

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION
MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE: 2

TYPE

Demon/Triflyer

(Including designations: Demon/Tri-Flyer;
 Demon 175/Tri-Flyer; Demon 175/Tri-Flyer 330)

- (1) **MANUFACTURER:** Wing: Hiway Hang Gliders Ltd (no longer trading refer to Hiway Hang Gliders (1983) Ltd.
 Trike: Mainair Sports Ltd (UK).
- (2) **UK IMPORTER:** N/A
- (3) **CERTIFICATION BASIS:** BCAR Section S requirements listed in CAA document dated 17th January 1986, ref: 9/30/UL18
- (4) **DEFINITION OF BASIC DESIGN STANDARD:** Not available (but see BMAA documents WS.005 and TS.005).

(5) DIMENSIONS/WEIGHTS FOR COMPLIANCE WITH MICROLIGHT DEFINITION

- (a) Wing area (inc canard area, excluding winglets): 16.26m² (+1.86m²/-1.40m²)
- (b) Span: 10.05m (+0.62m/-0.29m)
- (c) Standard Mean Chord: 1.62m (+0.08m/-0.10m)
- (d) Dry Empty Weight: 79 kg - 109 kg
- (e) Max Take-Off Weight: 195 kg (233 kg if modified as Appendix 2)
- (f) Wing Loading (Weight Empty/Wing Area): 4.36 kg/m² to 7.34 kg/m²
- (g) Wing Loading (Max Take-Off Weight/Wing Area): 10.77 kg/m² 13.12 kg/m²
 (up to 15.68 kg/m² if modified as Appendix 2)
- (h) Fuel Capacity: 25 litres

DOCUMENT ISSUE STATUS

Issue Number	Revision Reference	Date	Authorisation	Pages affected	Valid pages at this Issue number 2	
					Page No.	Page Issue
1	New	1/3/93	BMAA	All new		
2	MAAN 1147	8/12/93	BMAA <i>P.F.O.</i>	1 & 2	1	2
					2	2
					3	2
					4	2
					5	2
					6	2
					7	2
					8	2

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE:2

(6) POWER PLANTS

Designation	Demon/ Triflyer 1	Demon/ Triflyer 2	Demon/ Triflyer 3	4	5
Engine Type	Fuji Robin EC25PS Inv't	Fuji Robin EC34PM Inv'td	Fuji Robin EC34PM Inv'td		
Reduction Gear/ratio	2.5:1	2.3:1	2.3:1		
Exhaust System	Fuji	Rotaflow	Rotaflow		
Intake System	-	-	-		
Propeller Type	Romain sq tip wood	Mainair wood	Mainair wood (2 blade)		
Propeller Dia x Pitch	54" x 27"	56" x 30"	54" x 30"		
Noise Type Cert. No.	57 M Issue 2	2 M Issue 4	2 M Issue 11		

Designation	6	7	8	9	10
Engine Type					
Reduction Gear/ratio					
Exhaust System					
Intake System					
Propeller Type					
Propeller Dia x Pitch					
Noise Type Cert. No.					

Noise requirement:

	<u>1 Seat</u>	<u>2 Seat</u>	<u>BCAR Reference</u>
<u>Registered Pre 1/4/86</u>	<u>80 dBA</u>	<u>84 dBA</u>	<u>N3-6, 3 Iss 4</u>
<u>Registered Post 1/4/86</u>	<u>76 dBA</u>	<u>80 dBA</u>	<u>N3-6, 4 Iss 4</u>

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE: 2

(7) MANDATORY LIMITATIONS: (* indicates which are placarded)

- * (a) Max Take-off Weight: 195 kg (233 kg if modified as stated in Appendix 2)
- * (b) C G Limits: N/A - weightshift
- (c) C G Datum: -
- * (d) Cockpit Loadings

	<u>Front</u>	<u>Rear</u>	<u>Total</u>
Pilot or Ballast (min)	55kg	- kg	55kg
Pilot or Ballast (max)	90kg	- kg	90kg
- (e) Permanent Ballast, Weight and Position: Not fitted.
- (f) Empty C G: -
- * (g) Never Exceed Speed: 45 mph (39 knots)
- * (h) Manoeuvring Speed: 44 mph (38 knots)
- * (i) Manoeuvre Limitations: Aerobatics prohibited. Roll <60° bank
Pitch <+/- 30°
- * (j) Fuel Contents (Max Usable): 25 litres
- (k) Power Plant: See Table below

ENGINE	Fuji Robin EC25PS	Fuji Robin EC34PM		
Max RPM	6500	7500		
Max CHT	N/A	N/A		
Max EGT	N/A	N/A		
Fuel Spec	92 Oct (min) Petrol/oil	92 Oct (min) Petrol/oil		
Engine Oil Spec	Self mix 2 stroke	Self mix 2 stroke		
Gearbox Oil Spec	N/A	N/A		
Fuel/Oil Mix	40:1	40:1		
Oil Pressure	N/A	N/A		
Oil Temp	N/A	N/A		
Coolant Temp	N/A	N/A		

<u>ASI</u>	<u>Altimeter</u>	<u>RPY</u>	<u>HEI</u>	<u>Compass</u>	<u>EGT</u>	<u>Coolant Temp</u>
Required 0 to 65 mph or equivalent	Required Wrist type acceptable	N/A	N/A	N/A	N/A	N/A

(9) CONTROL DEFLECTIONS (3-AXIS SYSTEMS): N/A - weighshift

<u>Pitch Control</u>	Up:	Down:
<u>Tailplane Trim</u>	Up:	Down:
<u>Ailerons</u>	Up:	Down:
<u>Rudder</u>	Left:	Right:
<u>Steering</u>	Left:	Right:
<u>Spoilers</u>		

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

MAAN 1051.
BMAA documents WS.005 and TS.005.
Hiway Demon Ownwer's Handbook.

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

See Appendix 1

(12) APPROVED OPTIONAL MODIFICATIONS

See Appendix 2

(13) MINIMUM PERFORMANCE AT 191 kg T/O WEIGHT:

Rate of Climb: 400 ft/minute

Climb Speed: 29 mph IAS

Stall or Minimum Flying Speed: 25 mph (Max power), 22 mph (Idle)

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE: 2

Note: G A Drawings and/or colour photographs illustrating the principal features of the aircraft described herein, shall be attached to, and form part of, this Data Sheet.

<u>Issue</u>	<u>Date</u>	<u>BMAA Authorisation</u>
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1

2 March 1993

P. F. Owen

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE: 2

APPENDIX 1.

ADDITIONAL DOCUMENTATION

The Demon/Triflyer must satisfy the modification and inspection provisions set out in BMAA documents WS.005 and TS.005 (latest issue). The areas affected are as follows:

a) Modifications:

- Pylon back up cable.
- S 605 E Engine mounting washers; keel; axle anti-drag wires.
- S 626 Rigging cables.
- S 627 Non-flexible coating.
- S 689 Throttle installation (on certain Triflyers).
- S 786 Safety helmet placard.
- S 787 Baggage compartment maximum load placard (if fitted).
- S 901 c) Engine to airframe electrical bonding.
- S 967 b) Fuel tank (if installed above engine).
- S 993 d) Fuel lines.
- S 995 Fuel cock.
- S 1141 E Ignition switch wiring.
- S 1303 1) Airspeed indicator.
- S 1303 2) Altimeter placard (where applicable).
- S 1541 Other placards.

b) Inspection:

- S 29 Triflyer weight and hang attitude.
- S 605 E Security/tightness of pylon backup wire and axle tie wire.
- S 607 (Wing): Self locking nuts. Retention of battens.
(Trike): Propeller shaft self-locking nut. Attachment of wheels to axle.
- S 609 (Wing): Keel. Sail fabric. Negative load bracing wires.
- S 623 Attachment of wing to trike.
- S 626 Cables and swages.
- S 627 (Wing): Areas for inspection as WS.005 paragraphs 1 & 6. Also cross boom tensioning arrangement, as WS.005 paragraph 2 (see also Defect Warning Report No. 142). (Trike): Monopole at seat channel.
- S 775 Windshield (if fitted).
- S 785 Safety harness/seat belt and attachments.
- S 901 b) Power plant installation.
- S 925 b) Clearance between propeller and aircraft structure.
- S 951 Fuel system - vapour locks.
- S 959 Unusable fuel.
- S 967 Fuel tank installation.
- S 975 c) Fuel tank vents.
- S 1125 Exhaust.
- S 1301 1) Installed equipment.

In addition, Inspectors must pay attention to the relevant "Spotlight" and Defect Warning reports in the BMAA Inspectors' Manual.

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-23 ISSUE: 2

APPENDIX 2.

Modifications required for increase in maximum all up weight.

If the modifications summarised below are incorporated on a Demon wing, the maximum all up weight may be raised to 235 kg.

These modifications must initially be inspected and signed off, in an appropriate individual log book entry, by the Type Specialist: Mr. John Ievers of Hiway Hang Gliders (1983) Ltd., Longtown, Hereford, HR2 0LE, or by another person so authorised by the BMAA.

- i. Cross tubes of at least 2.125" outside diameter to be installed.
- ii. Flying wires (all under side wires) of at least 3mm diameter to be fitted.
- iii. Keel tube of 1.75" outside diameter, together with local reinforcements of 1.875" outside diameter to be used.
- iv. Steel "wrap-round" hang point on nylon bush to be used (of similar design to that used on Pegasus XL).

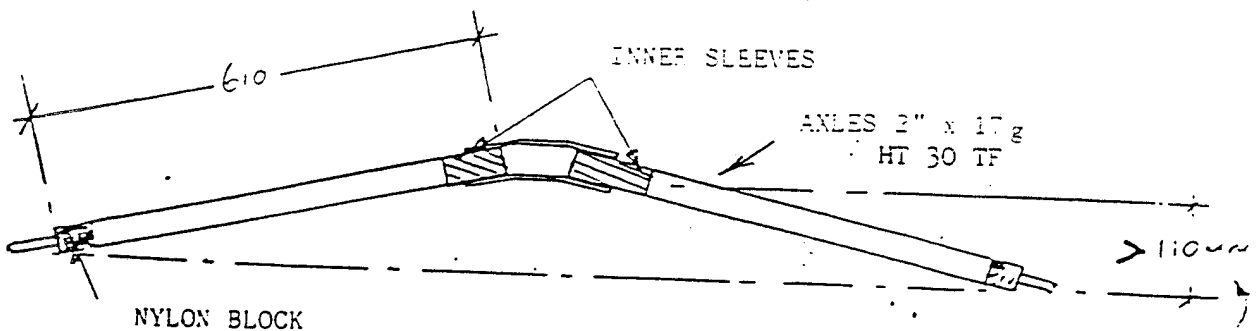
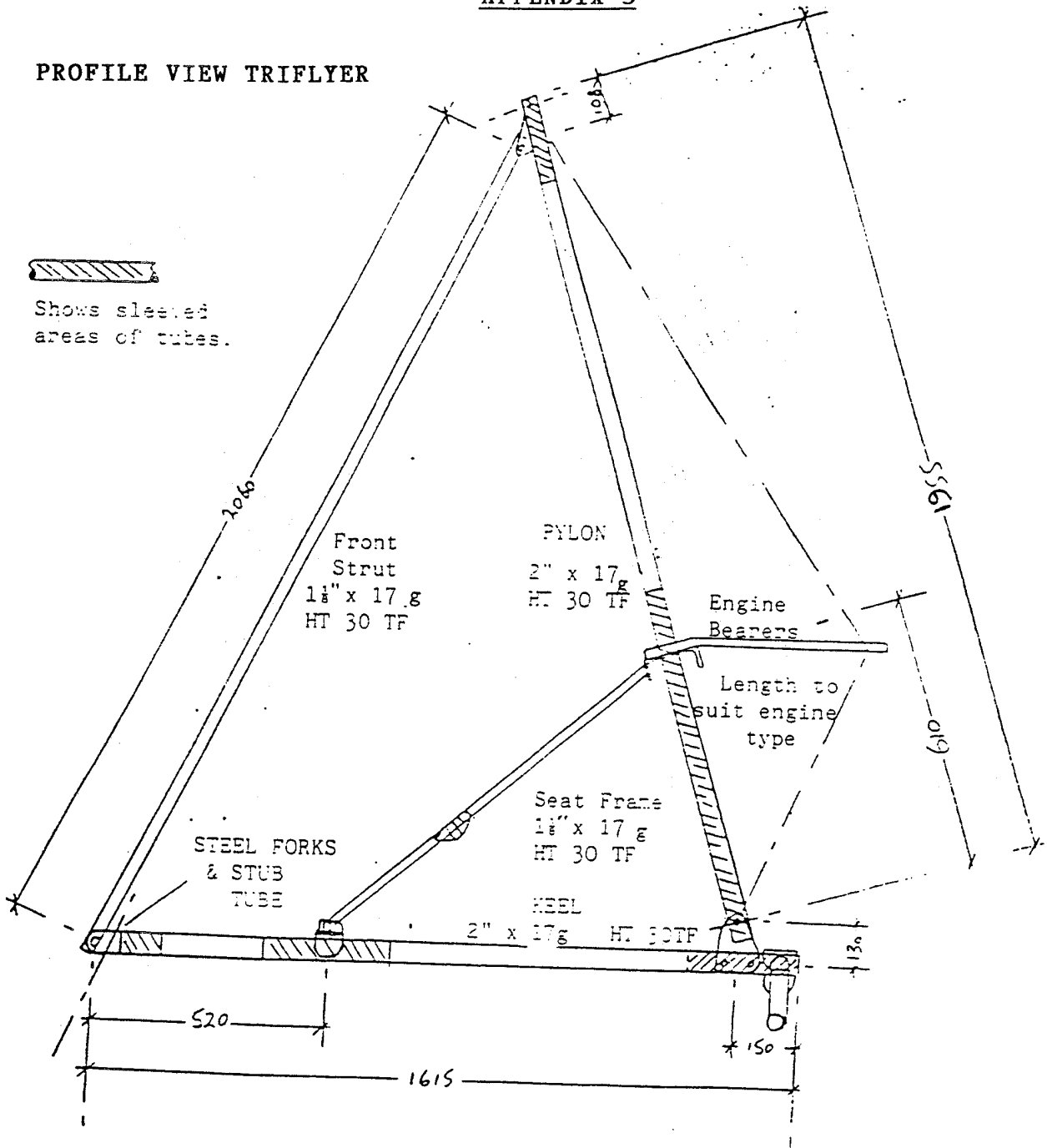
Further information on these modifications should be obtained from Mr. John Ievers at the above address.

MICROLIGHT TYPE ACCEPTANCE DATA SHEET. (TADS)

NO: BMO-23 ISSUE: 2

APPENDIX 3

PROFILE VIEW TRIFLYER



NB This DIM is critical cannot be less than 110 mm