case that no C.G. hook is installed.

Nose hook: Tost E 85, LBA TCDS No. 60.230/1

Safety hook: TOST Europa G 88, LBA TCDS No. 60.230/2

Control Surface Movements.

Aileron at flap setting: 0 degrees:
 Up 1.65 ± .12 in. (42 ± 3 mm)
 Down 0.83 ± .12 in. (21 ± 3 mm)
 Measurement radius 4.8 in. (122 mm) from hinge line

Elevator: Up 1.81 ± .08 in. (46 ± 2 mm)
 Down 1.81 ± .08 in. (46 ± 2 mm)
 Measurement radius 5.3 in. (134 mm) from hinge line

Rudder: 6.5 +0/-0.2 in. (165 +0/-5 mm) to the right and left.
 Measurement radius 12.52 in. (318 mm) from hinge line.

Wing flaps: Flap setting - 14° Up: 0.75 ± .12 in (19 ± 3 mm)
 Flap setting - 0° 0.0 in. (0 mm)
 Flap setting - L Down: 1.5 ± .12 (38 ± 3 mm)
 Measurement radius 4.8 in. (122 mm) from hinge line

Serial Nos. Eligible.

See Import Requirement

Certification Basis.

- 1) FAR 21.23, 21.29 and 21.50 effective February 1, 1965 including Amendment 21-1 through 21-53.
- 2) Joint Airworthiness requirements for Sailplanes and Powered Sailplanes (JAR-22) Change 4 dated May 7, 1987, as Amendmend by Orange Papers 22/90/1, 22/91/1, and 22/92/1, and the requirements imposed by FAA AC21.17-2 dated July 13, 1989 as follows:
 - 22.177(b) Including AC 21.17-2 par. 6.c.(6)(i)(D)
 - 22.777 Including AC 21.17-2 par. 6.c.(7)(i)
 - 22.779 Including ACX 21.17-2 par. 6.c.(7)(ii)
 - 22.903(b) Including AC 21.17-2 par. 6.c.(7)(iii)
 - 22.1093 Including AC 21.17-2 par. 6.c.(7)(iv)
 - 22.1147 Including AC 21.17-2 par. 6.c.(7)(v)
 - 22.1153 Including AC 21.17-2 par. 6.c.(7)(vi)
 - 22.1545 Including AC 21.17-2 par. 6.c.(6)(iii)
 - 22.1555 Including AC 21-17-2 par. 6.c.(7)(vii)
- 3) Exemption No. 4988 to 14CFR45, Effective April 20, 1964, Amendments 45-1 through 45-16, Section 45.11(a) and (d) (External Identification Plate), pursuant to 14CFR11, Effective November 10, 1962, Amendments 11-1 through 11-36, Section 11.25 and 11.27.
- 4) Finding of Equivalent Level of Safety pursuant to Section 21.21(b)(1) for JAR 22.51, JAR 22.207(c), and JAR 22.1093.
- 5) Amended Type Certificate No. G01CE issued May 22, 1998.

Certification Basis cont'd.

- 6) Date of Application for Type Certificate September 22, 1997.
- 7) The German Airworthiness Authority, the Luftfahrt-Bundesamt (LBA), originally type certificated this glider under its Type Certificate Number 873. The FAA validated this product under U.S. Type Certificate Number G01CE. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Germany. The EASA TCDS number is EASA.A.067.

Import Requirements.

The FAA can issue a U.S. airworthiness certificate based on a German Airworthiness Authority Export Certificate of Airworthiness (Export C of A) signed by a representative of the Luftfahrt-Bundesamt (LBA) on behalf of the European Community. The Export C of A should contain the following statement: "The aircraft covered by this certificate has been examined, tested, and found to conform to the type design approved under U.S. Type Certificate No. G01CE and to be in a condition for safe operation."

All model DG-800B gliders with engine SOLO 2625 01 are eligible for a U.S. Standard Airworthiness Certificate, if all import requirements of this TCDS are satisfied.

All prematurely imported DG-800B gliders with engine SOLO 2625 01 are eligible for a U.S. Standard Airworthiness Certificate, if DG Flugzeugbau "U.S. Airworthiness Certification of "Prematurely" exported sailplanes." Service Bulletin 873-11, has been complied with, and if all import requirements of this TCDS are satisfied.

Modifications pre-dating the issuance of this Type Certificate and not included in any of the above paragraphs 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.

The U.S. airworthiness certification basis for aircraft type certificated under 14CFR21 section 21.29 exported from countries other than the country of manufacture (e.g. third party country) is section 21.183(d).

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the glider for certification. In addition, the DG-800B Flight Manual, LBA-approved dated March 1998, is required.

Service Information.

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003 – by the Luftfahrt-Bundesamt (LBA).

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- 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.

NOTESNOTE 1.

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

unusable fuel of 0.13 U.S. gal (0.5 liter)

NOTE 2.

The placards listed in the flight manual must be displayed. A complete listing of placards is in the Instructions for Continued Airworthiness Manual (Maintenance Manual).

NOTE 3.

Airworthiness Limitations of the DG-800B. Instructions for continued airworthiness, dated February 1998 is FAA-approved. It specifies mandatory replacement times, and structural repair procedures. These 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 the surfaces for the registration Nos. and anti-collision paint as specified by the manufacturer.

NOTE 5.

Major structural repairs must be accomplished at FAA certificated repair stations rated for composite aircraft structure work, or by a certified mechanic in accordance with DG Flugzeugbau GmbH repair methods approved by FAA.

NOTE 6.

Information essential for the proper operation, maintenance and Inspection of the glider is contained in the Model DG-800B Flight Manual and Maintenance Manual.

III. Model DG-808C Self Launching Motor Glider, Utility Category, approved January 08, 2007
Versions available: "Classic" and "Competition"

Description.

Single-seat, shoulder-winged, powered sailplane with retractable engine and fixed pitch propeller; CRP/GRP composite construction; T-type horizontal tail with fin and elevator; Schempp-Hirth airbrakes on upper wing surface; wingflaps, water ballast tanks in wings and tail fin (only on Competition version); spring mounted retractable landing gear with wheel brake; fuel tank in fuselage, optional fuel bags in wings; 18m span with optional winglets; 15m span with optional winglets.

Engine.

Solo Kleinmotoren
 Sindelfingen/Maichingen, Germany
 (1) Solo 2 625 01, water-cooled, two stroke, dual ignition
 LBA Type Certificate Data Sheet no. 4600

Fuel.

Car super grade gasoline, min. 95 octane (ROZ, RON) leaded or unleaded
 or: AVGAS 100 LL (only if super grade gasoline is not available)
 or: mix 50% AVGAS 100 LL and 50% car super grade gasoline, unleaded, min. 92 octane (ROZ, RON);
 mixed with self mixing Super quality two stroke oil, specification TSC 3 or API TC or JASO FC or higher quality. Mixing ratio: 1:50

Note: The SOLO company recommends the following oil types: CASTROL Super TT, CASTROL GO 2T, or CASTROL Super TTS

Engine Limits.

Take off power: 53 hp (39 kW) at 6300 RPM
 Max. continuous power: 53 hp (39 kW) at 6300 RPM

Propeller and Propeller Limits.

Technoflug model KS-1G-152-R-122-()-B, GFRP composite, two blade, fixed pitch
 Diameter*: 59.880 in \pm 0.197 in (1520 mm \pm 5 mm)
 LBA Type Certificate Data Sheet no. 32.110/18

* No further tolerance permitted

Airspeed Limits (IAS).

Warning: At higher altitudes, the true airspeed is higher than the indicated airspeed, so V_{NE} is reduced according to the table below:

V_{NE} (never exceed)	kts	mph	km/h
0 -3000 m (9843 ft)	146	168	270
4000 m (13123 ft)	138	159	256
5000 m (16404 ft)	131	151	243
6000 m (19685 ft)	124	143	230
7000 m (22966 ft)	117	135	217
8000 m (26247 ft)	111	127	205

		kts	mph	km/h
V_{PE}	Max. speed with powerplant extended	103	118	190
V_{PO}	Max. speed to extend and retract powerplant	54	62	100
V_{RA}	Rough air speed	103	118	190
V_A	Maneuvering speed	103	118	190
V_{FE}	Max. aerotow speed at flap settings: L: +5° up to +8°	81	93	150
		103	118	190
V_W	Max. winch launching speed	81	93	150
V_W	Max. aerotowing speed	103	118	190
V_{LO}	Max. landing gear operating speed	103	118	190

Airspeed Indicator Markings.

	IAS Range	Significance
White Arc	47.5 – 103 kts (88 – 190 km/h) (55 – 118 mph)	Positive Flap Operating Range Lower limit is the speed $1.1 \cdot V_{SO}$ at the maximum weight in the landing configuration. Upper limit is the maximum speed permissible with flaps extended $+8^\circ$, $+5^\circ$
Green Arc	52 - 103 kts (97 - 190 km/h) (60 – 118 mph)	Normal operating range Lower limit is the speed $1.1 \cdot V_{S1}$ at the maximum weight and most forward c.g. with flaps neutral. Upper limit is the maximum rough air airspeed.
Yellow Arc	103 - 146 kts (190 – 270 km/h) (118 – 168 mph)	Maneuvers must be conducted with caution and only in smooth air
Red Line	146 kts (270 km/h) (168 mph)	Maximum speed for all operations
L	81 kts (150 km/h) (93 mph)	Maximum speed for landing configuration “L”, i.e., max flap extended speed.
Blue Line	49 kts (90 km/h) (56 mph)	Best climb speed V_y
Yellow Triangle	57 kts (105 km/h) (65 mph)	Approach speed at maximum weight without water ballast

C.G. Range.

Forward limit: 9.37 in (238 mm) aft of datum point.
Rear limit: 15.08 in (383 mm) aft of datum point.
Horizontal reference line = aft fuselage center line in horizontal position
See Flight Manual for C.G. diagrams and loading chart

Empty Weight C.G.

See Flight Manual.

Datum.

Wing leading edge at root rib

Leveling Means.

Position: Aft fuselage boom slope 1000:37 (tail down)

Maximum Weight.

Max. take-off and landing weight with waterballast:

Version DG-808C	Classic	Competition
Wingspan: 15 m	1157 lbs (525 kg)	1190 lbs (540 kg)
Wingspan: 18 m	1157 lbs (525 kg)	1323 lbs (600 kg)

Maximum Weight cont'd.**Maximum take-off and landing mass without waterballast:**

Maximum take-off and landing weight = $W_{NLP} + W_{wings}$

$W_{NLP} = W_{NLP \text{ empty}} + \text{payload (pilot, parachute, baggage, trim ballast, fin waterballast, removable equipment items, etc.)}$

$W_{NLP \text{ empty}} = \text{Total empty weight including permanently installed equipment minus weight of the wings}$

$W_{wings} = \text{Actual weight of the wings}$

Maximum weight of non-lifting parts:

Classic version: 745 lbs (338 kg)

Competition version: 780 lbs (354 kg)

Maximum waterballast:

Version DG-808C	Classic	Competition
Wing tanks	220 lbs (100 kg)	265 lbs or 330 lbs (120 kg or 150 kg)
Fin tank	N/A	14.8 lbs (6.7 kg)

Caution: Ballast in the fin tank is part of the weight of the non-lifting parts. The maximum take-off weight must not be exceeded with this ballast

Maximum weight in baggage compartment: 33 lbs (15 kg)

Moment arm: See Flight Manual

Maximum Baggage.

33 lbs (15 kg)

Caution: Heavy pieces of baggage must be secured to the baggage compartment floor (screwing to the floor or with belts). The max. weight secured on one-half of the floor (left and right of fuselage center line) should not exceed 16.5 lbs (7.5 kg)

Fuel Capacity.

Total: 5.55 U.S. gal

Useable amount of fuel: 5.42 U.S. gal (20.5 liters)

Non useable amount of fuel: 0.15 U.S. gal (0.5 liters)

Fuselage tank: 5.55 U.S. gal (21 liters)

Non useable amount: 0.15 U.S. gal (0.5 liters)

Wing tank left (Optional): 2.64 U.S. gal (10 liters)

Wing tank right (Optional): 2.64 U.S. gal (10 liters)

No. of Seats.

One

Moment arm: See Flight Manual

Weak Link for Towing Cables.
(Ultimate Strength)**Classic and Competition version up to 1157 lb (525 kg) takeoff weight:**

Aerotow, winch, and autotow launching:

Recommended: 1349 lbf (6000 N) \pm 10%

Maximum: 1484 lbf (6600 N)

Minimum: 1214 lbf (5400 N)

Competition version up to 1323 lb (600 kg) takeoff weight:

Aerotow and autotow launching:

Recommended: 1349 lbf (6000 N) \pm 10%

Maximum: 1484 lbf (6600 N)

Minimum: 1214 lbf (5400 N)

Weak Link for Towing Cables cont'd.**Winch launching:**Recommended: 1686 lbf (7500 N) \pm 10%

Maximum: 1855 lbf (8250 N)

Minimum: 1517 lbf (6750 N)

Towing cables (aerotow only).

Length: 100-230 ft (30-70 m)

Material: hemp or plastic fibers

Tow Release.

The C.G. tow release (installed in front of the main wheel) is suitable for winch and auto launching, and aerotow.

Caution: If an additional front hook is installed (below the instrument console), it is to be used only for aerotow.

Warning: Winch launching is not permitted at the front hook even in the case that no C.G. hook is installed.

Nose hook: Tost E 85, LBA TCDS No. 60.230/1

Safety hook: TOST Europa G 88, LBA TCDS No. 60.230/2

Landing Gear.

Main wheel:

spring mounted, retractable, gas strut assisted, fully sealed landing gear box, internal drum brake;

Tires: 5.00 – 5.4 PR or 6 PR, diameter 14.25 in. (362 mm)

Tailwheel:

Tire: 200 x 50 2 PR, diameter 7.87 in (200 mm)

Battery.

Four separate 6V, 12 Ah sealed, lead acid batteries

Control Surface Movements.Aileron: Up: displacement 1.65 ± 0.12 in. (42 ± 3 mm)Down: displacement 0.83 ± 0.12 in. (21 ± 3 mm)Measured 4.8 in. (122 mm) from hinge axis (at inboard end), wing flap setting 0° Wing Flap: Up: -14° , displacement -0.75 ± 0.12 in. (-19 ± 3 mm)Down: L, displacement $+1.50 \pm 0.12$ in. (38 ± 3 mm)

Measured 4.8 in. (122 mm) from hinge axis against the fixed part at the wing

root.

Note: At flap setting -5° , the flaperons have to be adjusted against the fixed part at the wing root with 0 ± 0.04 in. (0 ± 1 mm).

Elevator: Up: displacement: 1.81 ± 0.08 in (46 ± 2 mm)Down: displacement: 1.81 ± 0.08 in (46 ± 2 mm)

Measured 5.3 in (134 mm) from hinge axis which is directly at the edge of the cut-out for the rudder.

Rudder: 28° , max. displacement: 6.1 in (155 mm) + 0, -0.2 in. (-5 mm), measured at 12.52 in. (318 mm) from the hinge axis.

See Maintenance Manual for free play allowances

Serial Nos. Eligible.

See Import Requirement

Certification Basis.

- 1) FAR 21.29, 21.50, 21.183(c), effective February 1, 1965 including Amendment 21-1 through 21-88.
- 2) Joint Airworthiness requirements for Sailplanes and Powered Sailplanes (JAR-22) Amendment (Change) 4, effective on June 27, 1989.
- 3) Preliminary Standards for Structural Substantiation of Sailplanes and Powered Sailplane Components Consisting of Glass or Carbon Fibre Reinforced Plastics, issued May 1986.
- 4) Preliminary Guidelines for the Analysis of the Electrical System for Powered Sailplanes, issued February 1, 1990.
- 5) FAA Equivalent Level of Safety (ELOS) to JAR 22.1093, Induction system icing protection, ELOS No. ACE-07-05.
- 6) FAA Equivalent Level of Safety (ELOS) to JAR 22.207(c), Stall warning, ELOS No. ACE-07-07.
- 7) FAA Equivalent Level of Safety (ELOS) to JAR 22.51, Take-off speed, ELOS No. ACE-07-08.
- 8) EASA Type Certificate Data Sheet No. EASA.A.067, Issue 1, dated January 10, 2006.
- 9) Date of application for FAA Type Certificate: April 13, 2006
- 10) The German Airworthiness Authority, the Luftfahrt-Bundesamt (LBA), originally type certificated this glider under its Type Certificate Number 873. The FAA validated this product under U.S. Type Certificate Number G01CE. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Germany. The EASA TCDS number is EASA.A.067.

Import Requirements.

A U.S. airworthiness certificate may be issued on the basis of the European Aviation Safety Agency (EASA) or the German Airworthiness Authority (LBA) Export Certificate of Airworthiness (Export C of A) signed by a representative of EASA or the LBA on behalf of the European Community. The Export C of A should contain the following statement: "The aircraft covered by this certificate has been examined, tested, and found to conform to the type design approved under FAA Type Certificate G01CE and to be in a condition for safe operation."

Eligible Serial Numbers:

All model DG-808C gliders are eligible for a U.S. Standard Airworthiness Certificate, if all import requirements of this TCDS are satisfied and applicable Airworthiness Directives have been implemented.

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations must be installed in the glider for certification.

- Airspeed indicator: range: 0 to 165 knots (186 mph, 300 km/h)
- Altimeter: range: 0 to min. 32,808 ft (10,000 m); one turn max at 3280.8 ft (1000 m)
- 4-point harness (symmetrical)
- VHF transceiver: ready for operation, with noise absorbing earphones
- Magnetic compass
- Rear view mirror
- Fire warning light

Equipment cont'd.

- DG Engine Control Unit DEI-NT capable of displaying:
 - RPM
 - Coolant temperature indicator
 - Fuel quantity
 - Engine elapsed time (counts as long as the engine is running)
 - Outside air temperature
- Automatic or manual parachute or a back cushion (thickness approx. 3.1 in. (80 mm) when compressed, when flying without a parachute.
- DG-808C Flight Manual, EASA-approved January 10, 2006, or later approved date.

Service Information.

Each of the documents listed below must 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
- 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 DG-808C:

- A Flight Manual for DG-808C, issued June 2005, EASA-approved January 10, 2006, or later approved version
- Maintenance Manual for DG-808C, issued June 2005, revised September 2007 or later date
- Repair Manual for DG-800B, issued November, 1997
- Operating Instructions: Tost model “E 85” nose tow release, latest approved version
- Operating Instructions: Tost model “Europa G 88” safety tow release, latest approved version
- Engine Manual: Solo 2 625 01, latest approved version, issued by Solo-Kleinmotoren GmbH
- Operating and Maintenance Manual No. P3 for the propeller KS-1-G, latest approved version

NOTES.NOTE 1.

Current weight and balance data together with 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.

NOTE 2.

The placards listed in the flight manual must be displayed. A complete listing of placards is in the Instructions for Continued Airworthiness Manual (Maintenance Manual).

NOTE 3.

Airworthiness Limitations of the DG-808C is incorporated in Section 0.4 of the Maintenance Manual and is FAA-approved. It specifies mandatory replacement times, and structural repair procedures. These airworthiness limitations may not be changed without FAA approval.

NOTES, cont'd.NOTE 4.

All external portions of the powered glider exposed to sunlight must be painted white except the surfaces for the registration numbers and anti-collision paint as specified by the manufacturer.

NOTE 5.

Major structural repairs must be accomplished at FAA certificated repair stations rated for composite aircraft structure work, or by a certified mechanic in accordance with DG Flugzeugbau GmbH repair methods approved by FAA.

NOTE 6.

Cloud flying is permissible in the U.S. provided the pilot has the appropriate rating per FAR 61.3, the glider contains the necessary equipment specified under FAR 91.205, and the pilot complies with IFR and oxygen use requirements.

- END -