CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM 51 ISSUE: 5

TYPE: Mainair Blade 912

(1) MANUFACTURER: P & M Aviation Ltd, Unit B, Crawford Street, Rochdale, Lancashire, OL16 5NU

(2) UK IMPORTER: -

(3) CERTIFICATION: BCAR Section S

(4) DEFINITION OF BASIC STANDARD: Betawing Drawing Register 27th April 1994
Gemini 5 Drawing Register 9th February 1996

(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a)	MTOW	390 kg
(b)	No. Seats	2
(c)	Maximum Wing Loading	25 kg/m²
(d)	Vso	30 mph
(e)	Permitted range of pilot weights	55 - 90 kg per seat.
(f)	Typical Empty Weight (ZFW)	190 kg
(g)	ZFW + 172 kg crew + 1 hr fuel (18litres /13 kg)	375 kg
(h)	ZFW + 86 kg pilot + full fuel (litres / kg)	323 kg
(i)	Max ZFW at initial permit issue	205 kg

(6) POWER PLANTS

Designation	*BLADE 912*			
Engine Type	*ROTAX 912UL*			
Reduction Gear	*2.27:1*			
Exhaust System	*Mainair 912 Exhaust*			
Intake System	*Intake Filter*			
Propeller Type	*Mainair WD GRD ADJ*			
Propeller Dia x Pitch	*58" 121°at 12"*			
Noise Type Cert No.	*150M Iss 2*			
AAN approving configuration	***25226***			

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight 390 kg

(B) CG Limits *Aft limit* of datum
FWD Limit of datum

(C) CG datum

(see annex C).

(D) Cockpit Loadings

			Total
Min	55 kg	15 kg	70 kg
Max	90 kg	90 kg	180 kg

(E) Never Exceed Speed 101 mph

(F) Manoeuvring Speed 60 mph

(G) Permitted Manoeuvres 30° Nose up / 30° nose down
Max Bank 60°
Non Aerobatic
Normal acceleration limits, +4 / -0g

(H) Fuel Contents (Max Useable) 44 litres (of which 22 litres optional)
65 litres (Mod 99)

(I) Power Plant See Table

Engine	ROTAX 912 UL			
Max RPM	5800 (5 mins) 5500 (Cont)			
MAX CHT	150°C			
MAX EGT	N/A			
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 140°C			
Fuel Pressure				

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT	Oil Temp	Oil Pressure			
Required	Required	Required	Required	Required	Required			

(9) CONTROL DEFLECTIONS:

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) BD912 Manual Issue 1 or later approved amendment.

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. 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 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:	1000 ft/min at 55 mph
Stall or Minimum Flying Speed:	30 mph at MTOW

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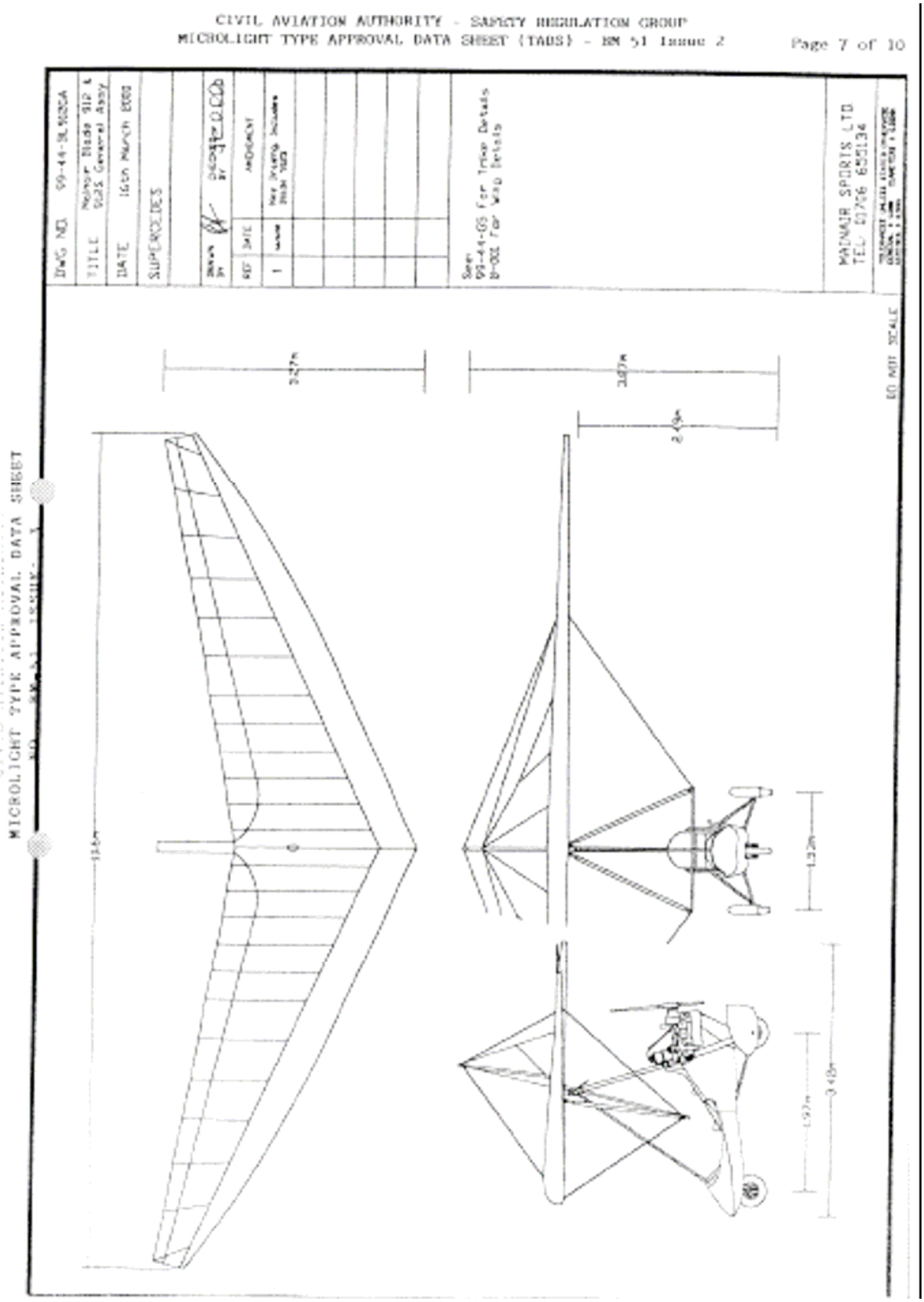
Issue History

	Issue No.	Reason and signatory
1	27/02/96	Initial Issue K D RUSSELL
2	07/01/02	Issue 2 has been raised to record Mandatory Modification Number 98, which introduces passenger upper torso restraint, and to include a list of optional approved modifications. J BARRATT
3	08/07/02	Editorial corrections J BARRATT
4	06/07/05	New company name J BARRATT
5	18/11/2009	Issue 5 has been raised to correct gear ratio & record Modification Number 187, which allows a seat load of 110kg but still with a total cockpit load of 180g. D S CORTIZO

Illustration of Aircraft - 3 View



ANNEX A – MANDATORY MODIFICATIONS

Description	Modification Number
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.

Description	Modification Number
Q.D Rear seat steering	41
Boss Ballast Bag	45
Wing Overrider Instructor Bar	50
Rotax 912 Carb Heat	88
Adjustable Index Tips	89
Clear Fuel Filter	90
Coolant Carb Heat	91
Sleeve Indrag Link	92
Oil Stat	95
65 Litre Fuel Tank	99
Seat Load of 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

ANNEX D

EXAMPLE PLACARDS

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

MAINAIR BLADE 912

STALL SPEED	30MPH
MANOUVRE SPD	60MPH
NEVER EXCEED Vne	101MPH
MIN LANDING APP	50MPH
MAX CROSS WIND	10MPH
MAX OIL PRESSURE	7 BAR
MIN OIL PRESSURE	1.5 BAR
MAX OIL TEMP	140 DegC
MIN OIL TEMP	50 DegC
MAX CHT	150 DegC
MAX CONT RPM	5500
MAX RPM	5800
MAX ALL UP WEIGHT	390KG
MAX COCKPIT LOAD	172KG
MIN COCKPIT LOAD	70KG
EMPTY WEIGHT	190KG

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

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

Empty Wt **Kg**
Date

Fuel Load (litres)	Max Cockpit Wt (kg)
65	
55	
45	
35	
25	
15	
5	

(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).