

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

G40EU Revision 2 Aeroclubul Romaniei IS-28B2 December 18, 2017
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TYPE CERTIFICATE DATA SHEET NO. G40EU

This data sheet which is a part of the type certificate No. G40EU 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	Aeroclubul Romaniei Bd. Lascar Catargiu, Nr. 54, cod: 010673 Sector 1, Bucharest Romania
Type Certificate Holder Record	Intreprinderea De Constructii Aeronautice transferred TC G40EU to S.C. IAR S.A. Braşov in January, 1991. S.C. IAR S.A. Braşov transferred TC G40EU to S.C. Construcţii Aeronautice S.A. Braşov in December, 2004. S.C. Construcţii Aeronautice S.A. Braşov transferred TC G40EU to Aeroclubul Romaniei on October 21, 2016.

I. Model IS-28B2 Glider, approved July 3, 1978

Description	The IS-28B2 is a two-seat (tandem) glider with metallic construction, a partial retractable landing gear, and a "T" type tailplane.																																												
Airspeed Limits (I.A.S.)	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>km/h</u></th> <th style="text-align: center;"><u>knots</u></th> <th style="text-align: center;"><u>mph</u></th> </tr> </thead> <tbody> <tr> <td>Never Exceed (V_{ne})</td> <td style="text-align: center;">230</td> <td style="text-align: center;">124</td> <td style="text-align: center;">143</td> </tr> <tr> <td>Maximum Speed in Rough Air (V_b)</td> <td style="text-align: center;">165</td> <td style="text-align: center;">89</td> <td style="text-align: center;">103</td> </tr> <tr> <td>Maneuvering (V_a)</td> <td style="text-align: center;">165</td> <td style="text-align: center;">89</td> <td style="text-align: center;">103</td> </tr> <tr> <td>On Aerotow (V_t)</td> <td style="text-align: center;">140</td> <td style="text-align: center;">75</td> <td style="text-align: center;">87</td> </tr> <tr> <td>On Winch Tow (V_w)</td> <td style="text-align: center;">125</td> <td style="text-align: center;">67</td> <td style="text-align: center;">78</td> </tr> <tr> <td>Landing Gear (V_l)</td> <td style="text-align: center;">230</td> <td style="text-align: center;">124</td> <td style="text-align: center;">143</td> </tr> <tr> <td>Flap Extended 15° or less (V_f)</td> <td style="text-align: center;">130</td> <td style="text-align: center;">70</td> <td style="text-align: center;">81</td> </tr> <tr> <td>Airbrakes Extended (V_{brake})</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding-left: 20px;">Up to S/N 54</td> <td style="text-align: center;">200</td> <td style="text-align: center;">108</td> <td style="text-align: center;">124</td> </tr> <tr> <td style="padding-left: 20px;">S/N 55 and on</td> <td style="text-align: center;">230</td> <td style="text-align: center;">124</td> <td style="text-align: center;">143</td> </tr> </tbody> </table>		<u>km/h</u>	<u>knots</u>	<u>mph</u>	Never Exceed (V_{ne})	230	124	143	Maximum Speed in Rough Air (V_b)	165	89	103	Maneuvering (V_a)	165	89	103	On Aerotow (V_t)	140	75	87	On Winch Tow (V_w)	125	67	78	Landing Gear (V_l)	230	124	143	Flap Extended 15° or less (V_f)	130	70	81	Airbrakes Extended (V_{brake})				Up to S/N 54	200	108	124	S/N 55 and on	230	124	143
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C.G. Range	22 to 47% MAC (+9.8 in. to +20.9 in. aft of reference - See Flight and Maintenance Manual page 2.2)																																												
Empty Weight C.G. Range	None																																												
Datum	Wing leading edge at wing root rib.																																												
Leveling Means	A, B, and C points of fuselage are horizontal. (See Flight Manual, Section 6, Page 6.40, 6.44 and 6.45).																																												
Maximum Weight	520 kg (1146 lb.) acrobatic category 590 kg (1308 lb.) utility category																																												
No. of Seats	Two adjustable seats (See Flight Manual Section 6, Pages 6.46 and 6.48)																																												

Page No.	1	2	3	4
Rev. No.	2	2	2	2

Ballast Fixed	At station corresponding to front control panel and for certain single control and pilot weight, 13.3 lb. applicable to aircraft up to and including S/N 45 and a maximum 25 lb. applicable to aircraft S/N 46 and up. (See Flight Manual).																									
Baggage	44 lb. max essentially at CG.																									
Control Surface Movements	<table border="0"> <tr> <td>Flap Position</td> <td>"-1"</td> <td>"1"</td> <td>"2"</td> <td>"3"</td> </tr> <tr> <td>Up</td> <td>$5^{\circ} \pm 2^{\circ}$</td> <td>Down $5^{\circ} \pm 2^{\circ}$</td> <td>$10^{\circ} \pm 2^{\circ}$</td> <td>$15^{\circ} \pm 2^{\circ}$</td> </tr> <tr> <td>Ailerons</td> <td>Up $28^{\circ} \pm 2^{\circ}$</td> <td>Down $10^{\circ} \pm 2^{\circ}$</td> <td></td> <td></td> </tr> <tr> <td>Elevator</td> <td>Up $27^{\circ} \pm 2^{\circ}$</td> <td>Down $22^{\circ} \pm 2^{\circ}$</td> <td></td> <td></td> </tr> <tr> <td>Rudder</td> <td>Right $30^{\circ} \pm 2^{\circ}$</td> <td>Left $30^{\circ} \pm 2^{\circ}$</td> <td></td> <td></td> </tr> </table> <p>(See Flight and Maintenance Manual Page 6.45)</p>	Flap Position	"-1"	"1"	"2"	"3"	Up	$5^{\circ} \pm 2^{\circ}$	Down $5^{\circ} \pm 2^{\circ}$	$10^{\circ} \pm 2^{\circ}$	$15^{\circ} \pm 2^{\circ}$	Ailerons	Up $28^{\circ} \pm 2^{\circ}$	Down $10^{\circ} \pm 2^{\circ}$			Elevator	Up $27^{\circ} \pm 2^{\circ}$	Down $22^{\circ} \pm 2^{\circ}$			Rudder	Right $30^{\circ} \pm 2^{\circ}$	Left $30^{\circ} \pm 2^{\circ}$		
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Weak Link Rating for Winch and Aero Tow	500 kg (1100 lb.)																									
Serial Nos. Eligible	See Import Requirements.																									
Certification Basis	<p>FAR 21.23 and FAR 21.19 effective February 1, 1965. Type Certificate G40EU issued July 3, 1978. Date of Application for Type Certificate April 15, 1977.</p> <p>The Department of Civil Aviation (DCA) of Romania originally type certificated this glider under its type certificate Number PN-03. The FAA validated this product under U.S. Type Certificate Number G40EU. Effective March 28, 2007, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Romania. The EASA TCDS number is EASA.A.453.</p>																									
Validation Basis	Type Certificate G40EU was issued in accordance with FAR 21.29(a)(1) in validation of the Romanian DCA certification of compliance with the International Scientific and Technical Organization for Sailplanes (OSTIV) airworthiness requirements for sailplanes dated September 1971 acrobatics and utility categories for sailplanes, which were found to provide a level of safety equivalent to the certification basis.																									
Import Requirements	<p>A U.S. Standard Airworthiness Certificate may be issued on the basis of an Export Certificate of Airworthiness (Export C of A) signed by a representative of the Romanian Civil Aviation Authority (RO CAA) on behalf of the European Community. The Export C of A should contain 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 No. G40EU and is in condition for safe operation."</p> <p>IS-28B2 glider serial numbers 08 through 140 are eligible for a U.S. Standard Airworthiness Certificate when modified in accordance with Modification Kit No. 1, approved by the Romanian DCA on June 28, 1978 and the other import requirements of this TCDS are satisfied.</p>																									
Required Equipment	<p>The basic required equipment as prescribed in the applicable airworthiness regulations (as listed in Flight and Maintenance Manual Section 6, Page 6.38) must be installed in the glider for standard airworthiness certification. In addition, the following equipment must be installed:</p> <ol style="list-style-type: none"> 1. Instruments (non-cloud flying) <ol style="list-style-type: none"> (a) Airspeed indicator - marked per Flight Manual Page 2.2 (b) Altimeter (c) Magnetic compass 2. Additional Instruments for Cloud Flying <ol style="list-style-type: none"> (a) Turn and bank indicator (b) Variometer 																									

Required Equipment (cont'd)

3. Accelerometer for Acrobatic Flying
4. IS-28B2 Flight and Maintenance Manual approved by Romanian DCA dated June 28, 1978 or later approved revisions.

Service Information

Each of the documents listed below must state that it is approved by EASA or – for approvals made before March 28, 2007 – by the Romanian DCA or the RO CAA.

- 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 the documents change the limitations, performance, or procedures of the FAA approved manuals. If this is the case, 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.

NOTES

NOTE 1 Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary, must be provided at the time of original airworthiness certification.

NOTE 2 A. The following placards and markings must be displayed in full view of the pilot.

(1) Limitations	<u>km/h</u>	<u>knots</u>	<u>mph</u>
V _{ne} (Never Exceed Speed)	230	124	143
V _b (Maximum Speed at 15 m/s Gust)	165	89	103
V _t (Maximum Speed on Aerotowing)	140	75	87
V _w (Maximum Speed on Winch Launch)	125	67	78
V _i (Maximum Speed with Extended Landing Gear)	230	124	143
V _f (Maximum Speed with Flap Deflected at +3)	130	70	89
V _{brake} (Maximum Speed with Extended Airbrakes)	230	124	143

Load factor ($\pm g$) at:

- 1301 lb. (gross weight) + 5.3, -2.65
- 1146 lb. (gross weight) + 6.5, -4.0

Applicable to gliders S/N 46 and up (Single control):

Minimum front pilot weight without ballast (Single control) 70 kg (154 lb.)

If pilot's weight with parachute is below 154 lb. ballast weight must be installed under front control panel per Flight Manual, Page 2.3.

Applicable to gliders up to and including S/N 45:

Minimum front pilot weight without ballast (Single control) 61 kg (134.5 lb.)

If pilot's weight with parachute is below 134.5 lb. ballast weight must be installed under front control panel per Flight Manual, Page 2.4.

(2) Operating Limitations

This sailplane must be operated in compliance with the operating limitations as stated in the form of markings, placards, and Flight and Maintenance Manual. Approved acrobatic maneuvers recommended entry speeds.

<u>Maneuver</u>	<u>Entry Speed</u>		
	<u>km/h</u>	<u>knots</u>	<u>mph</u>
Spin	70	38	43
Looping	170	92	106
Turn	170	92	106
Stall turn	150	81	93

All acrobatic maneuvers including spins must be accomplished in accordance with the approved IS-28B2 Flight and Maintenance Manual. Accelerometer must be installed.

B. Other Markings or Placards.

Above the main wheel	2.5 Aty (35 p.s.i.)
On the shock absorber for main wheel	55-60 Aty (782-853 p.s.i.)
Above the tail wheel	2.5 Aty (35 p.s.i.)
Adjacent to static pressure entry on fuselage skin	Red Ring
On rudder, elevator and flaps	"DO NOT PUSH"
On rear cabin panel	Maximum baggage load 44 lb.

The airspeed limitations must be marked on the dial of the airspeed indicator in accordance with the light and Maintenance Manual (See Page 2.2)

NOTE 3 Inspection, maintenance, and repairs must be accomplished in accordance with manufacturer's IS-28B2 Flight and Maintenance Manual and Repair Manual.

Tost release shall be repaired according to TOST manual.

NOTE 4 Major repairs must be accomplished by a properly certificated mechanic in accordance with data approved by the FAA.

NOTE 5 For required instrument installation, refer to Master Equipment List (Instruments) which contains a list of installed instruments approved during initial type certification testing, and information concerning acceptable replacement instruments (See Flight and Maintenance Manual, Page 6.38)

NOTE 6 Gliders having a S/N up to 140 are eligible for a Standard Airworthiness Certificate after applying Modification Kit No. 1, which includes:

- Limitations placards
- Red buttons for opening the cabin
- Flight and Maintenance Manual approved by the Romanian DCA
- IS-28B2/ER-02 recommended Service Bulletin

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