

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM 79 ISSUE 1

TYPE: **Clipper-100**

- | | | |
|-----|---|--|
| (1) | MANUFACTURER: | Medway Microlights
Burrows Lane
Middle Stoke
Rochester
Kent
ME3 9RN |
| (2) | UK IMPORTER: | N/A |
| (3) | CERTIFICATION: | BCAR Section S
(for issue refer to AAN BMAA-1041) |
| (4) | DEFINITION OF BASIC STANDARD: | CLIPPER 100
Drawing GA 9000 SLA / CLIPPER series |
| (5) | COMPLIANCE WITH THE MICROLIGHT DEFINITION | |
| (a) | MAUW | Parachute fitted 472.5kg
No parachute 450kg |
| (b) | No. Seats | 2 |
| (c) | Maximum Wing Loading | 33.5 kg/m ² |
| (d) | Vso | 35 kts CAS |
| (e) | Permitted range of pilot weights per seat | 55 to 110kg |
| (f) | Typical empty weight (no parachute) | 268kg |
| (g) | ZFW + 172 kg crew + 1 hr fuel
(Clipper-100 - 13 litres / 9 kg) | 449kg |
| (h) | ZFW + 86 kg pilot + full fuel
(100 litres / 72 kg) | 426 kg |
| (i) | Max ZFW | Parachute fitted 291.5kg
No parachute 269kg |

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(6) POWER PLANTS

Designation	Clipper-100			
Engine Type	Rotax 912 ULS			
Reduction Gear	Rotax 2.43			
Exhaust System	Medway Part No 9394			
Intake System	K&N			
Propeller Type	Woodcomp Klassic			
Propeller Dia x Pitch	66in x 18deg @75 per cent radius			
Noise Type Cert No.	188M			
AAN approving configuration	AAN BMAA-1041			

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(7) MANDATORY LIMITATIONS:

(a)	Max Take-Off Weight	Parachute fitted	472.5kg		
		No parachute	450kg		
(b)	CG Limits	Fwd limit	1000mm aft of datum		
		Aft limit	1260mm aft of datum		
(c)	CG datum	Front Wheel Axle (see Annex C)			
(d)	Cockpit Loadings		Port	Starboard	Total
		Min	55 kg	0 kg	55 kg
		Max solo	110 kg	0 kg	110 kg
		Max Dual (1)	86kg	86kg	172kg
		Max Dual (2)	110 kg	62kg	172kg
		Max Dual (3)	62kg	110kg	172kg
(e)	Never Exceed Speed, V_{NE}	146 mph IAS			
(f)	Manoeuvring Speed, V_A	104 mph IAS			
(g)	Flap Limiting Speed, V_{FE}	82 mph IAS			
(h)	Permitted Manoeuvres	+ /- 60 deg bank			
		Non Aerobatic			
		Normal acceleration limits, +4 / -2g			
(i)	Fuel Contents (Max Useable)	98.6 Litres (* subject to CG & AUW limits)			

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(j) Power Plant

See Table

Engine	Rotax 912 ULS	
Max RPM	5800 (5 Min limit)	
MAX CHT	135 °C	
MAX EGT	880 °C (take-off) 850 °C	
Fuel Spec	95 Ron Minimum unleaded to BS(EN)228 or AVGAS 100LL	
Engine Oil Spec	SAE 20/50 see Engine manual	
Gearbox oil spec	N/A	
Fuel/Oil Mix	N/A	
Coolant Temperature	115 °C	
Oil Pressure	Min 0.8 Bar Normal operation 2-5 Bar Max 7 Bar	
Oil Temperature	50-130 °C	
Fuel Pressure	0.15 –0.4 bar	

(8) INSTRUMENTS REQUIRED:

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

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(9) CONTROL DEFLECTIONS:

Elevator UP:	$35^{\circ} \pm 2^{\circ}$	Tailplane trim :UP:	$30^{\circ} \pm 5^{\circ}$
Elevator DOWN:	$20^{\circ} \pm 2^{\circ}$	Tailplane trim : DOWN	$20^{\circ} \pm 5^{\circ}$
Ailerons* UP:	$20^{\circ} \pm 2^{\circ}$	Rudder LEFT:	$37^{\circ} \pm 2^{\circ}$
Ailerons* Down:	$16^{\circ} \pm 2^{\circ}$	Rudder RIGHT:	$37^{\circ} \pm 2^{\circ}$
Flaps:	$18^{\circ} \pm 3^{\circ}$		

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

10.1 Manuals approved for use with this aircraft.

- (a) Clipper-100 Operators Manual issue 1 or later approved

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 , fuel type 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:

None.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: Clipper-100 - 860 fpm at 70 mph IAS

Stall or Minimum Flying Speed: 42 mph IAS (35 kts CAS) at MTOW / idle / full flap.

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Issue History

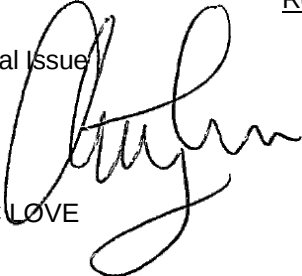
<u>Issue</u>		<u>Reason and signatory</u>
1	22/05/12	Initial Issue  A C LOVE

Illustration of Aircraft – Photograph



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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.

None

ANNEX C – WEIGHING INFORMATION

- | | | |
|----|------------------------|--|
| 1. | CG Datum: | Front Wheel Axle |
| 2. | Weighing attitude: | Floor level |
| 3. | Main wheel moment arm: | 1395mm aft |
| 4. | Nose wheel moment arm: | 0 mm (CG datum point) |
| 5. | Fuel moment arm: | 1705 mm aft of datum |
| 6. | Crew moment arm: | 1275 mm aft of datum |
| 7. | Crew weights: | Minimum 55 kg / maximum 172kg
Maximum per seat 110 kg |
| 8. | Fwd CG Limit: | 1000 mm aft of datum |
| 9. | Aft CG Limit: | 1260 mm aft of datum |

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ANNEX D

EXAMPLE PLACARDS

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

<u>[Type] [Engine] [Registration]</u>	
Never Exceed Speed:	146 mph IAS
Manoeuvring Speed:	104 mph IAS
Flap limiting Speed:	82 mph IAS
Stall Speed (flap):	42 mph IAS
Stall Speed (clean):	44 mph IAS
Best climb speed:	70 mph IAS
Best glide speed:	65 mph IAS
Bank angle limits:	+/- 60°
Maximum Stall entry rate:	1 kn/s
Normal Acceleration Limits:	+4 / -2g
Empty Weight:	___ kg*
Max Take-Off Weight:	450 kg (472.5kg with Parachute)
Minimum Cockpit Weight:	55 kg
Maximum Cockpit Weight:	172 kg (max 110kg in each seat)
Aerobatics and 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)

<u>FUEL</u>	
Capacity 100 Litres	
4 Stroke add NO oil	
<u>Cockpit Weight (kg)</u>	<u>Max. Fuel Load (litres)</u>
172	13
110 Or below	Full fuel
95 Ron Minimum unleaded to BS(EN)228 or AVGAS 100LL	

(d) Switches

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