TYPE: WEEDHOPPER JC-24-B

(1) MANUFACTURER: WEEDHOPPER OF UTAH INC. (Now ceased trading)
(2) UK IMPORTER: None
(3) CERTIFICATION BASIS: BCAR Section S requirements, listed in CAA document dated 19th June 1985, Ref 9/30/UL18
(4) DEFINITION OF BASIC STANDARDS: Drawing WH sheets 1, 2, 3 and 3a, issue 25/5/94, as included in BMAA Weedhopper JC24 submission.
(5) DIMENSIONS/WEIGHT OF COMPLIANCE WITH MICROLIGHT DEFINITION

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Wing Area:</td>
<td>15.6m² (167.8ft²)</td>
</tr>
<tr>
<td>(b) Span:</td>
<td>8.54m (28.0ft)</td>
</tr>
<tr>
<td>(c) Standard Mean Chord:</td>
<td>1.22m to 2.44m (4.00ft to 8.00ft)</td>
</tr>
<tr>
<td>(d) Dry Empty Weight:</td>
<td>120kg (265lb)</td>
</tr>
<tr>
<td>(e) Max Take-off Weight:</td>
<td>209kg (460lb)</td>
</tr>
<tr>
<td>(f) Wing Loading (Weight Empty/ Wing Area):</td>
<td>7.69kg/m² (1.58lb/ft²)</td>
</tr>
<tr>
<td>(g) Wing Loading (Max Take-Off Weight/Wing Area):</td>
<td>13.4kg/m² (2.74lb/ft²)</td>
</tr>
<tr>
<td>(h) Number of Seats:</td>
<td>One</td>
</tr>
<tr>
<td>(i) Established Maximum Power:</td>
<td>35HP</td>
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</table>

DOCUMENT ISSUE STATUS

<table>
<thead>
<tr>
<th>REVISION</th>
<th>DATE</th>
<th>AUTHORISATION</th>
<th>PAGES</th>
<th>VALID PAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>23/6/94</td>
<td>all</td>
<td>1-7</td>
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</table>
MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

NO BMO-44 ISSUE: 1

(6) POWER PLANTS

<table>
<thead>
<tr>
<th>Designation</th>
<th>WEED HOPPER JC-24-B</th>
<th>WEED HOPPER JC-24-B</th>
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</thead>
<tbody>
<tr>
<td>Engine Type</td>
<td>FUJI ROBIN EC-34 INVERTED</td>
<td>ROTAX 337</td>
</tr>
<tr>
<td>Reduction Gear</td>
<td>VEE-BELT 2.35:1</td>
<td>GEARED 2.58:1</td>
</tr>
<tr>
<td>Exhaust System</td>
<td>HUNTAIR</td>
<td>ROTAX</td>
</tr>
<tr>
<td>Intake System</td>
<td>N/A</td>
<td>ROTAX</td>
</tr>
<tr>
<td>Propeller Type</td>
<td>HUNTAIR</td>
<td>NEWTON</td>
</tr>
<tr>
<td>Propeller Dia x Pitch</td>
<td>54&quot; X 30&quot;</td>
<td>54&quot; X 35&quot;</td>
</tr>
<tr>
<td>Noise Type Cert No.</td>
<td>91M issue 1</td>
<td>NOT YET AVAILABLE</td>
</tr>
</tbody>
</table>

NOISE REQUIREMENT

Registered Pre 1/4/86 1 Seat 80 dBA 2 Seat 84 dBA BCAR Ref
Registered Post 1/4/86 76 dBA 80 dBA N3-6.3 Iss 4

(7) MANDATORY LIMITATIONS: (*indicates when placarded)

* (A) Max Take-off Weight: 209kg (460lb)
* (B) Dry Empty Weight: 120kg (265lb)
(C) C G Limits (3-Axis Aircraft) See Paragraph (e)
(D) C G Datum: Front Spar/Fuselage-Bracket Bolt Centre-Line
* (E) Cockpit Loadings: (Seat position fixed)
  Pilot and Baggage Maximum: 91kg (200lb)
  Pilot and Baggage Minimum: 50kg (110lb)
(F) Permanent Ballast, Weight and Position: Nil
(G) Empty C G: 40.0 inches (1.016m) aft of datum
(H) Optimum C G Location: 42 inches (1.067m) aft of datum
(I) Maximum Aft C G Location: 45.6 inches (1.159m) aft of datum
(J) Minimum Fwd C G Location 36.25 inches (0.921 m) aft of datum

* (K) Never-Exceed Speed: 55 mph (47.8 kt)

* (L) Manoeuvring Speed: 40 mph (34.7 kt)

(M) Permitted Manoeuvres Aerobatic Prohibited

(N) Fuel Content (Max Usable): 3, 7 or 10 US Gallons

(O) Power Plant: See Table Below

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**PowerPlant**

<table>
<thead>
<tr>
<th>Engine</th>
<th>FUJI ROBIN EC-34</th>
<th>ROTAX377</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max RPM</td>
<td>6900</td>
<td>6800</td>
</tr>
<tr>
<td>MAX CHT</td>
<td>220° C</td>
<td>N/A</td>
</tr>
<tr>
<td>Fuel Spec</td>
<td>PETROL</td>
<td>PETROL</td>
</tr>
<tr>
<td>Oil Spec</td>
<td>2-STROKE OIL, PREMIUM GRADE</td>
<td>2-STROKE OIL, PREMIUM GRADE</td>
</tr>
<tr>
<td>Fuel/Oil Mix</td>
<td>OTHER OILS 40:1</td>
<td>OTHER OILS 50:1</td>
</tr>
<tr>
<td>Max EGT</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Oil Press</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Oil Temp</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(8) INSTRUMENTS REQUIRED FOR TYPE ACCEPTANCE:

ASI Altimeter RPM CHT Compass
Hall or Dwyer Wrist Not Not Not
Wind-Meter Mounted Req Req Req

(9) CONTROL DEFLECTIONS (3-Axis Systems):

Pitch Control: Up: -25°, plus 5°, minus 3°
Down: -15°, plus or minus 3°

Tailplane Trim: None

Ailerons: None

Rudder: Left: -23°, plus or minus 3°
Right: -27°, plus or minus 3°

Steering: N/A

Spoilers: N/A
MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

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(10) RIGGING DETAILS:

Dihedral: 12°
Washout at Tips: (Root ribs taken as zero reference): 4° minimum, 4.5° maximum

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

BMAA Manual/Handbook and detailed modification drawings sheets 1, 2, 3 and 3a.

(12) MANDATORY MODIFICATIONS, SERVICE BULLETINS, AIRWORTHINESS DIRECTIVES ETC:

See Appendix 1.

(13) MINIMUM PERFORMANCE AT MAXIMUM TAKE-OFF WEIGHT:

Rate of Climb: (Fuji Robin EC-34 powered) 300ft/minute
Stalling Speed: (All types) 27mph (23.4kt)

NOTES:

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

BMAA APPROVAL: [Signature]  ISSUE: 1  DATE: 23/6/94.
MODIFICATIONS:

The following general modifications - pertinent to all Exemption aircraft - must be incorporated on each Weedhopper JC-34-B microlight aircraft, in order to comply with the requirements and to qualify for the issue of the Individual Exemptions:

S901  (i) Where, on Fuji Robin EC-334 powered machines, it is known that the reduction drive-shaft is of a material such as EN8, which is known to be unreliable on the type of system being checked, the shaft must be replaced with material to at least EN15T or EN24T specification.

S993  Fire-resistant 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 opposite side of the engine to the exhaust.

S995  An on-off fuel-cock must be installed in the fuel-line(s) UNLESS it can be shown that leakage from any part of the fuel-tank, fuel-lines or system cannot fall on to hot parts of the engine or exhaust. Fuel-cocks must have positive stops in the On and OFF positions and these positions must be clearly marked.

S1141 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. (Wiring located forward of fuel-carrying components is considered to satisfy this requirements).

S1303 Where an altimeter is not permanently installed, a wrist mounted altimeter is acceptable. In such cases, a placard must be installed, stating clearly that an altimeter MUST BE CARRIED.

S1541 The aircraft MUST also be placarded with:
(a) the Vne
(b) the aircraft empty weight
(c) the maximum cockpit-load

INSPECTION

S605  (i) Build standard
(ii) Cable condition and swages
(iii) Fabric condition

S607  (i) Self-locking nuts
MICROLIGHT TYPE ACCEPTANCE DATA SHEET (TADS)

APPENDIX 1

S609  (i) Corrosion of airframe members and fasteners. The Weedhopper was not made with anodised tube. The tubes and fasteners must be inspected for corrosion. The tubes should preferably be pulled through with a wax or lanolin based anti-corrosion coating.
   (ii) Removal of plastic coatings from fittings

627  (i) Condition of sling seats
   (ii) Wear-enlargement of bolt-holes
   (iii) Axle-tubes

S901  (i) Deterioration of rubber engine-mounts
   (ii) Condition of engine-mounting system as whole
   (iii) Retention of spark-plug caps
   (iv) Axial alignment of propeller-hub with its shaft
   (v) Security of propeller-bolts
   (vi) Quality, length and shank-length of propeller-bolts
   (vii) Suitability and condition of propeller type
   (viii) Aluminium spacer-tubes in reduction-gear - where appropriate - replaced with steel spacers

S925  (i) Safe clearance of propeller 'arc' at all conditions of airframe and tyre deflection

S951  (i) Avoidance of potential vapour-locks by correct positioning of fuel lines

S959  Acceptability of unusable fuel in all tanks, for all flight condition

S967  Fuel-Tank Installation
   (i) Fuel-tank(s) stably in position and fixings unable to chafe or fracture
   (ii) Fuel pick-up unable to rise clear of fuel

S975  Fuel-Tank Vents
   Vents mounted so as to discharge clear of the aircraft

S1301 Equipment and Function
   The suitability, function and safe installation of equipment

ESSENTIAL MODIFICATIONS:
Before an Exemption can be issued for an individual Weedhopper, the following modifications must have been carried out:-

6
APPENDIX 1

(1) The original, aluminium-alloy wing-tangs must be replaced with stainless-steel ones.

(2) A self-alignment block must be fitted between each axle-end and the struts.

(3) Twin, parallel plates must be installed at the fuselage-axle clusters, to place the relevant bolts in double shear.

(4) If the control-column fouls the fuselage-frame at any position, a modified frame-attachment must be installed.

(5) The rear fuselage-members must be braced between the sub-fin brace and the two rear fuselage-braces.

(6) The control-column pivot-assembly must be locked, to prevent rotation.

(7) The original wing-struts must be replaced with larger diameter tubes, of 1.125 inch diameter x 17g or 1.500 inch x 20g seamless drawn HT30TF material.

(8) The tailplane-attachment brackets must be modified to incorporate a sleeved bolt, joining them to the U-brackets.

(9) A duplicate spacer must be introduced below the main bolt at the curved, upper ends of the fuselage-frame tubes, with a through-bolt holding the tubes together.

(10) The main axle must be replaced with a 1" 10swg T45 or 4130 steel tubular one, with a channel section over it to a) spread the load from the pilots seat, b) allow mounting of the control channels and seat without disruption of the axle and c) to avoid vertical holes in the main axle. This modification is drawn on sheet WH 3a, issued 25/5/94.

The alternative modification is to use 1" 10 swg T45 or 4130 steel stub axles fitting into 1 3/4" square HE30 aluminium blocks at least 60mm long. The blocks fit into a 2"x2" x1/8" wall extruded HE30TF box section. The inboard ends of the stub axles to be drilled 1/4" dia. not less than 25mm from the ends, and attached by a 1/4" AN bolt in double shear through the extrusion, block and axle. The scheme is described in a dimensioned sketch by type specialist P Lovegrove dated 26/5/94.

(11) Stops must be provided on the control system to prevent unsafe loads being put into it, and to prevent elevator/rudder contact at the extremes of movement.

DOCUMENTATION

Copies of the Weedhopper Owner's and Operators's Handbook, together with drawings for the required modifications, can be purchased from the BMAA Head Office, Bullring, Deddington, Nr Banbury, Oxon. OX15 0TT
Span - 8.54 m (28 ft)
Wing Area - 15.6 m² (167.8 ft²)
Max. Take-Off Weight - 209 kg (460 lb)
Max. Power - 35 HP
Stalling Speed - 23.4 kt (27 mph)

Weedhopper JC-24-B (Powered by Fusti: Robin EC-34-PL or Rotax 377)