

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-57 ISSUE: 4

- TYPE: EclipseR
- (1) MANUFACTURER: Medway Microlights, Burrow Lane, Middle Stoke, Rochester, Kent, ME9 9RN
(have responsibility for continued airworthiness)
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR Section S Advanced Copy March 1983
BCAR Section S Paper 11 October 1988
BCAR Section S Issue 1, 4 April 1995
BCAR Section S Issue 2 August 1999
- (4) DEFINITION OF BASIC STANDARD: Drawings List of Hybred 44 XL 'R' and EclipseR Incorporating Mods MM1, MM2, M2 and MM16 through to MM20
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | |
|--|---|
| (a) MTOW | 367 kg Pre Mod MM20
415 kg Post Mod MM20 |
| (b) No. Seats | 2 |
| (c) Maximum Wing Loading | 24.5 kg/m ² Pre Mod MM20
27.3 kg/m ² Post Mod MM20 |
| (d) V _{so} | 36 mph IAS |
| (e) Permitted range of pilot weights | 75 - 86 kg per seat. |
| (f) Typical Empty Weight (ZFW) | 165 kg Pre Mod MM20
208 kg Post Mod MM20 |
| (g) ZFW + 172 kg crew + 1 hr fuel (litres 12 / 8.6 kg) | 367 kg Pre Mod MM20
389 kg Post Mod MM20 |
| (h) ZFW + 86 kg pilot + full fuel (litres 42 / 31 kg) | 312 kg Pre Mod MM20
325 kg Post Mod MM20 |
| (i) Max ZFW at initial permit issue | 186 kg Pre Mod MM20
234 kg Post Mod MM20 |

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NO: BM-57 ISSUE: 4

(I) Power Plant See Table

Engine	Jabiru 2.2L	2 SI 690L70	<i>Rotax 912UL</i>	
Max RPM	3300	6500	Max RPM 5800rpm (5 Min Limit) Max Continuous RPM 5500rpm	
MAX CHT	250°C	250°C	150deg C	
MAX EGT	N/A	650°C	880deg C	
Fuel Spec	4 Star 97 Octane Avgas	Unleaded BS7070 Fuel:Oil @ 50:1	4 Star 97 Unleaded Mogas	
Engine Oil Spec	Aeroshell 15W-50	N/A	Castrol S 80 Castrol Aero AD	
Gearbox oil spec	N/A	SAE 80	Castrol Agre 140	
Fuel/Oil Mix	N/A	50:1	N/A	
Coolant Temperature	N/A	88°C	150Deg C	
Oil Pressure	525 kPa (76 psi)	N/A	2-3 bar max 7bar	
Oil Temperature	118°C Max Continuous	N/A	50-140 Deg C	
Fuel Pressure				

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball	Oil Temp	Oil Pressure
Required 0-100mph	Required	Required	Required	Required	Required	Opt	Opt	N/A	Required	Required

(9) CONTROL DEFLECTIONS: N/A

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

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-57 ISSUE: 4

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

10.1 Manuals approved for use with this aircraft.

- (a) EclipseR Manual Issue 1 - pre MM18
- (b) Rebel SS Manual Issue - post MM18
- (c) EclipseR 912UL Manual Issue 1 - post MM20

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.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb:	Minimum climb rate of 600 ft/min
Climb speed:	45 mph IAS
Stall or Minimum Flying Speed:	36 mph IAS

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NO: BM-57 ISSUE: 4

Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	19/02/99 Issue 1 was raised to record the application of the Jabiru 2.2L Four stroke engine & rear suspension in accordance with Mod No. MM16 parts A, B, C, D, E & F. J Barratt
2	23/03/00 Correct typographical error on page 3, item 13: Rate of Climb. Installation of 2SI 690L70 two stroke engine in accordance with Mod No. MM18 Parts A & B. J Barratt
3	11/09/01 Installation of Rotax 912UL, Medway Ecoprop 3 Blade propeller and MTOW increase to 415kg in accordance with MM20 parts A,B and C J Barratt
4	19/06/03 Inclusion of optional major modifications and MPD for upper torso restraint for passengers.

J Barratt

Illustration of Aircraft - Photograph

Eclipser



Eclipser Rotax 912



CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

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NO: BM-57 ISSUE: 4

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.

Mod	Description
MM17/A	New Control Bar
MM17/B	Modification to Parking Restrictor
MM20	Part A - Engine Rotax 912 Part B - Propeller Part C - Increase MTOW 415 kg

Note: Parts A, B and C must be embodied simultaneously. Individual parts of the modification can not be embodied in isolation.

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 86 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

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-57 ISSUE: 4

ANNEX D - EXAMPLE PLACARDS

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

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

G-B.....

**DO NOT EXCEED MAXIMUM
COCKPIT LOAD OF...86kg....**

**DO NOT EXCEED VNE OF
100 mph IAS**

Manoeuvring Speed 68 mph IAS

Stall Speed 36 mph IAS

Best Climb Speed 45 mph IAS

Best Glide Speed 42 mph IAS

**DO NOT PITCH NOSE UP
OR DOWN MORE THAN
30° HORIZONTAL OR
EXCEED 60° ANGLE OF BANK**

**FLY SOLO FROM
FRONT SEAT ONLY**

**Minimum Permitted
Cockpit Load 75 kg**

**NO NEGATIVE g OR
AEROBATIC MANOEUVRES
NO WHIPSTALLS
NO LOOPS
NO STALLED SPIRAL
DESCENTS**

AIRCRAFT's WEIGHTS

DRY EMPTY 208kg

MTOW 415kg

SERIAL No

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

Maximum Oil temperature 140degC

Maximum oil Pressure 7 bar

Maximum CHT 150degC

Maximum Water temperature 150degC

Maximum EGT 880degC

MAX RPM

5800 RPM (5 Min Limit)

MAX Continuous

5500 RPM

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.

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MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-57 ISSUE: 4

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

FUEL	
Capacity __ Litres	
(50:1 2 Stroke oil / do not add oil)	
<u>Cockpit Weight (kg)</u>	<u>Max. Fuel Load (litres)</u>
180	
170	
....	
.... Or below	Full fuel
4 Star 97 Octane Avgas or Unleaded BS7070 see 7(I)	

(d) Switches

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