



MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-87 ISSUE: 1

- TYPE: **HYPER GTR**
- (1) MANUFACTURER: P&M Aviation Ltd, Elm Tree Park, Manton, Marlborough
SN81PS
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: BCAR Section S Issue 6
- (4) DEFINITION OF BASIC STANDARD: AAN BMAA-1080, drawing schedules ref:
Wing – GTR WINGSCHED2 19/1/2017
Trike – HYPETRTRIKE SCHED1 22/2/2017
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | |
|---|--|
| (a) MTOW | 472.5 kg
(450 kg without parachute) |
| (b) No. Seats | 2 |
| (c) Maximum Wing Loading | 36 kg/m ² |
| (d) Vso | 39 mph CAS |
| (e) Permitted range of pilot weights | 55-110 kg front seat.
0-110 kg rear seat. |
| Total Maximum crew weight | 220 kg |
| (f) Typical Empty Weight (ZFW) | 260 kg
(248 kg without parachute) |
| (g) ZFW + 172 kg crew + 1 hr fuel
(18litres /13 kg) | 445 kg |
| (h) ZFW + 86 kg pilot + full fuel
(65litres /47 kg) | 393 kg |
| (i) Max ZFW at initial permit issue | 287.5 kg
(265 kg without parachute) |

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(6) POWER PLANTS

Designation	Rotax 912 ULS			
Engine Type	4 cylinder 4 stroke			
Reduction Gear	2.43:1 gearbox			
Exhaust System	CKT Twin Exhaust			
Intake System	K&N intake filter With Skydrive carb body heater			
Propeller Type	Warp Drive			
Propeller Dia x Pitch	172 cm dia. 16° at tip			
Noise Type Cert No.	187M Issue 6			
AAN approving configuration	AAN BMAA-1080 Issue 2			

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(7) MANDATORY LIMITATIONS:

(A) Max Take-Off Weight	450 kg			
(B) CG Limits	472.5 kg (with airframe parachute)			
	N/A not critical; flex-wing with predefined hang point position on the keel.			
(C) CG datum	Nosewheel axle.			
(D) Cockpit Loadings (solo front seat only)	Front	Rear	Total	
	Min	0	55kg	55kg
	Max	110kg	110kg	220kg
(E) Never Exceed Speed	120 mph IAS			
(F) Manoeuvring Speed	90 mph IAS			
(G) Permitted Manoeuvres	45° Nose up / 45° nose down			
	Non-Aerobatic, max bank 60°			
	Normal acceleration limits, +4 / -0g			
(H) Fuel Contents (Max Useable)	63.4 L (65 L capacity)			

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(I) Power Plant see table

Engine	Rotax 912 ULS			
Max RPM	5800 max 5 min. 5500 max cont.			
MAX EGT	880°C			
Fuel Spec	95 RON minimum unleaded to BS(EN)228 or AVGAS 100LL.*			
Engine Oil Spec	API - SG semi synthetic 4 stroke motorcycle engine oil.			
Gearbox oil spec	Common supply with engine			
Fuel/Oil Mix	N/A			
Coolant Temperature	120°C			
Oil Pressure	Normal: 2-5 bar above 3500 rpm Max: 7 bar Min: 0.8 bar below 3500 rpm			
Oil Temperature	50-130°C			
Fuel Pressure	0.15-0.5 bar			

(II) *Unleaded preferred. See flight manual for limitations on AVGAS.

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	EGT	Compass	Coolant Temp	Oil Temp	Oil Pressure	Fuel Pressure	VSI
Required 0-150 mph	Required 0-20,000 ft	Required 0-6000	Optional 0-1000 °C	Optional	Required 0-150 °C	Required 0-150 °C	Required 0-8 bar	Optional	Optional

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CONTROL DEFLECTIONS:

N/A weight shift control limits defined by structure geometry.

Control bar move right	=	roll left
Control bar push out	=	pitch up
Trim switch up	=	slow trim
Push left pedal	=	taxi steering right
Push left toe	=	brakes on
Push right toe	=	throttle open
Hand throttle forward	=	throttle open
Ignition switches up	=	switch on
Choke forward	=	choke on
Tap aligned with body	=	fuel on

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

10.1 Manuals approved for use with this aircraft.

- (a) HYPER- GTR Operator's manual issue 1.0 (or later approved issue)
- (b) Rotax 912ULS Operator's Manual
- (c) Rotax 912ULS Maintenance Manuals

10.2 The following 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)

N/A limitations are marked as red lines on instrument faces, or programmed into electronic instruments

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

See Annex D.

(d) Switches

See Annex D.

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

None.

Annual Bettsometer test with a 1.2mm diameter needle, with wing sails fitted and tensioned to flight is to be carried out to:

Upper & lower surface: 1000 grammes.

Stitches: 1360 grammes using a minimum 1mm diameter hook, pull upwards.

Technora trailing edge reinforcement: 8kgf through 1 cord, tested un-tensioned.

(12) MINIMUM ISA PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 1000fpm at 60mph IAS (912ULS engine)

Stall or Minimum Flying Speed: 37 mph IAS (39 mph CAS) at MTOW / idle.

Issue History

Issue No.

Reason and signatory

1

Initial Issue


N J Davis

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ANNEX A – MANDATORY MODIFICATIONS/SERVICE BULLETINS

Service Bulletins:

Nil

CAA Mandatory modifications:

Nil

P&M compulsory modifications:

Nil

ANNEX B - APPROVED OPTIONAL MODIFICATIONS

Mod Ref	Description	Issued
M302-1	BRS canister parachute	Not approved at this issue.
M302-2	Landing light	19/01/17
M302-3	EFIS&EMS instruments	19/01/17
M302-4	TRIG radio & xpondr fit	19/01/17
PG371	Instructor bars	03/10/02
M157	Standard GPS & Power socket	12/01/06
M224	Avio or Whelen LED position & strobe lights	15/10/08
M315	Reduced sail tension (and trailing-edge shift cable deletion)	16/05/17

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.

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ANNEX C

WEIGHING INFORMATION

The table below is a guide only. Empty weights include unusable fuel, full oil, electrolyte and prepared ready for flight.

ITEM WEIGHT kg	
HYPER Trike	198
GTR wing only	60

OPTIONAL ITEMS

CONTROL BAR PROTECTION (2)	0.05
FRONT STRUT PROTECTION	0.04
LYNX ANTENNA	0.19
LYNX FILTER, POWER INT, PTT	0.81
INSTRUCTOR BARS	2.4
ICOM HAND HELD RADIO	0.3

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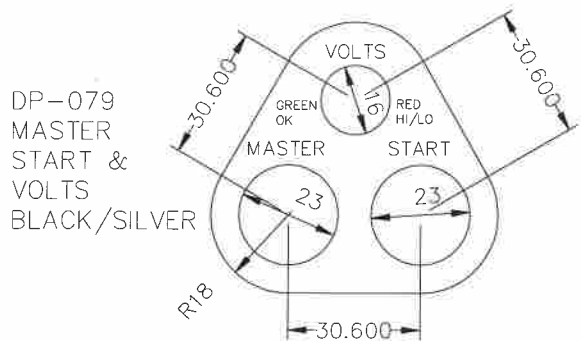
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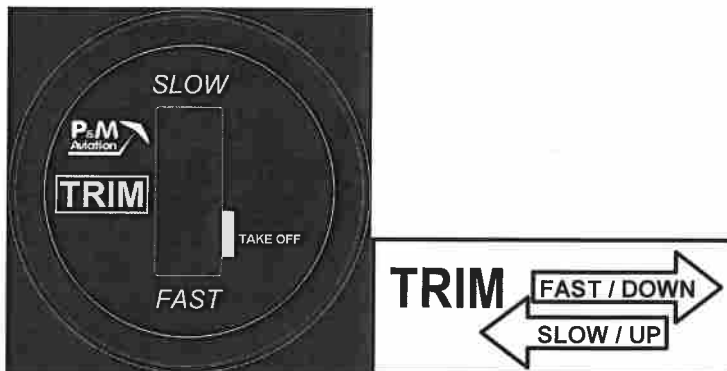
ANNEX D

EXAMPLE PLACARDS

Title	Location
Flight Limitations:	On LH wing upright
Engine Limitations:	On panel
Aircraft Weights:	On basetube
Baggage Limitations:	On baggage container
Fuel Type, Capacity and Mix Ratio:	On RH side panel
Fuel Cock On/Off Positions:	On engine cover
Ignition Switch On/Off Positions:	On RH side panel
Propeller Pitch Setting:	On engine cover
Hand Throttle:	On LH side panel
Wiring Loom Disconnection Warning:	On engine cover or engine mount
Trimmer Setting:	On trim switch (electric trim) On trim display (electric trim)
Tip Turn Adjusters:	On leading edge tube tips
Latch Locking:	On engine cover next to latch
Oil Type and Quantity:	On engine cover
Propeller Pitch:	On engine cover
Fuel Load Limitations:	In the cockpit



TRIM INDICATOR AND TRIM SWITCH PLACARDS



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MAIN PLACARD

P&M AVIATION

HYPER- GTR

FLIGHT LIMITATIONS

MANOEUVRING SPD 90MPH
NEVER EXCEED V_{ne} 120MPH
MAX CROSS WIND 12MPH

ENGINE LIMITATIONS

MAX OIL PRESSURE 7 BAR
MIN OIL PRESSURE 1.5 BAR
MAX OIL TEMP (912S) 130 DegC
MIN OIL TEMP 50 DegC
MAX COOLANT (912S) 120 DegC

MAX CONT RPM 5500
MAX RPM 5800

PAYLOAD LIMITATIONS

MAX. TAKE OFF WEIGHT 450KG
WITH PARACHUTE 472.5KG
MAX. COCKPIT LOAD 220KG
MAX. P1 LOAD 110KG
MAX PASSENGER LOAD 110KG
MIN P1 LOAD 55KG

DO NOT EXCEED MAX. LOAD

WARNING

MINIMUM FULL POWER CLIMB SPEED 50 MPH
DO NOT EXCEED 60 DEGREES ANGLE OF BANK
THIS AIRCRAFT IS NON-AEROBATIC
NO WHIPSTALLS, WINGOVERS, TAILSLIDES, LOOPS,
ROLLS OR SPINS
NO NEGATIVE G
MAINTAIN POITIVE 'G' LOADING AT ALL TIMES
FLY SOLO FROM FRONT SEAT ONLY

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MISCELLANEOUS PLACARDS. IGNITION SWITCH PLACARD IS SPLIT AND USED FOR BOTH MAG SWITCHES.

