

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)



**NO: BM60 ISSUE: 5**

TYPE: Mainair Blade 912S

- (1) MANUFACTURER: P & M Aviation Ltd, Unit B, Crawford Street, Rochdale, Lancashire, OL16 5NU
- (2) UK IMPORTER: -
- (3) CERTIFICATION: BCAR Section S Issue 1  
BCAR Section S Issue 2 paras S23.525, S1557(c)(v) and S1583
- (4) DEFINITION OF BASIC STANDARD: Gemini 5 Drawing Register Issue 4 29<sup>th</sup> March 2000  
Beta Wing Drawing Register Issue 2 30<sup>th</sup> March 2000

(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	390 kg
(b) No. Seats	2
(c) Maximum Wing Loading	25 kg/m <sup>2</sup>
(d) V <sub>so</sub> (not limiting)	28 kts IAS (32 mph IAS)
(e) Permitted range of pilot weights	55-90 kg per seat.
(f) Typical Empty Weight (ZFW)	195 kg
(g) ZFW + 172 kg crew + 1 hr fuel (18litres /13 kg)	380 kg
(h) ZFW + 86 kg pilot + full fuel ( litres / kg)	313 kg
With 65 litre tank	328 kg
(i) Max ZFW at initial permit issue	205 kg

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**(6) POWER PLANTS**

Designation	<i>Blade 912S</i>			
Engine Type	<i>Rotax 912 ULS</i>			
Reduction Gear	<i>2.43/1</i>			
Exhaust System	<i>Mainair 912 Exhaust</i>			
Intake System	<i>Intake Filter</i>			
Propeller Type	<i>Mainair WD Ground ADJ</i>			
Propeller Dia x Pitch	<i>3 Blade 61" dia 122° at 12"</i>			
Noise Type Cert No.	<i>150M Iss 3</i>			
AAN approving configuration	<i>27342</i>			

**(7) MANDATORY LIMITATIONS:**

(A) Max Take-Off Weight	390 kg		
(B) CG Limits	N/A		
(C) CG datum	N/A		
(D) Cockpit Loadings	Front	Rear	Total
	Min 55 kg	15 kg	70 kg
	Max 90 kg	90 kg	180 kg
(E) Never Exceed Speed	101 mph (88 kts)		
(F) Manoeuvring Speed	60 mph (52 kts)		
(G) Permitted Manoeuvres - maximum bank angle 60°	30° Nose up / 30° nose down Maximum bank angle 60° Non Aerobatic Normal acceleration limits, +4 / 0g		
(H) Fuel Contents (Max Useable)	44 litres (of which 22 litres optional) 65 litres (Mod 99)		

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(I) Power Plant See Table

Engine	Rotax 912 ULS			
Max RPM	5800 (5 mins) 5500 (Cont)			
MAX CHT	135°C (284°F)			
MAX EGT	850°C (1560°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	API Grade SF or SG Automotive Oil			
Gearbox oil spec	N/A			
Fuel/Oil Mix	N/A			
Coolant Temperature	N/A			
Oil Pressure	Max 7 Bar Min 0.8 Bar			
Oil Temperature	Min 50°C Max 130°C			
Fuel Pressure	N/A			

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT	Compass	Oil temp	Oil Pressure
Required	Required	Required	Required		Required	Required

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(9) CONTROL DEFLECTIONS: N/A

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

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

10.1 Manuals approved for use with this aircraft.

(a) BD912S Manual Iss 1 (as amended).

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 fuel capacity in increments of 10 litres intervals down to the maximum fuel load. An example is shown at Annex D.

(d) Switches

See Annex D.

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

See Annex A for required modifications.

Annual Bettsometer test is to be carried out to 1050 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: 1150 ft/min at 55 mph (48 kts) IAS

Stall or Minimum Flying Speed: 32 mph IAS (28 kts IAS) at MTOW / idle.

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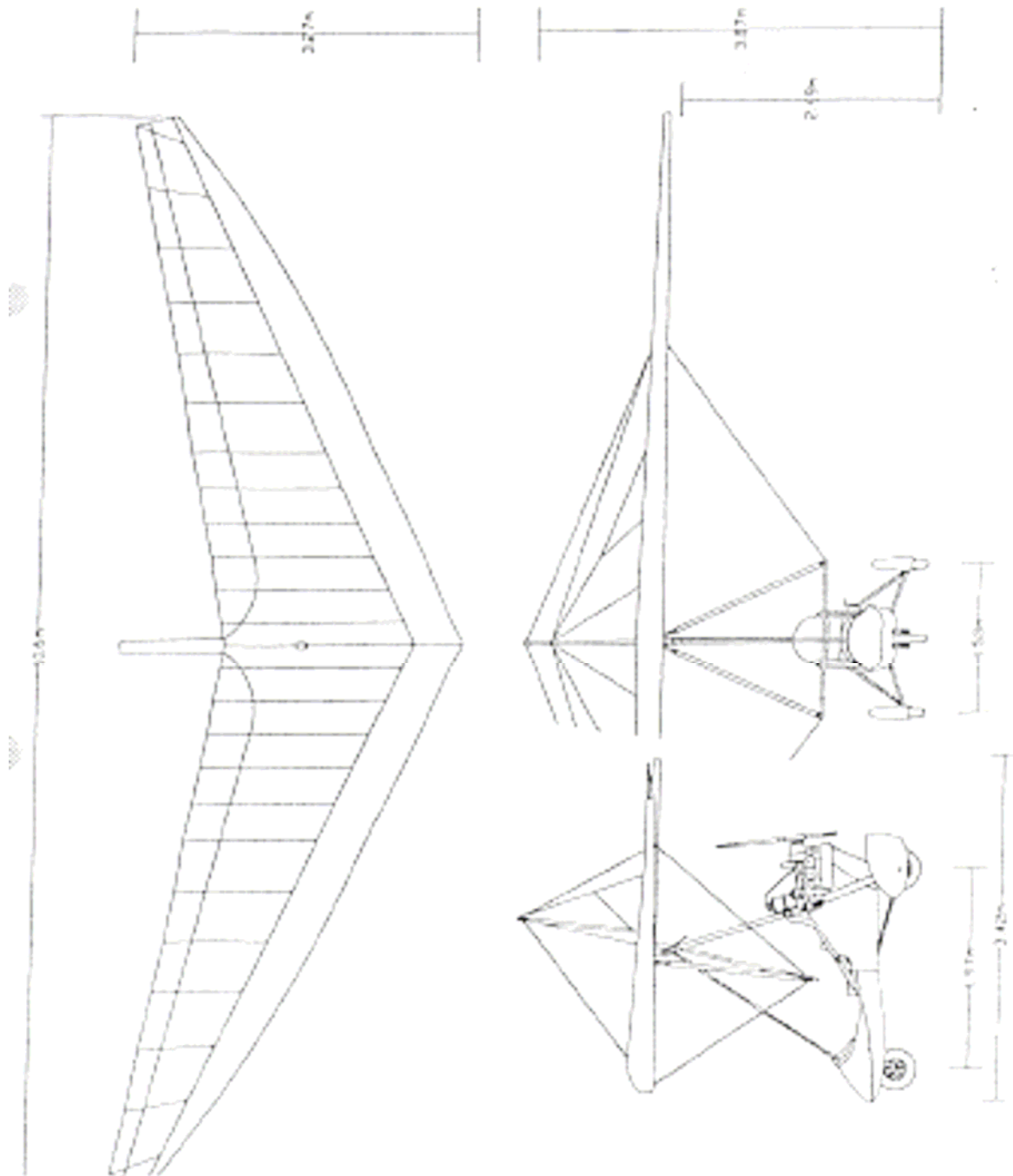
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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	18/05/00 Initial issue C J WHITTAKER
2	07/01/02 Issue 2 raised to record Mandatory Modification Number 98, which introduces passenger upper torso restraints. J BARRATT
3	08/07/02 Editorial corrections J BARRATT
4	06/07/05 New company name J BARRATT
5	18/11/09 To record Modification Number 187, which increases seat load limit to 110kg but still with a total cockpit load of 180g.

  
D S CORTIZO

Illustration of Aircraft - 3 View



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ANNEX A  
MANDATORY MODIFICATIONS

<u>Description</u>	<u>Modification Number</u>
Shoulder Straps	98

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>Description</u>	<u>Modification Number</u>
65 litre Fuel Tank	99
Increase Seat Load Limit to 110kg	187

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 55 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 and Engine Limitations Placard (to be visible to pilot)

<b>MAINAIR BLADE 912S</b>	
STALL SPEED	30MPH
MANOUVRE SPD	60MPH
NEVER EXCEED V <sub>ne</sub>	101MPH
MIN LANDING APP	50MPH
MAX CROSS WIND	10MPH
MAX OIL PRESSURE	7 BAR
MIN OIL PRESSURE	1.5 BAR
MAX OIL TEMP	130 DegC
MIN OIL TEMP	50 DegC
MAX CHT	135 DegC
MAX CONT RPM	5500
MAX RPM	5800
MAX ALL UP WEIGHT	390KG
MAX COCKPIT LOAD	180KG
MIN COCKPIT LOAD	70KG
EMPTY WEIGHT	195KG

**WARNING**  
**THIS AIRCRAFT IS**  
**NON-AEROBATIC**  
MAXIMUM NOSE UP 30°  
MAXIMUM NOSE DOWN 30°  
MAXIMUM BANK ANGLE 60°  
SPINNING ATTEMPS PROHIBITED  
NO WHIPSTALLS LOOPS TAILSLIDES  
OR AEROBATIC MANOEUVRES  
**DO NOT EXCEED MAX. LOAD**

**MAINAIR SPORTS**  
**ROCHDALE ENGLAND**  
[www.mainairsports.co.uk](http://www.mainairsports.co.uk)

(b) Fuel Limitations Vs Max Cockpit Load Placard (to be visible to the pilot)

Empty Wt Date	Kg
<b>Fuel Load (litres)</b>	<b>Max Cockpit Wt (kg)</b>
<b>65</b>	
<b>55</b>	
<b>45</b>	
<b>35</b>	
<b>25</b>	
<b>15</b>	
<b>5</b>	

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(c) Fuel Capacity and Type (to be located near to filler cap)

**FUEL - 22 LITRES**  
**EN 228 UNLEADED or AVGAS 100LL**  
**INSPECT INTERNAL AND EXTERNAL**  
**FILTERS FREQUENTLY**

**FUEL - 65 LITRES**  
**EN 228 UNLEADED or AVGAS 100LL**  
**INSPECT INTERNAL AND**  
**EXTERNAL**  
**FILTERS FREQUENTLY**

(d) Switches

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