



LAA TYPE ACCEPTANCE DATA SHEET
TADS 325
JABIRU J400

Issue 5	Amended UK contact details. Addition of required mods to section 2.6. Addition of manufacturer's service information to section 3.3. Minor editorial changes.	Dated 19/01/18	JV
Revision A	Safety Spot inclusion. Minor editorial changes. Addition of JSB042-1.	Dated 13/12/19	MR
Revision B	Addition of optional brake upgrade to section 3.2	Dated 02/10/20	JV
Revision C	Addition of Jabiru JSB044-1 to section 3.3	Dated 26/01/21	JV
Revision D	Addition of reference to LAA/AWA/21/04 to JSB 044-1 in section 3.3	Dated 02/06/21	JV

This TADS is 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

3.3 UK contact

Dave Almey, Skycraft Ltd, Riverside House, Bloodfold Farm, Ravens Bank, Saturday Bridge, Holbeach, PE12 8SR.

Tel: 01406 371779

Email: sales@sky-craft.co.uk

Website: www.sky-craft.co.uk (also www.jabiru.net.au)

Note that earlier kits were supplied by the previous agent, ST Aviation.

1.2 Description

The Jabiru J400 is a small, four-seat high-wing aeroplane of all-composite construction, manufactured by Jabiru Pty of Bundaberg, Australia, and supplied in quick-build kit form through Skycraft. The J400 is a four-seat development of Jabiru's long line of two-seaters and microlights, but has very few parts in common with previous models.

The wing is strut braced and is of conventional sandwich skinned composite construction, allowing fuel tanks to be positioned in the wing roots. The cockpit is provided with three doors, one serving the rear pair of seats and is situated on the port side. A baggage compartment is situated behind the rear seats. Like the two-



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seat models, the J400 has a tricycle undercarriage with a cantilever leaf sprint type main gear of glass fibre construction and a trailing arm steerable noseleg. The flying controls are operated by Teleflex-type cables.

The only engine model approved in the UK for use in the J400 is the Jabiru 3300A, usually with either Jabiru or Sensenich fixed pitch wood propellers. 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 J400 is an SEP Aeroplane (colloquially known as 'group A category') with a maximum gross weight of 700 kg.

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

Technical leaflet TL.11 shows the contents of the accepted fast build kit.

2.2 Build Manual

Assembly Manual – Jabiru J400.

2.3 Build Inspections

Build inspection schedule 49 (Jabiru J400 aircraft).
Inspector approval codes A-A or A-C or A-C1, and 4SA. As a four-seat aircraft, the inspector must also be specifically accepted by the LAA for inspecting the Jabiru J430 type aircraft. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

Jabiru J400 Owner's Manual.

2.5 Mandatory Permit Directives

Applicable specifically to this aircraft type:

[2006-001](#) Mandatory installation of fuel header tank

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



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

Several reinforcements/improvements to the original J400 design are also required to allow the J430 aircraft to qualify for acceptance by the LAA, as follows:

1. Fin reinforcement
2. Horizontal tail reinforcement
3. Rudder reinforcement
4. Wing strut carry-through reinforcement
5. Alternative noseleg housing
6. Alternative noseleg assembly
7. Main undercarriage reinforcement
8. rear seat belt attachment reinforcement
9. Elevator horn reinforcement
10. N/A
11. Substitution of 6 ply main undercarriage tyres.
12. Alteration of elevator trim rod (ST Aviation instruction and drawing dated 10.3.06 refers)
13. Incorporation of fuel header tank (MPD 2006-001 refers, see above)

The manufacturer has undertaken to incorporate modifications 1-11 above in all UK-supplied kits. Builders are required to carry out number 12 (alteration of elevator trim rod) themselves. The modifications have not been drawn up by LAA and modification leaflets are not available. This information is provided only to indicate that early production J400/430 parts, assemblies or complete aircraft supplied other than through Skycraft may not comply with the UK approved design standard.

Two additional modifications were required by the LAA for acceptance of the type in the UK, as well as more recent bulletins, as follows:

MOD/325/001		Fuel pressure gauge to be fitted (to include small bore orifice if this requires a fuel line into cockpit)
MOD/325/002		Fuel selector handles to be permanently locked in place on the selector to avoid possibility of incorrect re-fitting in service (note that later aircraft have fuel selector handles that can only be fitted in the correct sense. It is therefore not necessary to inhibit these later handles)
MOD/325/003 issue 2	09/08/10	Control surface clearance
MOD/325/004	31/10/13	Main undercarriage bolts (see also LAA/AWA/13/08)
MOD/325/005	03/01/18	Mogas prohibition (see also LAA/AWA/18/01)

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.

With Jabiru 3300 engine: Maximum CHT: 175°C
 Maximum continuous CHT: 150°C
 Oil Temp Limits: 15-118°C (normal 80-100°C)



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Oil Pressure: 220-525 kPa
Minimum Fuel Pressure: 0.15 bar

2.8 Control surface deflections

Ailerons	Use templates provided with kit
Elevators	Use templates provided with kit
Elevator tab	Not known
Rudder	Left 98 mm Right 98 mm
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: Four
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: 700 kg
Maximum combined weight in rear seat: 120 kg
CG Range: 80 mm to 280 mm aft of datum.
Datum Point is: The leading edge of the wing.
 - 2.3 Engine Limitations
Maximum Engine RPM: 3300
3. Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 138 knots
Max Indicated Airspeed Flaps Extended: 85 knots
4. Other Limitations
The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.
Baggage compartment to be fitted with placard stating 'consult weight and balance report and check loaded weight and cg will be in limits before carrying baggage in baggage compartment'
Aircraft must be maintained in accordance with Jabiru J400 Aircraft Service Manual.



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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

Jabiru J400 Aircraft Service Manual (note that this is a mandatory document on this type).

3.2 Manufacturer’s/Standard Options

Sensenich W60ZK55G propeller (Contact LAA to arrange raising of necessary paperwork before flying with this propeller, unless it is already specifically included on your aircraft’s Permit to Fly operating limitations sheet)

Cabin heat

Instrument panel cold air vents

Ice eliminator

Door locks

NACA intakes for cold and hot air inlets

Dual calliper brakes

Electric flaps

Aluminium spinner

Replacement of push on oil cooler hoses with threaded Aeroquip stainless braided hoses

Jabiru SK/UL type cowling latches

Strobe lights on wing tip or top and bottom of fuselage, or fin mounted

Fixed hub caps rather than spats

Cast rim to Mk3 brake upgrade, Jabiru kit part number 4SPBRAKEMK3 (not suitable for earlier or Berringer wheel installations)

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>Ref</i>	<i>Date</i>	<i>Description</i>
JSL 001-1	7/12/04	Wing fuel tank system management
JSL 003-2	11/3/05	Fuel tank sealant
JSL 005-1	1/9/08	Starter motor earth cable



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JSL 007-7	1/11/17	Alcohol, lead, compression ratio: fuel guidance
JSL 017-1	26/6/15	Pattern parts
JSL 019-2	14/12/15	Rudder cable end inspection
JSL 021-1	9/1/18	Charging system operation procedures
JSB 002-1	11/10/04	Elevator drive arm
JSB 003-1	11/10/04	Door bolts
JSB 006-1	21/10/04	Noseleg pivot bolt ¼ to 5/16
JSB 007-1	29/11/04	Main undercarriage stub axle
JSB 008-1	31/3/05	Main undercarriage bolts
JSB 009-1	4/4/05	Alternate propeller mount system
JSB 019-2	29/2/18	Control surface clearance
JSB 024-1	9/1/09	Fuel line routing
JSB 025-2	7/5/09	Undercarriage bolt life
JSB 027-1	9/7/09	Control cable clamp inspection
JSB 037-1	20/3/15	Wing attachment bolts
JSB 041-1	13/7/17	Elevator cable
JSB 042-1	16/5/19	Aileron control tube
JSB 044-1	8/1/21	Jabiru Control Surface Hinge Inspection (see also LAA/AWA/21/04)
STSB-002	19/10/05	Minimum fuel in wet wings
STSL-003	2/10/07	Rear door hinge trapping fuel lines
STSL-004	13/2/08	Aileron clearance jammed control in-flight plus rudder check

3.4 Special Inspection Points

- When countersinking the tailplane and elevator for elevator hinge retaining rivets, avoid countersinking too deep and so reducing integrity of composite flanges where hinges attach.
- Ensure that the main undercarriage attachment bolts do not come loose in service, allowing the legs to move on their attachments. Any looseness is likely to cause attachment bolt failure through fatigue. Check bolt torque regularly in service.
- Aircraft must be maintained in accordance with the Jabiru J400 Service Manual.

3.5 Operational Issues

- Pitch stability and trim to be checked at flight test.
- Note that the handling of the aeroplane is significantly affected by the loading, especially the rear seat loading. Check weight and balance carefully before flight to ensure the aircraft is within the permitted weight and balance envelope. Approach speeds and take off and landing distances are significantly greater at high weight than at low weight.
- 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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The following *Safety Spot* articles are relevant to Jabiru J400 aircraft:

Light Aviation [Feb 2018](#) *Jabiru Undercarriage Failure*

A Jabiru owner had avoided a near undercarriage collapse following a bolt failure on the main u/c.

Light Aviation [Feb 2018](#) *Prohibition of Mogas due to wing skin softening.*

Article discusses AIL [LAA/AWA/18/01](#) which prohibits the use of mogas in most Jabiru wet wing aircraft due to the epoxy being attacked and potentially compromising the wings structure.

Light Aviation [Dec 2010](#) *Loose Plug Caps*

During a scheduled inspection of a newly purchased aircraft, it was found that the spark plug caps offered little resistance on removing them. It was found that the waist caps were missing, leaving only the threaded portion.

Light Aviation [Aug 2010](#) *Jabiru J400 Rudder Jammed in Flight*

During a permit renewal test flight, a Jabiru suffered a jammed rudder. The article discusses the reasons and mitigating the issue. Follow [link](#) for MODs to relevant Jabiru type.

Light Aviation [Mar 2008](#) *Control Surface Clearance*

Following a test flight, a situation was encountered that led to a control system jam in roll. The aircraft was landed safely and the jam simulated.

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