



LAA TYPE ACCEPTANCE DATA SHEET
TADS 035
STARDUSTER TOO SA300

Issue 1	Initial Issue	Dated 09/08/06	FD
Revision A	Update of TADS format	Dated 22/01/21	MR
Revision B	Added titles of drawings in section 2.2	Dated 04/10/21	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

1.1 UK contact

No UK contact for Stolp Aircraft. US contact details below.

Stolp Starduster Corporation – an Aircraft Spruce & Speciality Corporation
Tel: (951) 372-9555
Email: info@aircraftspruce.com
Website: <http://starduster.aircraftspruce.com/index1.html>

1.2 Description

The Starduster Too is a two-seat open cockpit biplane of classic appearance, with a welded steel tube fuselage and tail surfaces, and wooden wings, the whole being fabric covered. The Starduster Too is built from a set of drawings available from Stolp Starduster Corp. Although not an out and out aerobatic aircraft, the Starduster Too is cleared for aerobatics by the LAA. The Starduster Too is cleared by the LAA with Lycoming O-320, IO-320, O-360 and IO-360 engines. Use of six-cylinder Lycoming engines not accepted by the LAA at this time.

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"*.



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2.1 Fast Build Kit 51% Compliance

Not applicable – the Starduster Too is a plans-built aircraft, although some prefabricated assemblies are available from Stolp Starduster Corp.

2.2 Build Manual

All essential information provided on the drawings.

Sheet 1	Specs and stress analysis
Sheet 2	Lower wing
Sheet 2A	Bell crank
Sheet 3	Upper wing
Sheet 4	Wing spars
Sheet 5	Trailing edge and wing tip
Sheet 6	Centre section upper wing
Sheet 7	Aileron
Sheet 7A	Forward mounted aileron slave strut
Sheet 8/8A	Ribs
Sheet 9	Fuselage fairings
Sheet 10	Tail surfaces
Sheet 11	Fuselage geometry
Sheet 11A	Bungee truss
Sheet 12	Cabanes and I strut
Sheet 13	Control system
Sheet 14/14A	Landing gear
Sheet 15	General arrangement
Sheet 16	Fuel system, brake line & seats
Sheet 17	Instrument panel
Sheet 18	Sheet metal firewall coaming
Sheet 19	Engine cowling
Sheet 20	Centre section and tank bay
Sheet 21	Cutaway

2.3 Build Inspections

Build inspection schedule 1D (wood/metal biplane).
Inspector approval codes A-A or A-W. Inspector signing off final inspection also requires 'first flight' endorsement.

2.4 Flight Manual

Nil known.

2.5 Mandatory Permit Directives

None applicable specifically to this aircraft type.

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/035/001	Aileron Control Stops	To avoid the possibility of aileron control surfaces moving over centre and becoming locked, aileron control stops must be installed. Drawing available from LAA.
MOD/035/002	Fuel System Crashworthiness	The location of fuel system components in the fuselage beneath the main fuselage steel truss resulted in uncontrollable loss of fuel when a Starduster aircraft suffered undercarriage collapse in a landing accident and the system ruptured. To avoid the possibility of reoccurrence, fuel systems should incorporate a fuel cock upstream of this area whenever possible, and systems should be configured in a way that minimises the degree of vulnerability of fuel system components to this type of accident damage, i.e. avoid routing fuel pipes underneath main fuselage truss. Contact LAA for full information when required.
MOD/035/003	Additional Elevator Hinges	Starduster Too aircraft must be modified to include, at a specified location at extreme outboard end of tailplane rear spar tube, a third (each side) elevator hinge attachment point. Drawings available from LAA.
MOD/035/004	Additional Fin/tail Bracing Wires	Starduster Too aircraft must have two (each side) fin bracing wires and two (each side) tailplane struts, per latest drawings, rather than one. Very early Starduster Too drawings are thought to have shown only a single set of wires and struts each side. Drawings available from LAA

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.

2.8 Control surface deflections

Ailerons	Up: 30° Down: 18°
Elevators	Up: 30° Down: 25°
Rudder	Left: 25° Right: 25°



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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 permitted.
Aerobatic manoeuvres exceeding +/- 5G are prohibited.
Intentional spinning is permitted.
 - 2.2 **Loading Limitations**
Maximum Total Weight Authorised: 901 kg (depending on engine power)
Maximum Aerobatic Weight: 774 kg
CG Range: 18 inches to 27 inches aft of datum (some examples cleared to aft limit of 29" AoD)
Datum Point is: forward face of firewall.
 - 2.3 **Engine Limitations**
Maximum Engine RPM: 2700
 - 2.4 **Airspeed Limitations**
Maximum Indicated Airspeed (V_{NE}): 180 mph (some examples cleared to different V_{NE})
Maximum Indicated Airspeed, Rough Air (V_{NO}): 110mph
 - 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

LAA is not aware of any particular maintenance schedule made available by Stolp Starduster Corp: a customised version of the LAA Generic Maintenance Schedule should 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

Auxiliary fuel tank in wing centre section

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.

None known.

3.4 Special Inspection Points

- Builder interpretation of areas which are sparsely detailed on the drawings, such as fuel tank, engine controls, exhaust system, cowlings, wheel brakes, cockpit harness etc.
- One aspect that demands particular attention from an inspection point of view is that these aircraft are aerobatic, and are normally used as such. They are regularly subjected to greater loads and stresses than non-aerobatic types. Deferred defects, which may be perfectly safe on a docile type, may have catastrophic implications on an aircraft capable of violently manoeuvring at up to 6g. A particularly high standard of vigilance should be exercised when inspecting aerobatic types especially on the integrity of the structural components and flying control systems. By way of example, a few years ago a Starduster Too aircraft (non-LAA) crashed fatally when flying wires became detached from the wing due to the loss of the retaining bolt. It had been recently imported from the USA and the nut that should have retained the bolt was thought to have been missing for some time. It is therefore essential that access holes be provided in the wings and other areas in order to permit adequate inspection of critical structural assemblies, such as flying wire and strut attachments.
- Inspectors should also consider the general implications of cockpit safety applicable to an aerobatic aeroplane. A few years ago in the UK a Skybolt aircraft (non-LAA) crashed fatally when, it's thought, the fire extinguisher came loose in the cockpit during aerobatics and knocked out the pilot.
- The Starduster is known to be easily ground looped in in-experienced hands, particularly on tarmac. Therefore special attention should be paid to the lower wing integrity, with wrinkles in the fabric and bruised wingtips being investigated fully. Such incidents could cause damage to the wing spars and these should be carefully checked for cracks and other problems



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3.5 Operational Issues

1. *Safety Spot* reference

The following *Safety Spot* articles are relevant to Stolp Starduster Too aircraft:

Light Aviation [Jul 2017](#) Tailwheel corrosion

3.6 Standard Modifications

None.

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