



LAA TYPE ACCEPTANCE DATA SHEET
TADS 218
RANS S7S

Issue 2			
Revision A	New format	Dated 15/6/11	JV
Revision B	Insertion of mod number for downspring mod in section 2.6 Minor changes to format.	Dated 17/6/13	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. The annual Permit to Fly renewal (revalidation) process requires a Declaration by the inspector and owner that the Requirements of Section 2 have been 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

Skycraft Ltd., Kestrel, Broadgate, Weston Hills, Spalding. Lincs. PE12 6DP. United Kingdom.

Tel: 01406 371779
Email: sales@sky-craft.co.uk
Website: www.sky-craft.co.uk

1.2 Description

The Rans S7S is a two-seat, high-wing monoplane seating two in tandem, available in kit form for amateur construction from Rans Inc of Kansas. The type is normally fitted with a geared Rotax 912-ULS engine and fixed pitch Sensenich W72RR57 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 S7S is a development of the original S7 design. The S7S model differs in that it is a kit-built variant of the type certified Rans S-7C which has been type certified by the FAA (TCDS AOO011W1 refers). The only difference significant to airworthiness between the S-7C and S7S model is that the S7S is not supplied with the elevator downspring which is part of the S-7C design standard, which is included as a longitudinal stability enhancing device on the S-7C model.

The S7S is available only as a 'Group A' aircraft and not as a microlight.



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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

Rans provides a comprehensive build manual.

2.3 Build Inspections

Build inspection schedule ‘tubular aircraft’.
Inspector approval codes A-A or A-M. Inspector signing off final inspection also requires ‘first flight’ endorsement.

2.4 Flight Manual

Rans provide a Pilot’s Manual. See also [flight test](#) in Light Aviation of January 2010.

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)

The downspring modification LAA Mod 12349 (or an acceptable alternative) will be part of the UK design standard for any future UK-built examples. Details of the custom downspring installation and parts are available from Skycraft.

If the rearward travel of the sliding seats causes restrictions of the elevator travel, the rearmost seat adjustment holes must be blocked by 3/16” blind rivets or AN3 bolts and suitable washers and stiffnuts, to prevent restricting the travel of the elevator. On G-CEEJ this involved blocking the rearmost hole on the front seat slider and the rearmost pair of holes on the rear seat slider.



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

(Refer to the engine manufacturer's latest documentation for the definitive parameter values.)

With Rotax 912-ULS engine:

- Maximum CHT: 135°C
- Max Coolant Temp: 120°C (with 50/50 Glycol/water coolant)
- Oil Temp Limits: 50°C to 130°C (Normal 90°C-110°C)
- Oil Pressure: 2-5 Bar
- Minimum Fuel Pressure: 0.15 bar

2.8 Control surface deflections

Ailerons	Up: TBD Down: TBD
Elevators	Up: TBD Down: TBD
Elevator tab	Up: TBD Down: TBD
Rudder	Left: TBD Right: TBD
Flap	Down: TBD

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: 545 kg (1200 lb)
CG Range: 44.5" to 50.5" aft of datum
Datum Point is: front face of the firewall
 - 2.3 Engine Limitations
Maximum Engine RPM: 5800
Maximum continuous engine RPM: 5500



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- 2.4 Airspeed Limitations
Maximum Indicated Airspeed (V_{NE}): 130 mph
Max Indicated Airspeed Flaps Extended: 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.

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.

Section 3 – Advice to owners, operators and inspectors

3.1 Maintenance Manual

Rans provides an Operator’s Manual.

For the engine, consult engine manufacturer’s schedule.

3.2 Standard Options

- Bush tyres
- Bush tailwheel

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

For details of operational alerts, assembly alerts and ‘airworthiness directives’ (which are in effect manufacturer’s service bulletins), please check the following link:
http://www.rans.com/_KITS/Alerts.htm

In the absence of any over-riding LAA classification, mods and inspections published by the manufacturer should be complied with according to the manufacturer’s recommendation.

At the date of publishing this TADS, Rans have issued a number of documents, including:

<i>Ref</i>	<i>Date</i>	<i>Description</i>	<i>Factory compliance status</i>	<i>Applicability</i>
AA-172	16/12/10	Incorrect shipping of AAPQ-44 rivets	Mandatory	All models



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AD-136	14/5/10	Hour meter oil pressure switch leak	Mandatory	All models with Rotax 912 engines equipped with an oil pressure switch for hour meter
OA-168	26/4/09	Fuel filter	Mandatory	All models
AD-134	18/9/06	Tail spring breakage	Mandatory	All tailwheel models
OA-162	13/9/06	Aileron link cables and turnbuckle	Mandatory	All models
OA-160	3/1/06	Fuel cap vent hole	Mandatory	All models
AD-122	16/3/01	912/912S Oil pressure sender and oil pressure switch	Mandatory	All models with Rotax 912 and 912S engines

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, see <http://www.rans.com/KITS/Alerts.html>. In the absence of any over-riding LAA classification, mods and inspections published by the manufacturer should be complied with according to the manufacturer's recommendation.

For Rotax engines, there are many Rotax service bulletins dealing with a variety of important safety topics. Copies of the bulletins applicable to individual engines by engine serial can be downloaded directly from the Rotax website at <http://www.rotax-aircraft-engines.com>. More information is available on www.skydrive.co.uk.

Inspect tail bracing cable attachment tangs annually for signs of cracking per 'PFA Airworthiness Information' [MOD/218/001](#) 'Rans S7 cable attach tangs'.

If the rearward travel of the sliding seats causes restrictions of the elevator travel, the rearmost seat adjustment holes must be blocked by 3/16" blind rivets or AN3 bolts and suitable washers and stiffnuts, to prevent restricting the travel of the elevator. On G-CEEJ this involved blocking the rearmost hole on the front seat slider and the rearmost pair of holes on the rear seat slider.

3.5 Special Test Flying Issues

The handling was found satisfactory on the UK prototype except that without the benefit of a downspring the longitudinal stability was neutral at the aft cg limit, particularly at high airspeeds. The Rans-supplied downspring retro-fit kit was found to give too high a forward stick force to be comfortable. A custom downspring was therefore developed for G-CEEJ which, in conjunction with an adjustment of the pitch trim tab range of movement, resulted in adequate longitudinal stability and acceptable trim range while not causing excessive or uncomfortable stick forces. With the custom downspring and revised trim tab range of travel in place the handling was satisfactory within the cg limits of 44.5 to 50.5 inches aft of datum, being a slightly wider range than that approved on the certified S-7C model.

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