

## APPENDIX I (vi)

# SUMMARY OF RECOMMENDATIONS

The following is a summary of recommendations resulting from the assessments made in the consolidated report by Air EuroSafe.

## SECTION A - TECHNICAL REQUIREMENTS

### Sub Part: **E COMPONENTS**

#### Paragraph Reference: **M.A.501 Installation**

##### **Safety recommendation**

CAA 1, EAS2 & EAS3: - Paragraph AMC M.A.501(c) requires revision to better clarify standard parts. At present it specifies that a TC holder may issue a standard parts manual. It also needs to specify that non-aviation parts detailed on STCs and other changes, including drawings associated with minor changes can be acceptable as standard parts when the change is approved.

##### **Economic recommendation**

CAO and Poland industry: – Investigation into the acceptance of these parts to be undertaken by EASA (Reference: AMC M.A.501 (a) /5). This is considered a CRITICAL (1.c) task

##### **Other impact recommendation**

French industry: - annex VIII should be reviewed to ensure all elementary tasks have been captured.

#### Paragraph Reference: **M.A.502 Component Maintenance**

##### **Safety recommendation**

BBGA 1: – AMC to M.A.502 would benefit from additional material to identify the acceptable source of used components for older aircraft, balloons and gliders.

##### **Other impact recommendation**

Poland Industry: Components need to be more clearly defined within (EC) N° 2042/2003.

#### Paragraph Reference: **M.A.504 Control of Unserviceable Components**

##### **Economic recommendation**

AOPA, RAC & BBGA 1: – Provide additional AMC M.A.504 (b) material to explain what is meant by 'controlled by an approved organisation' and describe how M.A. 502 approved organisations may control unserviceable components when they are held and stored by an owner, until a decision is made on the future status of such component.

## Sub Part: **F MAINTENANCE ORGANISATION**

### Paragraph Reference: **M.A.601 SCOPE**

#### Other impact recommendation

CAA 1: – AMC or Guidance material needed on how to establish Subpart F certifying staff competency for complex tasks.

### Paragraph Reference: **M.A.604 Maintenance Organisation Manual**

#### Other impact recommendation:

DGAC: Appendix IV to AMC M.A.604 in paragraph 2. Content should specify the content of the manual and should be adapted to the size and complexity of work carried out in the organisation.

### Paragraph Reference: **M.A.605 Facilities**

#### Economic recommendation.

CAA 1 & 2 & BBGA & PFA 1 & SBA1 & EAS: – Recommended additional paragraph: - **AMC M.A.605 (a) 4.** Gliders, balloons and airships may be inspected at a location other than a hangar, where the weather and ground conditions are suitable to achieve satisfactory inspection standards, and prevent the glider, balloon or airship from damage. Other maintenance must be conducted at a facility suitable for the intended task. The environmental and facility conditions required for inspection and maintenance must be defined in the Maintenance Organisation Manual.

### Paragraph Reference: **M.A.606 Personnel requirements**

#### Safety and Economic recommendation

CAA2: - AMC M.A.606 (d) material should provide an explanation of how a permanent contract for temporary work can be provided for certifying staff.

### Paragraph Reference: **M.A.607 Certifying Staff**

#### Safety & Economic recommendation

CAA 1 & CAA 2: – Rule change as follows–

M.A.607 (b) 2. to any person with not less than **3 years** maintenance experience and holding a valid **National** aircraft maintenance licence rated for the aircraft type requiring certification provided there is no organisation appropriately approved under this Part at that location and the contracted organisation obtains and holds on file evidence of the experience and the license of that person.

All such cases must be reported to the **contracted Subpart G organisation responsible for continuing airworthiness management** when contracted in accordance with M.A.201 (e), or the competent authority otherwise within seven days of the issuance of such certification authorisation. The approved maintenance organisation issuing the one off certification authorisation shall ensure that any such maintenance that could affect flight safety is re-checked.

## Air Eurosafe impact assessment

### Rule change to M.A.607 - Certifying Staff

**Safety comment** -M.A.607 (b) is overly restrictive and could lead to work carried out without adequate records. Work performed by unknown persons/organisations when an aircraft is grounded should be controlled and appropriately certified. As a Subpart F organisation has no quality system to assess equivalent company or individual authorisations, a more appropriate place for the acceptance of certifying staff other than Part 66 staff would be in Subpart H.

**Economic comment** - M.A. 607 (b) is seen as having an economic impact through the imposition of unduly onerous restrictions relating to the need for certifying staff in the situation where an aircraft is grounded at a location other than its main base. Although in many cases affecting the gliding sector, where national rules for aircraft maintenance licenses may apply, it is recommended that this rule be changed to allow certifying staff with 3 instead of 5 years maintenance experience and reports made to the Subpart G organisation instead of the competent authority.

### Economic & Other impact recommendation

DGAC & Poland industry: – Additional AMC material required for M.A.607.

### Paragraph Reference: **M.A.609 Maintenance Data**

#### Economic recommendation:

DGAC: - AMC M.A:401 material required to clarify the use of task cards.

### Paragraph Reference: **M.A.613 Components Certificates of Release to Service**

#### Safety recommendation

CAA 1: – Add the following statement to Appendix II (EASA form 1) block 13 completion instructions - *Part M Certificate of Release to Service* and remove - ~~M.A. Subpart F approval reference.~~

Make the following changes to block 19 - ~~Block 19 Contains the required release to service statement~~ For all maintenance by M.A. Subpart F approved maintenance organisations *the box “other regulation box specified in block 13” should be ticked and the certificate of release statement made in block 13.* ~~When non Part-M maintenance is being released block 13 shall specify the particular national regulation. In any case the appropriate box shall be ‘ticked’ to validate the release~~

EAS1 & EAS2: - AMC M.A.501(c), definition of standard parts is required to be extended to include the use of portable equipment.

## Air Eurosafe impact assessment

**Safety comment** – M.A.613 - If EASA form 1 is not clearly identified for non-commercial air transport; this could lead to the use of unapproved parts. To avoid this risk, we propose the following amendments: Appendix II block 19 completion instructions, which require the 'other regulation' box to be ticked and then the Part M CRS to be entered into block 13 (AMC M.A.801 (d)). However the form could be clearer as it has been assessed that components released by a Subpart F organisation could be inadvertently used on commercial or large aircraft. To remove ambiguity when using the EASA Form 1 for maintenance release from a Part M Subpart F organisation a recommendation has been made to change Appendix II.

### Sub Part: **G CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION**

#### Paragraph Reference: **M.A.701 Scope**

##### Other impact recommendation

CAO: - We recommend that guidance material is produced to clarify the many misunderstandings of this Subpart G.

#### Paragraph Reference: **M.A.703 Extent of Approval**

##### Economic and Social recommendation

SCAA & AOPA: It should be possible, in the case of a one man Subpart G organisation limited to small aircraft, (including balloons and gliders) with the M.A.711 (b) privilege, to sub-contract the quality audit task. (See recommendation M.A.712 (f))

#### Paragraph Reference: **M.A.704 Continuing Airworthiness Management Exposition (CAME)**

##### Other impact recommendation

France: DGAC: - Cross-check data from the CAME in Appendix V and the requirement in M.A.708.

#### Paragraph Reference: **M.A.707 Airworthiness Review Staff**

##### Economic & Social recommendation

CAA 1: – Rule change insert new M.A.707 Para (b) as follows:-

“(b) Notwithstanding MA 707 (a), for gliders and balloons, in any cases of non-compliance with this paragraph the applicant shall have appropriate airworthiness review staff for the issue of M.A.Subpart I airworthiness review certificates or recommendations that have acquired:

1. at least 5 years experience in continuing airworthiness and
2. maintenance qualifications acceptable to the approved organisations or an aeronautical degree or equivalent, and
3. training on the types of aircraft operated and
4. a detailed knowledge of Part M and
5. a position within the approved organisation with appropriate responsibilities

M.A 707 (b), (c), (d) & (e) should be renumbered M.A 707 (c), (d), (e) & (f)



France FFA: – AMC material required to be developed for M.A.707(a) regarding the formal aeronautical maintenance training requirements.

### **Air Eurosafe impact assessment**

#### **Economic comment M.A.707 - Airworthiness Review Staff**

The impact could be significant for gliders unless the recommendation made in M.A.707 is accepted. The impact of M.A. 707 on owners/operators of balloons and gliders seems to be excessive, giving rise to an increase in staff costs to the industry. It is believed that aviation activities such as balloons and gliders do not require responsible persons to hold the level of experience and qualifications specified in this regulation. A recommendation is made for it to be changed.

**Social comments M.A.707** - Many European organisation representatives fear that there could be a lack of personnel with the necessary license, experience and proper training required to become airworthiness review staff, especially for gliders and balloons and in remote areas. Air Eurosafe has made a recommendation to relax requirements in this case. DGAC and Eurosafe have made a recommendation to relax requirements in this case. DGAC and CAO question how they will get the proper experienced airworthiness review staff in organisations since currently the authorities perform the airworthiness reviews.

#### **Paragraph Reference: M.A.708 Continuing Airworthiness Management**

##### **Safety recommendation**

LBA: – A European standard for repair of simple design aircraft is required.

##### **Economic recommendation**

LBA: - A generic maintenance programme should be developed by EASA for light simple design aircraft.

#### **Paragraph Reference: M.A.709 Documentation**

##### **Safety recommendation**

LBA & VDS: It is recommended that AMC material is produced to clarify the requirement in M.A.401 for maintenance data when there is no TC holder supporting an aircraft.

#### **Paragraph Reference: M.A.710 Airworthiness Review**

##### **Safety recommendation**

CAO: It is recommended that an appendix to AMC M.A.901 is produced as a standard template for an ARC recommendation.



## Paragraph Reference: **M.A.711 Privileges**

### Social recommendation

CAA 1: – **Rule change to M.A.711(c) as follows:** -  
(c) An organisation shall be **located** in one of the Member States to be granted the privilege pursuant to paragraph (b).

### Air Eurosafe impact assessment

**Social comment M.A.711** - The word “registered” in paragraph M.A.711 (c) precludes people established under UK legislations as “sole-traders” to become Subpart G approved. Air Eurosafe proposes the word to be changed from “registered” to “located”.

## Paragraph Reference: **M.A.712 Quality System**

### Safety and Economic recommendation

CAA 1 & BGA 1 & SCAA 1: – **A change to the rule is recommended as follows:-**  
M.A.712 (f) In the case of a ~~small~~ M.A. Subpart G organisation ~~that does not have the privileges granted under M.A.711(b),~~ **when the MA 703 extent of approval does not include aircraft used for commercial air transport or aircraft above 2730kg MTOW or multi-engine helicopters**, the quality system can be replaced by performing organisational reviews on a regular basis.

Note: If the proposed change is accepted, additional AMC material should be developed to described “organisational review”.

### Air Eurosafe impact assessment

**Social comment M.A.712** - The requirement of a quality system for Subpart G may imply additional needs in terms of staff for these organisations and may be considered too demanding for gliders and balloons (FFA, UK CAA). Air Eurosafe proposes relaxing the requirements for the acceptance of organisational reviews instead of a quality system or admitting external quality audits for small organisations. This will allow one man Subpart F & G organisations to exist which will equate to many existing Member States current arrangements.

**Safety comment M.A.712** – In accordance with M.A. 711 (a) an organisation can be approved to manage the continuing airworthiness of aircraft, which is a key function in the airworthiness assurance process. We recognise that if a Subpart G organisation can satisfactorily manage the continuing airworthiness without having to have a formal quality system then it should be equally satisfactory to conduct airworthiness reviews for the less complex general aviation aircraft without such a system.

A proposal was made for aircraft below 2730 Kg MTOM not operated for commercial air transport, the quality system should be replaced by an organisational review. The AES team evaluated this proposal as acceptable.

## Sub Part: **H CERTIFICATES OF RELEASE TO SERVICE**

### Paragraph Reference: **M.A.801 Aircraft Certificate of Release to Service**

#### **Safety recommendations**

CAA 1: - Additional material is required for AMC M.A.803 to clarify how a pilot-owner can be trained to carry out maintenance tasks and demonstrate competence.

CAA 2: - Rule change insert a new M.A.801 paragraph (c) as follows: -  
M.A.801 (c) - By derogation to M.A.801 (b) in the following unforeseen cases, where an aircraft for which no maintenance organisation approved under this part is contracted, is grounded at a location other than the main base where no appropriate certifying staff is available. The person responsible under M.A.201 (a) may authorise any person with not less than three years maintenance experience and holding a valid national aircraft maintenance licence rated for the aircraft type requiring certification, provided there is no organisation appropriately approved under this Part at that location.  
The person responsible under M.A.201 (a) shall:

- 1 obtain and hold in the aircraft records details of the licence held by that person issuing the certification; and
- 2 ensure that any such maintenance that could affect flight safety is rechecked by an appropriately authorised M.A.801(b) person and
- 3 notify the competent authority within thirty days of the issuance of such certification authorisation.

M.A 801 (c), (d), (e) & (f) should be renumbered M.A 801 (d), (e), (f) & (g).

### **Air Eurosafe impact assessment**

**Safety comment M.A.801** - Industry has commented that M.A 607 (b) is related to the case of an unserviceable aircraft at locations outside of Member States and this activity is also relevant to pilots/owners not in a controlled environment therefore should be repeated in subpart H. It is also seen as too restrictive for light aviation. It is accepted that when an aircraft is unserviceable at locations outside of Member States it must be released to service by appropriately qualified persons. An amendment to the Subpart H text has been recommended, which simplifies the text and keeps the level of safety.

**Social comments M.A.801** - DGAC and LBA fear the impact of the new requirements in M.A.801 (b) 2 (Part 66 compliance, experience required) for licensed engineers working as individuals compared with today's national requirements. ENAC has some concern about people working as individuals since this is not the case according to current Italian regulations. This fear should be reduced with the adoption of the recommended rule change.

## Paragraph Reference: **M.A.803 Pilot-Owner Authorisation**

### Safety recommendation

#### VDS & BBAL: - Rule change:

It is recommended that a complete re-evaluation of appendix VIII be carried out to separate safety items from the list (e.g. items 16 and 22) and to separately identify glider and balloon maintenance activities from other aircraft.

It is also recommended to remove operational activities (e.g. item 32) from appendix VIII.

### Air Eurosafe impact assessment

**Safety comment M.A.803** -: It is clear that on simple design aircraft including gliders, some installation of parts are simple (reinstallation of wings after landing in a field) and when described by the manufacturer as not being considered as a maintenance action, then it should be possible for the pilot owner to carry out the task and release the aircraft.

**It is believed that** safety will be adversely affected, because of lack of understanding of the requirements of the regulation.

A recommendation has made to carry out a re-evaluation of appendix VIII to:

- Separate safety items from the list (e.g. items 16 and 22)
- Separately identify glider and balloon maintenance activities from other aircraft
- Remove operational activities (e.g. item 32) from appendix VIII,

**Other comments M.A.803** - it is recommended that appendix VIII is completely revised to separate the actions carried out by glider and balloon operators from general aircraft operators. This is because the appendix mixes operational activities (assembly and removal of glider wings) with maintenance tasks. Other recommendations have also been made to capture all of the maintenance currently allowed for gliders and balloons

### Economic recommendation

#### SCAA 2: - Rule change:

We recommend that the basic 50 hour task for privately operated aeroplanes of simple design with a MTOM of <2730kg should be included in appendix VIII.

### Air Eurosafe impact assessment

**Economic comment M.A.803** - Appendix VIII does not take full account of the fact that pilot owners need to carry out the 50 hours check, private pilot owners in many Member States have performed this activity for many years without significant incident.

Removing this activity from pilot maintenance will lead to a significant economic impact on this sector represented by the cost of sending an aircraft to an organisation as opposed to the pilot doing the checks himself. Hourly rates for this work vary widely across the EU, but will probably average in excess of 30 Euros per hour.

Europe Air Sports estimates the additional annual costs of maintenance by a commercial organisation compared with maintenance by club members as ranging from around 900 to 1,000 Euros for aircraft with an annual utilisation of 100 hours to around 3,600 – 4,000 Euros for those with an annual utilisation of 400 hours. These estimates relate to both



small aircraft and touring motor gliders under 2,250 kgs. The numbers of such aircraft across the European Union are estimated to total around 44,000, of which some 10,700 are in Germany, 8,800 in the UK, 8,000 in France, 1,800 in Sweden, 1,600 in Italy and 1,000 in Poland. It is recommended that the basic 50 hour task for privately operated aircraft of simple design with a MTOM of <2730kg should be included in the Appendix

#### **Other impact recommendation**

CAA 2: – Further AMC material should be developed to give a method of compliance (e.g. pilot/owner competence) with M.A.803 for the tasks listed in Appendix VIII.

### **Sub Part: I AIRWORTHINESS REVIEW CERTIFICATES**

#### **Paragraph Reference: M.A.901 Aircraft Airworthiness Review**

##### **Safety, Economic and Other impact recommendation**

**CAA 2 & PFA & BBGA & RAC: – Rule change as follows:-**

M.A.901 (e) Whenever circumstances show the existence of a potential safety threat or in the absence of a continuing airworthiness management organisation approved for the aircraft type, the competent authority may decide to carry out the airworthiness review and issue the airworthiness review certificate itself. In this case the owner or operator shall provide the competent authority with:

- The documentation required by the competent authority,
- Suitable accommodation at the appropriate location for its personnel, and
- When necessary the support of personnel appropriately qualified in accordance with Part-66

#### **Air Eurosafe impact assessment**

**Safety comment M.A.901** - Some authorities regarding the ability of a new Subpart G organisation to carry out airworthiness reviews have expressed a concern that there may be a safety risk during the transition. This concern varies between Member States depending on their current practises. The Air Eurosafe team assessed the concern as being a risk during the initial transition period.

However the rule could be improved to clarify when a competent authority may carry out an airworthiness review and issue the airworthiness review certificate directly. A recommendation has been made to M.A.901 (e).

**Other comments M.A.901** - There were also concerns by some authorities that the issue of an ARC could only be carried out by a Subpart G organisation. The rule allows an authority to carry out this airworthiness review and issue an ARC when it decides (M.B.902), but some authorities consider it is not clear if this applies when importing an aircraft into the EU (M.A.904 (a)).

### Economic and Other impact recommendation

CAA 2 & PFA & BBGA & RAC: – Rule change as follows:- Add new paragraph

**M.A.901 (f)** – by derogation to M.A.901 (d), for non-commercial air transport aircraft of 2730kgs or less maximum take-off mass and excluding helicopters the validity of the Airworthiness Review Certificate (ARC) may be:

1. extended twice by an M.A.801 (b) 2 certifying person appropriately licensed for the aircraft type, when satisfied that all maintenance required during the previous 12 months has been carried out satisfactorily, and
2. extend the ARC for one year each time, and
3. not extend the ARC if the certifying person is aware or has reason to believe the aircraft is unairworthy.

The competent authority following an application, satisfactory assessment and recommendation made by an appropriately approved continuing airworthiness management organisation shall reissue the ARC. The recommendation shall be based on an airworthiness review carried out in accordance with M.A.710.

### Air Eurosafe impact assessment

**Economic comments M.A.901** - The requirement under M.A 901 to renew the C of A annually will have some impact on aircraft owners in the small aviation sector. It will bring about an increase in fees since, typically in the past, they have not needed to renew as frequently. This will depend on each authority dividing the 3 year fee and charging an annual fee which should not change the total. However the main increase will be from having to take an aircraft to a Subpart G organisation annually.

**Other comments M.A.901** - The use of an Airworthiness Review Certificate to validate a non-expiring Certificate of Airworthiness is a new concept for most of the Member States and will create an initial impact when implemented. However the greatest concern was identified as the change from a 3-year term for this activity by the authority to a 1-year term carried out by industry.

The requirements of an airworthiness review were not new but the need to have it performed by an approved organisation is. Therefore recommendations have been made for the full review to be performed every 3 years and confirmed every year by appropriate licensed engineers.

In addition the UK CAA has considered the overall safety record of its fleet of aircraft below 2730 Kg and the associated continuing airworthiness processes. In 1978 the UK CAA adopted a 3-year cyclic continuing airworthiness process.

The C of A is subject to renewal at 3-year intervals based upon a recommendation from an appropriately approved organisation. This includes the completion of an airworthiness review similar to the review in M.A.710.

Verification of this process by the CAA has been by periodic audit of the approved organisation and by product survey of in service aircraft. Since this 3-year cyclic process was implemented the average age and size the UK fleet has increased. Details of the

UK fleet statistics are included below at table 1. From the available data, the number of reportable incidents and accidents has remained low. A recent review in 2003/2004 of the reportable occurrence database did not identify any maintenance related safety action items for further study.

It is estimated that there will be a significant increase in activity and a potential cost burden to the owner/operator to convert from a 3-year airworthiness review to a 1-year procedure as required by Part M for this particular fleet. Based on this past CAA experience the assessment is that a 3-year full airworthiness review (M.A.710) would achieve a satisfactory level of safety for this sector of general aviation operations. This would also recognise the differences in complexity of the type of aircraft and apply a proportionate approach in mitigating the risks.

### Sub Part: **APPENDIX 1**

#### Paragraph Reference: **Continuing Airworthiness Arrangement** Safety recommendation

**SNIPAG: - Rule change required –**

It is recommended to add the following :

Paragraph 5.2 Item 10 - Inform the approved organisation of the aircraft flying hours on a regular basis”

### **Air Eurosafe impact assessment**

**Safety comment Appendix I** - There is a safety risk that a contracted Subpart G organisation is not aware of the latest flying hour status of the aircraft, which could affect AD compliance. A rule change is recommended to add this to Appendix I.

#### **Other impact recommendation**

**Editorial rule change proposed** to the following paragraphs of Appendix 1

Para 5.1 5

Para 5.1.6

Para 5.1.7

Para 5.1. 9

Para 5.2.7

Para 5.2.8

Ensure wording reads “...competent authority of the Member State of Registry...”

## Sub Part: **APPENDIX VIII**

### Paragraph Reference: **Limited Pilot Owner Maintenance**

#### Other impact recommendation

**Note - this recommendation should be considered together with the safety recommendation made in M.A.803.**

CAA 1 & SCAA 1: – Rule change to Appendix VIII as follows:-

#### **Limited Pilot Owner Maintenance**

The following constitutes the limited pilot maintenance referred to in M.A.803 provided it does not involve complex maintenance tasks, and is carried out in accordance with M.A.402. *Limited pilot owner maintenance tasks as appropriate to a particular aircraft must be specifically listed in the maintenance programme:*

1. Removal, installation of wheels, *and in the case of gliders replacement of elastic landing gear door operating straps.*
2. Replacing elastic shock absorber cords on landing gear.
3. Servicing landing gear shock struts by adding oil, air, or both.
4. Servicing landing gear wheel bearings, such as cleaning and greasing. *In the case of gliders replacement and servicing of main skids and tailskids.*
5. Replacing defective safety wiring or cotter keys.
6. Lubrication not requiring disassembly other than removal of non-structural items such as cover plates, cowlings, and fairings.
7. Making simple fabric patches not requiring rib stitching or the removal of structural parts or control surfaces. In the case of balloons, the making of small fabric repairs, *excluding complete panels*, to envelopes (as defined in, and in accordance with, the ~~balloon manufacturers' instructions~~ *type certificate holders' instructions*) not requiring load tape repair or replacement.
8. Replenishing hydraulic fluid in the hydraulic reservoir.
9. Refinishing decorative coating of fuselage, balloon baskets, wings tail group surfaces (excluding balanced control surfaces), fairings, cowlings, landing gear, cabin, or cockpit interior when removal or disassembly of any primary structure or operating system is not required.
10. Applying preservative or protective material to components where no disassembly of any primary structure or operating system is involved and where such coating is not prohibited or is not contrary to good practices.
11. Repairing upholstery and decorative furnishings of the cabin, cockpit ~~or balloon basket interior, or balloon basket~~ *interior, or balloon basket* when the repairing does not require disassembly of any primary structure or operating system or interfere with an operating system or affect the primary structure of the aircraft.
12. Making small simple repairs to fairings, non-structural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper airflow. *In the case of gliders minor repairs to direct vision windows and canopies.*
13. Replacing side windows where that work does not interfere with the structure or any operating system such as controls, electrical equipment, etc
14. Replacing safety belts, *and harnesses In the case of balloons, airships and gliders.*



15. Replacing seats or seat parts with replacement parts approved for the aircraft, not involving disassembly of any primary structure or operating system.
16. Trouble shooting and repairing broken circuits in landing light wiring circuits. *In the case of gliders trouble shooting and repairing broken wiring circuits for non-critical optional equipment.*
17. Replacing bulbs, reflectors, and lenses of position and landing lights.
18. Replacing wheels and skis where no weight and balance computation is involved.
19. Replacing any cowling not requiring removal of the propeller or disconnection of flight controls.
20. Replacing or cleaning spark plugs and setting of spark plug gap clearance.
21. Replacing any hose connection except hydraulic connections. *In the case of balloons and airships, the replacement of propane or similar hoses is prohibited..*
22. Replacing prefabricated fuel lines. *In the case of balloons and airships the replacement of prefabricated fuel lines is limited to flexible hose types with quick release connectors.*
23. Cleaning or replacing fuel and oil strainers or filter elements.
24. Replacing and servicing batteries.
25. Cleaning *and replacement* of balloon burner pilot, main nozzles *and piezo-electric igniters* in accordance with the *balloon manufacturer's type certificate holder's* instructions.
26. Replacement or adjustment of non-structural standard fasteners incidental to operations.
27. The interchange of balloon baskets, *fuel cylinders* and burners on envelopes when the basket, *fuel cylinder* or burner is designated as interchangeable in the balloon type certificate data and the baskets, *fuel cylinders* and burners are specifically designed for quick removal and installation.
28. The installations of anti-mist fuelling devices to reduce the diameter of fuel tank filler openings provided the specific device has been made a part of the aircraft type certificate data by the aircraft manufacturer, the aircraft manufacturer has provided instructions for installation of the specific device, and installation does not involve the disassembly of the existing tank filler opening.
29. Removing, checking, and replacing magnetic chip detectors.
30. Removing and replacing self-contained, front instrument panel-mounted navigation and communication devices that employ tray-mounted connectors that connect the unit when the unit is installed into the instrument panel, (excluding automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)). The approved unit must be designed to be readily and repeatedly removed and replaced, not require specialist test equipment and pertinent instructions must be provided. Prior to the unit's intended use, an operational check must be performed. *In the case of gliders or powered glider's instrument panels, these may be removed and reinstalled providing all air data connections are self sealing connector blocks.*
31. Updating self-contained, front instrument panel-mounted Air Traffic Control (ATC) navigational software databases (excluding those of automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)) provided no disassembly of the unit is required and pertinent instructions are provided. Prior to the unit's intended use, an operational check must be performed.
32. Replacement of wings and tail surfaces and controls, *balloon envelopes, baskets,*

*burners and controls (including safety pins, turnbuckles and karabiners) the attachment of which is designed for assembly immediately before each flight and dismantling after each flight. In the case of gliders minor adjustment to non-flight or propulsion controls whose operation is not critical for any phase of flight.*

33. Replacement of main rotor blades that are designed for removal where specialist tools are not required.

34. *Replacement of balloon and airship fuel cylinder quick release connector seals where accessible in accordance with the balloon type certificate holder's instructions.*

35. *Minor adjustment of balloon burner shut-off valves without disassembly in accordance with the balloon type certificate holder's instructions.*

36. *Replacement of balloon envelope temperature sensors.*

37. *Minor adjustment of balloon basket skids retaining fasteners in accordance with type certificate holders' instructions.*

38. *In the case of a self-sustaining gliders the removal only of the propulsion system where defined in the Flight Manual as a pilot task and where all connections are self sealing*

39 *Cleaning and lubrication of glider tow release units where specified as a daily inspection.*

40. *In the case of gliders, replacement of flying control self adhesive sealing tapes and tabulators providing removal of a control surface or operating system is not required, and a full and free check of the controls is carried out.*

41. *Minor scheduled maintenance (excluding Airworthiness Directives unless specifically allowed) required at 50 hours/ 6 months or less for piston-engine aeroplanes, piston-engine helicopters, gliders, balloons or airships with MTOW not exceeding 2730 Kg where specified in accordance with M.A.803(c).*

## Air Eurosafe impact assessment

**Other comments Appendix VIII** - This appendix will have a significant impact for pilot owners and a complete review of the applicability of each task to gliders, balloons, airships and light aircraft should be carried out.

It is also recognised that glider and balloon operational items have been included in the appendix as maintenance items, which puts an unnecessary constraint on the assembly and disassembly of these aircraft.

It is recommended that Appendix VIII should identify pilot /owner maintenance tasks specific to balloons and gliders.

The justification for recommendation of the tasks 34 to 40 for Gliders, Balloons and Hot-Air Airships being Limited Pilot Owner Maintenance Tasks is based on a number of important factors as follows :-

### 1. **Simplicity of the Task.**

These tasks being of a simple nature and both the British Gliding Association and the British Balloon and Airship Club have no reports of incidents where a failure has occurred due to these tasks being performed.

## 2. Safety Comments Appendix VIII

Part M, M.A.801(b) requires that all maintenance be issued with a Certificate of Release to Service irrespective of whether the maintenance has been performed by an approved organisation for maintenance or the pilot-owner. In the case of Balloons and some of Gliders, these are not flown from anywhere where there would be any form of maintenance support in terms of certifying staff, and therefore the pilot not being able to carry out and certify these tasks could have an implication of either :-

- a. The tasks would be conducted but without being fully recognised and recorded i.a.w. MA.803
- b. It may discourage the pilot-owner to fix a problem and to fly the aircraft with a deficiency when a simple task authorisation would increase the safety standard.

### 3. Balloons and Glider assembly prior to flight.

Balloons and Gliders have to be assembled prior to flight this includes attachment of flying wires, rigging of controls and the assembly of the personnel carrying facilities etc. The tasks proposed are well below the level that would be required to prepare an aircraft for flight.

### 4. Flight Manual Instructions

With regard to item 38 where the LBA Flight Manual for the Ventus-2cT powered sailplane allows the pilot to remove/reinstall the powerplant but just requires a "licensed inspector" to conduct a new weight and balance schedule. Unlike Airworthiness Directives where the pilot may conduct maintenance if specifically published in the AD. The Flight Manual is not afforded the same privilege without an EASA Decision hence the recommendation as a Limited Pilot Maintenance Task.

### 5. Maintenance Documentation.

The tasks listed in the Appendix VIII will need to be published in the appropriate maintenance schedule/programme for the aircraft. Each individual aircraft type may then be reviewed, but if these tasks are not included in Appendix VIII at this stage it gives no opportunity to include them in a considered/approved programme.

The following is a detailed justification for recommending adding items 34 to 40 to Appendix VIII.



No	Recommended changes to Appendix VIII	Justification
34.	<i>Replacement of balloon and airship fuel cylinder quick release connector seals where accessible in accordance with the balloon type certificate holder's instructions.</i>	<p>This is a very simple task of replacing a rubber o-ring in a connector (not requiring any dismantling of the connector) the condition of which would likely be found to be faulty at the pre-flight inspection stage. Balloons have to be assembled prior to flight (without the requirement to issue a CRS), and it is this stage where an o-ring may be found to be at fault. At the launch site which is normally a remote field or similar there is never going to be certifying staff available to certify the replacement of the o-ring and this could lead to either the simple repair not being undertaken or the o-ring being replaced without the appropriate certification i.a.w MA801.</p> <p>This task competence level would be lower than that required to assemble the balloon prior to flight.</p>
35.	<i>Minor adjustment of balloon burner shut-off valves without disassembly in accordance with the balloon type certificate holder's instructions.</i>	<p>The adjustment of the shut off valve is a simple friction device to prevent the selection of the shut-off valve changing from that selected. The task is a simple screw adjustment and is no more complex than assembling the balloon for flight.</p> <p>The consequence of not allowing this to be a Limited Pilot Owner Maintenance Task might be to fly the balloon without this proper adjustment or indeed this would be conducted without proper recognition to MA801.</p>
36.	<i>Replacement of balloon envelope temperature sensors.</i>	<p>The envelope temperature sensor is an indication to the pilot that he/she is approaching a high temperature in the envelope and should adjust the operation of the balloon accordingly. Operation of this sensor which is a one off indication needs to be reset prior to the next flight.</p> <p>The area of operation does not lend itself to</p>



		<p>having certifying staff available between flights and therefore this simple task to reset the sensor must be considered as a Pilot task, again the competence level is below that required to assemble the balloon for flight.</p> <p>The operation of the temperature sensor does not indicate an over temperature of the envelope has occurred, but a indication to advise the pilot to check the permanent temperature indication. If no temperature excedence of the envelope has occurred then the temperature sensor may just be replaced. Hence this being a Limited Pilot Operated Task.</p>
37.	<i>Minor adjustment of balloon basket skids retaining fasteners in accordance with type certificate holders' instructions.</i>	<p>This is no more than tightening up the bolts due to the nature of the material of the basket stretching as result a landing and ground-handling.</p> <p>The competence level required to conduct this task is very simple and with balloon flying operation, this very rarely conducted where there is certifying staff are to hand. The competence level of this task would be lower than that of the competence level required to assemble the balloon for flight.</p>
38.	<i>In the case of a self-sustaining gliders the removal only of the propulsion system where defined in the Flight Manual as a pilot task. and where all connections are self sealing</i>	<p>In the case of item 38, from a safety point of view, the aircraft is certified to fly either with or without the powerplant installed and with self sealing fuel couplings, the risk of any leakage is small when the powerplant is removed. The process of removing the powerplant is very simple (see flight manual extract) These type of aircraft often fly in competitions open to non self sustainers, thus the need to be able to remove the powerplant on site is valid and if the current requirement stands, then there would have to be an appropriately qualified BGA Inspector present at all competitions.</p>
39	<i>Cleaning and lubrication of glider tow release units where specified as a daily inspection.</i>	<p>This is a simple task, but an important one from a safety point of view as the failure of the winch strop to detach during launch can be extremely hazardous. Checking of glider tow releases is part of a normal daily</p>



		<p>inspection. Sometimes they get clogged with mud or grass cuttings and if not cleaned out could constitute a safety hazard. Any competent pilot should be able to clean the mud out and this is regularly done. This also allows for a squirt of oil to re-lubricate if subjected to water from cleaning, this is in addition to any required servicing. This simple cleaning and re-lubrication is well within the capability of all glider pilots and does not need certification by an engineer.</p>
<p>40.</p>	<p><i>In the case of gliders, replacement of flying control self adhesive sealing tapes and tabulators providing removal of a control surface or operating system is not required, and a full and free check of the controls is carried out.</i></p>	<p>Sealing tapes, some fitted with turbulator strips, are used to seal the gap between the wing/tail and control surface and are part of the normal rigging process. Sealing tapes are typically 50mm wide cloth reinforced self adhesive tapes or 25mm wide thin mylar tapes used in pairs. The turbulator is a zig-zag edge built into some tapes to help add a little turbulence to the boundary layer. As this is fitted just in front of the control surface it enhances the effect of the control. Sometimes these sealing tapes become loose or fray and with age or exposure become stiff. If not replaced could restrict the control or cause drag. Replacing the tapes requires no special skill or tools and is well within the capability of most glider pilots. The only conditions are the good practice of ensuring that the controls move fully and freely and no dismantling of the control or operating rods.</p>