



LAA TYPE ACCEPTANCE DATA SHEET
TADS 237B
SHERWOOD RANGER ST

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|------------|--|---------------|----|
| Issue 3 | New format. Contact details amended. Fuselage fuel tank added. | Dated 6/6/12 | JV |
| Revision A | Amended phone numbers for agent. | Dated 27/3/13 | JV |
| Revision B | Minor editorial changes. | Dated 3/9/13 | JV |
| Revision C | Minor editorial changes. Note of alternative forward cg limit in sections 2.9 & 3.3. | Dated 22/1/18 | 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 is **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

Paul Hendry-Smith, The Light Aircraft Company Ltd, Hanger 1, Little Snoring Airfield, Fakenham, Norfolk, NR21 0JL.

Tel: 01328 878809 or 07747 840007

Email: sales@g-tlac.com

Website: www.g-tlac.com

Note that the original supplier, Tiger Cub Developments Ltd, ceased trading following the untimely death of the designer, Russ Light.

1.2 Description

The Sherwood Ranger ST is a microlight biplane of traditional appearance, seating two in tandem in open cockpits. It is built from a kit or from a set of plans. The aircraft has been cleared by the LAA when fitted with a Jabiru 2200A engine. 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 Sherwood Ranger ST is a heavier-weight development of the original Sherwood Ranger LW model (see [TADS 237A](#)), with uprated structure to allow an increase in max gross weight from 390 to 450 kg. There are a few LWS variants of the type approved within the LAA system: these should be regarded as ST variants for the purposes of continuing airworthiness and these TADS should be used as a reference.



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The airframe is mainly of simple aluminium alloy tube construction, with wooden wing ribs and fabric covering.

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 aircraft is only available as a slow-build kit or to build from a set of drawings.

2.2 Build Manual

A comprehensive Build Manual is available, titled ‘Sherwood Ranger Construction and Assembly Manual’.

2.3 Build Inspections

Build inspection schedule 46 (Sherwood Ranger aircraft).
Inspector approval codes A-A or A-W or K or M. Inspector signing off final inspection also requires ‘first flight’ endorsement.

2.4 Flight Manual

A Flight Manual exists for the –LW model which is very similar to the –ST model.

2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type.

Also check the LAA website for MPDs that are non-type specific ([TL2.22](#)).

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

None.

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.



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With Jabiru 2200A: Max CHT: 210°C
Oil temp: 50-110°C
Oil pressure 125-525 kPa @3100 RPM

2.8 Control surface deflections

| | |
|-----------|-------------------------|
| Ailerons | Up: 25° Down: 15° |
| Elevators | Up: 20° Down: 20° |
| Rudder | Left: 20° Right: 20° |

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: 450 kg
CG Range: Limits 3.8 inches to 7.7 inches aft of the datum point
(forward limit of 2.2 inches aft of datum if using the revised occupant moment arms, see TLAC [TIN-01-2017](#))
Datum Point is: the centreline of the lower wing mainspar tube at the fuselage side
 - 2.3 Engine Limitations (Jabiru 2200A engine)
Maximum Engine RPM: 3300
 - 2.4 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 100 mph (87 knots)
 - 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.



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As a microlight aircraft, additional microlight weight placard must be fitted as described in [TL2.11](#) regarding empty weight and payload. It is required that microlight aircraft are check weighed and a cockpit placard installed/updated every five years.

2.10 Maximum permitted empty weight

| <i>Model</i> | <i>Engine</i> | <i>Max empty weight</i> |
|--------------|---------------|-------------------------|
| ST | Jabiru 2200A | 268 kg |

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

A Maintenance Manual for the LW model is available, which is similar to the ST model. For further information consult the LAMS. For the engine maintenance requirements consult the engine manufacturer.

3.2 Standard Options

The listing below shows the factory options that have been accepted by the LAA.

| | |
|--------|----------------------------|
| SRP001 | Sheeted leading edge |
| SRP002 | Fibreglass wingtips |
| SRP003 | Differential heel brakes |
| 7-FG12 | Fuselage mounted fuel tank |

Controllable elevator trim (deleted from standard kit by change 006).

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.

| <i>Reference</i> | <i>Status</i> | <i>Date</i> | <i>Description</i> |
|-----------------------------|---------------|-------------|-----------------------|
| TIN-01-2017 | Advisory | 19/12/2017 | Revised C of G Limits |

3.4 Special Inspection Points

- A common problem is over torquing of the propeller bolts, this can cause cracking in the varnish and wood and can cause the propeller to quickly crack further and become unserviceable.
- Jabiru propellers suffer with leading edge abrasion in the root area and require regular varnish touch up here. If a tip comes into contact with anything e.g. soft ploughed earth or long grass, use a bright light or sun to look for small chord-wise cracks in the glass skin. Any delamination however minor must be treated seriously as cases have occurred where the entire glass cloth covering has been shed in flight, having originated from a small area of delamination.



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- Great care must be taken to keep the weight down on these aircraft especially for microlight models, which are subject to strict maximum empty weight limits (268 kg with Jabiru 2200A engine).

3.5 Special Test Flying Issues

- Adequate engine cooling with Jabiru 2200A engine.
- With Jabiru engine it is imperative that the cylinder head bolts and tappets are checked at 5, 10, 15 and 20 hours. Omitting this check can lead to head leaks and damage at around 25-50 hours. Have a good look around the rocker boxes and make sure oil is present and that there are no signs of overheating in the form of burnt lacquered oil. New engines with hydraulic tappets need only to have the head bolts checked.
- With Jabiru engine, encourage test pilot to work the engine quite hard to avoid glazed piston bores, vary rpm settings and do not fly at low power settings for too long.

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