



LAA TYPE ACCEPTANCE DATA SHEET
TADS 295
GLASTAR

Issue 3	Revised format. Manufacturer's service information added to section 3.3	Dated 1/6/12	JV
Revision A	Note added to SB 69 in section 3.3 Minor editorial changes.	Dated 9/10/18	JV

These TADS are intended as a summary of available information about the type and should be used during the build, operation and permit revalidation phases to help owners and inspectors. Although it is hoped that this document is as complete as possible, other sources may contain more up to date information, e.g. the manufacturer's website.

Section 1 contains general information about the type.

Section 2 contains information about the type that the LAA considers **mandatory** and must be complied with.

Section 3 contains advisory information that owners and inspectors should review to help them maintain the aircraft in an airworthy condition. If due consideration and circumstances suggest that compliance with the requirements in this section can safely be deferred, is not required or not applicable, then this is a permitted judgement call. This section also provides a useful repository for advisory information gathered through defect reports and experience.

Section 1 - Introduction

1.1 UK contact

There is no current UK agent or importer. The manufacturer is Glasair Aviation LLC, 18530 59th Drive, NE Arlington, WA 98223, USA.

Tel: +1 360 435 8533
Email: info@glasairaviation.com
Website: www.glasairaviation.com

1.2 Description

The Glastar is a strut-braced, high-wing aircraft of conventional configuration developed by Stoddard-Hamilton, producers of the long-established and already-accepted Glasair range of kits. Stoddard-Hamilton were taken over by New Glastar LLC after financial difficulties overtook the original company. The company is now known as Glasair Aviation LLC.

The Glastar seats two side-by-side in an enclosed cockpit. The wings, tailplane and all control surfaces are of conventional riveted aluminium alloy construction. The forward fuselage structure consists of a welded 4130N chrome-molybdenum steel tube truss. The fuselage external shape is formed by composite female-moulded shells reaching from the firewall to the finpost, being non-structural in the forward fuselage but structural in the rear fuselage and fin area, where the sandwich skin shells and internal moulded bulkheads form a monocoque structure. The composite fuselage and fin mouldings are of vinyl-ester/glass composite sandwich as utilised in the Glasair aircraft.

The wings are braced by a single extruded aluminium strut either side, and are hinged about their rear spar root fittings to allow wing folding for compact storage.



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The wings contain integral fuel tanks. Fowler flaps are fitted, operated manually by a cable and pulley system actuated by a lever in the cockpit. The Friese-type ailerons are likewise operated by a conventional control system of stranded cables.

The wings are fitted with unusual delta-shaped vortex generators on the upper surface of the leading edges which are intended to improve the stall characteristics.

The fuselage truss includes two pairs of sockets to allow the cantilever tapered steel rod-type undercarriage legs to be fitted either forward of the cg, in conjunction with a steerable tailwheel, or aft of the cg, in conjunction with a castoring nosewheel. The aircraft is designed for rapid and simple conversion from nosewheel to tailwheel configuration and vice-versa.

G-LSTR and G-LEZZ were the first pair of examples to be completed and flown in the UK, G-LSTR having the tailwheel type undercarriage and G-LEZZ having the alternative nosewheel type undercarriage, and were fitted with Lycoming O-320 series engines. G-CBCL has also been completed with a Lycoming O-360 series engine and tailwheel type undercarriage.

Note that the only propeller(s) approved for an individual aircraft are those listed on the individual aircraft's Operating Limitations document or in the PTL/1 (Propeller Type List) for the type.

The Glastar is a 'group A' type.

Section 2 – Mandatory information for owners, operators and inspectors

At all times, responsibility for the maintenance and airworthiness of an aircraft rests with the owner. Condition No 3 of a Permit to Fly requires that: *"the aircraft shall be maintained in an airworthy condition"*.

2.1 Fast Build Kit 51% Compliance

The fast build kit has not been cleared by the LAA as compliant with the 51% rule at this time. The slow build kit is accepted as 51% compliant.

2.2 Build Manual

Glasair provides a comprehensive build manual in several separate binders.

2.3 Build Inspections

Build inspection schedule 31 (Glastar).
Inspector approval codes A-A or A-M or K. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

Glasair provides a comprehensive Pilot's Manual.



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2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type, but check the LAA website for MPDs that are non-type specific ([TL2.22](#)).

2.6 LAA Required Modifications (including LAA issued AILs, SBs, etc)

LAA do not require any modifications other than those classified as mandatory service bulletins by Glasair, including addition of fuel header tanks (SB 43 Rev B).

2.7 Additional engine operating limitations to be placarded or shown by instrument markings

Notes:

- Refer to the engine manufacturer's latest documentation for the definitive parameter values and recommended instruments.
- Where an instrument is not fitted, the limit need not be displayed.

2.8 Control surface deflections

Ailerons	Up: 22.5° ±1° Down: 17.5° ±1°
Elevators	Up: 23 ±1° Down: 20° ±1°
Elevator tab	Up: TBD Down: TBD
Rudder	Left: 25° ±1° Right: 25° ±1°
Flap	Down: 0° - 40°

2.9 Operating Limitations and Placards

(Note that the wording on an individual aircraft's Operating Limitations document takes precedence, if different.)

1. Maximum number of occupants authorised to be carried: Two
2. The aircraft must be operated in compliance with the following operating limitations, which shall be displayed in the cockpit by means of placards or instrument markings:
 - 2.1 Aerobatic Limitations
Aerobatic manoeuvres are prohibited.
Intentional spinning is prohibited.
 - 2.2 Loading Limitations
Maximum Total Weight Authorised: 1960 lbs
CG Range: 95.5" to 103.4" aft of datum
Datum Point is: 58" forward of the cowling joggle



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- 2.3 Engine Limitations
Maximum Engine RPM: (depends on engine fitted)
2.4 Airspeed Limitations
Maximum Indicated Airspeed (VNE): 160 kts
Max Indicated Airspeed Flaps Extended: 75 kts
2.5 Other Limitations
The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.

Additional Placards:

“Occupant Warning - This Aircraft has not been Certificated to an International Requirement”

A fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft’s registration letters.

2.10 Maximum permitted empty weight

Not applicable.

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

Glasair provides a comprehensive Operator’s Manual.

3.2 Standard Options

- Nosewheel or tricycle undercarriage.
• Servo operated aileron trim tab p/n 921-06200-01

3.3 Manufacturer’s Information (including Service Bulletins, Service Letters, etc)

In the absence of any over-riding LAA classification, inspections and modifications published by the manufacturer should be satisfied according to the recommendation of the manufacturer. It is the owner’s responsibility to be aware of and supply such information to their Inspector.

Table with 5 columns: Ref, Date, Description, Factory compliance status, Applicability. Rows include SB 1 (Trim tab hinge), SB 2 (Rudder assembly), SB 3 (Wing attach holes in aft spars), and SB 4 (Flap-track reinforcement).



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SB 5	2/11/95	AN470A407 soft rivets	Mandatory	Particular serial numbers of tail and wing kits shipped prior to 1/10/95
SB 6	3/11/95	Main fuel tanks	Mandatory	Kits 5022, 5026, 5051, 5120, 5121 & 5130
SB 7	15/1/96	Elevator/aileron control yoke and control stick pivot brackets	Mandatory	Particular kit serial numbers in the range 5002 to 5154
SB 8	29/7/96	Wing main root ribs	Recommended	Kits up to and including 5235
SB 9	29/7/96	Rod-end bearings	Mandatory	Kits up to and including 5275
SB 10	29/7/96	Incorrect elevator hinge material	Mandatory	Kits up to and including 5235
SB 11	29/7/96	Tubing flairing tool	Mandatory	Tubing flairing tool purchased before 20/5/96
SB 12	29/7/96	Possible incorrect clevises for the brake master cylinders	Mandatory	Kits up to and including 5266
SB 13	15/8/96	Nose gear fork weldment	Mandatory	Tricycle gear kits up to and including 5277
SB 14 rev B	3/3/97	Aft fuselage reinforcement and horizontal stabilizer angle of incidence	Mandatory	Kits prior to Assembly Manual Rev C
SB 15	14/10/96	Rudder trailing edge	Mandatory	Kits 5002-5316
SB 16	23/10/96	Trim tab counterweight arm	Recommended	Kits 5002-5249
SB 17	21/11/96	Mislabeled cobalt napthenate promoter and DMA accelerator	Recommended	Kits shipped between 21/10/96 & 18/11/96
SB 18	13/1/97	6.00/8.00 x 6 brake mounting flange assembly	Mandatory	6.00/8.00 x 6 landing gear kits shipped prior to 16/12/06
SB 19	13/1/97	Elevator and trim tab hinge edge margin	Mandatory	Kits prior to Assembly Manual Rev C
SB 20 rev A	29/1/97	Flap handle weldment	Mandatory	Fuselage kits shipped prior to 29/1/97
SB 21	3/3/97	Lycoming cowling cooling inlets	Recommended	Lycoming cowlings shipped prior to 26/7/96
SB 22	31/3/97	AN470A3-4.5 soft rivets	Mandatory	Tail kits shipped between 1/1/97 & 1/3/97
SB 23	31/3/97	Door latch modification	Recommended	Kits prior to Assembly Manual Rev C
SB 24	31/3/97	Engine mount spacers	Mandatory	Engine mounts shipped prior to 31/3/97
SB 25	30/6/97	Variations in wing angle of incidence	Mandatory	Fuselage cage serial numbers 001-303
SB 26	15/10/97	Upper tailwheel spring	Mandatory	Taildragger landing gear kits shipped prior to 1/5/97
SB 27	1/10/97	Tailwheel steering springs	Mandatory	Taildragger landing gear kits shipped prior to 1/5/97
SB 28	30/6/97	Lycoming O-320 carburetor inlet gasket	Mandatory	Lycoming induction system kits shipped prior to 26/6/97
SB 29 rev A	25/8/97	AN509-10R10 flugh-head machine screws	Mandatory	Fuselage kits shipped prior to 28/3/97
SB 30	25/8/97	Right horizontal stabilizer skin	Recommended	Kits 5411-5474
SB 31	25/8/97	Flap handle ratchet plate	Recommended	All kits with -01 ratchet plates
SB 32/32A	25/8/97	O-320 & O-360 exhaust system cracking	Mandatory	Exhaust systems shipped prior to 31/7/97 on Dynafocal mount engines
SB 33	24/9/97	O-320 & O-360 exhaust system inspection requirements	Mandatory	Exhaust systems shipped after 24/9/97 on Dynafocal mount engines
SB 34	2/10/97	Upper right elevator skin	Recommended	Tail kits shipped between 11/7/97 & 30/9/97
SB 35	2/10/97	Left and right upper inboard wing skins	Recommended	Wing kits shipped between 15/3/97 & 26/9/97



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SB 36/36A	20/10/97	Auxiliary fuel tank sump drains	Mandatory	Auxiliary tanks shipped prior to Rev A of the tank installation instructions
SB 37	1/12/97	Aileron cable interference	Mandatory	Kits prior to Assembly Manual Rev D
SB 38	26/2/98	AN470A4-9 soft rivets	Mandatory	Specific kits in the range 5402-5610
SB 39	8/12/98	Counterweight attachment to elevator counterweight ribs	Mandatory	Fuselage kits shipped prior to 8/12/98
SB 40	8/12/98	Elimination of trim tab counterweight with electric trim system	Recommended	Kits prior to Assembly Manual Rev D with electric trim
SB 41	8/12/98	Nicopress sleeves	Recommended	Fuselage kits shipped prior to 24/11/98
SB 42	8/12/98	Airborne vacuum pumps	Mandatory	Specific kits in the range 5050-5622
SB 43 rev B	11/3/03	Fuel system design and usable fuel quantity	Mandatory	All kits
SB 44	8/12/98	Aileron counterweight assemblies (superseded by SB 62)	Recommended	All kits
SB 45	27/8/99	Rotationally molded plastic auxiliary tanks	Mandatory	All kits with plastic auxiliary tanks
SB 46	24/8/99	Electric elevator trim system	Mandatory	All kits with 921-01000-01 or -02 electric trim
SB 47	18/9/01	Control cable safety guides (superseded by SB 63)	Mandatory	All kits
SB 48	19/3/02	Elevator bellcrank clearance inspection and aileron inspection provisions	Mandatory	All kits
SB 49	2/2/04	Inspection of welded cage and seat assemblies for cracking (superseded by SB 64)	Mandatory	All flying aircraft
SB 50	29/3/04	Inspection of main landing gear for proper heat treatment	Mandatory	Main landing gear delivered between Nov 98 and March 99
SB 51	8/6/05	Inspection of 100-0640-009 angle stock	Mandatory	Fuselage kits shipped between March 05 and June 05
SB 58	22/11/06	Prop governor gasket	Recommended	All kits with hydraulic constant speed propellers
SB 59	2/5/07	Spinner back-plate fatigue cracking	Recommended	All kits with spinner back-plate 611-0130-006 delivered between July 06 and March 07
SB 62	4/4/07	Aileron counterweight assemblies	Recommended	All kits
SB 63 rev A	5/4/07	Control cable safety guides	Mandatory	All kits
SB 64	4/5/07	Inspection of welded cage and seat assemblies for cracking	Mandatory	All flying aircraft
SB 67	9/6/08	Elevator counterweights	Recommended	All kits
SB 68	2/6/10	Fuel tank vents and icing	Recommended	All kits
SB 69 rev A	1/9/10	Seat belt and shoulder harness anchor points ¹	Mandatory	All kits
SL 1	9/9/96	Options development	Information	All kits
SL 2	9/1/97	Operating limitations	Information	All kits
SL 3	30/6/97	Trim cable bracket angle	Information	Kits 5001-5467
SL 4	1/12/97	Operating limitations on floats	Information	All aircraft on floats
SL 5	18/9/01	After-market or self-developed electric flap installations	Information	Kits with electric flap installations
SL 6	13/3/03	Weight conscious Glastar assembly	Information	All kits
SL 8	19/8/09	Main landing gear retaining bolts	Information	All kits

¹ SB 69 is mandatory for new build aircraft but it is not required to be retrofitted to existing aircraft.



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3.4 Special Inspection Points

Note that there are many service bulletins applicable to this aircraft type some of which include important safety issues and design updates. Access to a full set of bulletins is essential.

3.5 Special Test Flying Issues

The manually operated flaps have quite high operating forces and lowering the flaps at airspeeds close to the flap limiting speed may prove difficult. It is important to check that the combination of control run friction and flap airload does not result in an excessively high flap deployment force being required.

Particularly with power off, full flap and forward cg, the Glastar may tend to 'run out of elevator' in the final stage of the landing flare, particularly if trying to achieve a three point landing in taildragger undercarriage configuration.

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Please report any errors or omissions to LAA Engineering: engineering@laa.uk.com