MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO BM-52 ISSUE: 4

TYPE: MEA MISTRAL

(1) MANUFACTURER: Micro Engineering Aviation (UK)
(No Longer Trading.)

British Microlight Aircraft Association is now responsible for continued airworthiness.

(2) UK IMPORTER: N/A

(3) CERTIFICATION BASIS: BCAR section S advance issue 1983, selecting the agreed paragraphs according to CAA letter 9/30/UL18 dated 17/1/86 (type acceptance).

(4) DEFINITION OF BASIC STANDARDS: As in MAAN 1245 issue 2.

(5) DIMENSIONS/WEIGHT FOR COMPLIANCE WITH MICROLIGHT DEFINITION

| (a) Wing Area | 23 m² |
| (b) Span     | 13m   |
| (c) Standard Mean Chord | 1.76m |
| (d) Dry Empty Weight | 150kg |
| (e) Max Takeoff Weight | 350kg |
| (f) Empty Wing Loading | 6.5 kg/m² |
| (g) Wing loading (max AUW) | 15.2 kg/m² |

(6) POWER PLANTS

<table>
<thead>
<tr>
<th>Designation</th>
<th>MEA MISTRAL</th>
<th>MEA MISTRAL</th>
<th>MEA MISTRAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Type</td>
<td>FUJI ROBIN EC44PM</td>
<td>FUJI ROBIN EC44PM</td>
<td>CUYUNA 430/R D</td>
</tr>
<tr>
<td>Reduction Gear</td>
<td>MAINAIR TOOTH BELT 2.66:1</td>
<td>NICKLOW 2.85:1</td>
<td>TRIPLE VEE BELT 2.1:1</td>
</tr>
<tr>
<td>Exhaust System</td>
<td>ROTOFLOW</td>
<td>NICKLOW</td>
<td>CUYUNA</td>
</tr>
<tr>
<td>Intake System</td>
<td>NONE</td>
<td>NONE</td>
<td>NONE</td>
</tr>
<tr>
<td>Propeller Type</td>
<td>MAINAIR ROUND TIP</td>
<td>WOOD SQUARE TIP</td>
<td></td>
</tr>
<tr>
<td>Propeller Dia x Pitch</td>
<td>62&quot;X27&quot;</td>
<td>58&quot;X30&quot; or 54&quot;X30&quot;</td>
<td></td>
</tr>
<tr>
<td>Noise Type Cert No.</td>
<td>51M issue 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
(7) MANDATORY LIMITATIONS:

(A) Max Take-off Weight: 350kg

(B) C G Limits (3-Axis Aircraft): 480mm-609mm forward.

(C) C G Datum rear lower cross member above rear axle.

(D) Cockpit Loadings:

<table>
<thead>
<tr>
<th></th>
<th>Left</th>
<th>Right</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot and Baggage or Ballast (Min)</td>
<td>60kg</td>
<td>0</td>
<td>60kg</td>
</tr>
<tr>
<td>Pilot and Baggage (Max)</td>
<td>90kg</td>
<td>90kg</td>
<td>180kg</td>
</tr>
</tbody>
</table>

(E) Permanent Ballast, Weight and Position: On foreplane cross member, dual flying 1-3kg, solo flying, additional 5kg.

(F) Empty C of G (3-Axis Aircraft): 500mm forward of datum.

(G) Never Exceed Speed: 55mph.

(H) Manoeuvring Speed: 45mph.


(J) Fuel Contents (Max Useable): 40 litres.

(K) Power Plant: See Table below:

<table>
<thead>
<tr>
<th>Engine</th>
<th>Fuji Robin EC44PM</th>
<th>Cuyana 430/RD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max RPM</td>
<td>7000</td>
<td>6000</td>
</tr>
<tr>
<td>MAX CHT</td>
<td>250 C</td>
<td>250 C</td>
</tr>
<tr>
<td>Fuel Spec</td>
<td>92 OCTANE MIN PETROL/OIL</td>
<td>92 OCTANE MIN PETROL/OIL</td>
</tr>
<tr>
<td>Oil Spec</td>
<td>SELF MIX 2 STROKE</td>
<td>SELF MIX 2 STROKE</td>
</tr>
<tr>
<td>Fuel/Oil Mix</td>
<td>40:1</td>
<td>40:1</td>
</tr>
<tr>
<td>Max EGT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oil Press</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Oil Temp</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
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(8) INSTRUMENTS REQUIRED FOR TYPE ACCEPTANCE:

<table>
<thead>
<tr>
<th>ASI</th>
<th>Altimeter</th>
<th>RPM</th>
<th>CHT</th>
<th>Compass</th>
<th>EGT</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>YES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 - 55 mph</td>
<td>(may be wrist mounted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(9) CONTROL DEFLECTIONS (3-Axis Systems):

- **Pitch Control**
  - Up: -21 deg.
  - Down: -17 deg.
  - (Relative to horizontal tubes)

- **Tailplane Trim**
  - Up: -
  - Down: -

- **Ailerons**
  - Up: -
  - Down: -

- **Rudder**
  - Left: -90 deg
  - Right: -90 deg

- **Steering**
  - Left: -45 deg
  - Right: -45 deg

- **Spoilers**
  - Spoilers must be removed.

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

- MEA Mistral Owners Handbook, by N.Bell.
- Fuji Robin or Cuyuna engine operators manuals.
- Maintain the aircraft to BMAA schedule MMS-1.

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

See Appendix 1.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

- **Rate of Climb**: 400 fpm.
- **Stalling Speed**: 22 mph.

BMAA Approval: 

GB Gratton  
Chief Technical Officer  
10 September 1997
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Issue History

Issue 1  Initial Issue

Issue 2  Amendment to CG range following flight test - aft CG position bought fwd by 25mm. Max all up weight increased 318 to 350kg, based on many years operational experience.

Issue 3  Maximum All Up Weight and maximum pilot weight (350 kg and 90 kg) made consistent through TADS and MAAN 1245

Issue 4  Relaxation of Bettsometer limit for inspection from the standard 1340 grammes to a lower 1050 grammes.
The following modifications and inspections must be / have been carried out on each MEA Mistral:

Modifications:

1) Replace the friction clamp with a 2-2.5mm 7x7 steel cable, thimble and correct swage for connection to the tip rudders.

2) Positively lock all rotating bolts/nuts in the control system with split pins.

3) If the universal joint system for the rear spar is in place, the rear spar must be reinforced with a 17 or 18SWG HT30TF sleeve at least 1.5m long in the inner bay.

4) Fire resistant fuel lines to be fitted in the vicinity of the engine.

5) Fit placards as required by MAAN 1245 issue 2.

6) Nicklow reduction drive shaft to be replaced with one of at least EN15T specification, to the same dimensions.

7) The inner bay drag bracing cables must be attached by an 18swg (min) stainless steel tang to the noseplate centre bolts.

8) The foreplane hinge and pushrod actuating clevis pins must be locked with terry pins or double-turn split rings or split pins. Ordinary split rings are NOT acceptable. The tip rudder clevis pins must be locked with split pins.

9) The pilots chest belt MUST be replaced with a 2" wide nylon seat belt webbing equipped with a suitable positively locking buckle.

Inspections:

1) The tip rudder cables must be inspected at least every 25 hours for fraying and wear especially at the fairleads.

2) The tip rudder fairleads must be inspected at least every 25 hours for wear.

3) The seat and harness must be inspected for condition at least every 25 hours.
4) The foreplane covering and attachments must be checked for condition at least every 25 hours.

5) During the annual permit renewal inspection, the fuel system must be checked to ensure fuel is drawn correctly at the maximum climb attitude.

6) Holes in airframe members must be checked for relative movement at least annually. Bushes of up to 16swg wall thickness may be fitted to take out the movement.

7) During the annual permit renewal inspection, the wing fabric may be tested to a Bettsometer loading of 1050 grammes (lower than the normal loading of 1340 grammes).