



**LAA TYPE ACCEPTANCE DATA SHEET**  
**TADS 274**  
**JABIRU SK**

Issue 1	Initial Issue	30/11/06	
Revision A	New format update, MODs update, Service bulletin update, Service letter update & Safety Spot Update	05/10/20	MR
Revision B	Jabiru JSB044-1 added to section 3.3. Minor editorial changes.	26/01/21	JV
Revision C	Op Lims - including MTWA and CG limits - corrected to match Jabiru SK AAN (ref PFA-274-378) in section 2.9.	19/05/21	BS
Revision D	Addition of reference to LAA/AWA/21/04 to JSB 044-1 in section 3.3	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 and operate the aircraft in an airworthy and safe 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

Skycraft Ltd, Riverside House, Bloodfold Farm, Ravens Bank, Holbeach, Lincolnshire, PE128SR

Tel: 01406 540777

E-mail: [sales@skycraft.ltd](mailto:sales@skycraft.ltd)

Web site: <https://skycraft.ltd/index.html>

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

### 1.2 Description

The Jabiru SK is a high-wing two-seat SEP Aeroplane (not microlight) of simple composite construction, fitted with the four-cylinder four-stroke Jabiru 2200A engine and wood fixed pitch propeller.

The wings consist of a foam core, fibreglass skins and partial spars. The wing is supplied pre-formed leaving the builder only to bond flap and aileron attachments and fill any imperfections prior to painting. Basically, the builder is tidying up the surface finish, locating air voids in the gel coat and finishing the leading edge by sanding and filling etc. The fuselage consists of upper and lower composite sandwich mouldings which are supplied with most of the hard points and attachment points pre-installed. The tail plane, like the wings, is pre-moulded, foam-cored and supplied largely ready to fit. The fin is also pre-moulded but does not incorporate a foam core.



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The SK model is the earliest to be brought into the UK, and lead to a variety of other variants including long-wing, long-fuselage microlight models (UL-430 and UL-450) and short-wing, long fuselage SEP models (SP models) Kg. Due to the differences between models, major assemblies of the later models are not interchangeable with those of the SK model. The SK model is now obsolete, having been replaced in the Jabiru range by the SP model. The Jabiru SK is operated as a group A aircraft within the UK.

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.

### **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. A Condition of a Permit to Fly requires that: *"the aircraft shall be maintained in an airworthy condition"*.

#### 2.1 Fast Build Kit 51% Compliance

The technical leaflet TL1.11 shows the contents of the accepted fast build kit.

#### 2.2 Build Manual

Jabiru supplied a Build Manual for the SK model.

#### 2.3 Build Inspections

Build inspection schedule 35.

Inspector approval codes A-A or A-C1 or A-C2. Inspector signing off final inspection also requires 'first flight' endorsement.

#### 2.4 Flight Manual

Jabiru supplied a Pilot's Manual for the SK model. Note that information contained in the pilot's manual is not always consistent with LAA data (e.g. cg limits and engine max rpm). Where a conflict exists, LAA Permit to Fly data takes precedence over Jabiru Pilot's Manual information.

#### 2.5 Mandatory Permit Directives

Applicable specifically to this aircraft type:

[2006-001](#) Installation of fuel header tank. Applicable only to wing tank aircraft.

[2006-002](#) Inboard lower seat belt attachments.

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)

- MOD-274-001 Aileron control stops, oversized to stop the possibility of control overriding the stops. Part No. STA/001.
- MOD-274-002 Hole in firewall for noseleg steering rod requires elongating to provide sufficient clearance.
- MOD-274-003 Water drain holes added to rear fuselage, cockpit and ventral fin.
- MOD-274-004 Stop added to prevent parking brake cam rotating over the top of its arc and inadvertently applying parking brake.
- MOD-274-005 Fuel filler cap central bolt to be peened over after assembly for security.
- MOD-274-006 All exposed polystyrene foam to be sealed with two coats of epoxy.
- MOD-274-007 Magneto clear plastic guard fitted between switches (not applicable to wide instrument panel option).
- MOD-274-010 Front cowling retainers (bent aluminium) that are riveted to the lower cowling and protrude into a slot cut into the top cowling. The top cowling requires flexing to remove and protects against forgotten catches. Now incorporated in kit.
- MOD-274-011 Addition of extractor lip to lower cowling (not required if optional oil cooler fitted)
- [MOD-274-012](#) Mandatory Inspection of rod end bearings.
- [MOD-274-013](#) Mandatory Wing disbond check.
- [MOD-274-015](#) Control surface clearances
- [MOD-274-016](#) Main Undercarriage Bolts Inspection/Replacement/Mandatory Life

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 2200A engine:

- Maximum CHT: 210°C
- Oil Temp Limits: 50°C to 110°C
- Oil Pressure: 125-525 kPa @3100 RPM

2.8 Control surface deflections

Ailerons	Up: 78mm from template Down: 47mm from template
Elevators	Up: TBD Down: TBD
Elevator tab	Up: TBD Down: TBD
Rudder	Left: TBD Right: TBD
Flap	Down: Stage 1: 37mm Stage 2: 115mm



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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: 430 kg  
CG Range:  
Aft limit 1681 mm aft of datum  
Forward limit 1601 mm aft of datum at gross weights up to 300 kg  
Forward limit 1630.8 mm aft of datum at a gross weight of 430 kg  
with a straight line variation between these points.  
Datum Point is: A point 1403 mm forward of the leading edge of the wing.
  - 2.3 Engine Limitations  
Maximum Engine RPM: 3300  
Maximum continuous engine RPM: 3100
  - 2.4 Airspeed Limitations  
Maximum Indicated Airspeed ( $V_{NE}$ ): 116 knots  
Max Indicated Airspeed Flaps Extended: 70 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.

2.10 Maximum permitted empty weight

Not applicable



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**Section 3 – Advice to owners, operators and inspectors**

**3.1 Maintenance Manual**

Jabiru supplied an Operators Manual for the SK model which contains a maintenance schedule. Alternatively, a customised version of the LAA Generic Maintenance Schedule may be used. Further information on maintenance schedules can be found in the [Aircraft Maintenance](#) section of the LAA website.

**3.2 Manufacturer's/Standard Options**

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

- Oil cooler (recommended)
- Cabin heat
- Instrument panel cold air vents
- Ice Eliminator
- Door locks
- NACA intakes for cold and hot air intakes
- Replacement of push on oil cooler hoses with threaded Aeroquip stainless braded hoses
- Strobes (wing tip or top/bottom fuselage or fin mounted)
- Fixed hub caps instead of spats
- Wing folding kit

**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>	<i>Applicability</i>
<a href="#">JSB-A4</a>	Dec 2001	Elevator Travel Check	All Jabiru Aircraft
<a href="#">JSB-006</a>	Oct 2004	¼ Nose Leg Pivot Bolt	All Jabiru aircraft with relevant pivot bolt
<a href="#">JSB-007</a>	Nov 2004	Main Undercarriage Stub Axle	All Jabiru Aircraft
<a href="#">JSB-025-2</a>	May 2009	Undercarriage Bolt Life	All Jabiru Aircraft
<a href="#">JSB-027-1</a>	Jul 2009	Teleflex Cable Clamp Inspection	All Jabiru Aircraft
<a href="#">JSB-019-2</a>	Nov 2010	Control Surface Clearance	All Jabiru Aircraft
<a href="#">JSB-037-1</a>	Mar 2015	Wing Attachment Bolts	All Jabiru Aircraft over 2000 hours
<a href="#">JSL-017</a>	Jun 2015	Pattern Parts	All Jabiru Aircraft
<a href="#">JSL-019</a>	Dec 2015	Rudder Cable End Inspection	All Jabiru Aircraft
<a href="#">JSB-041-1</a>	Jul 2017	Jabiru Elevator Cable	All Jabiru Aircraft over 1000 hours
<a href="#">JSB-042-1</a>	May 2019	Jabiru Aileron Control Tube	All Jabiru Aircraft over 4000
<a href="#">JSB-044-1</a>	Jan 2021	Jabiru Control Surface Hinge Inspection (see also <a href="#">LAA/AWA/21/04</a> )	All Jabiru Aircraft over 5 years since manufacture

### 3.4 Special Inspection Points

- Peel ply is factory fitted on the wing skin at each flap hinge and aileron hinge attachment. It is essential that this peel ply is removed by the builder to expose a good surface for bonding, to ensure good adhesion when the builder fits these components. The red peel ply may be hidden by the white gel coat, so it is imperative that the builder locates and removes the peel ply just prior to bonding items such as flap arms and aileron reinforcements. One builder omitted to remove the peel ply before bonding flap and aileron attachments, fortunately this potentially disastrous mistake was picked up by inspection prior to painting.
- Aileron cable attach point inside the wing may require moving if correct aileron throws cannot be attained. (STA have a loan right angle drill if required).
- The important skin disbond check must be undertaken on all new aircraft and at permit renewal time. Due to the sandwich construction technique employed by Jabiru, it is possible that the bond between the skin and the foam core does not have 100% coverage, leading to voids between the skin and foam core. It is possible that delamination may also occur in service. LAA MOD-274-013 describes the required disbond inspections both at build (prior to painting) and at annual check. If the initial disbond check is done prior to painting, a torch can be used to illuminate the glass and will show all glue lines and therefore missing glue lines. Some voidage is permitted in certain low-stress areas, defined by Jabiru. Take care to distinguish between defective bonding and areas where the underlying foam is cut away to accommodate control runs etc. If voids are suspected, check with ST before proceeding with any repair action.
- The build manual calls for five staggered layers of glass that stiffen the joint between the fin and horizontal tail. This lay-up is essential to the strength of the fin. We have seen one Jabiru presented with reinforcement missing. In another case, the builder used these lay-ups to encapsulate a VHF aerial, then later the reinforcement was cut through to remove the aerial and no action taken to make good the severed plies. Other areas where vital layers of glass are added are tailplane to fuselage, flap horns to wing. These reinforcements are essential!
- A common mistake is to place unnecessary washers under heads of bolts that in turn do not leave enough thread protruding through the nut. In particular, check rudder pedals, rudder control horn, control column, and flap pivot bolts for this hazardous feature.
- Fixed elevator tabs, as moulded into kit-supplied elevator must always be used as they apply positive control loads to the elevator control circuit and augment the pitch stability of the aeroplane. However they should be **reduced in chord by 10-12mm**. This will allow the aircraft to trim out to a straight and level cruise between 94-105 knots. Leaving the tabs full width can result in unwanted pitch-up during test flying.
- Several problems have cropped up with the installation of rod end bearings in the control system. Freedom of rotation is sometimes lacking if small steel spacers are not fitted as per the manual drawings. Oversize ¼" washers are used to prevent connection coming adrift in case of housing failure.
- Male threaded rod ends are screwed into aluminium push rods that are drilled with a thread inspection hole. Sometimes a burr on the thread can make screwing in the rod end difficult – some builders have forced the rod end by placing a bolt or



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drill through the ball and turning. This caused the soft metal outer bearing housing to become deformed and seize, which in turn applied bending stresses on the 3/16" thread which in one case failed after an estimated 2800 cycles. The correct procedure would have been to carefully use a tap to clear the thread.

- All rod ends should be checked for freedom of rotation and thread security. It is common to find rod end locking nuts incorrectly installed only finger tight.
- 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.
- It is common for the attach/pivot bolt of the flap actuating handle to not be tightened sufficiently; this can lead to the flap disengaging on approach with potentially serious consequences if not caught quickly by the pilot.
- Care must also be taken to avoid undue friction in the rudder control system, which can lead to failure of the rudder controls to self-centre in flight. The throttle control cable must also be routed with smooth curves to avoid undue friction or notchiness in the throttle control system.
- Great care must be taken to keep the weight down on these aircraft.
- Jabiru models have a rather narrow cg range and care must be taken to produce a satisfactory empty cg position if the loaded cg is to fit within the limits. Particularly with an extensive instrument panel it is often found necessary to fit a small amount of tail ballast in the ventral fin to bring the empty cg back to an acceptable location.
- For permit renewal inspections, all normal practices apply and in addition to the Jabiru maintenance schedule, owners and inspectors should pay particular attention to the following items.
  - Rod end bearings – free rotation and no bent threads.
  - Check main undercarriage legs by getting someone to lift the wingtip and check for fore/aft movement. If movement is found, this is probably because attachment bolts have become loose due to the gear 'bedding in'. Be careful that bolts have not become thread-bound, use additional washers if necessary.
  - Lift nose and check noseleg for shimmy and up/down movement.
  - Check noseleg housing for tightness of bolts, cracks or whiteness associated with stressing.
  - Check flap arms and all piano hinges for security and play.
  - Visual disbond check (see MOD-274-013).
  - Paint chips should be touched up.
  - Propeller leading edge varnish abrasion, cracks in varnish or wood.
  - Wheels for dents, cracks and hardware security.
  - Brake pad adjustment and wear.
  - Lower flaps and check play, excessive indicates loose rod end bearing bolt, usually at flap handle.
  - Check that drain holes are not blocked with debris.
  - Elevator travel in particular down elevator travel (Jabiru bulletin refers).



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- As aircraft are getting older, play is being found in the strut attachment points due to the bush being loose or the holes being enlarged. Contact ST Aviation for repair advice.

3.5 Operational Issues

*Safety Spot* reference

The following *Safety Spot* articles are relevant to Jabiru SK aircraft:

*Light Aviation* [February 2018](#) *Undercarriage failure article.*

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

3.6 Standard Modifications

None.

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Please report any errors or omissions to LAA Engineering: [engineering@laa.uk.com](mailto:engineering@laa.uk.com)