
STANDARD MINOR MODIFICATION – TRIKE PANNIERS

Introduction

This leaflet contains the required information to permit straightforward fitment of panniers to a flexwing (weightshift) microlight aeroplane.

It permits only certain ways of doing this. This is because these ways are known to be straightforward, risk and hassle free. This doesn't mean that there aren't other ways of fitting panniers or baggage carriers to a trike, but if you wish to do it in another way, this must be done through a more conventional mod application (at slightly greater cost) and more information that is required here may be requested by the BMAA technical office.

Notwithstanding the simple approach taken by this TIL, it is the aircraft owner's responsibility to ensure that all materials used in a modification are of adequate quality, that proper aircraft engineering standards are applied, that this modification does not create any safety problem when combined with any other modification to the aircraft, and that no relevant information has been withheld from the BMAA or inspector.

Permitted Options

- 1 Panniers
 - 1.1 The manufacturer and model must be known.
- 2 Location and fixing
 - 2.1 There must be two panniers, one fixed to either side of the trike.
 - 2.2 The panniers must be fixed, with at least 3 straps: two at the top and one at the bottom, to the trike frame

Essential Safety Checks

- 1 Pannier Limitations
 - 1.1 Each pannier must be placarded with the maximum permitted load (e.g. MAXIMUM LOAD 10KG). This may not exceed 15kg for each pannier. A stencil and "magic marker" are an acceptable means of placarding panniers.
 - 1.2 Each pannier must be top-closing, so that items, however small, cannot come out without the pannier being deliberately opened.
- 2 Strength
 - 2.1 A load test, using scales or a spring balance to 9 times the maximum placarded pannier weight forwards, 4.5 times up and down, 3 times to port and starboard must be carried out.
 - 2.2 If made from fabric, the pannier must pass a Betts test at 1360 grammes.
- 3 Interference with the rest of the aircraft
 - 3.1 The panniers must not be able to touch the exhaust.
 - 3.2 The pannier straps, even when any one strap is undone, must not be long enough to touch the propeller or (if used) reduction belt.
 - 3.3 When secured, the panniers must be firmly attached, so that they can't chafe against any part of the aircraft.
 - 3.4 The panniers must not pass over engine throttle or choke cables, or any fuel lines.
 - 3.5 The exhaust mustn't point at either pannier.
 - 3.6 The total presented forward area of the panniers must not exceed 0.6m².

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION

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- 4 Placard and Manual
- 4.1 A placard must be fitted in the cockpit as shown in figure 1 below.
- 4.2 The fitting instructions for the panniers, must be attached as an Annex to the aircraft operators manual.
- 5 Flight Test
- 5.1 A check flight, to schedule BMAA/AW/011 must be carried out by a BMAA Check Pilot with the Panniers fitted, at MTOW with the maximum permitted loads carried in the panniers.
- 5.2 The time to 1000ft with the panniers fitted, flying at MTOW, mustn't be greater than 4 minutes.

It is acceptable to send in the form with your permit renewal form, noting in the modifications box 'TIL 103 submitted'.

Prepared by:

Approved for Issue:



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Airworthiness Engineer
British Microlight Aircraft Association

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Chief Technical Officer
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Figure 1, Mandatory Placard

PANNIERS - CAUTION

- When panniers are fitted, it is the pilots responsibility not to exceed MTOW.
- Check panniers are secure and closed before flight.
- Panniers may significantly increase drag, fuel consumption and take-off distances, while reducing climb rate.

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BMAA - STANDARD MINOR MOD APPROVAL CHECKLIST: TIL 103

Reg:	Type:
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Item	Installation Details <i>Items in italics are not optional, and must be met</i>	Inspectors Initials
1. Panniers	Manufacturer / Supplier:	
	Model:	
2. Location and Fixing	<i>One Pannier Either Side of Trike</i> Number of Straps: (At least 3)	

Item	Mandatory Safety Checks - Ground			Inspectors Initials
1. Pannier Limitations	Max Load: _ . _ kg (max 15 kg)	<i>Maximum Load Placarded</i>	<i>Secure Top Closure</i>	
2. Strength	<i>Load Tested</i>		<i>Betts Tested</i>	
3. Interference	<i>Panniers can't touch exhaust</i>	<i>Straps can't reach prop when undone</i>	<i>Panniers can't chafe on aircraft</i>	
	<i>No interference with engine cables or fuel lines</i>	<i>Exhaust does not point at panniers</i>	<i>Presented Frontal Area:</i> _ _ _ (max 0.6 m ²)	
4. Placards and Manual	<i>Warning Placard fitted in cockpit</i>		<i>Fitting instructions inserted in manual</i>	

Signature block and Flight Release Certificate			
All information on this sheet is complete and correct. The aircraft is fit for a check flight.	Signed:	BMAA Inspector No.	BMAA No.
	Date:		
	Signed:	Owner (name)	BMAA No.
	Date:		

The aircraft may now be check flown by a BMAA Check Pilot within 1 calendar month of the inspector's signature

Check Pilots Confirmation	
I have flown this aircraft at MTOW, with the panniers carrying their maximum permitted load, to schedule BMAA/AW/011. Handling and performance were acceptable and typical of the type. The panniers did not interfere with flight or try to work loose. The time to 1000ft from take-off was ___ minutes ___ seconds (must not exceed 4 minutes).	
Signed:	BMAA No:
Date	Check Pilot No:

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-_____ / TIL103 / 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.*