



NO: BM 63 ISSUE: 4

TYPE: Thruster T600N (450Kg)

- (1) MANUFACTURER: Thruster Aircraft (UK)
Continued Support: Thruster Aircraft LLP
North Hanger
Wickenby Airfield
Langworth, Lincs
LN3 5AX
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR Section S Issue 2
- (4) DEFINITION OF BASIC STANDARD: Mod TAS001 Issue 1 dated 18 April 1995. Master Drawing List form F10 Issue 1 dated 2 January 1997, Mod TAS 020, TAS 023 (Part) and TAS 025
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | | |
|--|-------|-------------------|
| (a) MTOW | 450 | kg |
| (b) No. Seats | 2 | |
| (c) Maximum Wing Loading | 28.68 | kg/m ² |
| (d) V _{so} | 30.5 | kn CAS |
| (e) Permitted range of seat loading* | 55-90 | kg per seat |
| (f) Typical Empty Weight (ZFW) | 245 | kg |
| <i>Sprint</i> | 261 | kg |
| (g) Max ZFW + 172 kg crew + 1 hr fuel
(21litres /15 kg) | 450 | kg |
| <i>Sprint</i> | 450 | kg |
| (h) Max ZFW + 86 kg pilot + full fuel
(21litres /15 kg) | 385 | kg |
| <i>Sprint</i> | 385 | kg |
| (i) Max ZFW at initial permit issue | 263 | kg |

**Note: It is the Pilot's responsibility that the aircraft is not flown outside the permitted MTOW*

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Engine	<i>Rotax 582 2V DCDI Oil Premix</i>			
Max RPM	6500			
MAX CHT	-NA-			
MAX EGT	650C(1200F)			
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star /MOGAS leaded fuel to BS 4040, or AVGAS 100LL.			
Engine Oil Spec	Super Two Stroke To TSCT (min)			
Gearbox oil spec	API-GL5 or GL6 or SAR 140 EP or 85W 140 EP			
Fuel/Oil Mix	50:1			
Coolant Temperature	80C (175F) Max			
Oil Pressure	-NA-			
Oil Temperature	-NA-			
Fuel Pressure	-NA-			

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball
0 to 100 KIAS	0 - 20,000	0 - 8000	-NA- /Required 0-1700°F 0-900°C	Optional	0-240°F 0-120°C	Optional	Optional	Optional

(9) CONTROL DEFLECTIONS:

Elevator UP:	30° ± 2°	Tailplane trim UP:	-NA-
Elevator DOWN:	30° ± 2°	Tailplane trim DOWN:	-NA-
Ailerons* UP:	40° ± 2°	Rudder LEFT:	25° ± 2°
Ailerons* Down:	30° ± 2°	Rudder RIGHT:	25° ± 2°

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(10) PILOT'S NOTES, MAINTENANCE MANUALS REFERENCES:

10.1 Manuals approved for use with this aircraft.

- (a) **POH 210-072, Rotax Engine Operator Manual**

10.2 The following placards are to be fitted:-

- (a) Flight Limitations Placard (to be visible to pilot)
See Annex D
- (b) Engine Limitations Placard (to be located near to engine instruments)
See Annex D
- (c) Fuel Limitations Placard (to be located near the filler cap)
See Annex D
- (d) Switches
See Annex D

(11) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC:

See Annex A for required modifications.

Annual Bettsometer test is to be carried out to **1320** grammes with wing sails fitted and tensioned to flight. Test must be to both upper and lower surfaces.

NB: A definitive list of Mandatory actions is to be obtained by reference to CAA published Mandatory Permit Directories. The list on this TADS is not necessarily up-to-date. Also see Thruster website @ www.thruster.co.uk for latest information

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 448 fpm at 50 KIAS.

Stall or Minimum Flying Speed: 35 KIAS at 450kg MTOW / idle.

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	13/05/03 Initial Issue - 450 kg T600N Rotax aircraft originally recorded in TAD BM-52 Issue 4 on the 7 September 1999. These are now being transferred to BM-63 Issue 1 that also incorporates a fully enclosed rear fuselage, details of which are denoted as applicable to the “Sprint” variant as distinct from the basic T600N Rotax 582 A J MAXWELL
2	Not Formally Issued
3	20/11/07 Editorial Corrections A J MAXWELL
4	05/05/12 Editorial Corrections, Corrections to Cockpit Loading, Control Deflections, AAIB Safety action addition of “Area Of Special Attention” ANNEX E



A LOVE

Illustration of Aircraft Type: Open Back



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Illustration of Aircraft Type: Sprint



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ANNEX A – MANDATORY MODIFICATIONS

1. NONE

ANNEX B - APPROVED OPTIONAL MODIFICATIONS

The installation of all optional modifications is to be inspected by a BMAA inspector and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not listed here.

<u>Thruster Mod</u>	<u>Date</u>	<u>Title</u>
TAL 03-3	12/02/1992	Rotax Exhaust After Muffler
TAL 03-9	12/02/1992	GRP Wheel Spats
TAS 010	10/07/1997	Ultralam Wing Skins
TAS 013	02/12/1997	Ivo Prop Installation
TAS 018	29/09/1997	Disabled Person Mod “Crip Kit”
TAS 026	01/03/2004	Lever for existing Bungee Trim System
TAS 030	01/03/2004	Carburettor Inlet Heater
TAS 031	01/03/2004	Wing Strobe Lights
TAS 033	01/03/2004	Roll Trim Bias
TAS 034	01/03/2004	Battery Isolator Switch
TAS 035	01/03/2004	Extended Control Colum Stick (Training Aid)
TAS 037	01/03/2004	Wider Nose Wheel

ANNEX C
WEIGHING INFORMATION

1. CG Datum: Front of Leading Edge Spar Tube
2. Weighing attitude: Wings Level Fuse Tube Horizontal
3. Mainwheel moment arm: 767.5mm Aft of datum
4. Tailwheel moment arm: 750mm Fwd of datum
5. Fuel moment arm: 1030mm Aft of datum
6. Crew moment arm:
 - a) 423 mm Aft of datum (Forward Seat Position)
 - b) 448 mm Aft of datum (Mid Seat Position)
 - c) 473 mm Aft of datum (Rear Seat Position)
7. Crew weights: Minimum 55 kg / maximum 90 kg
8. Aft CG Limit: 501 mm Aft of datum
9. Fwd CG Limit: 415 mm Aft of datum

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ANNEX D

EXAMPLE PLACARDS

(a) Flight Limitations Placard (to be visible to pilot)

1. On cockpit fascia

OPERATIONAL LIMITATIONS
THE AIRCRAFT MUST BE OPERATED IN
COMPLIANCE WITH THE OPERATING
LIMITATIONS STATED IN THE FORM OF
PLACARD MARKINGS AND MANUALS.
NO AEROBATIC MANOUVRES
INCLUDING SPINS ARE PERMITTED

2. Adjacent to fuel cock

FUEL
-φ-
OFF

3. Adjacent to ignition switch on Instrument panel

RUN
↑
↓
STOP

4. On cockpit fascia adjacent to A.S.I.

V_A 60Kt / V_{NE} 80Kt

Version (a) and (b)

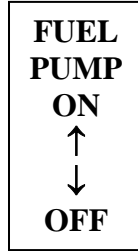
V_A 71Kt / V_{NE} 1020Kt

Version (c) Sprint

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5. Adjacent to Fuel pump switch on Instrument panel



6. On Keeltube at rear of Engine [Port and Starboard]

DANGER PROPELLER ARC

7. On roof Panel adjacent to Trim Cord

**ELEVATOR TRIM
PULL ←←—————NOSE UP**

8. On cockpit fascia adjacent to RPM gauge

**MAX RPM
6500**

9. On cockpit fascia

C of G LIMITS
0.389m TO 0.501m AOD
COCKPIT LOADING
MAX 172KG
MTOW 450KG

10. On cockpit fascia

WARNING
IT IS THE RESPONSIBILITY OF THE PILOT IN
COMMAND TO ENSURE THAT THE C OF G AND
MTOW ARE WITHIN OPERATIONAL LIMITS

11. On cockpit fascia

COCKPIT LOAD (kg)	ALLOWABLE FUEL (LITRES)

[Note: This Placard is completed by Thruster Air Services for each individual Aircraft prior to its release.]

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12. On cockpit fascia

**NO SMOKING
FASTEN SEATBELTS**

13. Adjacent to EGT gauge on Instrument panel

**MAX EGT
650C**

**MAX EGT
1200F**

14. Adjacent to EGT gauge on Instrument panel

**MAX WATER TEMP
80C**

**MAX WATER TEMP
175F**

Adjacent to Water Temp. gauge on Instrument panel

** The Placard displayed will be either Metric or Imperial units dependant on the scaling of the Gauge fitted.*

15. On cockpit fascia.

**CLASSIFICATION
MICROLIGHT**

16. One of the following , Fuel Tank adjacent to filler cap

**FUEL GRADE: RON 90
MIN
FUEL OIL MIX 50:1
CAPACITY 50 LITRES
USEABLE**

17. On seat rail adjacent to Throttle lever both Port and Starboard.

**POWER ON
↑
↓
POWER OFF**

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18. On cockpit fascia.

AIRCRAFT TYPE.....T600N (450Kg).....
REGISTRATION.....
Ser No.
EMPTY WEIGHT:
.....Kg Weighing Date

19. On cockpit fascia adjacent to Push Start Switch

PUSH START

20. All switches are to be marked with functional and sense (up= on, down= off)

ANNEX E

Areas for Special Attention During Inspections

1. Carburettor Heating System to minimise risk of Carburettor Icing. An accident caused by Carburettor Icing has been reported which was due in part to the Electric Carburettor Heating system being fitted on the inlet of the Carburettor rather than the outlet in the vicinity of the butterfly valve. Check that the installation is correct and operational.



MANDATORY PERMIT DIRECTIVE

The following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

MPD: 2003-003 THRUSTER AIR SERVICES

Subject: Leading edge spar attachment bracket.

Applicability: Thruster Air Services Thruster T600 Series microlights.

Reason: During a routine airframe inspection of a Thruster T600N small cracks were found on the leading edge spar attachment bracket Part No 080-267; the cracks were located on the bend radius close to the outer edge of the bracket. The microlight had logged approximately 450 flying hours and since new had been tethered down outside when not flying. The tie down cables had been attached to the lift strut ends adjacent to the stainless brackets. It is likely that this particular microlight has undergone a significant number of cyclic stress reversals particularly due to being tethered outside in all weathers.

Compliance: Before further flight from the effective date of this MPD inspect the leading edge spar strut brackets for cracks in accordance with Thruster Air Services Service Bulletin TAS/SB09 Issue 2. At the same time an inspection is also required of the trailing edge, jury strut and rear lift cable brackets for cracks, as these brackets are all of a similar design. Replace any cracked brackets before further flight. Return cracked brackets to Thruster Air Services. Repeat these inspections prior to the first flight of the day. The pilot may perform these inspections.

A copy of the Service Bulletin and further information can be obtained from:

Thruster Air Services
Malthouse
Ginge
Near Wantage
OX12 8QS

Tel: 01235 833305
Fax: 01235 833390
Email: gordon@thruster.co.uk

Record compliance with this MPD in the aircraft log book.

This MPD becomes effective on 5 May 2003.



**United Kingdom
Civil Aviation Authority**

MPD No: 2010-006 R1

Issue Date: 28 October 2010

MANDATORY PERMIT DIRECTIVE

In accordance with Article 22(1) of the Air Navigation Order 2009 as amended the following action required by this Mandatory Permit Directive (MPD) is mandatory for applicable aircraft registered in the United Kingdom operating on a UK CAA Permit to Fly.

MPD: 2010-006 R1 THRUSTER AIR SERVICES

Subject:	Exfoliation Corrosion Splits Aluminium Flying Strut Ends.
Applicability:	Thruster T600, T300 and TST series microlight aircraft with aluminium alloy flying strut ends.
Reason:	<p>Corrosion splitting in this primary structure may weaken the part sufficiently that it may result in the loss of a wing and consequent loss of the aircraft.</p> <p>This MPD has been revised in the light of the type design organisation's investigations, to apply corrosion protection and increase period between inspections.</p>
Compliance:	<p>Before further flight (as required by the original MPD), carry out the inspection called up in Thruster Air Services Service Bulletin TAS/SB 13 Issue 2 (or later approved revision). If any crack is found replace the parts with sound fittings.</p> <p>If compliance has been achieved within the last 10 flying hours in accordance with issue 1 of this MPD/SB, the results remain valid for the remainder of that 10 hours. Inspection may be carried out by the pilot/owner.</p> <p>Carry out further inspections every 100 hours /6 months whichever is sooner.</p> <p>Replacement of the strut ends with steel end fittings terminates the need for repeat inspection.</p>

Ensure compliance with this MPD is recorded in the aircraft logbook.

Effective Date: 4 November 2010

1. This MPD was not published for consultation.
2. Enquiries regarding this MPD should be referred to Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.

Tel: +44 (0)1293 573726 Fax: +44 (0)1293 573976 Email: department.certification@caa.co.uk