

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM 10 ISSUE:5

- TYPE: Pegasus Flash
- (1) MANUFACTURER: Solar Wings Ltd, now supported by P & M Aviation Ltd,
Unit B, Crawford St, Rochdale, Lancashire OL16 5NU
- (2) UK IMPORTER: N/A
- (3) CERTIFICATION: Section S Issue: Advance Issue March 1983 list of section S
Blue papers and additional CAA Requirements Nil
- (4) DEFINITION OF
BASIC STANDARD: Solar Wings Modification No 0002 SW/405/6
- (5) COMPLIANCE WITH THE MICROLIGHT DEFINITION
- | | |
|--|-----------------------|
| (a) MTOW | 344kg |
| (b) No. Seats | 2 |
| (c) Maximum Wing Loading | 22.1kg/m ² |
| (d) V _{so} | 28mph CAS |
| (e) Permitted range of pilot weights | 55-90 kg per seat. |
| (f) Typical Empty Weight (ZFW) | 150Kg |
| (g) ZFW + 172 kg crew + 1 hr fuel
(16litres /12kg) | 334 kg |
| (h) ZFW + 86 kg pilot + full fuel
(24 litres / 17 kg) | 253 kg |
| (i) Max ZFW at initial permit issue | 160 kg |

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(6) POWER PLANTS

Designation	<i>Pegasus Flash</i>			
Engine Type	<i>Rotax 447</i>			
Reduction Gear	<i>2.58:1</i>			
Exhaust System	<i>Rotax</i>			
Intake System	<i>Rotax intake silencer with K&N filter</i>			
Propeller Type	<i>Newton</i>			
Propeller Dia x Pitch	<i>62" x 38"</i>			
Noise Type Cert No.	<i>19M</i>			
AAN approving configuration	<i>19641P</i>			

(7) MANDATORY LIMITATIONS:

- | (A) Max Take-Off Weight | 344kg | | | | | | | | | | | | |
|---------------------------------|--|-----------|-------|-----------|-------|-----|------|---|------|-----|------|------|------|
| (B) CG Limits | N/A | | | | | | | | | | | | |
| (C) CG datum | Front Wheel axle
(see annex C). | | | | | | | | | | | | |
| (D) Cockpit Loadings | <table> <thead> <tr> <th></th> <th>Port</th> <th>Starboard</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Min</td> <td>70kg</td> <td>-</td> <td>70kg</td> </tr> <tr> <td>Max</td> <td>90kg</td> <td>90kg</td> <td>90kg</td> </tr> </tbody> </table> | | Port | Starboard | Total | Min | 70kg | - | 70kg | Max | 90kg | 90kg | 90kg |
| | Port | Starboard | Total | | | | | | | | | | |
| Min | 70kg | - | 70kg | | | | | | | | | | |
| Max | 90kg | 90kg | 90kg | | | | | | | | | | |
| (E) Never Exceed Speed | 89mph | | | | | | | | | | | | |
| (F) Manoeuvring Speed | 89mph | | | | | | | | | | | | |
| (G) Permitted Manoeuvres | 30° Nose up / 30° nose down
45° Max bank angle
Non Aerobatic
Normal acceleration flight limits,
+4 / -0g | | | | | | | | | | | | |
| (H) Fuel Contents (Max Useable) | 24 litres | | | | | | | | | | | | |

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(I) Power Plant See Table

Engine	Rotax 447			
Max RPM	6800 6500 contin			
MAX CHT	250 ⁰ C			
MAX EGT	650 ⁰ C			
Fuel Spec	83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star /MOGAS leaded fuel to BS 4040, or AVGAS 100LL.			
Engine Oil Spec	Non-dterg 2 stroke self mix			
Gearbox oil spec	EP90, API-GL3 or higher			
Fuel/Oil Mix	50:1			
Coolant Temperature	N/A			
Oil Pressure	N/A			
Oil Temperature	N/A			
Fuel Pressure	0.2-0.4 bar			

(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	CHT / EGT	Compass	Coolant temp	Fuel Pressure	VSI	Slip ball
Required (to 100 mph min.)	Required (may be wrist type)	Optional	Optional	Optional	Optional	Optional	Optional	Optional

(9) CONTROL DEFLECTIONS: (trikes)

Conditions - trike on level surface Wing At Zero Keel Incidence
 Roll - $\pm 21^{\circ}$
 Pitch - 13.5° total from front strut to seat structure.

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

10.1 Manuals approved for use with this aircraft.

(a) SW-4060-3

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)

See Annex D.

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

A placard is to be fitted showing fuel capacity, fuel types and fuel:oil ratio. An example is shown at Annex D. If MTOW can be exceeded with full fuel and maximum cockpit weight, the fuel loads at MTOW for fuel capacity in increments of 10 litres intervals down to the maximum fuel load. An example is shown at Annex D.

(d) Switches

See Annex D.

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

a) See Annex A for required modifications.

b) Service Bulletins

<u>Bulletin No</u>	<u>Title</u>	<u>Notes</u>	<u>Date</u>
0002	Fuel system cleaning/ inspection	Mandatory	06-07-86
0003	Westach instrument wiring	Advisory	26-2-87
0004	Throttle stop	Advisory	29-4-87
0005	Front fork bolt	Advisory	29-4-87
0006	Front forks	Advisory	29-4-87
0007	Securing ring on nose pin	Advisory	29-4-87
0008	Spark plug caps	Advisory	26-2-87
0010	Brake mod 0016, 0017	Advisory	14-4-87
0011	New fuel tank mod. 08, 09	Advisory	14-4-87
0012	Improved fuel system mod 10, 11	Advisory	14-4-87
0014	Improved vent system	Compulsory	29/4/87
0015	Exhaust system	Advisory	29/4/87
0025	Flight Limitations	Mandatory	07-10-89
0029	Tyre Pressures	Advisory	20-1-91
0109	Component life extension	Advisory	21-3-02

Annual Bettsometer test is to be carried out to 1050 grammes with wing sails fitted and tensioned to flight. Test must be to both upper and lower surfaces.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 594 fpm at 40mph IAS.

Stall or Minimum Flying Speed: 28mph IAS at MTOW / idle.

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Issue History

<u>Issue No.</u>	<u>Reason and signatory</u>
1	04/12/85 Initial issue W A BEVAN
2	28/10/86 W A BEVAN
3	07/02/91 K D RUSSELL
4	31/03/03 New format
5.	06/07/05 J BARRATT New company name J Barratt

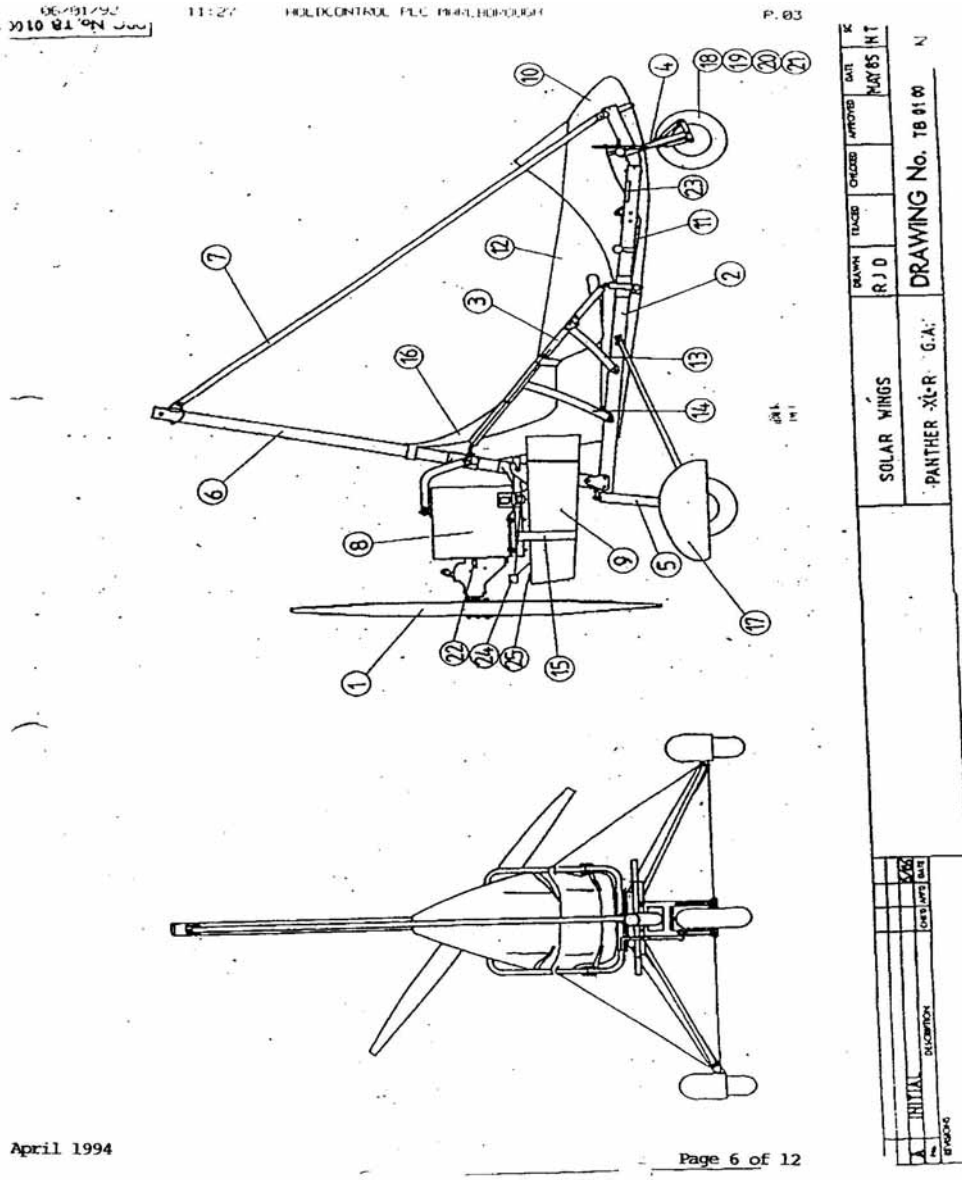
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Illustration of Aircraft - 3 View – Pegasus Flash

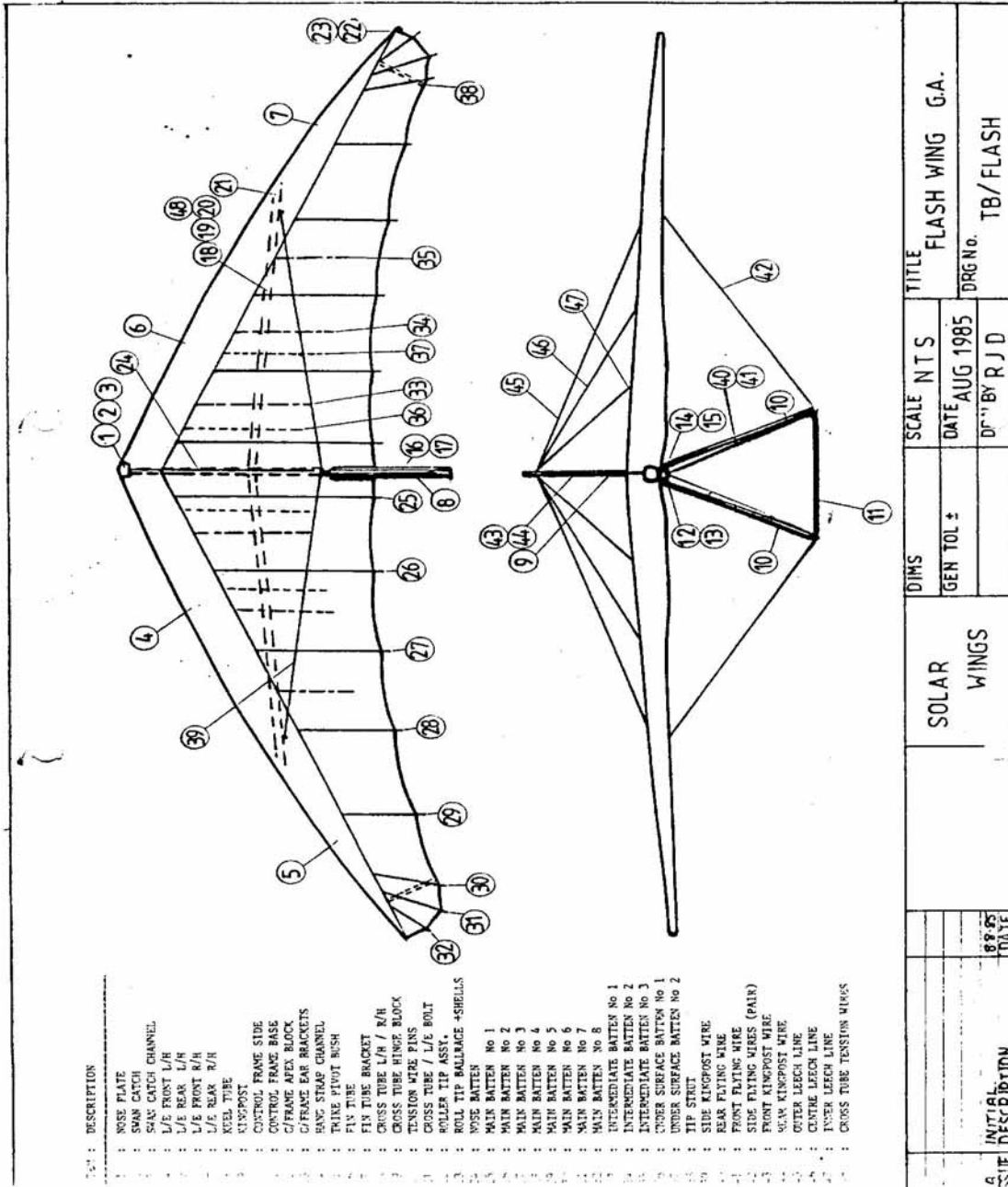
(XL-R trike is identical except for the Flash wing adapter ring on the top of the pylon)



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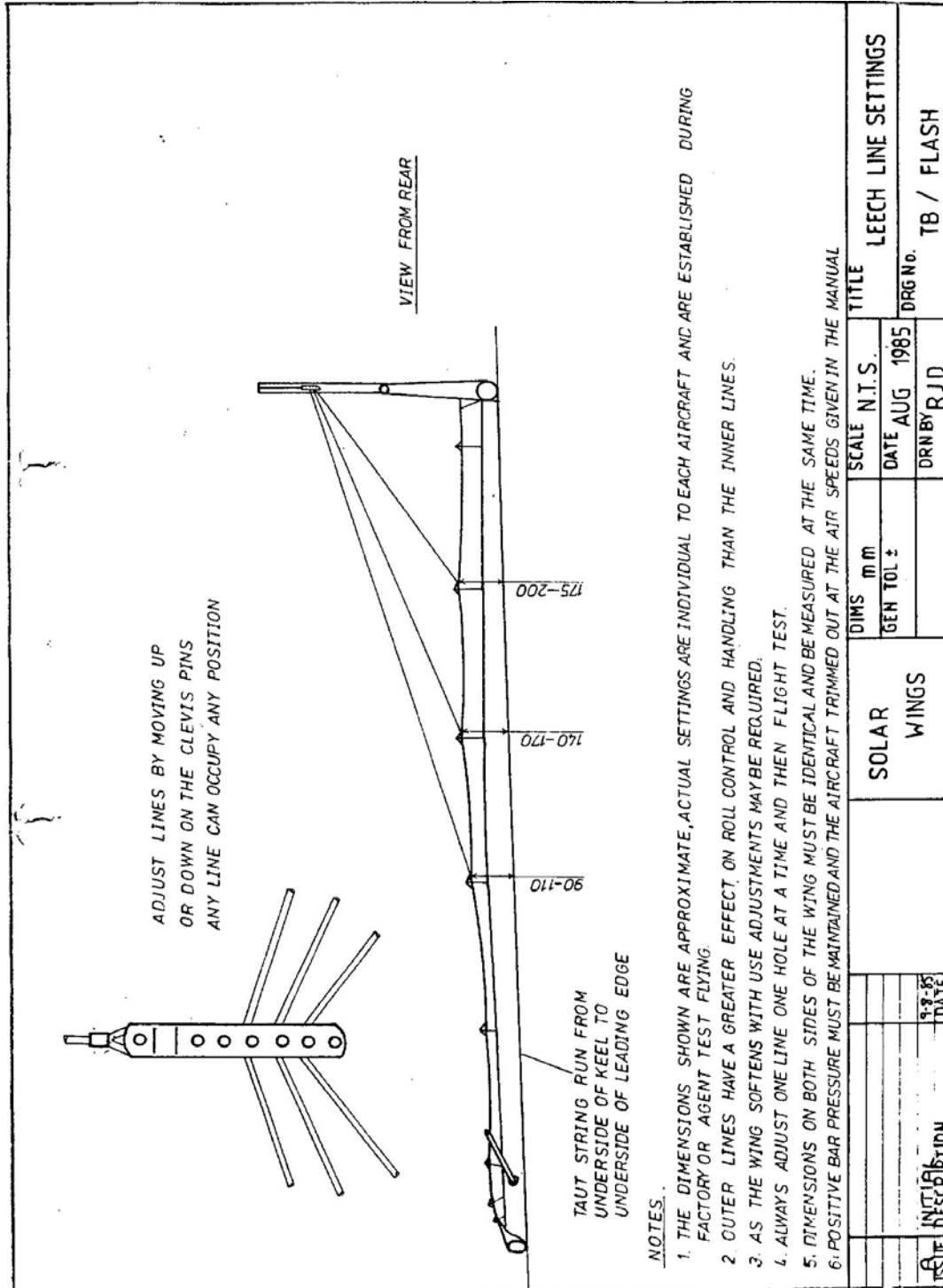


SOLAR WINGS	DIMS GEN TOL ±	SCALE	NTS	TITLE
		DATE	AUG 1985	FLASH WING G.A.
INITIAL	85.05	DRGN. n.	BY R J D	TB/FLASH
DATE				

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ANNEX A – MANDATORY MODIFICATIONS

Mod ref.	Description	Notes	Issued
0018	Fuel tank breather	Mandatory	30/3/89

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 ref.	Description	Notes	Issued
SW003	Fitting of Flash 2 wing	Optional	28/2/89
SW0016	Fitting of front brake	Optional	1/11/88
SW0045	Brake reinforcement	To increase life of brake	14/2/90

ANNEX C

WEIGHING INFORMATION

1. The CG of the trike is not critical as it only affects the speed range, not the trim.
2. No significant masses should be attached to the wing.
3. Empty weight of the whole aircraft must not exceed 160kg.

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ANNEX D

EXAMPLE PLACARDS

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

SOLAR WINGS LTD
MARKBOROUGH WILTS BA72-84114

MODEL PEGASUS FLASH

FLIGHT LIMITATIONS

MAXIMUM AVAILABLE PAYLOAD 180 Kg.

MINIMUM PAYLOAD 71 Kg.

DO NOT EXCEED V_{ne} 89 MPH

DO NOT PITCH NOSE DOWN OR NOSE UP MORE THAN 30 DEGREES FROM HORIZONTAL OR EXCEED 60 DEGREES ANGLE OF BANK.

FLY SOLO FROM FRONT SEAT ONLY

NO NEGATIVE g OR AEROBATIC MANOEUVRES

NO WHIPSTALLS

NO STALLED SPIRAL DESCENTS

ENGINE LIMITATIONS

FUEL MIXTURE RATIO 50:1

AIRCRAFT WEIGHTS

DRY EMPTY WEIGHT 145.0 Kg.

MAXIMUM TAKE OFF WEIGHT 344.0 Kg.

WING SERIAL No:--

TRIKE SERIAL No:--

NOTE - PRINT TO BE BLACK, BACKGROUND TO BE YELLOW

NOTE - DETAILS TO BE ADDED USING A TYPEWRITER - SET TO STENCIL

NOTE - ACTUAL SIZE 70x150 mm

MATERIAL - ALUMINIUM FOIL,
 PRINTED WITH - FUEL RESISTANT EPOXY INK
 ADHESIVE BACKED

	SCALE	N.T.S.	DATE	Aug-1985
			DRN. BY	RJD
			TITLE - MAIN PLACARD	
			DRG. No. TB-01-07	
A	INITIAL	S/B5	DATE	
ISSUE	DESCRIPTION	DATE		

(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.

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(c) Fuel Limitations Vs Max Cockpit Load Placard (to be visible to the pilot)

Only required if max cockpit load, full fuel and ZFW can exceed Max A UW

Empty Wt Date	Kg
Fuel Load (litres)	Max Cockpit Wt (kg)
65	
55	
45	
35	
25	
15	
5	

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

There must also be a fuel cock on/off placard fitted.

<p style="text-align: center;">FUEL Capacity 24 Litres (50:1 2 Stroke oil) 83 MON or 90 RON minimum unleaded to BS(EN)228 or 97+ octane 4-star / MOGAS leaded fuel to BS 4040, or AVGAS 100LL</p>
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(e) Switches

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