

<b>BGA Airworthiness and Maintenance Procedure</b>	<b>AMP 1-2</b>
<b>BGA INSPECTOR AUTHORISATION AND RATINGS</b>	

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### 1. Introduction

BGA inspectors are a highly valued and important part of UK gliding. Their maintenance experience and skills are regularly relied on by gliding clubs and private owners. BGA authorised inspectors are required to understand and comply with the applicable airworthiness and maintenance requirements, including the [BGA Airworthiness Exposition](#) and the [AMP](#).

Maintenance outside the scope of 'Pilot/Owner Maintenance' that is carried out on an aircraft that is under the control of the BGA airworthiness system is to be released to service by an appropriately authorized BGA Inspector. The BGA inspector authorization can include additional ratings. See paragraph 4. Please note that:

- a BGA inspector can certify a release to service on a non-Part-21 sailplane. No licence is required.
- to certify a release to service on a Part-21 sailplane, TMG or aeroplane, a BGA inspector must additionally hold a CAA issued Part-66L licence with appropriate privileges.
- to certify a release to service on a non-Part 21 TMG or aeroplane, a BGA inspector must additionally hold a CAA issued maintenance licence with appropriate privileges.

### 2. BGA Inspector Experience requirement

Applicants for a BGA Inspector authorisation must be able to demonstrate they have at least one year of relevant maintenance experience, in which case their privileges will be limited to non-complex maintenance (as it is defined in Part ML). Individuals often take longer than one year to develop the required relevant experience.

'Relevant maintenance experience' must include assistance with maintenance activities including but not limited to; annual inspections, rigging and de-rigging, repairs, replacements, electrical and instrument work including calibration, weighing and preparing reports for the BGA, and the paperwork relevant to the approval or endorsement applied for. Please see appendix 1 below.

### **3. Application and Issue**

Application for initial issue or additional rating is made using a [BGA Form 221](#).

A Personal Experience Record (PER) is required with the application. This may be used for discussion at the assessment interview. If in engineer's logbook format, the PER will be returned to the applicant for use with subsequent applications for extensions and endorsements to approval. BGA Form 220 may be used for the PER; however, an alternative format may be acceptable. If in doubt, please contact the CTO.

The application is logged and assessed in confidence. If the applicant meets the requirements, he/she will be invited to attend a technical interview at a mutually convenient date and location.

On successful completion of the application process, the new inspector is issued with an annually renewable BGA Inspector authorisation detailing individual ratings. The CTO may grant one-off or limited privileges if there is an operational requirement. Authorisations may take the form of a card, letter or e-mail supplied by the BGA.

### **4. BGA Inspector ratings**

- a) Glider Inspector (AF)
- b) Senior Inspector (S)
- c) Wood Repair (WR)
- d) Composite Repair (CR)
- e) Metal (skin) Repair (MR)
- f) Self-Sustaining Sailplane (SS)
- g) Powered Sailplane & Motor Glider (MG)
- h) Electric Powerplant (EP)
- i) Jet Powerplant (JP)
- j) Tug Inspector (TG)
- k) Senior Tug Inspector (ST)
- l) Engine Inspect and Repair (EO)
- m) Chief Engineer/ARC signatory (CE)
- n) Duplicate Inspections only (DU)

Where not otherwise detailed, experience requirements should be obtained from the BGA CTO.

### **5. Annual renewal of BGA Inspector authorisation**

Annual notification of and renewal of BGA inspector authorisations are managed by the BGA office. Renewals are to be made using the form supplied by the BGA office.

### **6. Continuation training**

BGA inspectors must attend continuation training including human factors at five-year intervals.

### **7. Renewing a lapsed BGA Inspector authorization**

An inspector authorisation that lapsed by less than 12 months may be renewed on application with the renewal fee. An inspector authorisation that lapsed by more than 12 months requires submission of a completed inspector application form (stating the previous inspector number) together with personal experience sheets detailing at least six months applicable maintenance experience within the past two years. In all cases BGA inspector continuation training must be in-date to renew a lapsed authorisation.

## **8. Compliance with BGA approvals**

A BGA inspector is only authorised and insured to certify aircraft which are formally registered as part of the BGA airworthiness organisation. A BGA inspector is not authorised or insured to certify any work or carry out any airworthiness review, renew or extend any ARC, or allowed to certify any maintenance activity as part of another maintenance organisation or on aircraft not registered as part of the BGA airworthiness organisation.

## **9. Records**

Details of initial and continuation training for each BGA Inspector are held at BGA Head Office.

## **10. Responsibility**

It is the responsibility of the qualified person to establish competency either through personal knowledge or by direct supervision. The person maintaining an aircraft or component shall have access to and only use applicable current maintenance data, including as appropriate:

- a) Maintenance Manuals
- b) Flight Manuals
- c) Parts Catalogues
- d) Maintenance Programme
- e) Airworthiness Directives
- f) Manufacturer or TC holder published information
- g) Modification packages
- h) Repair schemes
- i) Acceptable standards and practices manuals
- j) BGA AMP Manual

## **11. ARC Signatories**

Chief Engineers, i.e. ARC signatories, are listed in the BGA Airworthiness Exposition.

## **12. Compliance and Standards**

Good quality work including compliance with the relevant requirements is a fundamental element of airworthiness. All inspectors are encouraged to maintain high standards. Non-compliance is normally identified through the quality system. Using 'just culture' principles, where the aim is to learn and improve rather than blame, the BGA welcomes reporting of evidence of non-compliance or poor standards. The BGA does not get involved with commercial or contractual matters between owners and inspectors.

Where non-compliance or an unacceptable standard of work has been identified, the BGA priorities are to ensure the safety of any aircraft involved, and to offer support and guidance within measures taken to ensure compliance and appropriate standard

### **13. Liability insurance**

The BGA maintains an aviation risk insurance policy that insures the BGA including its inspectors in respect of activities and responsibilities in connection with the airworthiness of gliders, motor gliders and tugs that are registered as part of the BGA airworthiness organisation.

The BGA recommends that if inspectors maintain aircraft in a professional capacity, they obtain professional indemnity insurance to cover product liability, hangar keepers and general risks. If inspectors employ anyone (not necessarily paying them) they may need employer's liability insurance. In all cases, insurance advice should always be sought from an insurance broker.

### **14. Support**

There is a significant amount of supporting information on the BGA members website.

The BGA Chief Technical Officer (CTO) is effectively the BGA's chief inspector. The CTO is assisted by Regional Technical Officers (RTO). The CTO and RTO's can be contacted through the BGA office.

End.

**Appendix 1 – BGA inspector examples of relevant experience.**

**Note** – in all cases, a certificate of release to service on a Part-21 aircraft can only be made by a BGA inspector who holds a Part-66L licence with appropriate privileges.

**AIRFRAME – GENERAL (AF)**

<b>General Activities</b>
Internal and external placards; check or replace
Annual Inspection Documentation
Review records for compliance with airworthiness directives
Five Annual Inspections
Inspection after an occurrence or damage
Dismantling/reinstallation of wings and empennages
Cleaning and lubrication
Life extension inspections
<b>Levelling and weighing</b>
Level the sailplane
Weighing, Weight & Balance Sheet
Prepare a weight and balance amendment
Check the list of equipment
<b>Fuselage, wings and tail surfaces</b>
Fuselage and fin; Inspection, cleaning and waxing
Wings; Inspection, play, frequency check, cleaning and waxing
Tail surfaces; Inspection, cleaning and waxing
<b>Flight Controls and Flight Control Systems</b>
Pilot controls general; Inspection, colour coding and operation
Aileron and Flaps; Inspection, removal, balancing and reinstallation
Elevator; Inspection, removal, balancing and reinstallation
Rudder; Inspection, removal, balancing and reinstallation
Control cables; Inspection, fabrication, installation, tensioning and locking
Control pushrods; Inspection, removal, installation, adjustment and locking
Trimmer systems; Inspection, removal, installation, adjustment and locking
Safeguarding of pins, screws, castellated nuts and wire locking
Sealing of gaps
Range of movement checks
Independent inspections

<b>Electrical Systems</b>
Electrical components and wiring; Inspection, removal, repair and installation
Batteries; servicing and capacity checking
<b>Avionics Systems</b>
COM; Inspection, removal, installation and testing
NAV; Inspection, removal and installation
XPDR; inspection, removal and installation
Antenna/ Antenna cable; Inspection, removal and installation
<b>Cabin Equipment / Systems</b>
Belts – safety harness; inspection, removal and installation
Oxygen system; Removal, installation, testing requirements and safety precautions
Canopy; Inspection, polish, replacement or repair and jettison test
Pitot/Static system; Inspection, component and plumbing removal, installation and test
Flight instruments; Inspection, removal, installation and test
Installation of approved equipment
Compass; Installation and compensation
Tow release; Inspection, removal, installation and test
Water ballast system; inspection, removal, installation and test
Undercarriage; Inspection, removal, installation and function test
Skids; Inspection, wear assessment and replacement
Brake system; Servicing, inspection, adjustments and replacement of components
Wheels and tyres: Inspection, servicing, replacements and creep indicators

SELF SUSTAINING SAILPLANE AND MOTOR GLIDERS (SS or MG)  
(In addition to Airframe General)

<b>Piston Engines General</b>
Routine servicing; oil and filter changes, inspections
Reduction gear/ belt system; Inspect, remove and install belts and adjust
Crankshaft/drive flange; Inspect, check crankshaft run-out
Tappets; Inspect, check and adjust clearance
Check and record compression
Extract broken stud and helicoil repair
Perform ground run
Establish/check reference RPM
Troubleshoot engine and systems
Pylon and extension/retraction systems; Inspection, lubrication and testing
Limit switches: Inspection testing and adjustment
Starting systems; Inspection, servicing, replacement of components and testing
Generation systems; Inspection, replacement of components and testing
<b>Propeller</b>
Propeller; remove and refit
Propeller; Inspect and service
Pitch change mechanism; Inspect, adjust, replace cable and test
Perform static functional checks
Check operation during ground run
Check track
Check setting of micro switches
Assessment of blade damage i.a.w. AMM
Troubleshoot faulty system
Propeller; assess life limitation
<b>Fuel</b>
Water drain system; Inspection, remove/replace valve, test
Booster pump; Inspect, remove/refit and test
Fuel selector; Inspect, remove/replace and test
Fuel tanks and cells; Inspect, remove/replace and leak test
Fuel control valves; Inspect, remove/replace and test
Magnetic fuel level indicators; Inspect, remove/replace test
Check fuel contents manually and check calibration of fuel quantity gauges
Check/replace filters
Replace flexible fuel lines
Flow check system
Check operation feed/selectors
Troubleshoot faulty system
<b>Fuel and control</b>
Replace engine driven pump
Install carburettor/injector
Adjust carburettor/injector
Inspect/replace carburettor diaphragm

Clean injector nozzles
Replace primer line
Check carburettor float setting
Check/replace air filter
Troubleshoot faulty system
<b>Exhaust</b>
Remove/refit exhaust
Inspect, remove/replace shock mounts
Replace exhaust gasket
Inspect welded repair
Pressure check cabin heater muff
Troubleshoot faulty system
<b>Ignition systems</b>
Change magneto, check and adjust timing to engine
Check magneto internal timing
Change plugs
Test plugs
Check H.T. leads
Install new leads
Check system bonding
Troubleshoot faulty system
<b>Engine Indicating</b>
Replace engine instruments(s)
Replace oil temperature bulb
Replace thermocouples
Check calibration
Troubleshoot faulty system



WOOD REPAIR RATING (WR)  
(In addition to Airframe General)

<b>Wooden structures / Metal tubes and fabric</b>
Inspection / testing for damage and deterioration
Identification of types of damage
Rib structure repairs
Plywood skin repairs
Recover with fabric
Rib stitching
Protective coating and finishing
Install patch on fabric material
Repair of fairings
Tubular structure repairs
Inspection of welded repairs

COMPOSITE REPAIR RATING (CR)  
(In addition to Airframe General)

<b>Composite Structures</b>
Inspection damage identification and assessment
Laminate repairs, use of appropriate materials and resin systems
Sandwich structure repairs
Post cure heat treatment of repairs
Partial gel coat repair
Complete gel refinishing
Paint refinishing
Repair of fairings
Repair of flying controls, mass and balance checks

METAL REPAIR RATING (MR)  
(In addition to Airframe General)

<b>Metal skin structures</b>
Inspection and damage identification
Identifying corrosion and treatments
Crack testing
Skin repairs
Rib, longeron, frame and former repairs
Drilling cracks
Riveting techniques and rivet identification
Bonding of structures
Anti-corrosion treatment
Repair of fairings

SENIOR INSPECTOR RATING (A or ST)  
(In addition to Airframe General and appropriate repair rating)

<b>Major repairs as applicable to the above repair ratings</b>
Extensive damage assessment
Major repairs to spars and frames that require jiggging of the structure
Major repairs to skins that required jiggging and alignment
Major repairs to GRP structures
Major repairs to flying controls
Guidance and mentoring to new inspectors

ELECTRIC POWERPLANT (EP)  
(In addition to Airframe General)

<b>Electric motor-powered sailplanes</b>
Battery installation; Inspection, testing and servicing
Battery precautions; installation, charging, discharging, servicing and damage
Power feed and control systems. Inspection, repair and testing
Pylon and extension/retraction systems; Inspection, lubrication and testing
Limit switches: Inspection testing and adjustment
Motor; Inspection, servicing, removal/installation and testing
Propeller: Inspection, removal/installation
Propeller; Assessment of blade damage i.a.w. AMM
Propeller; Assess life limitation
Control system: Inspection, BITE testing
Monitoring systems; Interrogation, download and linkup

JET POWERPLANT (JP)  
(In addition to Self-Sustaining Sailplane and Motor Glider)

<b>Jet turbine powered sailplanes</b>
Engine; Inspection, servicing, removal/installation and testing
Intake: inspection
Fan and IGV; Inspection and damage assessment
Combustion case; Inspection damage assessment
Exhaust collector/nozzle; Inspection, damage assessment
Jet Fuel system: Inspection, servicing and replenishment
Starting systems; Inspection, testing, servicing and troubleshooting
Starting gas bottle; Inspection, replenishing and testing
Engine; assess life limitation

## ENGINE INSPECTION AND REPAIR (EO)

<b>Overhaul of non-type certified engines</b>
Strip and inspect engines
NDT of internal components
Wear and damage assessment
Reconditioning of parts
Assembly and testing of engine
Inspection of engine accessories
Reconditioning of engine accessories

## BGA TUG INSPECTOR (TG)

<b>Maintenance of BGA Tug aircraft</b>
Hold an appropriate licence
Most of the experience detail above applies.

CHIEF ENGINEER/ARC SIGNATORY (CE, ARC Signatory)  
(In addition to Airframe General and appropriate rating SS, MG, TG)

<b>Issue Airworthiness Review Certificates</b>
For Non-Part 21 aircraft. Additional three years of experience in aircraft continued airworthiness. For Part 21 sailplanes. An appropriate Part-66 licence with additional one year of experience. For Part-21 aeroplanes. An appropriate Part-66 licence with additional three years of experience.
BGA training course

**Note** – in all cases, a certificate of release to service on a Part-21 aircraft can only be made by a BGA inspector who holds a Part-66L licence with appropriate privileges.