

STANDARD MINOR MODIFICATION – SIMPLE FLEXWING STROBE
INSTALLATIONS

1. Introduction

- 1.1 Although not mandatory, strobes offer a significant safety benefit for microlight aircraft when flying in marginal visibility or poor light conditions. Nonetheless, poorly fitted strobes can endanger an aircraft and thus formal approval of strobe installations is a legal requirement.
- 1.2 This leaflet contains the required information to permit straightforward fitment of strobes to a flexwing microlight aeroplane. For simplicity, and to avoid potentially time consuming and expensive flight testing, only certain ways are permitted by this TIL. Aircraft operators wanting to seek another way of fitting strobes to their aircraft should refer to other BMAA TILs for guidance.

2. Applicability

This TIL applies single or 2-part strobes being fitted to all weightshift microlights. The only acceptable position for strobe lamps within this TIL are on the spats, kingpost and below the pod (or for podless aircraft, below the trike keel).

3. Safety Precautions

- 3.1 In order to prevent undesirable medical effects (such as vertigo or epileptic attacks), the light(s) must be located such that they are not in, or could be reflected off the aircraft into, the normal or peripheral vision of the pilot or passenger.
- 3.2 Instructions must be inserted in the aircraft handbook describing this hazard, and requiring strobe systems to be turned OFF should reflection from cloud or other features bring the flashing into view.
- 3.3 An ON/OFF switch must be easily accessible to the pilot in flight.
- 3.4 The ON/OFF switch must be placarded giving its function and sense of operation. (Also it must be orientated down=off).
- 3.5 A fuse or circuit breaker of suitable rating must be installed.
- 3.6 The system must meet all requirements for operation and installation made by the manufacturer or supplier.
- 3.7 The system must be tested and shown not to interfere with VHF radio.
- 3.8 The system must be secure and mechanically robust.
- 3.9 No hot or electrically charged parts of the system must create a fire risk, e.g. by being positioned close to parts of the fuel system.

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4. What To Do Once You Have Fitted Your Strobes.

- 4.1 In conjunction with your inspector, fill in the form on page 3 of this TIL, and return it to the BMAA. The BMAA will return this form to you, with the full modification approval number shown at the bottom of the page. This mod number must then be entered in the aircraft logbook, and the completed form must be retained with the aircraft records.
- 4.2 It is acceptable to send in the form with your permit renewal form, noting in the modifications box “TIL 106 submitted”.

Prepared by:

Approved for Issue:



R Mott
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Chief Technical Officer
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BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

TECHNICAL INFORMATION LEAFLET

NO: 106

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BMAA – STANDARD MINOR MODIFICATION CHECKLIST: TIL 106

Reg: G- _ _ _ _	Aircraft type:	Serial No:
Strobes make:	Type: Zenon/LED <i>Delete as appropriate</i>	Model:
Owners name:	Owners BMAA No:	

Safety Checks

<u>CHECK</u>	<u>ACTION</u>	<u>COMMENTS</u>	<u>Inspector's initials</u>
<i>1 Equipment being fitted</i>			
1.1	General condition		
1.2	Manufacturers manuals		
1.3	Location – confirm upper strobe (if fitted) on kingpost		
1.4	Location – confirm lower strobe (if fitted) below pod / keel / spat (1)		
<i>2. Mechanical security</i>			
2.1	General security		
2.2	Weight being added (see below)		

	<u>Lower strobe</u>	<u>Upper strobe</u>	<u>Power supply</u>	<u>Cabling</u>	<u>Total</u>
<u>Weight</u>	kg	kg	kg	kg	kg
Test to 9 x weight fwds, confirm secure					
Test to 4½ x weight downwards, confirm secure					
Test to 3 x weight sideways, confirm secure					

2.3	Weight reports in logbook / manual / placards must be adjusted.		
<i>3. Electrical Condition</i>			
3.1	Confirm all installations as per manufacturers instructions		
3.2	Cable type suitable for purpose (see note 2) and properly secured		
3.3	All cable terminations properly made, no exposed conductor.		
3.4	Adequate cable flexibility		
3.5	Switch type correct(see note 3)		
3.6	Switch accessible in flight		
3.7	Switch secure and down=off.		
3.8	Correct fuse (see note 4)		
3.9	(If upper lamp fitted) locking quick-release plug & socket for re-rigging.		

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<i>4. Location - safety issues</i>		<u>COMMENTS</u>	<u>Inspector's initials</u>
4.1	Confirm lamps not visible to occupants or reflected from aircraft to eye positions.		
4.2	No component which is hot when running (see note 5) may be within 450mm (18") of any fuel system component, or within 150mm (6") of any fabric, electronics or other temperature sensitive materials.		
4.3	No "hot" component, power supply or cable connection may be below a fuel filler or drain.		
<i>5. Operational Checks</i>			
5.1	Intercom/Radio interference checked (see note 6)		
5.2	Flash frequency between 40 and 100 per minute		
5.3	Light output sufficient to be useful.		
<i>6. Miscellaneous</i>			
6.1	Switch placarded		
6.2	Warning and operating information in aircraft manual.		

OWNER'S DECLARATION

I declare that the foregoing information is correct to the best of my knowledge and I will not change the installation design once approved.

Signed:	Name:	Date:
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INSPECTOR'S DECLARATION

I declare that the foregoing information is correct and the installation is fit to be flown.

Signed:	BMAA Inspector #: BMAA Member #:	Date:
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**This form must be sent with payment as per current fees in MF or www.bmaa.org to:-
BMAA, The Bullring, Deddington, Banbury, Oxon, OX15 0TT**

BMAA Office Approval:	(signed)	(Name)
Mod No.: G-_____ / TIL106 / 20 __ / _____		(Date)

**Whilst waiting for this form to be returned by the BMAA the aircraft may be flown for upto one calendar month from the Inspection date above. Once this form is returned to you signed please enter the full modification approval number above in your aircraft logbook and retain this sheet with your aircraft records.*

Notes

- 1 Cabling around or via the Spat must have sufficient slack to allow removal or a quick release connector.
- 2 All cables and components must be suitable for the current drain and be weatherproof.
- 3 The switch rating must be at-least 5A at 250V.
- 4 The primary supply must be protected, close to it's source, by a fuse or contact breaker rated in accordance with manufacturers instructions. If no information is available fuse should be between 1.5 and 2.0 times (voltage x maximum current draw).
- 5 Hot is defined as any component which whilst running is not comfortable to leave a hand resting against.
- 6 Interference with onboard intercom systems and radios must be checked. This should be carried out with and without the engine running and at all engine powers, ensure safety procedures are in place. Carry out a listening check at radio frequencies of 7MHz intervals. The squelch may be set before testing begins to eliminate any ambient static. Any interference heard should not be loud enough to cause undue discomfort to the pilot.