

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

TYPE ACCEPTANCE DATA SHEET (TADS)

**NO: BMO20 ISSUE: 3**

TYPE: Photon/Triflyer

- (1) MANUFACTURER: Wing: Pegasus Aviation (now trading as P&M Aviation)  
Trike: Mainair Sports (now trading as P&M Aviation)
- (2) UK IMPORTER: n/a
- (3) CERTIFICATION: BCAR Section S requirements listed in CAA document dated 17th January 1986, ref: 9/30/UL18
- (4) DEFINITION OF BASIC STANDARD: As defined by MAAN 1093 issue 3 and this TADS.
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION

(a) MTOW	210 Kg
(b) No. Seats	1
(c) Maximum Wing Loading	16.2 kg/m <sup>2</sup>
(d) V <sub>so</sub>	20 knots (23 mph)
(e) Permitted range of pilot weight	55 – 90 kg
(f) Typical Empty Weight (ZFW)	100 kg
(g) ZFW + 86 kg pilot + full fuel (24 litres / 18 kg)	204 kg
(h) Max ZFW	106 kg

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(6) POWER PLANTS

Designation	Photon/Triflyer
Engine Type	Fuji Robin EC34PM inverted
Reduction Gear	2.77:1 toothed belt
Exhaust System	Nicklow
Intake System	-
Propeller Type	Romain square tip
Propeller Dia x Pitch	56" x 38"
Noise Type Cert No.	132M issue 1
MAAN approving configuration	1093

(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	210 kg												
(B) CG Limits	<i>n/a</i>												
(C) CG datum	<i>n/a</i>												
(D) Cockpit Loadings	<table border="1"> <thead> <tr> <th></th> <th>Pilot</th> <th>Passenger</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Min</td> <td>55 kg</td> <td>-</td> <td>55 kg</td> </tr> <tr> <td>Max</td> <td>90 kg</td> <td>-</td> <td>90 kg</td> </tr> </tbody> </table>		Pilot	Passenger	Total	Min	55 kg	-	55 kg	Max	90 kg	-	90 kg
	Pilot	Passenger	Total										
Min	55 kg	-	55 kg										
Max	90 kg	-	90 kg										
(E) Never Exceed Speed	52 kn IAS (60 mph IAS)												
(F) Manoeuvring Speed	40 kn IAS (46 mph IAS)												
(G) Permitted Manoeuvres	30° Nose up / 30° nose down ±60° bank Non Aerobatic												
(H) Fuel Contents (Max Useable)	24 litres												

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(I) Power Plant	See Table
Engine	Fuji Robin EC34 PM
Max RPM	7,500
MAX CHT	-
Fuel Spec	83MON or 90 RON min. Petrol/Oil
Engine Oil Spec	Self Mix 2 Stroke
Fuel/Oil Mix	40:1

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Fuel Pressure	VSI
Required (to 65 mph / 57 kn min.)	Required Wrist type acceptable					

(9) CONTROL DEFLECTIONS:

Conventional weightshift control deflections.  
Steering  $\pm 45^\circ$ .

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

1. Fuji Robin EC34PM manual.
2. Pegasus Photon owners manual.
3. BMAA document TS005.
4. MAAN 1093 issue 3.
5. Maintain to BMAA schedule MMS issue 1.

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10.2 The following placards are to be fitted:-

(a) Flight Limitations Placard (to be visible to pilot)

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Photon/Triflyer	
Never Exceed Speed:	52 kn / 60 mph IAS
Manoeuvring Speed :	40 kn / 46 mph IAS
Stall Speed:	20 kn / 23 mph IAS
Best climb speed:	26 kn / 30 mph IAS
Pitch Limits:	30° nose down, 30° nose up.
Bank angle limits:	+/- 60°
Maximum Stall entry rate:	1 kn/s
Empty Weight:	* kg
Max Take-Off Weight:	210 kg
Minimum Cockpit Weight:	55 kg
Maximum Cockpit Weight:	90 kg
Aerobatics prohibited.	

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\* This should match the latest weight report for the aircraft

(b) Engine Limitations Placard (to be located near to engine instruments)

A placard showing the limitations for all indicated engine parameters is to be mounted close to the engine instruments. This requirement need not be complied with for limitations shown as coloured markers (red for danger, amber for caution) on the instrument displays.

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

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FUEL
Capacity 24 Litres (40:1 2-stroke oil)
83MON or 90 RON min. Petrol/Oil

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(d) Switches

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

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

As defined by MAAN 1093 issue 3.

MAAN1875, increase in lower flying side cables from 3mm to 4mm.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 500 fpm at 26 kn / 30 mph IAS

Stall or Minimum Flying Speed: 20 kn / 23 mph IAS at MTOW / idle.

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BMAA  
Approval:



G B Gratton  
Chief Technical  
Officer

7 April 2005

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Issue History

Issue No.	Reason and signatory
A	Draft for flight test purposes
1	Approval, Signatory G B Gratton, CTO, BMAA
2	Approval, Signatory G B Gratton, CTO, BMAA
3	New format. Addition of mandatory modification MAAN1875, side wire diameter increase. Approval, Signatory G B Gratton, CTO, BMAA

Illustration of Aircraft

Not available

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ANNEX A - MODIFICATIONS REQUIRED FOR UK TYPE ACCEPTANCE

Wing (see diagram on following page):

1. Photon cross boom must be strengthened to the level of the Typhoon by inserting centrally placed inner sleeves to at least 70% of the boom length, to be 18SWG or 17SWG 2.125" HT30TF anodised tubing.
2. The control frame uprights must be 1.125" x 17SWG with external sleeves to at least 70% of the total length of 1.25" x 17SWG.
3. The keel must be reinforced using a 1 5/8" 17SWG sleeve 5' long with an additional inner sleeve 1.5" dia 2" long, 17 or 18SWG, equi-spaced around the hangpoint/control frame top are required. Material is to be HT30TF anodised aluminium alloy.
4. 4mm 7x7 galvanised or stainless steel lower flying side rigging cables to the control frame.

Trike:

None required.





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ANNEX B - SPECIAL INSPECTION REQUIREMENTS

1. Lower flying side rigging cables to the control frame: there must be a 0.5mm minimum radius on all changes of cross section between the shank and the eye.

ANNEX C

WEIGHING INFORMATION

- |                       |                               |
|-----------------------|-------------------------------|
| 1. CG Datum:          | n/a                           |
| 2. Weighing attitude: | as required.                  |
| 3. Crew weight:       | Minimum 55 kg / maximum 90 kg |
| 4. MTOW:              | 210 kg                        |