

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-18 ISSUE: 5

- TYPE: Raven
- (1) MANUFACTURER: Medway Microlights, Burrow Lane, Middle Stoke, Rochester, Kent, ME9 9RN
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR Section S: Advance issue, March 1983
- (4) DEFINITION OF BASIC STANDARD: S.I. 1301 Issue A Schedules -
Incorporating Mod No. SIB 0010
Mod No. SIB 0012
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | |
|--|---|
| (a) MTOW | 343 kg (pre mod MM10)
367 kg (post mod MM10) |
| (b) No. Seats | 2 |
| (c) Maximum Wing Loading | 22.9 kg/m ² (pre mod MM10)
24.5 kg/m ² (post mod MM10) |
| (d) V _{so} | 34 mph IAS |
| (e) Permitted range of pilot weights | 70 – 90 kg per seat. |
| (f) Typical Empty Weight (ZFW) | 146 kg |
| (g) ZFW + 172 kg crew + 1 hr fuel
(16 litres / 11.5 kg) | 329.5 kg |
| (h) ZFW + 86 kg pilot + full fuel
(25 litres / 18 kg) | 250 kg |
| (i) Max ZFW at initial permit issue | 159.5 kg (pre mod MM10)
183.5 kg (post mod MM10) |

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(6) POWER PLANTS

Designation	Raven			
Engine Type	Fuji Robin EC44PM			
Reduction Gear	Niclow Toothed Belt 2.6:1			
Exhaust System	Nicklow			
Intake System				
Propeller Type	Nicklow			
Propeller Dia x Pitch	58" x 36"			
Noise Type Cert No.	32M			
AAN approving configuration	19718			

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	343 kg (pre mod MM10) 367 kg (post mod MM10)												
(B) CG Limits	N/A												
(C) CG datum	N/A												
(D) Cockpit Loadings	<table> <thead> <tr> <th></th> <th>Front</th> <th>Rear</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Min</td> <td>75kg</td> <td>-</td> <td>75 kg</td> </tr> <tr> <td>Max</td> <td>90 kg</td> <td>90 kg</td> <td>180 kg</td> </tr> </tbody> </table>		Front	Rear	Total	Min	75kg	-	75 kg	Max	90 kg	90 kg	180 kg
	Front	Rear	Total										
Min	75kg	-	75 kg										
Max	90 kg	90 kg	180 kg										
(E) Never Exceed Speed	100 mph												
(F) Manoeuvring Speed	68 mph												
(G) Permitted Manoeuvres	30° Nose up / 30° nose down Non Aerobatic Normal acceleration limits, +4 / 0g												
(H) Fuel Contents (Max Useable)	25 litres												

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(I) Power Plant See Table

Engine	Fuji Robin EC44PM			
Max RPM	6500			
MAX CHT	N/A			
MAX EGT	N/A			
Fuel Spec	Regular Mogas			
Engine Oil Spec	2 Stroke Oil			
Gearbox oil spec				
Fuel/Oil Mix	40:1			
Coolant Temperature				
Oil Pressure	N/A			
Oil Temperature	N/A			
Fuel Pressure				

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball
Winter 0- 110 mph	Required		N/A	Required				

(9) CONTROL DEFLECTIONS: N/A

Elevator UP:	Tailplane trim UP:
Elevator DOWN:	Tailplane trim DOWN
Ailerons* UP:	Rudder LEFT:
Ailerons* Down:	Rudder RIGHT:

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

10.1 Manuals approved for use with this aircraft.

(a) S.I. report R150 Issue 3 with Appendix B

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 to filler cap)

A placard is to be fitted showing fuel capacity (litres), fuel type(s), fuel:oil ratio (if relevant) and if MTOW can be exceeded with full fuel and maximum cockpit weight, the fuel loads at MTOW for cockpit weights of 180kg / 170kg / 160kg etc. at 10kg intervals down to the maximum fuel load. An example is shown at 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 1360 grammes with wing sails fitted and tensioned to flight. Test must be to both upper and lower surfaces.

CAA AD	Associated Material	Description
004-09-86	Southdown International SB003 & SB004	Wing tuning and geometry adjustments.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 600 fpm

Stall or Minimum Flying Speed: 34 mph

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	16/06/86 Initial Issue W A Bevan
2	21/11/94 Addition of noise information and change of manufacturer details. W A Bevan
3	12/04/95 Addition of CAA AAN. W A Bevan
4	17/02/04 Reformatting, addition of applicable Major Modifications and addition of MPD. J C Barratt
5	18/04/07 Correction to Maximum ZFW at permit issue (item 5(i)).

JC Barratt

Illustration of Aircraft - 3 View



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ANNEX A – MANDATORY MODIFICATIONS

1. MPD 2001-006 Upper Torso Restraint for Passengers

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>Mod</u>	<u>Description</u>
MM5	Extra Batten for Raven wing
MM10	Weight increase to 367 kg & installation of extended range fuel tank 25 litres
MM13	Electric Carburettor Heater

ANNEX C

WEIGHING INFORMATION

1. CG Datum: N/A
2. Weighing attitude: N/A
3. Mainwheel moment arm: N/A
4. Nosewheel moment arm: N/A (units) (direction) of datum
5. Fuel moment arm: N/A (units) (direction) of datum
6. Crew moment arm: N/A (units) (direction) of datum
7. Crew weights: Minimum 75 kg / maximum 90 kg (maximum reducible, not below 86 kg, if required).
8. Aft CG Limit: N/A (units) (direction) of datum
9. Fwd CG Limit: N/A (units) (direction) of datum

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ANNEX D

EXAMPLE PLACARDS

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

	[Type] [Engine] [Registration]
Never Exceed Speed:	100 mph IAS
Manoeuvring Speed :	68 mph IAS
Stall Speed:	34 mph IAS
Best climb speed:	45 mph IAS
Best glide speed:	42 mph IAS
Pitch Limits:	30° nose down, 30° nose up.
Bank angle limits:	+/- 60°
Maximum Stall entry rate:	1 kt/s
Normal Acceleration Limits:	+4 / 0g
Empty Weight:	146 kg *
Max Take-Off Weight:	343 kg
Minimum Cockpit Weight:	75 kg
Maximum Cockpit Weight:	90 kg in each seat.*
Aerobatics and deliberate spinning prohibited.	

* This must match the most recent W&CG report for the aircraft.

(b) Engine Limitations Placard (to be located near to engine instruments)

A placard showing the limitations for all indicated engine parameters is to be mounted close to the engine instruments. This requirement need not be complied with for limitations shown as coloured markers (red for danger, amber for caution) on the instrument displays.

(c) Fuel Limitations Placard (to be located near to filler cap)

FUEL	
Capacity __ Litres	
(50:1 2 Stroke oil / do not add oil)	
Cockpit Weight (kg)	Max. Fuel Load (litres)
180	
170	
....	
.... Or below	Full fuel
Regular MOGAS	

(d) Switches

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