CIVIL AVIATION AUTHORITY - SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM - 12, ISSUE: 2

TYPE

PIPISTRELLE

(1) MANUFACTURER:
Southdown Aerostructure Ltd
Lasham Airfield, Lasham, nr Alton, Hants
BMAA is responsible for ensuring continued airworthiness

(2) UK IMPORTER:
The first two airframes are largely constructed of components manufactured by Aerostructures SA, France. This company no longer exists.

(3) CERTIFICATION:
BCAR SECTION S Advance Issue (1983)

(4) DEFINITION OF BASIC STANDARD:
Build standard: Document ref. SA/10/1, issue 1, 30 December 1985
Design standard: Document ref. SA/6/1

(5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
(a) MTOW 249 kg
(b) No. Seats 1
(c) Maximum Wing Loading 18.5 kg/m²
(d) Permitted range of pilot weights 70 - 105 kg per seat
(e) Typical Empty Weight (ZFW) 132 kg
(f) ZFW + 86 kg pilot + full fuel 228 kg
   (14.5 litres / 10.4 kg)
(g) Max allowed ZFW at initial permit issue 150 kg
**CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP**

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(6) **POWER PLANTS**

<table>
<thead>
<tr>
<th>Designation</th>
<th>JPX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine Type</td>
<td>PUL 505</td>
</tr>
<tr>
<td>Reduction Gear</td>
<td>Direct drive</td>
</tr>
<tr>
<td>Exhaust System</td>
<td>Southdown Aerostructure Drawing No. SA/P2C/4901</td>
</tr>
<tr>
<td>Intake System</td>
<td>Filter only</td>
</tr>
<tr>
<td>Propeller Type</td>
<td>Southdown Aerostructure Drawing No. SA/P2B/4902</td>
</tr>
<tr>
<td>Propeller Dia x Pitch</td>
<td>0.9m x 0.52m</td>
</tr>
<tr>
<td>Noise Type Cert No.</td>
<td>22M issue 1</td>
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<tr>
<td>AAN approving</td>
<td>18896(P) Addendum 1</td>
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</tbody>
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(7) **MANDATORY LIMITATIONS:**

(A) Max Take-Off Weight 249 kg

(B) CG Limits  
- Aft limit 519mm aft of datum  
- Fwd Limit 426mm aft of datum

(C) CG datum  
Wing leading edge, 590mm outboard of aircraft centre-line with rear fuselage horizontal

(D) Cockpit Loadings  
- Min 70 kg  
- Max 105 kg

(E) Never Exceed Speed 62 knots IAS

(F) Manoeuvring Speed 52 knots IAS

(G) Permitted Manoeuvres  
Aerobatic manoeuvres, including spins, are prohibited

(H) Fuel Contents (Max Useable) 14.5 litres
(I) Power Plant

<table>
<thead>
<tr>
<th>Engine</th>
<th>JPX PUL 505</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max RPM</td>
<td>4600</td>
</tr>
<tr>
<td>Max CHT</td>
<td>250°C</td>
</tr>
<tr>
<td>Max EGT</td>
<td>N/A</td>
</tr>
<tr>
<td>Fuel Spec</td>
<td>4-star MOGAS</td>
</tr>
<tr>
<td>Engine Oil Spec</td>
<td>2 stroke oil (non-detergent)</td>
</tr>
<tr>
<td>Gearbox oil spec</td>
<td>N/A</td>
</tr>
<tr>
<td>Fuel/Oil Mix</td>
<td>40:1</td>
</tr>
<tr>
<td>Max. Coolant Temp.</td>
<td>N/A</td>
</tr>
<tr>
<td>Max. Oil Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Min. Oil Pressure</td>
<td>N/A</td>
</tr>
<tr>
<td>Oil Temperature</td>
<td>N/A</td>
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</table>

(8) INSTRUMENTS REQUIRED:

<table>
<thead>
<tr>
<th>ASI</th>
<th>Altimeter</th>
<th>RPM</th>
<th>EGT</th>
<th>Compass</th>
<th>Coolant temp</th>
<th>CHT</th>
<th>Fuel Pressure</th>
<th>VSI</th>
<th>Slip ball</th>
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</thead>
<tbody>
<tr>
<td>Required</td>
<td>Required</td>
<td>Required</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
</tbody>
</table>

(9) CONTROL DEFLECTIONS:

| Elevator UP: | 100 mm ± 8 mm | Tailplane trim UP: | N/A (Spring trim) |
| Elevator DOWN: | 130 mm ± 10 mm | Tailplane trim DOWN | N/A |
| Ailerons UP: | 135 mm ± 10 mm | Rudder: | Surfaces |
| Ailerons DOWN: | 80 mm ± 6 mm | Automatically operate with ailerons | UP 85 mm ± 6 mm |
| Spoilers: | Automatically operate with ailerons | DOWN 105 mm ± 6mm | (V-tail arrangement) |
(10) PILOT'S NOTES, MAINTENANCE MANUALS REFERENCES:

10.1 Manuals approved for use with this aircraft.

(a) Pilot's Handbook Document Ref. SA/5/1
(b) Maintenance Manual Document Ref. SA/5/2
(c) Engine Manual Document Ref. SA/5/3

10.2 The following limitations 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)

   See Annex D

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

See Annex A for required modifications.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 370 fpm
Stall or Minimum Flying Speed: 29 knots IAS (at idle)
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<table>
<thead>
<tr>
<th>Issue No.</th>
<th>Date</th>
<th>Reason</th>
<th>Signatory</th>
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<tbody>
<tr>
<td>1</td>
<td>01/01/86</td>
<td>Initial Issue</td>
<td>W A Bevan</td>
</tr>
<tr>
<td>2</td>
<td>08/07/03</td>
<td>Document revised to new format</td>
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J Barratt

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Illustration of Aircraft.
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ANNEX A – MANDATORY MODIFICATIONS

None.

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.

ANNEX C - WEIGHING INFORMATION

1. CG Datum: Wing leading edge, 590 mm outboard of aircraft centre-line with rear fuselage horizontal (positive aft)
2. Weighing attitude: Aircraft to be weighed with the tail-boom horizontal
3. Mainwheel moment arm: 255 mm aft of datum
4. Tailwheel moment arm: 3060 mm aft of datum
5. Fuel moment arm: 250 mm aft of datum (14.5 litres maximum capacity)
6. Crew moment arm: N/A
7. Crew weights: Minimum 70 kg / maximum 105 kg (maximum reducible, not below 86 kg, if required).
8. Aft CG Limit: 519 mm aft of datum
9. Fwd CG Limit: 426 mm aft of datum
ANNEX D - PLACARDS

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

Max take-off weight not to exceed 249 kg
CG limits between 426 mm and 519 mm AOD
Cockpit loadings must be between 70 and 105 kg
\( V_{NE} \) 62 knots IAS
\( V_A \) 52 knots IAS
Aerobatic manoeuvres including spins are prohibited

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

A placard showing the limitations for all the 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)

Max usable fuel contents 14.5 litres.
Fuel/oil ratio 40:1 2-stroke oil
Fuel specification: 4-star MOGAS
ANNEX E - POINTS FOR SPECIAL ATTENTION

In service, the following points have been found to be commonly recurring problems, and Inspectors must give special attention to the following both during initial approval, and during later inspections.

1. (blank)
2. (blank)
3. (blank)
4. (blank)
5. (blank)
6. (blank)
7. (blank)
8. (blank)
9. (blank)
10. (blank)