

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM - 29 ISSUE: 4

TYPE	SPECTRUM																											
(1) MANUFACTURER:	Spectrum Aircraft BMAA is responsible for continued airworthiness																											
(2) UK IMPORTER:	N/A																											
(3) CERTIFICATION:	BCAR SECTION S, Advance Copy dated March 1983 as amended 11 October 1988																											
(4) DEFINITION OF BASIC STANDARD:	Mircroflight Aircraft Ltd, Drawing No. S/00/00 Issue 2 dated 18 June 1991																											
(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION																												
	<table><thead><tr><th></th><th>Standard Wing Struts</th><th>Aerofoil Wing Struts (Mod S/023)</th></tr></thead><tbody><tr><td>(a) MTOW</td><td>375 kg</td><td>390 kg</td></tr><tr><td>(b) No. Seats</td><td>2</td><td>2</td></tr><tr><td>(c) Maximum Wing Loading</td><td>25 kg/m²</td><td>24.4 kg/m²</td></tr><tr><td>(d) Permitted range of pilot weights</td><td>55 – 86 kg front 0 – 86 kg rear</td><td>55 – 86 kg front 0 – 86 kg rear</td></tr><tr><td>(e) Typical Empty Weight (ZFW)</td><td>188 kg</td><td>203 kg</td></tr><tr><td>(f) ZFW + 172 kg crew + 1 hr fuel (21 litres / 15 kg)</td><td>375 kg</td><td>390 kg</td></tr><tr><td>(g) ZFW + 86 kg pilot + full fuel (35 litres / 25 kg)</td><td>299 kg</td><td>314 kg</td></tr><tr><td>(h) Max allowed ZFW at initial permit issue[#]</td><td>188 kg</td><td>203 kg</td></tr></tbody></table>		Standard Wing Struts	Aerofoil Wing Struts (Mod S/023)	(a) MTOW	375 kg	390 kg	(b) No. Seats	2	2	(c) Maximum Wing Loading	25 kg/m ²	24.4 kg/m ²	(d) Permitted range of pilot weights	55 – 86 kg front 0 – 86 kg rear	55 – 86 kg front 0 – 86 kg rear	(e) Typical Empty Weight (ZFW)	188 kg	203 kg	(f) ZFW + 172 kg crew + 1 hr fuel (21 litres / 15 kg)	375 kg	390 kg	(g) ZFW + 86 kg pilot + full fuel (35 litres / 25 kg)	299 kg	314 kg	(h) Max allowed ZFW at initial permit issue [#]	188 kg	203 kg
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[#] The maximum ZFW is the lower of [(a)-(172kg+1hrs fuel)] or [(a)-(86kg+full fuel)].
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(I) Power Plant

Engine	Rotax 503	Rotax 503 Dual CDI Ignition	
Max RPM	6900 rpm	6900 rpm	
Max CHT	250°C	250°C	
Max EGT	650°C	650°C	
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star MOGAS leaded fuel to BS4040, or AVGAS 100LL	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star MOGAS leaded fuel to BS4040, or AVGAS 100LL	
Engine Oil Spec	2 stroke oil	2 stroke oil	
Gearbox oil spec	API-GL5 or GL6, SAE 140RP OR 85W-140EP as temperature requires	API-GL5 or GL6, SAE 140RP OR 85W-140EP as temperature requires	
Fuel/Oil Mix	50:1	50:1	
Max. Coolant Temp.	N/A	N/A	
Max. Oil Pressure	N/A	N/A	
Min. Oil Pressure	N/A	N/A	
Oil Temperature	N/A	N/A	

(8) Instruments Required:

ASI	Altimeter	RPM	EGT	Compass	Coolant temp	CHT	Fuel Pressure	VSI	Slip ball
Required	Required	Required	Optional	Optional	N/A	Optional	Optional	Optional	Optional

(9) CONTROL DEFLECTIONS:

Elevator UP:	18° ± 2°	Steering LEFT:	23° ± 3°
Elevator DOWN:	15° ± 2°	Steering RIGHT:	23° ± 3°
Ailerons UP:	12.5° ± 2°	Rudder LEFT:	23° ± 3°
Ailerons Down:	12.5° ± 2°	Rudder RIGHT:	23° ± 3°
Tailplane trim:	(bungee system)		

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

10.1 Manuals approved for use with this aircraft.

Pilots Operating Handbook and Maintenance Manual Microflight Aircraft Ltd Report No. MFA/AAN/02 Issue 6 dated 20 June 1991.

10.2 The following limitations 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 to filler cap)

See Annex D.

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

See Annex A for required modifications.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb:	390 fpm at 45 kts
Stall or Minimum Flying Speed:	35 kts at max AUW

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	23/02/89 Initial Issue T R Woods
2	25/07/91 Addition of noise information W A Bevan
3	14/08/97 Approval of Modification S/023 C J Whittaker
4	08/07/03 Document revised to new format

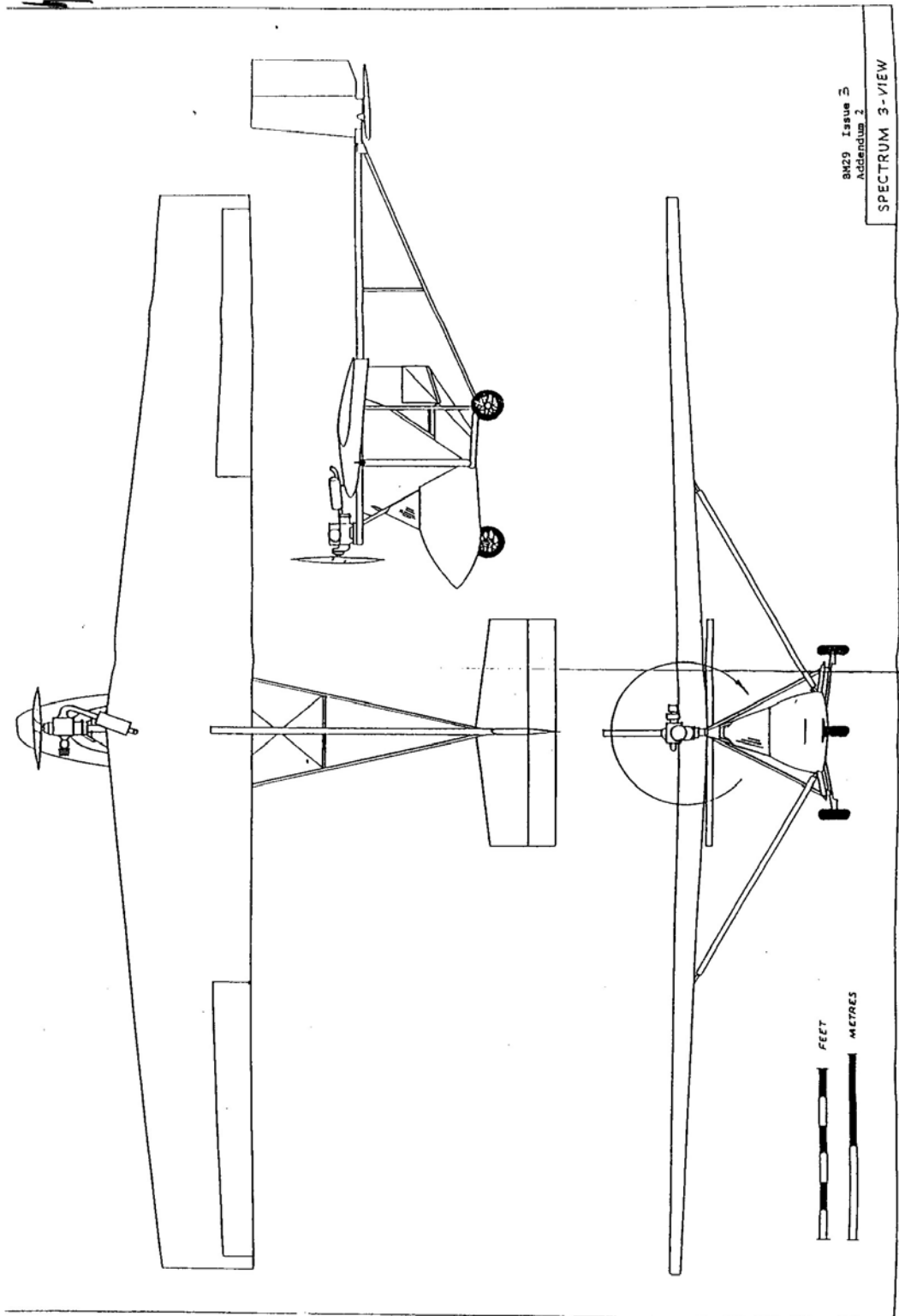
J C Barratt

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Illustration of Aircraft - 3 View



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ANNEX A – MANDATORY MODIFICATIONS

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.

Spectrum Mod S/015: (AAN 21408 Issue 2 Addendum 1)

“Approval for the Spectrum Microlight Aircraft fitted with the Dual CDI Rotax 503 Engine”

Spectrum Mod S/023: (AAN 25784 Issue 2)

“Increase of Maximum Permitted Weight by Utilising the Wing Struts as Auxiliary Lifting Surfaces, and reduction of fuel tank capacity to remain within weight limitations”.

The standard aircraft has a wing area of 15 m². The applicability clauses of BCAR Section S state that the wing loading must not exceed 25 kg/m². Therefore, the standard aircraft is limited to a maximum weight of 375 kg, (15 kg below the overall maximum weight allowable weight for a microlight of 390 kg). The purpose of this modification to the wing-to-fuselage struts is to add lift generating fairings, and thus enable the weight to be increased to 390 kg, while not exceeding a loading of 25 kg/m². S/023 also defines a modification to the fuel tank to restrict its capacity, (and thus fuel weight), as necessary for an individual aircraft to remain within the weight limitations. The wing strut and fuel tank modifications may be embodied together or independently.

UUUANNE X C - WEIGHING INFORMATION

1. CG Datum: Forward end of the main fuselage keel
2. Weighing attitude: Keel tube horizontal
3. Mainwheel moment arm: 1540 mm Aft of datum (AoD)
4. Nosewheel moment arm: 10 mm AoD
5. Fuel moment arm: 1800 mm (35 litres maximum capacity)
6. Crew moment arm: Pilot: 780 mm Passenger: 1230 mm
7. Crew weights: Minimum 55 kg / maximum 90 kg
(maximum reducible, not below 86 kg, if required).
8. Aft CG Limit: 1205 mm AoD
9. Fwd CG Limit: 1080 mm AoD

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ANNEX D – PLACARDS

A placard must be fitted to the right hand panel with the following wording:

Note: With Aerofoil Struts fitted, or fuel capacity reduced, in accordance with Mod S/023 the placarded figures will be amended to the values shown in italics, as applicable.

Occupant Warning: This aircraft is not constructed to an international requirement.

No Smoking

Operational Limitations:

Never Exceed Speed:	83 kts
Manoeuvring Speed:	72 kts
Maximum All Up Weights:	375 kgs, 825 lbs <i>390 kgs, 858 lbs</i>
Empty Weight	Actual
Pilot Weight/Front Seat	Minimum: 55 kgs, 121 lbs
	Maximum: 86 kgs, 189 lbs
Rear Seat	Maximum: 86 kgs, 189 lbs

Solo Pilot must be in Front Seat

Maximum RPM (2 mins):	6900
Maximum Continuous RPM:	6500
Maximum Cylinder Head Temperature:	250°C, 480°F
Maximum Exhaust Gas Temperature:	650°C, 1200°F

Flight Conditions:	Day, VFR
	No Aerobatics
	No Spins

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Fuel System Placards and Warning:

A placard must be fitted beside the fuel cock (which must be marked with its on and off positions) with the following wording:

Fuel capacity:	[True capacity to be stated]
(35 litres, 25 kgs, 56 lbs wit standard tank, may be reduced in the range 15 to 20 kg i.a.w. mod S/023)	

The fuel type (4 star) and mixture ratio (50:1) must be shown near the tank filler.

Other Placards and Markings:

The throttle, choke and trimmer controls must be labelled including their senses. The engine instruments must be marked by a red radial line at the limiting readings as shown on the placard above.

A compass deviation card should be fitted if the deviation is greater than 5° at any point.

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ANNEX E - POINTS FOR SPECIAL ATTENTION

In service, the following points have been found to be commonly recurring problems, and Inspectors must give special attention to the following both during initial approval, and during later inspections.

1. (blank)
2. (blank)
3. (blank)
4. (blank)
5. (blank)
6. (blank)
7. (blank)
8. (blank)
9. (blank)
10. (blank)