CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM 16 ISSUE 4:

TYPE: Scorcher

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

(2) UK IMPORTER: N/a

(3) CERTIFICATION: Section S Issue: Advance Issue March 1983

(4) DEFINITION OF BASIC STANDARD: Scorcher Dwg List Issue 1
Dwg SCT 3, Dwg SC 90

(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	233 kg (Rotax 447)
	262.5 kg (Rotax 503)
(b) No. Seats	1
(c) Maximum Wing Loading	9.76 kg/m²(Rotax 447)
	10.83kg/m²(Rotax 503)
(d) Vso	28 mph
(e) Permitted range of pilot weights	62 – 90 kg
(f) Typical Empty Weight (ZFW)	123 kg (Rotax 447)
	136.6 kg (Rotax 503)
(g) ZFW + 86 kg crew + 1 hr fuel (litres / kg)	220 kg (Rotax 447)
	237 kg (Rotax 503)
(h) ZFW + 86 kg pilot + full fuel (litres / kg)	224 kg (Rotax 447)
	256 kg (Rotax 503)
(i) Max ZFW at initial permit issue	136 kg (Rotax 447)
	161 kg (Rotax 503)

(6) POWER PLANTS

Designation	*Scorcher*	*Scorcher*	
Engine Type	*Rotax 447* *Inverted*	*Rotax 503* *Upright*	
Reduction Gear	*2.58:1*	*2.58:1*	
Exhaust System	*Rotax 2 x 90* *Underslung*	*Rotax Side Mount* *And After Muffler*	
Intake System	*Rotax Intake Silencer*	*Rotax Intake Silencer*	
Propeller Type	*Mainair Sports*	*Mainair 3 Blade*	
Propeller Dia x Pitch	*62" x 35"*	*62" x 114deg at 12" Rad*	
Noise Type Cert No.	*24M*	*90M*	
AAN approving configuration	*19128*	*20503*	

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight 233 kg (Rotax 447)
262.5 kg (Rotax 503)

(B) CG Limits N/A

(C) CG datum N/A

(D) Cockpit Loadings

		Total
	Min	62 kg
	Max	90 kg

(E) Never Exceed Speed 90mph

(F) Manoeuvring Speed 56mph

(G) Permitted Manoeuvres 30° Nose up / 30° nose down
Non Aerobatic
Normal acceleration limits, +4 / -2g

(H) Fuel Contents (Max Useable) 22 litres (Rotax 447)
47 litres (Rotax 503)

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(I) Power Plant

Engine	Rotax 447 Inverted	*Rotax 503 Upright (Low Noise)*		
Max RPM	6800	5600		
MAX CHT	260 degC	250 degC		
MAX EGT	N/A	650 degC		
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	2 Stroke	2 Stroke		
Gearbox oil spec	AP1 GL5/GL6	AP1 GL5/GL6		
Fuel/Oil Mix	50/1	50/1		
Coolant Temperature	N/A	N/A		
Oil Pressure	N/A	N/A		
Oil Temperature	N/A	N/A		
Fuel Pressure	N/A	N/A		

(8) INSTRUMENTS REQUIRED:

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

(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) Scorcher Microlight Manual SC Manual

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) 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:	500 fpm
Stall or Minimum Flying Speed:	28 mph IAS at MTOW / idle.

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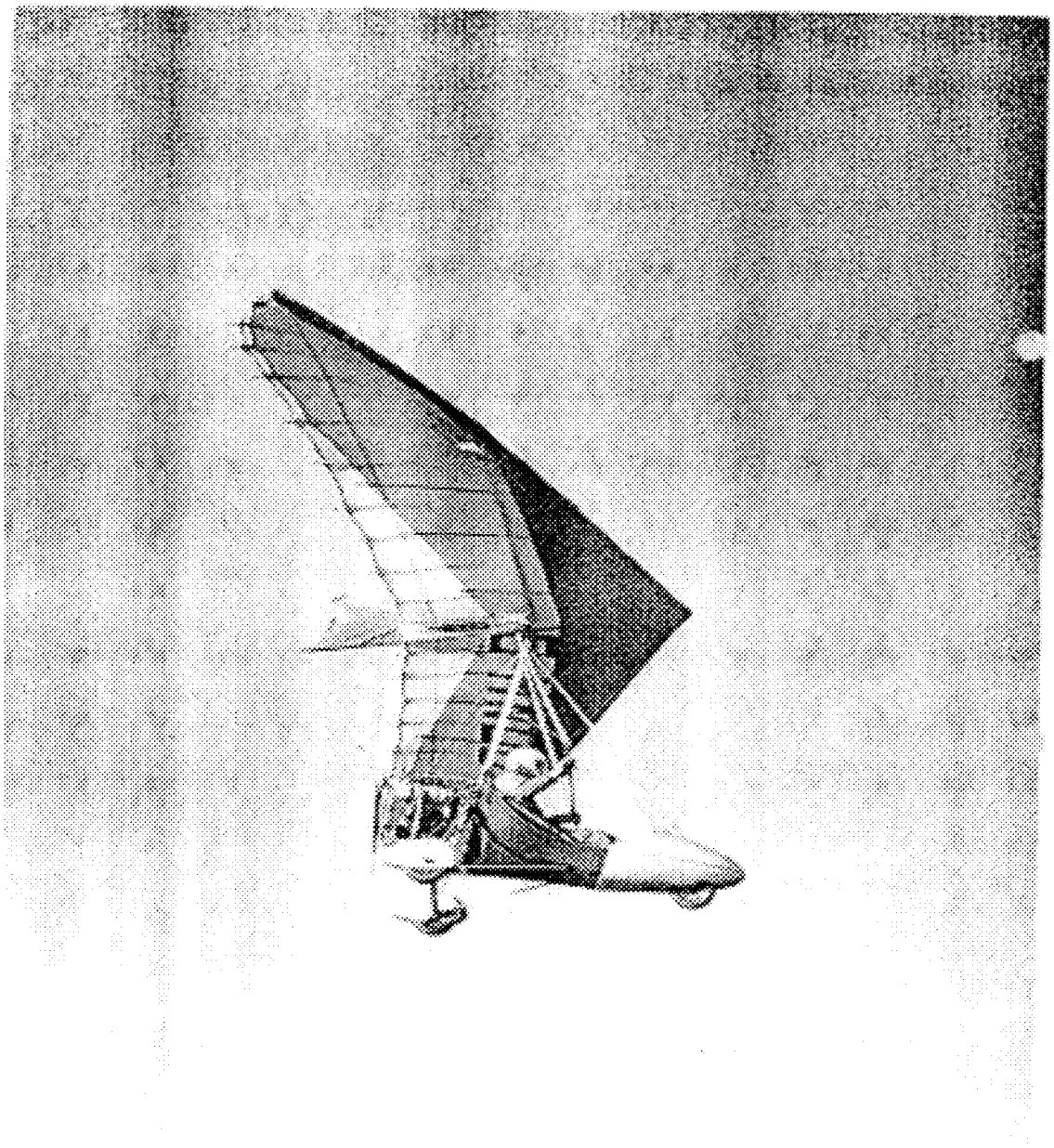
NO: BM 16 ISSUE 4:

Issue History

	Issue No.	Reason and signatory
1	21/04/86	Initial issue J G WRAITH
2	23/03/89	Addition of noise certification J D WATKINS
3	18/03/03	Re-issue in new format J BARRATT
4	06/07/05	New company name J Barratt

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.

Mod 22	Alternate Ignition Switch Location
Mod 24	Low Noise Rotax 503 Engine Upright
Mod 25	Sprung Return Throttle Mixer Box
Mod 27	Fire Proof Filter Pump to Carb
Mod 29	Cranked Seat Hinge Plates
Mod 37	Hand Throttle Tube
Mod 38	Rear Dip Pipe Locator Spring
Mod 40	Fibreglass Exhaust Shield
Mod 43	Aerofoil Suspension and Axles
Mod 47	Grd Adj Prop with Low Noise 503
Mod 53	Nose Cone Warning Label
Mod 68	Hand Throttle Lever
Mod 69	Wiring For Points Ign
Mod 90	Clear Fuel Filter

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 62 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)

SCORCHER 447

MAX ALL UP WEIGHT	233KG
MIN. ALL UP WEIGHT	185KG
EMPTY WEIGHT	123KG
STALL SPEED	28MPH
NEVER EXCEED (VNE)	90MPH
MIN LANDING APPROACH	40MPH
MAX. CROSS WIND	10MPH
MAX ENGINE CHT	260degC
MAX ENGINE EGT	650degC
MAX ENGINE RPM	6800

WARNING

THIS AIRCRAFT IS
NON-AEROBATIC
MAXIMUM NOSE UP 30DEG
MAXIMUM NOSE DOWN 30DEG
MAXIMUM BANK ANGLE 60DEG

SPINNING ATTEMPTS PROHIBITED
NO WHIPSTALLS LOOPS TAILSLIDES
OR AEROBATIC MANOEUVRES
DO NOT EXCEED MAX. LOAD

(b) Fuel Limitations Placard (to be located near to filler cap)

FUEL
Capacity __ Litre
50:1 2 Stroke oil
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

(c) Switches

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