



# **AIRWORTHINESS UNDER EASA PART M**

## **BGA GUIDANCE FOR GLIDER, SLMG and TUG OWNERS**

**Version 1.1 December 2008**

These guidance notes are designed to help owners to understand how the BGA airworthiness organisation will operate under the EASA Part M airworthiness requirements that will apply in full to gliders from May 2009 and to powered aircraft in January 2009.

As the CAA clarifies its approach to Part M oversight of glider maintenance during the early part of 2009, developments may occur that will result in changes to this information. Please stay close to the BGA website for further advice.

If you own an EASA glider and have therefore made the transition, you have done the hard bit. Your glider complies with EASA requirements recognised across Europe. The following text, in Q&A style, aims to help you understand how you and the BGA working in partnership will keep your glider compliant with EASA airworthiness requirements at minimum cost. Please don't try to absorb all the information in one sitting!

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December 2008

## **Part M - the new airworthiness process from EASA**

Airworthiness is now subject to a European regulatory process – Part M. This involves a working partnership between you the owner, the BGA and the CAA. Which means, fundamentally, that the CAA is responsible for interpreting and applying EASA regulation, the BGA delivers and manages the airworthiness function through its inspectors and, most importantly, you the owner maintains control of and continues to take responsibility for ensuring that your glider is airworthy.

The good news is that the ongoing leadership and active involvement of the BGA in glider, SLMG and Tug airworthiness will continue to keep the impact of airworthiness regulation to a minimum in the best interests of gliding. Please be aware that Part M is new to everyone – we all need to expect some teething troubles as we head into 2009, and particularly in the first few months.

This document aims to explain to you how Part M airworthiness requirements will affect you and how the BGA will continue to work with you and your BGA inspector as your airworthiness partner offering the best possible service to keep your glider legally airworthy and safe with the minimum cost and bureaucracy.

In charging owners within gliding for airworthiness, the BGA will continue to only seek to recover its costs and those costs will be kept to a minimum. The BGA does not seek to generate a profit from its airworthiness activities. You will be quick to spot that glider owners are now unavoidably faced with contributing to the CAA's annual surplus of approximately £6M.

### **Basics**

You need to be aware of these documents that are mentioned later;

- EASA C of A - EASA Certificate of Airworthiness, issued following transition or on initial import
- ARC – Airworthiness Review Certificate, issued annually following an airworthiness review to EASA gliders holding an EASA C of A
- BGA C of A – BGA Certificate of Airworthiness issued annually to Annex 2 gliders, ie a glider that does not need registration or transition to EASA C of A
- BGA GMS – Glider Maintenance Schedule within the glider maintenance programme

### **Why has the BGA gone to so much trouble over Part M?**

Prior to Part M, gliding airworthiness has been managed totally satisfactorily across Europe, including the UK. In fact the 18 year historical UK gliding airworthiness related accident rate is better than that experienced by CAA regulated GA.

Part M in its original format was identified by all European gliding organisations as extremely damaging and totally disproportionate. The BGA and other gliding & air sport bodies across Europe have been very successful in influencing EASA to recently modify Part M for gliders and light aircraft in general. The BGA airworthiness organisation has always been very safe, efficient and met the needs of gliding and its clubs. That will continue under Part M providing we are able to continue to work together within a joined up, lowest possible bureaucracy airworthiness organisation. As always, gliding provides effective safety management, cost effective organisation and a respected voice with regulators at all levels when it operates as a single cohesive entity.

## **How does Part M affect me as an owner?**

### I own an Annex 2 glider. Am I affected?

No – you can continue to use the ‘old’ BGA airworthiness system ie annual inspection and BGA C of A application. Owners of Annex 2 tug aircraft also continue with the ‘old’ system.

### How do I maintain my EASA glider?

You can continue to carry out your own maintenance on your glider as described in the BGA supplied Glider Maintenance Schedule (GMS) and detailed in BGA Airworthiness Maintenance Procedure leaflet 2-1 which is published on the website and describes what is permissible and what isn't. This is the list of tasks (known as ‘Pilot Owner Maintenance’) that qualified pilots (bronze badge qualified) are authorised to carry out under Part M. Pilot owner maintenance has to be signed for in the glider logbook by the pilot owner.

Maintenance outside the scope of ‘Pilot Owner Maintenance’ has to be signed for by an inspector. If you wish carry out the work yourself (after determining it's within your capability), you must discuss it with your BGA inspector prior to starting the work so an appropriate level of supervision can be maintained. Please do not ask an inspector to sign for your work without first discussing it with him or her! The maintenance work must be recorded on suitable worksheets or in the glider logbook and your inspector may ask you to sign before he countersigns as the supervisor.

Appendix 1 to this document describes the Part M requirements through the most common stages of glider ownership.

It is possible under Part M to formally contract your glider into a ‘Controlled Environment’ in which case a maintenance organisation takes full control and responsibility for your gliders airworthiness. This is helpful for complex aircraft but unnecessary for non-complex aircraft including gliders. The BGA airworthiness organisation, which aims to keep costs down, is not a ‘Controlled Environment’.

### I've been hearing about a Maintenance Programme – what is it?

As an owner, you need to ensure that your glider has a maintenance programme in place. Gliders within the BGA's Part M compliant airworthiness system are issued with a BGA Glider Maintenance Schedule - the BGA GMS - which is effectively the maintenance programme. Powered aircraft use the CAA LAMP (Light Aircraft Maintenance Program). The LAMP is only applicable to SLMG and Tugs (plus other GA aeroplanes).

Both the BGA GMS and CAA LAMP need to be customized to your particular aircraft type, once this is done further approval is NOT required. Customising the GMS or LAMP requires a review of the manufacturer's maintenance recommendations to add or delete the GMS or LAMP tasks as appropriate. Your inspector will advise.

### Can I continue to use a BGA inspector?

Yes. However, to be compliant with Part M, the BGA has to approve its BGA inspectors under its Part M subpart F maintenance organization approval. Providing your glider is within the BGA airworthiness organisation and your inspector has renewed his or her BGA inspector approval, any BGA inspector can continue to maintain and certify the airworthiness of your glider. BGA inspectors have an approval number and certificate. If you are unsure, the BGA will confirm whether or not an inspector is BGA approved as well as that the glider is in the BGA airworthiness organisation.

Please note - a BGA inspector is not authorised or insured to maintain or certify a glider or other aircraft that is not within the BGA airworthiness organisation. Any signature by that inspector regarding maintenance on a glider or other aircraft outside the BGA airworthiness organisation will be invalid. This point deserves illustrating. If as an owner you are operating your glider away

from your home base and you need the assistance of a BGA inspector - for example to deal with a snag that will otherwise ground you - a BGA inspector is unable to help unless your glider is a part of the BGA airworthiness organisation.

This sounds expensive. What will it cost?

If you approach the CAA directly for an ARC ie outside the BGA Part M system, the ARC fee charged by the CAA increases significantly and any CAA involvement is charged out to you the owner at more than £150/hour – clearly not recommended. To support glider owners under Part M, the BGA has to pay significant CAA approval fees, fund a quality system and pay a fee to the CAA for every ARC issued.

By carefully managing its resources and working in partnership with owners and inspectors, the BGA airworthiness fees have been set at a similar level to the one members have been used to paying the BGA. Of course the CAA fee payable by the BGA for each ARC renewal has been added. The fees are published on the BGA website.

It is also worth noting that by funding the BGA airworthiness organisation you are not only helping yourself – you will also be contributing to the BGA's capability in supporting wider UK gliding needs by delivering affordable airworthiness and safety management to all in gliding. And all for a similar fee that in the past you paid for pre-Part M BGA airworthiness support and the associated BGA C of A.

Of course BGA approved inspectors are at liberty to charge for their time – it's their personal choice and of course some make their living from aircraft maintenance and repair.

Once Part M is applicable, how will the BGA renew my Airworthiness Review Certificate (ARC)?

Where an owner once renewed a 'C of A', under EASA the 'Airworthiness Review Certificate' is renewed. This is in fact a validation document to the 'perpetual' EASA C of A that you may have received by now. This renewal date, established following the 'transition', will be one year after the BGA recommended your EASA C of A and ARC to the CAA.

Demonstrating correct maintenance practice according to the BGA GMS (or CAA LAMP), including the 12-monthly inspection, is only one of the necessary requirements for ARC renewal by a BGA 'Chief Engineer' (this will shortly be a BGA inspector rating). The ARC renewal paperwork will be based on the new BGA Form 276 which brings together a documentary and physical survey of various aspects of your glider or aeroplane 'Continuing Airworthiness'. The new BGA Form 276 must be accompanied by the BGA Form 267 for gliders or in the case of SLMGs and Tugs, the BGA Form 202. The review will include such aspects as demonstrating Airworthiness Directives and mandatory modifications are incorporated, conformity to Type Certificate and other documentation and correct completion of hours, launches and comparison of the life of 'lifer' parts. Please note that the physical survey is not another "Annual". The survey confirms by sample that the aircraft conforms to the declared documentary survey.

Example - Glider ARC Renewal

**Step 1** – keep your glider maintained in accordance with the BGA glider maintenance schedule, including any annual inspection due through a BGA inspector

**Step 2** – as soon as practical before your ARC expires, arrange to renew it through a BGA inspector Chief Engineer. You can have the review carried out anytime within 90 days of the existing ARC expiry without losing any ARC validity time.

**Step 3** - the BGA inspector Chief Engineer who renews your ARC will need to see the gliders documentation and the glider (the survey). The new BGA form 276 he or she completes to

facilitate the ARC renewal must be accompanied with your annual payment. The Chief Engineer signs the ARC.

**NB. Please note that until adequate numbers of BGA Chief Engineers are approved through 2009, ARCs can be renewed under an interim BGA process. That interim process will be described separately on the BGA website.**

**NB 2.** If your ARC expires before you get a chance to renew it, you will need to ensure that your glider is in the BGA airworthiness organisation to enable a BGA inspector to get involved and to support you. You can arrange that by phone to the BGA office or via the BGA website. See below.

How do I ensure that my glider or aircraft is in the BGA airworthiness organisation?

As has always been the case, access to the BGA airworthiness organisation is renewed annually. If your glider has been through the transition process, it will have an EASA C of A and Airworthiness Renewal Certificate. In those cases, the glider is in the BGA airworthiness organisation.

1. To ensure that your glider or aircraft remains airworthy and within the BGA airworthiness organisation, *before* your existing ARC or BGA C of A expires you should;

*a. Apply for ARC renewal through a BGA inspector – as previously described, on application you will need to pay the BGA annual fee (which includes the ARC payment made by the BGA to the CAA).*

*b. You will be supplied with a BGA ARC which includes the BGA approval number. This entitles the glider to be maintained by BGA inspectors until the ARC expires. While your glider holds a valid BGA issued ARC, it will be in the BGA airworthiness organisation.*

2. If your glider drops out of the BGA airworthiness organisation for any reason eg your ARC lapses and is no longer valid, to allow a BGA inspector to be authorised to work on or sign for inspection, maintenance or repair on the glider you will need to bring the glider back into the BGA airworthiness organisation as follows;

*a. Complete a simple form via the BGA website at [www.glidering.co.uk](http://www.glidering.co.uk) or call the BGA office with the glider details (9-5 Mon-Fri) and payment (which includes the fee for the next ARC)*

3. In the unlikely event that you chose to have your ARC issued by a commercial company with appropriate EASA approval, your glider still needs to be in the BGA airworthiness organisation to have access to a BGA inspector and BGA airworthiness support. In this case, you will need to bring the glider into the BGA airworthiness organisation as follows;

*a. Complete a simple form via the BGA website at [www.glidering.co.uk](http://www.glidering.co.uk) or call the BGA office with the glider details (9-5 Mon-Fri) and payment. Any unused ARC fee will be used to support Youth in Gliding.*

I've been approached by a commercial company and advised to use their airworthiness services. What should I do?

Your established maintainer/repairer will continue to give you the excellent service that you are accustomed to. A commercial maintainer/repairer is highly likely to be a BGA inspector. If not, he or she will be operating under their own approval and maintenance schedule within their own maintenance programme.

If as an owner you choose to have your general airworthiness and/or your ARC taken care of by a commercial provider, even within a controlled environment if that is offered, you should explain to that provider that you will remain within the BGA airworthiness organisation in addition to using their commercial services - this is very important.

Please remember that unless your glider is within the BGA airworthiness organisation, a BGA inspector is neither legally approved nor insured to maintain or certify your glider (even for emergency weekend repairs or inspections) and you cannot access any BGA airworthiness support, utilise the BGA revised limitations eg extended weight operation or the BGA Glider Maintenance Schedule.

Part M requires that my glider log book must be kept up to date. Have the requirements changed?  
The key requirements have not changed, and the following applies under Part M;

- For gliders, flights may be entered in a maximum of monthly blocks
- For powered aircraft, flights must be entered in daily blocks
- Engine or propeller log books may be entered in weekly totals
- It is acceptable to maintain flight records separately to the log book and enter them annually, providing it is possible to determine at any time the current totals
- Log books must be up to date before any maintenance certification can be entered
- Maintenance certification entries must be made within 1 month of the completion of the maintenance

And the new bit...

- Log books must be up to date and all maintenance entries completed before an ARC renewal Airworthiness Review is carried out

What if I need to repair or replace something?

Replacement of any installed item, like for like, is a maintenance action and does not require any form of modification paperwork.

If a part or instrument needs repairing, within the BGA airworthiness system this can be signed for by an appropriately qualified BGA inspector against the glider or aircraft concerned. Outside that scope of activity, a C of C or EASA Form 1 for the part/instrument will be required as applicable. Instrument overhaul or parts exchange fall outside the scope of BGA inspector certification.

“Carry on” equipment does not need any release paperwork for replacement or repair.

What paperwork do I need with my glider?

- An EASA glider needs an **EASA C of A** with **valid ARC** to be able to fly. Part M states that the ARC (which cannot be replaced cheaply) should be carried in the glider. A photocopy might be useful here.
- The **glider logbook** must be kept up to date.
- The glider **maintenance, repair, modification and mandatory inspections records** must be kept together and all must be made available to the BGA inspector signing the ARC and for BGA Quality or CAA audit on request.
- The glider’s **flight manual** must be up to date.

Insurance is required, but is a separate issue of course.

Can I still use my PDA and FLARM in my glider? What happens if I want to change any instruments?

PDA’s, FLARM’s, portable oxygen and other similar “carry on” equipment do not need any additional CAA/EASA paperwork.

Items identified as “Standard Parts” including optional instruments and other equipment that is installed in the glider requires a Certificate of Conformity to a ‘recognised standard’. This C of C is issued by either the manufacturer or supplier of the item and should be kept with the glider maintenance records.

Instruments and equipment listed as “required or minimum equipment” (usually the ASI and Altimeter for example) by the manufacturer must have an EASA Form 1. This form is supplied by the instrument or equipment supplier and should be kept with the glider records.

The BGA is developing generic procedures for various maintenance activities. Additionally, many of the major glider manufacturers have a generic tech notes for such tasks on their web sites. The generic procedures - either BGA or from the manufacturer - are there for your guidance and safety. If you have any doubts on the implications of what you want to do, talk to your BGA inspector

For details of who can carry out the installation work, please see ‘How do I maintain my glider?’

#### Can I install the ‘old’ BGA modifications to my glider?

In short, no (unless it’s Annex II of course). At transition from BGA C of A to EASA C of A the declared BGA modifications are allowed. But after transition, only EASA approved or accepted modifications can be embodied.

In practical terms this means that only modifications developed and approved by the glider manufacturer or Type Certificate holder are eligible. It is possible to approve modifications outside the manufacturer but this requires direct approval by EASA for Minor changes, and use of a Design Organisation Approval company to develop and approve Major changes. This is potentially expensive.

#### How do I deal with queries and concerns?

It will take a while to absorb the subtle and not so subtle changes to the way we maintain our gliders. If in due course you have a query, the first point of call is the BGA website. Contacting your friendly BGA inspector for advice comes a very close second. Inspectors have been supplied with detailed guidance which may take time for them to absorb.

The BGA will publish further detailed advice and Frequently Asked Questions on the website at <http://www.glidering.co.uk/bgainfo/technical/news.htm> .

Questions about your gliders records held by the BGA can be directed to [office@gliding.co.uk](mailto:office@gliding.co.uk)

#### **Thank you for taking the time to read this document.**

The BGA is very aware of the challenges owners face by moving into Part M. We will do everything we can to support all owners during this difficult time.

In return, we would ask that owners continue to demonstrate patience as we all get through the first few months of a system, including training Chief Engineers, that will undoubtedly settle down to a routine, albeit one more complicated and expensive than before.

**Please note that as the detail is put into practice during the early part of 2009, it is likely that developments will occur that will result in some changes. Please stay close to the BGA website for further advice.**

## Appendix 1

Once Part M applies to gliders in the UK, what would this look like over the ownership of a typical EASA glider or aeroplane?

Activity	Requirement
<b>Purchase</b>	
Within the EU - used	To transfer to the UK register, the aircraft must hold; <ul style="list-style-type: none"> <li>• A Certificate of De-registration</li> <li>• An EU Certificate of Airworthiness (C of A)</li> <li>• A current Airworthiness Review Certificate (ARC) issued under Regulation (EC) 2042/2003 (Part M)</li> <li>• A current Mass &amp; Balance statement</li> <li>• A current and up-to-date Flight Manual in English</li> </ul> In addition: <ul style="list-style-type: none"> <li>• Maintenance records and history</li> <li>• Log books</li> <li>• Imperial units instruments (Feet, Kts)</li> </ul>
Within the EU - new	To transfer to the UK register, the aircraft must hold; <ul style="list-style-type: none"> <li>• A Certificate of Non-registration</li> <li>• An EASA Form 52 (Statement of conformity to Type design)</li> <li>• A Mass &amp; Balance statement</li> <li>• An equipment list</li> <li>• A Flight Manual in English</li> </ul>
Elsewhere	To transfer to the UK register, the aircraft must hold; <ul style="list-style-type: none"> <li>• An Export Certificate of Airworthiness issued within the 60 days preceding receipt of the application by the CAA</li> <li>• Items as per EU as appropriate</li> <li>• If new: a valid flight test certificate</li> </ul>
<b>Use</b>	
Pre Flight Inspection	Refer to the glider Flight Manual and BGA Generic Maintenance Schedule For SLMG & Tug refer to CAA LAMP
General maintenance	Refer to the glider Maintenance Manual and BGA Glider Maintenance Schedule or CAA LAMP in conjunction with the aircraft maintenance and repair manuals, service bulletins or technical notes and BGA AMP.
Renewal of ARC	To renew an ARC, in addition to a serviceable aircraft, the owner must present the; <ul style="list-style-type: none"> <li>• EASA C of A</li> <li>• Expiring ARC</li> <li>• Complete annual inspection record and applicable maintenance, inspection, repair and modification records</li> <li>• The flight manual including latest revision</li> <li>• Current Mass &amp; Balance statement</li> <li>• Up to date log book(s)</li> </ul> The BGA approved inspector signing the ARC will carry out a survey (not another annual inspection)

Bringing back into use after repair/layoff etc	The glider will need to meet the ARC requirement above. If laid up for more than 1 year a CAA/BGA survey may also be required
Accidents, incidents & occurrences	<p>Following an accident to a glider;</p> <ul style="list-style-type: none"> <li>• Report it in the normal way as described by the BGA</li> <li>• Repairers and agents as the repair experts can advise regarding any repair work</li> <li>• All repairs must be carried out to an approved repair scheme using released materials</li> <li>• The BGA inspector or repairer releases the glider to service post repair under the subpart F approval by signing the logbook</li> <li>• Engineering occurrences must be reported to the BGA Quality Dept within 72 hours of the finding. As part of the BGA web site development it is planned to have an on-line reporting facility</li> </ul>
<b>Selling</b>	
Within the EU	<p>If you sell your aircraft within the EU, the same documents that were required for transfer of a used aircraft will be required by the purchaser (with the possible exception of the Flight Manual)</p> <ul style="list-style-type: none"> <li>• The new owner will transfer the aircraft to the local Competent Authority</li> <li>• The CAA can issue a Certificate of De-registration.</li> <li>• The C of A and ARC are used as transfer documents.</li> </ul>
Elsewhere	If selling CAA registered aircraft outside the EU, the CAA can provide a C of A for Export and Certificate of De-registration (at a cost)
Annex II (BGA registered)	If selling BGA registered Annex II gliders, the BGA can provide a Certificate of De-registration.