

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM3 ISSUE: 6

- TYPE: Tri-Flyer Sprint
- (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: BCAR Section S, Advance Issue March 1983
- (4) DEFINITION OF BASIC STANDARD: 440 Dual Master List of Drawings, Issue 2
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | |
|---|------------------------|
| (a) MTOW | 338 kg |
| (b) No. Seats | 2 |
| (c) Maximum Wing Loading | 20.2 kg/m ² |
| (d) V _{so} | 26 kts (30 mph) |
| (e) Permitted range of pilot weights | 55 – 90 kg per seat. |
| (f) Typical Empty Weight (ZFW) | 134 kg |
| (g) ZFW + 172 kg crew + 1 hr fuel
(litres / kg) | 326 kg |
| (h) ZFW + 86 kg pilot + full fuel
(litres / kg) | 235kg |
| (i) Max ZFW at initial permit issue | 146 kg |

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(6) POWER PLANTS

Designation	<i>Tri-Flyer 440</i>
Engine Type	<i>Fuji Robin EC44PM</i>
Reduction Gear	<i>2.67:1</i>
Exhaust System	<i>Rota Flow Underslung</i>
Intake System	<i>Unique Foam Muffler</i>
Propeller Type	<i>Mainair Sports Round Tip</i>
Propeller Dia x Pitch	<i>62" x 27½"</i>
Noise Type Cert No.	<i>M2</i>
AAN approving configuration	<i>28478</i>

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	338 Kg			
(B) CG Limits	N/A			
(C) CG datum	N/A			
(D) Cockpit Loadings	Front	Rear	Total	
	Min 55kg	15 kg	70 kg	
	Max 90kg	90 kg	180 kg	
(E) Never Exceed Speed	51 knots (59 mph)			
(F) Manoeuvring Speed	38 knots (44 mph)			
(G) Permitted Manoeuvres	30° Nose up / 30° nose down 60deg Max Bank Angle Non Aerobatic Normal acceleration limits, +4 / -0g			
(H) Fuel Contents (Max Useable)	22 litres			

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(I) Power Plant See Table

Engine	Fuji 440			
Max RPM	6900			
MAX CHT	218 degC			
MAX EGT	815 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	Two Stroke Oil ASTM/CEC Standards, API- TC Classification			
Gearbox oil spec	N/A			
Fuel/Oil Mix	40/1			
Coolant Temperature	N/A			
Oil Pressure	N/A			
Oil Temperature	N/A			
Fuel Pressure	N/A			

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball
Required (to 90 mph min.)	Required	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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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.

Gemini/Triflyer Sprint Microlight 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) and if MTOW can be exceeded with full fuel and maximum cockpit weight, the fuel loads at MTOW for cockpit weights of 180kg / 170kg / 160kg etc. at 10kg 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:

CAA MPD 1995-005 R1	MK1 Monopole Checks
CAA MPD 1995-016	Front Stub Heavy Landing Checks
CAA MPD 2001-004	Shoulder Straps

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: 400 fpm at 34 (39mph) IAS.

Stall or Minimum Flying Speed: 26kts (30mph) IAS at MTOW / idle.

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	14/09/84 Initial Issue J G WRAITH
2	05/08/86 Addition of Noise Certification J G WRAITH
3	10/10/88 Alternative propeller F J TUCKER
4	30/07/02 Re-issue using new format J C BARRATT
5	06/07/05 New company name J C BARRATT
6	18/11/09 To record Modification Number 187, which increases seat load limit to 110kg but still with a total cockpit load of 180g.

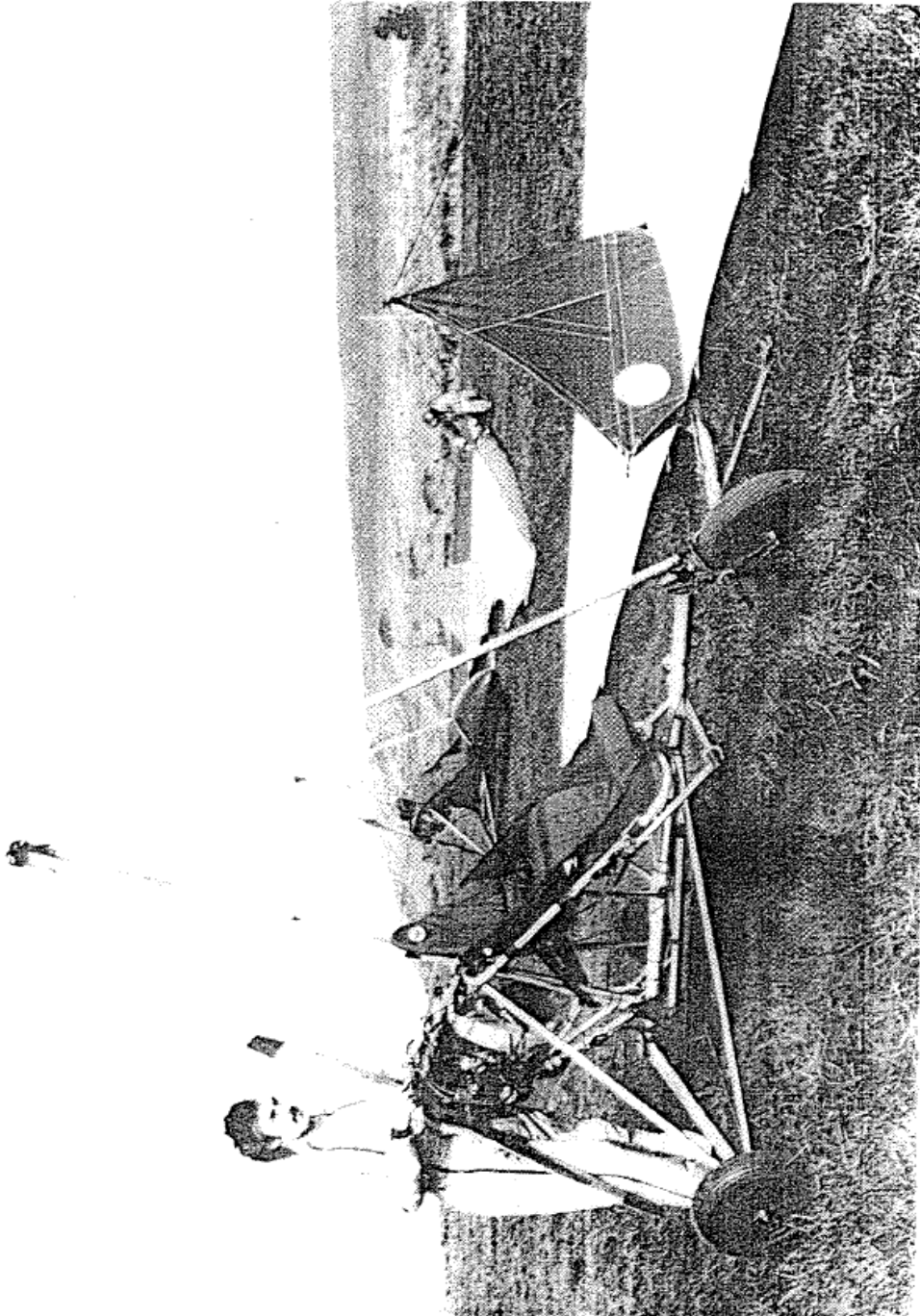

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Illustration of Aircraft - 3 View



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ANNEX A – MANDATORY MODIFICATIONS

Mod 98 Shoulder Straps

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 1	Single Lap Seat Belts
Mod 2	Extended Front Stub
Mod 4	Nylon Steering Bearings
Mod 6	Wheel Spats
Mod 7	Rear Seat Steering
Mod 14	Fuji Prop Bolts
Mod 15	Vertical Strut Mk11
Mod 25	Sprung Throttle Mixer Box
Mod 29	Cranked Seat Frame Hinge
Mod 187	Increase Seat Load Limit To 110kg

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 & Engine Limitations Placard (to be visible to pilot)

MAX ALL UP WEIGHT	338KG
EMPTY WEIGHT	134KG
STALL SPEED	30MPH
V _{ne} NEVER EXCEED	59MPH
LANDING APPROACH	42MPH
MAXIMUM CROSS WIND	
TAKE-OFF/LANDING	10MPH
MAX EGT	815degC
MAX CHT	218degC
MAX RPM	6900
<u>WARNING</u>	
THIS IS A NON AEROBATIC AIRCRAFT	
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 MAXIMUM LOAD	

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

<u>FUEL</u>	
Capacity __ Litres	
40:1 2 Stroke oil	
<u>Cockpit Weight (kg)</u>	<u>Max. Fuel Load (litres)</u>
180	
170	
....	
.... Or below	Full fuel
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).