

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO: BMO-15 ISSUE: 3

TYPE

TYPHOON/TRIPACER

Designations included: Typhoon/Tri-pacer; Typhoon/Tri-pacer 250  
 Typhoon Medium/Tri-pacer; Typhoon 180/Tri-pacer;  
 Typhoon S4/Tri-pacer 250; Typhoon/Tri-pacer EC-25-PS  
 Typhoon/Tri-pacer EC-34-PM; Typhoon S/Tri-pacer Mk II 447

- (1) **MANUFACTURER:** Wing - Solar Wings Ltd  
 Trike - Ultrasport UK (now ceased trading)
- (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 appendices)
- (5) **DIMENSIONS/WEIGHTS FOR COMPLIANCE WITH MICROLIGHT DEFINITION**

- |  |                                |
|--|--------------------------------|
| (a) Wing area (inc canard area, excluding winglets): | 15.4 to 16.6 m <sup>2</sup>    |
| (b) Span:  | 10 to 10.6 m                   |
| (c) Standard Mean Chord:                             | 1.54 to 1.57 m                 |
| (d) Dry Empty Weight:                                | 91 to 100 kg                   |
| (e) Max Take-Off Weight:                             | 250 kg                         |
| (f) Wing Loading (Weight Empty/Wing Area):           | 5.5 to 6.5 kg/m <sup>2</sup>   |
| (g) Wing Loading (Max Take-Off Weight/Wing Area):    | 15.1 to 16.2 kg/m <sup>2</sup> |
| (h) Fuel Capacity:                                   | Depends on variant             |

**DOCUMENT ISSUE STATUS**

| Issue Number | Revision Reference | Date     | Authorisation | Pages affected | Valid pages at this Issue number 3 |            |
|--------------|--------------------|----------|---------------|----------------|------------------------------------|------------|
|              |                    |          |               |                | Page No.                           | Page Issue |
| 1            | New                |          |               | All new        |                                    |            |
| 2            |                    |          | CAA           | All            |                                    |            |
| 3            | MAAN 1151          | 17/12/92 | BMAA (JED)    | All            | 1                                  | 3          |
|              |                    |          |               |                | 2                                  | 3          |
|              |                    |          |               |                | 3                                  | 3          |
|              |                    |          |               |                | 4                                  | 3          |
|              |                    |          |               |                | 5                                  | 3          |
|              |                    |          |               |                | 6                                  | 3          |
|              |                    |          |               |                | 7                                  | 3          |

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**(6) POWER PLANTS**

| Designation              | Typhoon/<br>Tripacer 1        | Typhoon/<br>Tripacer 2   | Typhoon/<br>Tripacer 3     | Typhoon/<br>Tripacer 4       | Typhoon/<br>Tripacer 5        |
|--------------------------|-------------------------------|--------------------------|----------------------------|------------------------------|-------------------------------|
| Engine Type              | Fuji Robin<br>EC34PM Inv      | Fuji Robin<br>EC25PS Inv | Rotax 447<br>Inv           | Hiro 125 cc<br>Upright       | Fuji Robin<br>EC34PM Upr't    |
| Reduction<br>Gear ratio  | 2.77:1 or<br>2.7:1            | 2.33:1                   | 2.58:1                     | 3.588:1                      | 2.37:1                        |
| Exhaust<br>System        | Nicklow                       | Rotaflow                 | Rotax                      | Hybred                       | Nicklow with<br>after muffler |
| Intake<br>System         | -                             | -                        | Rotax K & N                | Home Built                   | -                             |
| Propeller<br>Type        | Newton 2 bl'd<br>Lam't'd wood | Ultrasports<br>2 blade   | Romain<br>2 blade          | Hiro 2 blade<br>Lam't'd wood | Fern, 2 blade<br>Lam't'd wood |
| Propeller<br>Dia x Pitch | 60" x 32"<br>Square tip       | 54" x 27"<br>Round Tip   | 58" x 39"<br>Semi Scimitar | 52" x 27"                    | 54" x 30"                     |
| Noise Type<br>Cert. No.  | 75M                           | 75M                      | 65M                        | 75M                          | 75M                           |

| Designation              | Typhoon/<br>Tripacer 6   | Typhoon/<br>Tripacer 7   | Typhoon/<br>Tripacer 8   | Typhoon/<br>Tripacer 9     | Typhoon/<br>Tripacer 10    |
|--------------------------|--------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Engine Type              | Fuji Robin<br>EC34PM Inv | Fuji Robin<br>EC34PM Inv | Fuji Robin<br>EC25PS Inv | Fuji Robin<br>EC34PM Inv'd | Fuji Robin<br>EC34PM Upr't |
| Reduction<br>Gear ratio  | 2.5:1                    | 2.33:1                   | 2.3:1                    | 2.77:1                     | 2.77:1                     |
| Exhaust<br>System        | Rotaflow                 | Rotaflow                 | Mainair<br>Rotaflow      | Rotaflow                   | Rotaflow                   |
| Intake<br>System         | -                        | -                        | -                        | -                          |                            |
| Propeller<br>Type        | 2 blade<br>Lam't'd wood  | Romain<br>2 blade        | 2 blade<br>Lam't'd wood  | Newton<br>2 blade          | Newton<br>2 blade          |
| Propeller<br>Dia x Pitch | 54" x 30"                | 54" x 30"                | 54" x 27"                | 54" x 32"                  | 54" x 32" or<br>60" x 32"  |
| Noise Type<br>Cert. No.  | 57M                      | 57M                      | 75M                      | 75M                        | 75M                        |

**Noise requirement:**

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



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(8) INSTRUMENTS REQUIRED FOR TYPE APPROVAL:

|                      |                                      |     |     |         |     |              |
|----------------------|--------------------------------------|-----|-----|---------|-----|--------------|
| ASI                  | Altimeter                            | RPM | CHT | Compass | EGT | Coolant Temp |
| Required<br>0-55 mph | Required<br>Wrist Type<br>Acceptable |     |     |         |     |              |

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

|                       |         |         |
|-----------------------|---------|---------|
| <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:

Not Available.

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

BMAA Inspectors Manual, BMAA Documents WS.003 and TS.002.  
See also Appendix 1 of this document.

(12) MINIMUM PERFORMANCE AT MAX T/O WT

Rate of Climb: 522 ft/min (Using Fuji Robin EC34PM Engine).


Climb Speed:

Stall or Minimum Flying Speed: 28 mph

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Note: 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>   |
|--------------|------------------|---|
| 2, CAA       | 18 Dec 1989      |   |
| 3 BMAA       | 17 December 1993 |  |

Issue 2      Gear ratio of Hiro 125 cc corrected, was 1.358:1 plus minor editorial change to page 2 (now page 3 at Issue 3)

Issue 3      New format to record Issue status on page 1.  
Additional variants as BMAA MAAN 1106 & MAAN 1151, revising tabulation in Section 6

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Appendix 1

Additional Documentation

The Typhoon/Tripacer must satisfy the modification and inspection provisions set out in BMAA documents WS.003 and TS.002 (latest issue). The areas affected are as follows:

a) Modifications

- S627 Non flexible coating.
- S786 Safety helmet placard.
- S901 Powerplant installation.
- S967 b) Fuel tank (if installed above engine).
- S993 d) Fuel lines.
- S995 Fuel cock (if applicable).
- S1141 Ignition switch wiring.
- S1303 1) Airspeed indicator
- S1303 2) Altimeter placard (where applicable).
- S1541 Placards.

b) Inspection

- S605 Welds on: engine supports, seat frame and front wheel assembly. Condition: axle bushes, keel plate - axle wire clearance, axle drag strut reinforcement.
- S607 (Wing): Batten retainers. (Trike): Propeller shaft nut.
- S609 (Wing): Keel. Sail fabric. Negative load bracing wires.
- S612 Cable Thimbles.
- S623 Hang channels and trike attachments.
- S626 Cable swages and rigging cables.
- S627 Structural features, particularly: oversleeving of control frame uprights and cross bar. Top of seat frame. Wing nose catch.
- S775 Windshield (where fitted).
- S785 Safety harness/seat belt and attachments.
- S901 b) 1) Powerplant installation.
- S925 b) Clearance between propeller and aircraft structure.
- S951 Fuel system - vapour locks.
- S959 Unusable fuel.
- S967 Fuel tank installation.
- S975 c) Fuel tank vents.
- S1301 1) Installed equipment.

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

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Appendix 2

TYPHOON wing with typical trike

