



LAA TYPE ACCEPTANCE DATA SHEET
TADS 340
X'AIR HAWK

Issue 3	AIL MOD/340/011 issue 1 added to Section 2.6	10/8/12	JV
Revision A	Updated agent contact details, addition of short span option and alternative brake system options.	31/3/16	JV
Revision B	Addition of DMotor engine. Minor editorial changes.	13/7/16	JV
Revision C	Addition of Safety Spot articles	25/9/19	JH

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

1.1 UK contact

Gordon Salter, Wessex Light Aeroplane Company Ltd, 47A Killams Green, Taunton, Somerset, TA1 3YQ.

Tel: 01823 256258

Email: sales: gordon@xair.flyer.co.uk; technical/build: technical@xairuk.com; other: pete@xairuk.com

Website: www.xairuk.com

1.2 Description

The Xair Hawk is a small two-seat high wing Microlight aeroplane of mixed construction, manufactured in kit form by Raj Hamsa in Bangalore India.

The airframe primary structure is of bolted and riveted aluminium tube construction. The Rear Fuselage, wings and tails are covered with a pre-stitched reinforced fabric envelope. The forward fuselage consists of fibreglass cowls, roof, bottom and side panels. The aircraft is equipped with a tricycle undercarriage. The type has been approved with Jabiru 2200 (with Newton 11R 61" x 42" propeller), Rotax 912UL (typically with GT-2/166/145 or Kiev 273/1700 propellers) and DMotor LF26 engines (with Newton 58" x 47" propeller).

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 Xair Hawk is a microlight with a max gross weight of 450 kg.



**LAA TYPE ACCEPTANCE DATA SHEET
TADS 340
X'AIR HAWK**

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 technical leaflet TL.11 shows the contents of the accepted fast build kit. Note that it is essential that the major assemblies (wings, fuselage etc) are supplied in component form requiring assembly by the builder, so that the inspector is able to inspect the separate components and so that the builder is tasked with assembling these major assemblies as part of the 51% rule 'major portion' requirements.

2.2 Build Manual

Xair Hawk Construction & Modifications Manual UK Text Version
Xair Hawk Assembly Manual Drawings
Xair Hawk Spare Parts List

2.3 Build Inspections

Build inspection schedule 9 (Tubular aircraft).
Inspector approval codes A-A or A-M or K or M.
Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

Xair Hawk Flight & Operators Manual HFOMJ22-1-7/7

2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type at present.

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)

A number of changes were made to the aircraft design in order for it to be able to be accepted in the UK by the LAA. All these changes are incorporated as standard from the factory from kits no. 1131. Any UK kits previous to this serial number have to be retrofitted with the modifications. This must be checked at build by reference to the importer and LAA for any kit prior to serial 1131.

Additional modifications are required to all aircraft. These are embodied into the UK Xair Hawk Build Manual where full details of modification required are shown. These Mods are also listed 1-10 below, and are mandatory for the issue of a Permit to Fly. The kit importer has undertaken to supply additional parts where applicable for each of the modifications below in all UK-supplied kits. Later kits may have these



**LAA TYPE ACCEPTANCE DATA SHEET
TADS 340
X'AIR HAWK**

incorporated as standard from the factory but builders/owners must be careful to ensure that the actions required by these mods are embodied. The modifications have not been drawn up by LAA and separate modification leaflets are not available. Xair parts, assemblies or complete aircraft supplied other than through Wessex LAC or XairIreland may not comply with the UK approved design standard.

The following Modifications (/001 to /010) should be checked and are listed in more detail on Pages 7-8 of the UK Build Manual

MOD/340/001	Drilling of rotating bolts on control column and elevator control to accept split pins for positive locking
MOD/340/002	Addition of cable retainers on aileron pulleys
MOD/340/003	Alteration of fuel drain valve
MOD/340/004	Split pins on rotating bolts, hinges & control system
MOD/340/005	Safety washers securing control system pulleys
MOD/340/006	Drilling of control surface hinge bolts for positive locking
MOD/340/007	Positive locking of trim lever rotating bolts
MOD/340/008	Addition of trim lever control stops
MOD/340/009	Replacement of Jury Strut Rivets with stainless, only Applicable to kits before no. 1094
MOD/340/010	Snubbing washers on Flap lever rod ends

In service AILs:

MOD/340/011	Inspection of engine mount (applies to Jabiru 2200A powered aircraft only)
-----------------------------	--

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.

Rotax 912-UL:	Maximum CHT: 150°C
	Max Coolant Temp: 120°C (with 50/50 Glycol/water coolant)
	Oil Temp Limits: 50°C to 140°C (Normal 90-110°C)
	Oil Pressure: 2-5 Bar
	Minimum Fuel Pressure: 0.15 bar

Jabiru 2200:	Maximum CHT:	180°C (200°C in climb)
	Oil Temp Limits:	15°C to 118°C (Normal 80-100°C)
	Oil Pressure:	31 – 76 psi (2-5 bar)
	Min Fuel Pressure:	0.75 psi (0.05 bar)
	Max Fuel Pressure:	3 psi (0.2 bar)



LAA TYPE ACCEPTANCE DATA SHEET
TADS 340
X'AIR HAWK

2.8 Control surface deflections

Ailerons	Up: $43^{\circ} \pm 2^{\circ}$ Down: $20^{\circ} \pm 2^{\circ}$
Elevators	Up: $30^{\circ} \pm 3^{\circ}$ Down: $20^{\circ} \pm 3^{\circ}$
Elevator tab	Up: 35° Down: 35°
Rudder	Left $35^{\circ} \pm 3^{\circ}$ Right $35^{\circ} \pm 3^{\circ}$
Flap	Down $0^{\circ} - 10^{\circ} \pm 2^{\circ} - 20^{\circ} \pm 2^{\circ} - 35^{\circ} \pm 2^{\circ}$

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 by means of cockpit placards or instrument markings:

2.1 Aerobatic Limitations

The aeroplane is permitted to fly only for non-aerobatic operation. In this context non-aerobatic operation includes:

- i) any manoeuvre necessary for normal flying.
 - ii) intentional stalls from level flight.
 - iii) steep turns in which the angle of bank does not exceed 60 degrees.
- Intentional spinning is prohibited.

2.2 Loading Limitations

Maximum Total Weight Authorised: 450 kg
CG Range: Limits 220 mm to 385 mm fwd of the datum point.
Datum Point is: main fuselage axle/base tube centre line.

2.3 Engine Limitations (Jabiru 2200)

Maximum Engine RPM: 3300

Engine Limitations (Rotax 912-UL)

Maximum Engine RPM: 5800
Maximum Continuous Engine RPM: 5500

2.4 Airspeed Limitations

Maximum Indicated Airspeed: 125 mph
Maximum indicated airspeed with flaps deployed: 70 mph

2.5 Other Limitations

The aircraft shall be flown by day and under Visual Flight Rules only.
Smoking in the aircraft is prohibited.



**LAA TYPE ACCEPTANCE DATA SHEET
TADS 340
X'AIR HAWK**

Additional Placards:

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

Fireproof identification plate must be fitted to fuselage, engraved or stamped with aircraft's registration letters.

As a microlight aircraft, additional microlight weight placard must be fitted as described in TL2.11 regarding empty weight and payload.

2.10 Maximum permitted empty weight

<i>Model</i>	<i>Max empty weight</i>
Jabiru 2200 variants	268 kg
Rotax 912-UL variants	268 kg
DMotor LF26 variants	268 kg

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

Xair Hawk Flight & Operators Manual HFOMJ22-1-7/7. For engine maintenance refer to Jabiru or Rotax maintenance schedules, as applicable.

3.2 Standard Options

1. Single one-piece 64L fibreglass fuel tank.
2. Fitment of oil cooler on Jabiru engines.
3. Improved short wingspan wing.
4. Original cable-operated calliper wheel brakes (Mk1 type).
5. Alternative Raj Hamsa hydraulic brake system kit with central wheel brake lever and Mk 2 wheel hub/disc brake configuration.
6. Alternative Raj Hamsa hydraulic brake system kit with central wheel brake lever and alternative compact S.R. Designs Mk 3 wheel hub/disc brake configuration which places wheels further inboard on axles by 60 mm.
7. Cowlings designed for the DMotor installation (single radiator installation).

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

The following bulletins are highly recommended by the LAA (unless mandated above); the indicated compliance level is as recommended by the factory.

<i>Ref</i>	<i>Date</i>	<i>Description</i>	<i>Applicability</i>
WLACSB-H01	16/7/08	Correct installation/routing of seat belt lap straps.	All variants
WLACSB-H02	1/6/09	Replacement of propeller hub spacer	Jabiru powered variants

3.4 Special Inspection Points

- UK Build manual to be viewed to insure correct implication of UK modifications listed above.
- Important to insure that the 4mm wing tip location pin has been fitted in the leading edge, before covering, as this jigs the correct washout of the wing.
- Correct tension and setting of wires to assure no twist in the tailplane as detailed in the build and operators Manuals.
- Some early kits were supplied with jury struts that were 10-12mm too long, correct overall length is approx 580mm (front) and 470mm (rear). Incorrect length jury struts are indicated by wing main struts being bowed rather than straight.
- Important that aileron and flap neutral settings conform with the settings given in the building and operators manuals. When correctly rigged, ailerons appear slightly reflexed (up-turned) when in neutral position. Failure to incorporate correct neutral positions can cause aileron flutter under certain conditions.
- Where rudder cables cross over within fuselage, cables must be protected from abrasion either by a fairlead or plastic sleeve factory fitted to later kits.
- Mounting of early orange plastic fuel tanks must be checked for security and adequate clearance from moving parts of the elevator control rod system.
- Ensure full and free steering movement of the nosewheel leg, without binding, and that rudder centring springs are strong enough to return the nosewheel/rudder to the centre when the rudder is released from the deflected position either side. Nosewheel must be raised off ground by pressing down on tail, when carrying out this test.
- Jabiru carburettor set-up specified by WLAC is as follows:
 - main jet: 235
 - needle jet: 280
 - needle: 4A138AOD-1
 - idle jet: 35 (bottom end mixture screw turned out approx 1.5 turns) or 45 (bottom end mixture screw turned out approx 1 turn)

3.5 Operational Issues

The following Safety Spot articles are relevant to X'air aircraft

Light Aviation issue [September 2010](#)

Fuel pump electrical connection

Fuel pump connected with electrical terminals backwards. Fuel pump was restricting fuel flow from engine instead of supplying to it.

Light Aviation issue [September 2012](#)

Engine mount cracks

AIL [MOD/340/011](#) released concerning Jabiru powered variants of X'air after cracks found in comparatively low hours aircraft.

- Check that rudder self-centres in flight (see also special inspection points above).
- Check adequacy of engine cooling, especially if oil cooler not fitted. Must be able to climb for five minutes at full throttle without exceeding temperature limits or oil pressure falling below 2 bar (Jabiru 2200 engine).

----- END -----

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