

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM - 15 ISSUE: 5

TYPE HORNET DUAL TRAINER RAVEN

- (1) MANUFACTURER Original: Hornet Microlights Templeward
Continued Airworthiness: BMAA
Wing: Medway Microlights, Burrow's Lane, Middle Stoke,
Rochester, Kent, ME3 9RN
- (2) UK IMPORTER N/A
- (3) CERTIFICATION BCAR Section S: Advance issue March 1983
- (4) DEFINITION OF BASIC STANDARD General Assembly Drawing H-Dual-001, Issue 2 for the Hornet Trike and SI 3200 Issue 1 and Schedule Issue 1 for the Raven Wing
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | | |
|-----|--|--|
| (a) | MTOW | 343 kg |
| (b) | No. Seats | 2 |
| (c) | Maximum Wing Loading | 22.9 kg / m ² |
| (e) | Permitted range of pilot weights | 75 – 180 kg |
| (f) | Typical empty weight | 145 kg |
| (g) | ZFW + 172 kg crew + 1hrs fuel | 328 kg (447 engine)
336 kg (462 engine) |
| (h) | ZFW + 86 kg pilot + full fuel (25 litres, 18 kg) | 249 kg |
| (i) | Max allowed ZFW at initial permit issue ¹ | 160 kg (447 engine)
152 kg (462 engine) |

¹ The maximum ZFW is the lower of [(a)-172kg-1hrs fuel], or [(a)-86kg-full fuel].

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(6) POWERPLANTS

Designation	Hornet Dual Trainer Raven	Hornet Dual Trainer Raven
Engine Type	Rotax 447 Upright	Rotax 462 Upright
Reduction Gear	Rotax Gearbox 2.58:1	Rotax Gearbox 2.58:1
Exhaust System	Rotax with after-muff underslung	Rotax no after-muff underslung
Intake System	Rotax K&N intake	Rotax K&N intake
Propeller Type	Hornet	Hornet
Propeller Dia x Pitch	60" x 34" or 60" x 32"	62" x 42"
Noise Type Cert. No.	29M Issue 1	29M Issue 2
AAN Approving	19217(P)	19818(P)

(7) MANDATORY LIMITATIONS

- (A) Maximum Take-Off Weight 343 kg
- (B) Cockpit Loadings Min 75 kg (side by side)
Max 180 kg
- (C) Never Exceed Speed 100 mph IAS
- (D) Manoeuvring Speed 100 mph IAS
- (E) Permitted Manoeuvres Non-aerobatic
- (F) Fuel contents (max useable) 25 litres

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(G) Power Plant

See Table below

Engine	Rotax 447 Upright	Rotax 462 Upright
Max RPM	6500	6500
Max CHT	250 °C	180°C
Max EGT	N/A	N/A
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228, or 97+ octane MOGAS leaded fuel to BS 4040, or AVGAS 100LL	83 MON or 90 RON minimum unleaded to BS(EN)228, or 97+ octane MOGAS leaded fuel to BS 4040, or AVGAS 100LL
Engine Oil Spec	2-stroke	2-stroke
Gearbox Oil Spec	Gear oil SAE 140, API-GL5 or GL6	API-GL5 or GL6, SAE 140EP or 85W-140EP as temp requires
Fuel / Oil Mix	50:1	50:1
Max Oil Pressure	N/A	N/A
Min Oil Pressure	N/A	N/A
Oil Temperature	N/A	N/A

(8) INSTRUMENTS REQUIRED

ASI	Altimeter	RPM	EGT	Compass	Coolant Temp	CHT	Fuel Pressure	VSI
Required	Required (but may be worn on the pilot's wrist)	Optional	Optional	Optional	Optional		Optional	Optional

(9) CONTROL DEFLECTIONS

Conventional weightshift controls.

Pitch control up: 14” measured at nose of wing from level keel datum

Pitch control down: limited by pilot

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(10) PILOTS NOTES, MAINTENANCE MANUALS, REFERENCES:

10.1 Manuals approved for operators use with this aircraft

Hornet Dual Trainer Raven Operators Manual

10.2 The following placards are to be fitted.

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

See Annex D

(b) Engine Limitations Placard

See Annex D

(c) Fuel Limitations Placard

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: 600 fpm

Stall or minimum flying speed: 30 mph

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	23/3/86 Initial Issue J G Wraith
2	10/03/87 J D Watkins
3	21/11/94 W A Bevan
4	12/04/95 W A Bevan
5	08/07/03 Document revised to new format

J Barratt

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Illustration of Aircraft



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ANNEX A – MANDATORY MODIFICATIONS

CAA AD	MPD	Associated Material	Description
004-09-86	1995-008	Southdown International SB003 & SB004	Wing tuning and geometry adjustments
001-10-88	1995-010	Southdown International SB No S1006	Propeller attachment bolts MOD HR 110

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.

Mod no.	Subject	Status	AAN no.	Notes
HR-100	Kevlar Pod	Major	20187	Empty weight when installed = 147 kg
HR-101	Intake Support Bracket		-	
HR-102	Steering Link		-	
HR-107	Shortened Seat Base and Padding		-	
HR-108	Moving Control Frame 8” Rearwards		19868	No change in aircraft weight
HR-109	Rotax 462 LQ Engine: Upright Installation		19818	

NOTE: HR-100, -108 & -109 are automatically embodied on all Rotax 462 versions produced. Resultant empty weight = 149 kg.

ANNEX C – WEIGHING INFORMATION

1. Weighing Attitude: Unimportant. Trike and wing may be weighed separately if required.
2. Crew Weights: Minimum 75 kg. Maximum 90 kg per seat. (Maximum reducible, not below 86kg, if required)
3. Fuel load: 25 litres
4. MTOW 343 kg

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ANNEX D - PLACARDS

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

Max take-off weight not to exceed 343 kg
Cockpit loadings must be between 75 and 180 kg
V_{NE} 100 mph IAS
V_A 100 mph IAS
Non-aerobatic

(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)

A placard is to be fitted showing fuel capacity, fuel type(s), fuel : oil ratio (if relevant) and if MTOW can be exceeded with full fuel and 180kg cockpit weight, the fuel loads at MTOW for cockpit weights of 180kg / 170kg etc. at no more than 10kg intervals down to the maximum fuel load.

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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. The forward hang point position is not to be used on the Raven wing due to restricted forward bar movements and Hornet Microlights should have blocked this position off before delivery.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.