B.M.A.A. MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS) ISSUE 2

NO. BM05

SOLO SEALANDER/TRIPACER
TYPES SOLO STRIKER/TRIPACER (NOTE: See attachments for alternative Trikes)

(1) MANUFACTURER: Wing: FLEXIFORM SKYSAILS (UK)

TRIKE: ULTRASPORTS (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 Appendices 2 & 3)

(5) DIMENSIONS/WEIGHTS FOR COMPLIANCE WITH MICROLIGHT DEFINITION:

(a) Wing Area (inc. canard area, excluding winglets): (14.8 ± 1.1m^2)

(b) Span: 10 - 10.3 m

(c) Standard Mean Chord: 1.4 - 1.54m

(d) Dry Empty Weight: 95kg-110kg

(e) Wing Loading (Weight Empty/ Wing Area): 8.03 kg/m^2 max

(6) POWER PLANTS

Designation	SOLO STRIKER/ TRIPACER	SOLO STRIKER/ TRIPACER	SOLO STRIKER/ TRIPACER	SOLO STRIKER/ TRIPACER	SOLO STRIKER/ TRIPACER
Engine Type	ROTAX 377	FUJI ROBIN EC 34 PM	FUJI ROBIN EC 25 PS	ROTAX 447 INVERTED	FUJI 440
Reduction Gear	2.58 : 1	2.3 : 1	2.3 : 1	2.58 : 1	2.66 : 1
Exhaust System	ROTAX	Huntair or Fuji or Mainair	Huntair or Fuji or Ultrasports	ROTAX	Huntair or Fuji or Mainair
Propeller Type	WOOD LAMINATED	WOOD LAMINATED	WOOD LAMINATED	WOOD LAMINATED	WOOD LAMINATED
Propeller Dia x Pitch	54 - 60 in 33 - 39 in	54 - 56 in 30 - 34 in	52 - 54 in 24 - 30 in	54 to 60 in* 33 to 39 in	54 to 60 in 33 to 38 in
Noise Type Cert No	N/A *	N/A *	N/A *	N/A* *53M 1553	N/A*

* Note: A Noise Certificate will be required after 1st April 1988.

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

(a) Max. Take-off Weight: 250 kg (551 lb)

(b) C.G. Limits (3-axis aircraft): N/A

(c) C.G. Datum: Forward face of nose plate

* (d) Cockpit Loadings:	Front	Rear	Total
Pilot and Baggage or Ballast (min)	55 kg	-	55 kg
Pilot and Baggage (max)	95 kg	-	95 kg

(e) Permanent Ballast, Weight and Position: N/A

(f) Empty C.G. (3-axis aircraft): N/A

* (g) Never Exceed Speed: 60 knots (69 mph)

* (h) Manoeuvring Speeds: 38 knots (44 mph)

* (i) Permitted Manoeuvres: Non aerobatic

(j) Fuel Contents (Max. Useable): 25 litres

(k) Power Plant:

Engine	ROTAX 377	FUJI ROBIN EC 34 PM	FUJI ROBIN EC 25 PS	ROTAX 447	FUJI 440
Max RPM	7000	N/A	N/A	6900	7500
Max CHT	N/A	N/A	N/A	N/A	N/A
Fuel Spec.	Petrol/ oil mix	Petrol/Oil mixture	Petrol/oil mixture	PETROL/ OIL MIX	PETROL/ OIL MIX
Oil Spec	2 Stroke Oil:Prem	2 Stoke Oil Premium	2 Stroke Oil Premium	2 Stroke Oil Premium	2 Stroke Oil Premium
Fuel/Oil Mix	50 : 1	40 : 1	40 : 1	50 : 1	40 : 1
Max EGT	N/A	N/A	N/A	N/A	N/A
Oil Press	N/A	N/A	N/A	N/A	N/A
Oil Temp	N/A	N/A	N/A	N/A	N/A

(8) INSTRUMENTS REQUIRED FOR TYPE APPROVAL:

ASI	Altimeter	R.P.M.	CHT	Compass
10 to 70 mph or equivalent	Wrist type acceptable	-	-	-

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

Pitch Control	Up:	-	Down:	-
Tailplane Trim	Up:	-	Down:	-
Ailerons	Up:	-	Down:	-
Rudder	Left:	-	Right:	-
Steering	Left:	-	Right:	-
Spoilers:		-		

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

NONE

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

See Appendix 1.

(12) MINIMUM PERFORMANCE AT MAX. T/O WT.

Rate of Climb: 870 ft/min (Rotax 377) : 400 ft/min (est Robin 250)
750 ft/min (est Robin 330)

Stalling Speed: 22 m.p.h.

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Notes:

1. G.A. Drawings and/or colour photographs illustrating the principal features of the aircraft submitted for type approval shall be attached to, and form part of, this Data Sheet.

2. The basic data presented on this TADS relates to the power plant quoted in the first column of paragraph 6, and may not be applicable to the other power-plant installations listed.

FOR B.M.A.A. OFFICE. LATEST ISSUE: 2 DATED: 8.8.1986

SIGNED: J G Wraith

NO. BMO5

APPENDIX 1

Modifications

The following modifications must be incorporated on each Solo Striker and Solo Sealander wing in order to comply with the requirements and to qualify for the issue of an Individual Exemption.

S 603 Modification of Solo Striker and Solo Sealander wings according to BMAA Defect Warning 006, dated 11.10.85, must be made, covering:- (a) Extension of bowsprit, (b) Revision of bowsprit to leading edge rigging, (c) Top front to rear rigging, (d) Control frame to bowsprit rigging, (e) Control frame to noseplate rigging, (f) Minimum dimensions and reinforcement sleeving of control frame uprights.

S 901 Excessive wear of reduction drive spacer tube. Replace tube with 14g or 16g mild steel tube or 17g steel tube to BS (Aerospace Series) 3T53 or 4T45.

S 993 A fire resistent fuel line(s) must be fitted for a distance of at least 45cm (18 inches) from the engine and routed as far as possible on the opposte side of the engine to the exhaust.

S 1141 The wiring for the ignition switch must be fire resistant adjacent to the engine (or located so that in the event of an engine fire the engine can be stopped). Ignition switch wiring located forwards of fuel carrying components is considered to satisfy this requirement.

S 1303 Where an altimeter is not permanently installed, a wrist mounted altimeter is acceptable; in such cases a placard must be installed stating clearly that a wrist mounted altimeter is required.

S 1542 A placard is to be installed in full view of the pilot which quotes the limiting speeds V_A and V_{NE}.

IN ADDITION, as a further condition of Type Acceptance and the issue of Individual Exemptions, the pilot must wear a protective crash helmet and the aircraft be placarded to this effect.

APPENDIX 1 (CONTINUED)

Inspection

The review of the compliance of the Solo Striker/Tripacer and Solo Sealander/Tripacer with the airworthiness requirements of the nominated paragraphs of BCAR Section S has indicated a number of areas where particular attention must be given by each BMAA Inspector responsible for inspection of such aeroplanes and these are listed below:-

S 605 (i) Check that, as necessary, satisfactory rework of welds on components of:-

Engine support
Seat frame
Front wheel assembly

(ii) Check that flanged bushes have been incorporated at axle ends, or other satisfactory tie wire bolt hole reinforcements.

(iii) Check that the vertical distance between the keel lower plate and axle wire is greater than 15 cm.

(iv) Ensure that the ends of the axle drag struts are reinforced with a suitable plug or sleeve and that there is no excessive wear in the retaining holes.

(v) On the wing check that the self-tapping screw retaining the tip batten to the leading edge is secure; if the component is rivetted, ensure that the rivet is secure and suitable.

S 609 Protection of Structure Inspection to check that plastic covering of welded steel components has been stripped and alternative non-flexible protective coating or plating used.

S 612 Rigging and de-rigging Tangs and thimbles at cable terminations must be checked to ensure that when rigging the thimbles at each cable end are not twisted around tangs. (Use of "Never Kinks" or heat shrunk tubing is recommended).

S 627 Ensure that there is no cracking at the top of seat frame where the eye bolts pass through the frame.

S 677 Trim System Special Inspection Attention required to ensure satisfactory operation and installation of any trim system fitted by owner.

S 775 Ensure that where windshields have been fitted, the material is satisfactory and not liable to splintering or opacity.

APPENDIX 1 (CONTINUED)

S 901 (i) The lower engine mount must be checked to ensure that it has not suffered deterioration from fuel.

(ii) The retention of spark plug caps must be satisfactory.

(iii) Ensure that the propeller axis is at right angles to the roll pin retaining the propeller boss.

(iv) Ensure that the parallel pins used to transmit torque from driven pulley into propeller hub are not loose (if so, they may be replaced with larger 5/16 inch diameter pins.

(v) Propeller bolts to be checked for aircraft quality, correct length and shank length.

S 925 Propeller Clearance. It is essential that each wing installed on an individual trike is inspected and checked for adequate clearance of all rigging and components, in particular with respect to the complete propeller arc, making proper and full allowance for all possible positions of the wing either in flight or on the ground.

S 951 Ensure that the layout of the fuel lines does not give rise to potential vapour locks.

S 959 Ensure that the unusable fuel for the particular fuel tank arrangement is satisfactory for all flight conditions, as S 959 of the requirements.

S 967 Fuel Tank Installation

(i) must be checked to ensure that the fuel tank is stable in its location and cannot invert.

(ii) In addition, several versions have their fuel tank directly over the engine where an engine fire could impinge upon it; in such cases Special Inspection Attention is required to ensure that means are provided to ensure that fuel spillage from the tank is drained away from the engine area by a suitable fire resistant drip tray and fire resistant baffle.

(iii) Ensure that fuel tank pick-up tube cannot rise clear of fuel.

APPENDIX 1 (CONTINUED)

S 975 Fuel Tank Vents: Inspectors must be satisfied that the fuel tank vent discharges clear of the aeroplane.

S 995 Ensure that fuel valves and controls are properly installed according to the requirements of S 995.

S 1301 Equipment, Function The suitability, function and safe installation of equipment installed must be checked by inspection for each aircraft.

In addition, inspectors attention must be paid to those items listed under "Ultrasports Tripacer" in the spotlights section of the BMAA Inspector's Handbook.

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APPENDIX 2

The following drawings show the weakest construction permissible for the Flexiform Solo Striker wing. ie. a stronger structure is allowed within sensible constraints of weight.

Additional details are given below:

1. Nose plates and hang plates - minimum thickness 1/8"

2. King post - 1 1/8" x 17g

3. Bowsprit - 1 7/8" x 17g

4. Keel - as shown, local reinforcement in the form of 6" inserts are fitted where bolts pass through the keel.

5. Leading edges - as shown; a nylon plug is often fitted in the inboard end.

6. Rigging

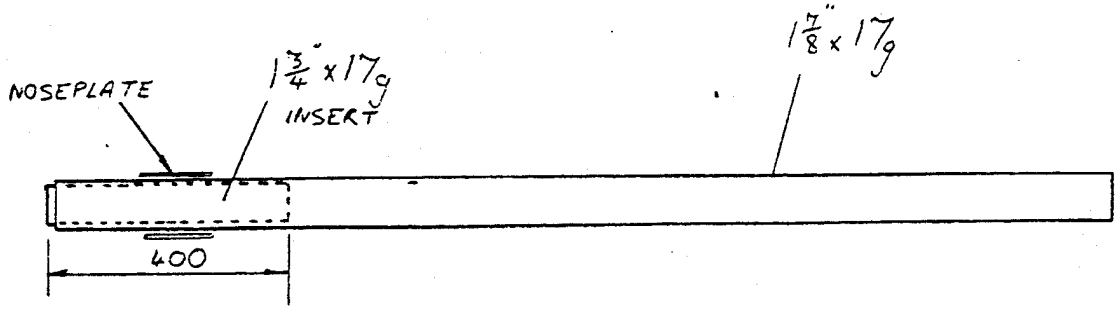
6.1 All bottom and top rigging is 2.5 mm galvanised or stainless steel.

6.2 Bowsprit wires are 3.0 mm galvanised or stainless steel.

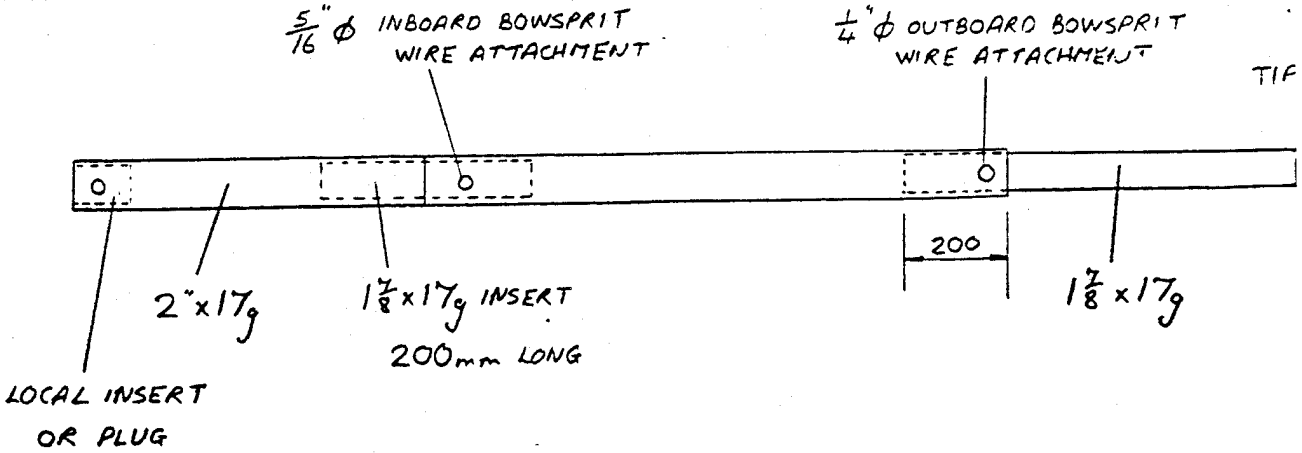
6.3 Bowsprit rigging - some later models had extended bowsprits fitted but upper and lower wires terminated at the inner (rear) bowsprit attachment point. ie. half way along the bowsprit instead of the tip. This is a permitted variation.

NOT TO SCALE

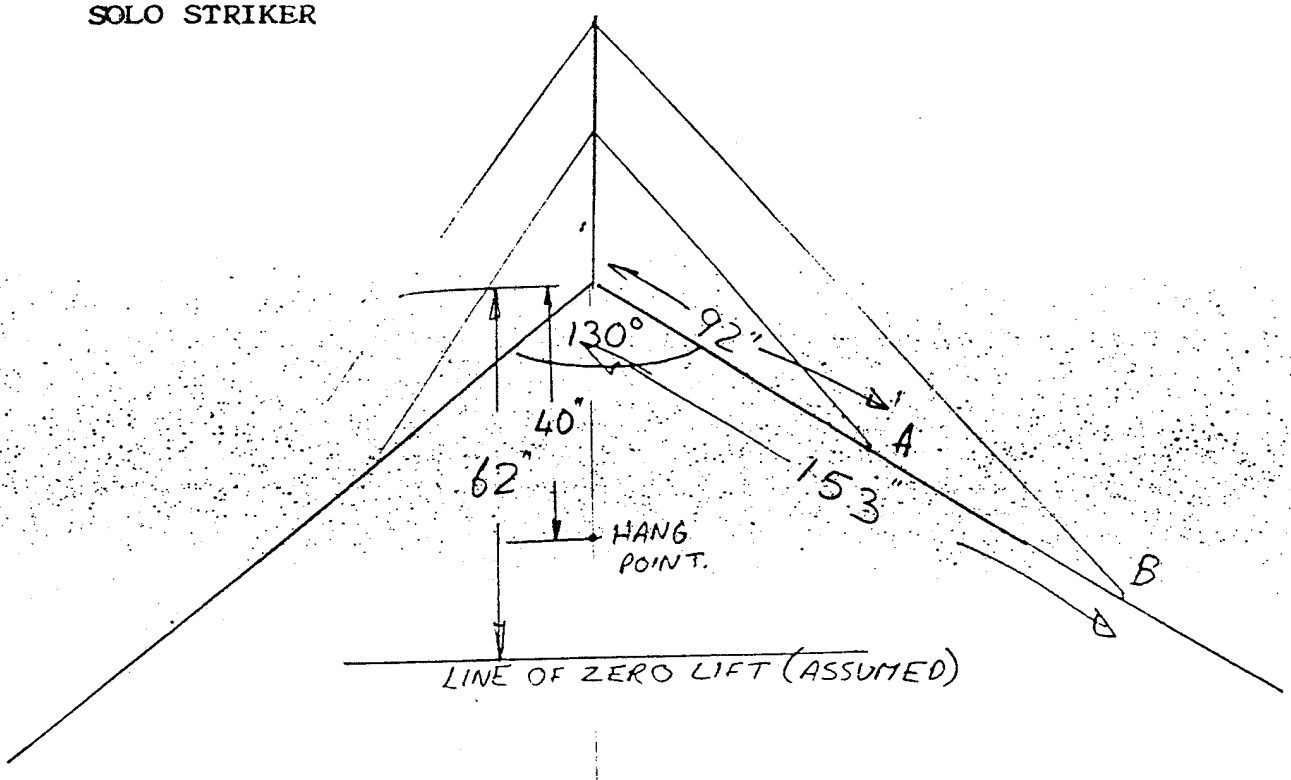
WING KEEL

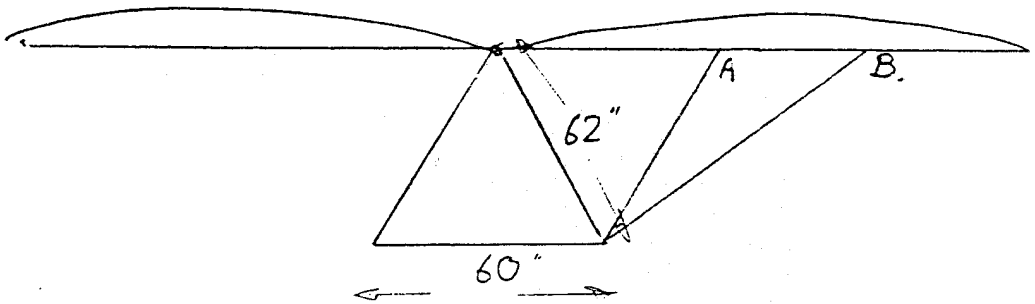


WING LEADING EDGES



SOLO STRIKER





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APPENDIX 3

Details are given below of the major components of the Ultrasports Tripacer trike unit. They represent the weakest permissible structure.

Keel - 2 1/4" x 16g tube.

Pylon - 2 1/4" x 16g tube.

Axles - 1 3/4" x 16g tube.

Seat frame - 1" x 16g tube.

BMO5 End

TADS CHANGE SHEET

This sheet lists changes to specific type acceptance data sheets which are under BMAA control. Such changes are to be incorporated in a future issue of the TADS.

TADS NUMBER BMO-5 ISSUE NUMBER 2

AIRCRAFT TYPE - STRIKER AND SEALANDER VARIANTS

Changes introduced by this sheet:

Alternative Exhaust system and type designations.

The Ultrasports Tripacer trike was also produced with a Nicklow exhaust system and designated as an Ultrasports Panther.

The Ultrasports Panther conforms to noise type certificate 54M issue 1, comprising:

Fuji Robin EC34PM engine with 2.6:1 reduction drive

Romain 60" diameter x 33" pitch propeller.

Nicklow exhaust muffler.

TADS BM05 ISSUE 2 APPLIES TO THE FOLLOWING TYPE DESIGNATIONS. ALL ARE SINGLE SEAT AEROPLANES.

Solo Sealander/Tripacer
Solo Striker/Tripacer
Striker Solo/Tripacer
Striker/Tri-Pacer 330
Solo Striker/Panther.

Signed for BMAA:

W.G.Brooks
Chief Technical Officer
7 October 1996