

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO4 ISSUE: 3

TYPE: Quicksilver MX II

- (1) MANUFACTURER: Quicksilver Manufacturing, 42214 Sarah Way, CA 92590 Temecula, USA.
- (2) UK IMPORTER: Aerolite (no longer trading).
- (3) CERTIFICATION: BCAR SECTION S, (in the modification state at the date of manufacture or modification of any example), as amended by established type acceptance practice.
- (4) DEFINITION OF BASIC STANDARD: Not available.
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	318 kg
(b) No. Seats	2
(c) Maximum Wing Loading	21.4 kg/m ²
(d) V _{so}	N/K
(e) Permitted range of pilot weights	55 - 89 kg per seat. (159 kg total)
(f) Typical Empty Weight (ZFW)	136 kg
(g) ZFW + max crew + 1 hr fuel (20.8 litres / 15 kg)	309.8 kg
(h) ZFW + 86 kg pilot + full fuel (24.6 litres / 17.7 kg)	239.7 kg
(i) Max ZFW at initial permit issue	144 kg

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(6) POWER PLANTS

Designation	Quicksilver MX II (1)	Quicksilver MX II (2)	Quicksilver MX II (3)
Engine Type	Cuyuna 430R (single carb)	Rotax 503-2V	Rotax 503-1V Inverted
Reduction Gear	V-Belt, 2:1		
Exhaust System	Fischer or Eipper		Rotax
Intake System	K&N Intake filter(s)		
Propeller Type	2 Blade laminated wood		
Propeller Dia x Pitch	52" x 32"	52" x 34"	
Noise Type Cert No.	Not yet issued		45M issue 1
MAAN approving configuration	Type acceptance of this type preceded issue of MAANs		

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	318 Kg												
(B) CG Limits	<i>Aft limit</i> 49.5" aft of datum <i>FWD Limit</i> 57.5" aft of datum												
(C) CG datum	Nosewheel axle centreline (see also annex D for detailed W&CG information).												
(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>55 kg</td> <td>89</td> <td>55kg</td> </tr> <tr> <td>Max</td> <td>89 kg</td> <td>89 kg</td> <td>159 kg¹</td> </tr> </tbody> </table>		Front	Rear	Total	Min	55 kg	89	55kg	Max	89 kg	89 kg	159 kg ¹
	Front	Rear	Total										
Min	55 kg	89	55kg										
Max	89 kg	89 kg	159 kg ¹										
(E) Never Exceed Speed	45 mph IAS												
(F) Manoeuvring Speed	45 mph IAS												

¹ This maximum total occupant weight is not in compliance with BCAR S25 / S29, but was approved at the initial type acceptance of the type.

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(G) Permitted Manoeuvres Non Aerobatic
Normal acceleration limits, +4 / -2g

(H) Fuel Contents (Max Useable) 24.6 litres (6.5 US gallons)

(I) Power Plant See Table

Engine	Cuyuna 430R	Rotax 503
Max RPM	N/A	6,800
MAX CHT	N/A	250°C / 480°F
MAX EGT	N/A	650°C / 1200°F
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	Non-detergent 2-stroke oil	
Gearbox oil spec	Belt reduction.	
Fuel/Oil Mix	40:1	50:1

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	VSI	Slip ball
Hall Windmeter	Required (may be wrist type)	Optional				

(9) CONTROL DEFLECTIONS:

Elevator UP:	17 ± 2°	Rudder LEFT:	40 ± 2°
Elevator DOWN:	17 ± 2°	Rudder RIGHT:	40 ± 2°
Spoilerons UP:	90° - 10°		
Spoilerons DOWN:	90° - 10°		

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

10.1 Manuals approved for use with this aircraft.

10.1.1 Quicksilver MX II Owners manual

10.1.2 Maintain to Microlight Maintenance Schedule MMS1 (TIL 020)

10.2 The following are to be placarded:-

10.2.1 Vne

10.2.2 Va

10.2.3 Empty weight

10.2.4 Fuel quantity, type, and oil mixture.

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

10.2.6 "A crash helmet is to be worn whilst flying in this aircraft".

10.2.7 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.

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

11.1 See Annex A for required modifications.


11.2 See Annex E for list of service bulletins.

11.3 Annual Bettsometer test is to be carried out to 1360 grammes with wing sails fitted and tensioned to flight.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb (Rotax engine): 400 fpm
(Cuyuna engine): 250 fpm

Stall or Minimum Flying Speed: 27 mph IAS at MTOW / idle.

BMAA Approval:		G B Gratton Chief Technical Officer	1 August 2000
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<u>Issue No.</u>	<u>Issue History</u> <u>Reason and signatory</u>
1	Initial Issue, signatory unknown (BMAA).
2	Addition of noise type certificate No, signatory unknown (BMAA)
3	Re-issue in new format, addition of fuller W&CG information. Signatory G B Gratton, CTO, BMAA.

Illustration of Aircraft - 3 View²

(omitted from this copy)

Illustration of Aircraft - Photograph

(omitted from this copy)

² Illustrations above are of the Quicksilver MX, which is a single seat variant with slightly narrower fuselage.

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ANNEX A – MANDATORY MODIFICATIONS

1. A fire resistant fuel line must be fitted and routed as far as possible on the opposite side of the engine to the exhaust.
2. The wiring for the ignition switch must either be fire resistant adjacent to the engine, or located so that in the event of an engine fire the engine may be stopped.
3. An airspeed indicator (Hall Windmeter) must be fitted on the tri-bar upright.

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.

1. Rudder Pedal conversion (details supplied with conversion kits should be retained with the aircraft documentation).

ANNEX C - SPECIAL INSPECTION POINTS

1. All tubular structure must be inspected to confirm that an adequate level of protection against corrosion has been provided.
2. Plastic coated structural cables are to be inspected to ensure that the coating is in good order, and that there is no corrosion at the cable ends.
3. The exhaust system must be clear of structure and fabric.
4. Fuel lines must be adequately secured and routed away from the exhaust side of the engine and routed to avoid the likelihood of an engine fire impinging on the line.
5. Fuel lines are to be checked for a layout which avoids the likelihood of vapour locking.
6. Ensure adequate rudder frame clearance from upper tail wires and full travel available.
7. Ensure spoiler lines are not over-tightened (flight loads will increase tension).
8. Check bolts for corrosion in wing leading and trailing edges.

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ANNEX D - WEIGHING INFORMATION

1. CG Datum: Nosewheel axle centreline
2. Weighing attitude: 6° nose down (nosewheel 6° below mainwheels).
3. Mainwheel moment arm: 66 inches aft of datum
4. Nosewheel moment arm: on datum
5. Fuel moment arm: 39 inches aft of datum
6. Crew moment arm: Seats are moveable. Forward position 39 inches aft of datum, aft position, 43 inches aft of datum. If problems are encountered remaining within CG limits, it is permissible to restrict the range of seat movement, in which case a placard must be fitted stating this, and the W&CG report annotated accordingly.
7. Crew weights: Minimum 55 kg / maximum 89 kg
(maximum reducible, not below 86 kg, if required).
8. Aft CG Limit: 57.5 inches aft of datum
9. Fwd CG Limit: 49.5 inches aft of datum
10. MTOW: 318 kg

Note: Because this is an old and type accepted aircraft, inspectors are advised to check that moment arms given here are correct.

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ANNEX E - SERVICE BULLETINS AND AIRWORTHINESS DIRECTIVES APPLYING

1. **80-2-A Quicksilver Care.** Check boom tubes for damage resulting from nosewheel not being tied down when at rest.
2. **80-6-A** Elevator push / pull tube safety canal assembly.
3. **81-7A** Elevator pip-pins.
4. **81-9A** Cuyuna Reduction Root tubes.
5. **81-11A** Teleflex / Rudder cable.
6. **82-5A** Cuyuna Trailing Edge Channel Bolt.
7. **82-8-A** Self locking nuts
8. **82-10A** MX-2 Place, Drive Shaft
9. **82-12A** V-Belt Drive Assembly
10. **82-16A** Cuyuna Service Newsletter
11. **82-18A** Overtightening king posts
12. **82-19A** Vibration Wear
13. **83-01** Rotax Engine / Bing Carburettor mounting blocks.
14. **83-01-A** Main Wing Ribs
15. **83-02-A** Root tube
16. **8306-A** MX II Control stick
17. **8307-A** Fuel Tank Rubber Seal
18. **8308-A** Preventative Maintenance Tips
19. **8309-A** Bing Carburettor Slide Guides
20. **8310-A** King Post Channels, Root Tube Trailing Edges
21. **8401-A** Flying Wire Shackles
22. **8402-A** MX II Tribar Nosewheel Attach Fitting
23. **8403** Teleflex Guard Kit
24. **8501-A** Field Assembly and Disassembly (to be inserted in Pilots Manual)
25. **8402-AD** 75° Tangs.