

**LARGE
MODEL
ASSOCIATION** 
www.largemodelassociation.com

MEMBERS' HANDBOOK

January 2016

Enquiries and Amendments

Any query or suggestion for amendment of this document should be addressed to the Secretary.

The names, addresses, telephone numbers and email addresses of Officers and Committee Members may be found on the inside front page of the current issue of the Journal or on the website.

Disclaimer

While every care has been taken in the writing of this Handbook the Association or its Committee and Officers cannot accept responsibility whatsoever for any loss or damage that may occur as a result of information or advice which it contains.

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Section I – Introduction

1.1 Introduction

The Large Model Association was founded in 1982 to represent the point of view of those who build and fly large models to the Civil Aviation Authority and other bodies.

The LMA is a non-competitive organisation, and does not want to create an elite or unnecessary bureaucracy among large model flyers. We work to address issues that may cause restrictions to large model flying, therefore we are concerned about safety and competence in building and flying large models.

The LMA, on behalf of all UK modellers, administers the inspection Scheme required by the CAA to legally operate models over 20 Kg.

A journal is published several times per year, and includes the contact details of the current officers and committee of the LMA.

The LMA website at www.largemodelassociation.com provides up-to-date information on the latest events and developments pertinent to large models. A discussion forum allows the membership to swap ideas, help and advice in all areas related to large models.

Throughout the year events are organised around the country-

- Public shows are both for the enjoyment of members and the promotion of modelling to the general public.
- Flyins are generally for the benefit of members, and give a relaxing break for flying in like-minded company.

1.2 Organisation

The Annual General Meeting is held each year in November or early December when the Chairman and Committee, whose responsibility is to control the day-to-day running of the Association, are appointed. A Board of Guardians chosen from those with long experience of the aims and traditions of the Association ensure, in the manner akin to Trustees, that these aims and traditions are maintained.

1.3 Membership & Subscriptions

Any person who is willing to abide by and uphold the rules of the Association may apply to join, on payment of any joining fees and the annual subscription for the time being in force.

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- Membership must be renewed annually, the year for this purpose ending on 31 December.
- Notification of such renewal is issued in the last issue of the Journal of the preceding year.
- Membership not renewed by the end of February lapses.

(Note- insurance cover lapses on December 31st. The period of grace allowed by the LMA to cover membership does not extend to insurance).

I.4 Relationships With National Bodies

I.4.1 The British Model Flying Association (BMFA)

Many LMA members are also members of the BMFA. There is no formal affiliation between the groups but the Association views that it is in its own interest to liaise with the BMFA where matters of common concern or mutual benefit arise. The Constitution enshrines such a position (Rule 3(d)).

I.4.2 The Scottish Aeromodellers Association (SAA)

As in England and the BMFA, many Scottish members are also SAA members. A similar position to that described above exists with the SAA.

I.4.3 The UK Radio Control Council

The Association is represented on this body together with the other modelling organisations. The Council serves to represent the member bodies' interests to the Radiocommunications Agency, the organisation responsible to the Department of Trade and Industry for management and control of radio-frequency transmissions and their specification, allocation of frequency bands etc.

I.4.4 The Civil Aviation Authority (CAA)

The LMA has formal links with the CAA under whose auspices the Air Navigation Order that relates to all flying in this country, be it full-size or model, is regulated. Under that Order the CAA makes specific regulations governing model flying.

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The Association plays a leading part in negotiations with the CAA about these regulations and requires members to take care that they are observed. A summary of the current regulations is given in Section 3, but it must be emphasised that these may change from time to time. The only valid regulations from models over 20kg are those appearing on a valid current exemption certificate.

The CAA also regulates Shows at which the general public are present and lays down conditions for their organisation and requirements for pilot competence. The LMA Proficiency Test complies with such requirements and is mandatory for those members who wish to fly at these events (see Section 5 for details).

1.5 Insurance

Third party indemnity insurance is included in the annual subscription.

Remember that your insurance is only valid if your membership subscription is paid for the current year, and you are complying with all applicable regulations in every respect.

The cover has a single claim limit of £25,000,000 and covers only personal operation of the model for sport and recreation. It covers all third party risks, including member to member liability and also Crown Indemnity on MOD property.

The cover is only valid for flying in the UK. For cover overseas please contact the LMA Secretary.

1.5.1 Making A Claim

In the event of an accident or incident where a third party is involved, the LMA Secretary **MUST** be informed immediately (see the Journal or website for contact details).

It is important that all incidents that may give rise to a claim are reported as soon as possible after the event. This will enable Insurers to carry out investigations at an early stage whilst information relating to the claim remains fresh in the mind.

In NO circumstances should a member admit liability or agree to pay for any damage caused as this may prejudice the position of the Insurers and COULD result in the withdrawal of any indemnity.

Finally, please note that this is a Liability Policy where the Insurers decide if negligence attaches to the member. Therefore any payments made to any third parties will not necessarily be reimbursed.

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1. The Large Model Association is hereinafter referred to as the '*Association*'. The address of the *Association* shall be that of the Secretary for the time being (the Secretary).
2. This statement of Constitution and Rules was updated on the twenty-fourth day of November 2013 at the Annual General Meeting of the *Association* and supersedes and replaces all former statements of Constitution and Rules.
3. The aims of the *Association* shall be as follows:-
 - a. To unite modellers dedicated to the building, safe flying and enjoyment of large model aircraft and to organise events at which members may fly such aircraft.
 - b. To assist those modellers in the design, building and safe flying of large model aircraft.
 - c. To encourage safety in the design, construction and operation of large model aircraft.
 - d. To liaise with and to represent members interests to the *British Model Flying Association* and the *Civil Aviation Authority* and to such other bodies as shall from time to time appear to the Committee of the *Association* (the Committee) shall be concerned with the member's interests.
 - e. To offer the services of the *Association* to other groups, clubs and bodies in connection with the organisation of meetings and events involving the flying or display of large model aircraft.
4. The Chairman of the *Association* (the Chairman) shall be elected and the Committee shall be elected and constituted as follows:-
 - a. The Chairman shall be elected by a majority of members voting at the Annual General Meeting of the *Association* (the A.G.M.).
 - b. The Committee shall comprise seven members who shall be elected in similar fashion and the appointment of the Secretary and the Treasurer of the *Association* (the Treasurer) shall be by and from such members save that if the Secretary or the Treasurer should leave office during their term the remaining elected Committee members may appoint any other member to the vacant post and to membership of the Committee under rule 4(c).

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- c. If the Committee shall so decide, further members may be co-opted to serve upon the Committee with the same voting rights as elected members save that the maximum number of voting members of the Committee shall not exceed thirteen. Such co-opted members shall be deemed to retire from service at the termination of such service of the then elected Committee members.
 - d. Any elected member of the Committee, co-opted member of the Committee or any other member appointed by the Committee to perform any other office may retire from office upon giving fourteen days notice of such retirement to the Secretary or in the case of the retirement of the Secretary to the Chairman.
 - e. At any meeting of the Committee the Chairman shall conduct the meeting, but shall not exercise a vote in arriving at a decision upon any matter before the Committee. In the case of a vote upon such a matter which does not attract a majority the Chairman shall be entitled to cast a deciding vote. At any meeting of the Committee the Chairman may accept votes by facsimile message, post, telephone, email or proxy from any members of the Committee who is unable to attend in person.
 - f. The Committee may appoint elected members, co-opted members or other members of the *Association* to fill other posts necessary for the efficient conduct of the *Association*. Any non-elected members or non co-opted member so appointed will be deemed to retire from service at the termination of service of the then elected Committee members.
 - g. The Chairman and elected members of the Committee, co-opted members of the Committee and any other officer appointed by the Committee who is not a member of the Committee shall serve in their respective offices and posts from the day following the date of the A.G.M at which they were elected or appointed until the date of the following A.G.M.
 - h. The Committee may appoint a President or Vice President of the *Association*.
5. A board of Guardians of the *Association* (the Board) shall be appointed from those who have achieved a prominent position in the *Association*:-
- a. The Board shall comprise eight members who were initially appointed by the Committee after the A.G.M, in November, 1991 and thereafter two of the members selected by a ballot amongst the members shall retire or offer themselves for re-election at the end of the first year of service whereupon they all be either replaced or re-elected by a simple

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majority of the remaining members. At the end of the second, third and fourth year from the initial appointment a simple procedure for replacement or re-election of two members successively shall be adopted save that in the fourth year no ballot shall be necessary. Subsequent elections shall be conducted as set out in '5(b)' below.

- b. Not later than the 20th of September in any year the names of the two members to be re-elected or the candidates to be elected shall be submitted from the Board to the Secretary for consideration by the Committee. The Board shall pay serious attention to any submission made by the Committee in relation to such election or re-election but shall not be bound by the said submission in making its choice of new or re-elected member. The Board's final choice of candidate for election or member for re-election shall be put before the subsequent A.G.M. for approval of the general membership. If any candidate or member of the Board shall not be approved for appointment or re-appointment by a majority of the general membership of the *Association* voting at the A.G.M. the Board shall choose a further candidate who shall be approved or otherwise by a majority at a joint meeting of the elected members of the Committee and the Board.
- c. Members of the Board who retire at a time other than the expiry of their term of office shall be replaced by another candidate selected by a majority of the remaining members of the Board and following the procedure set out in '5(b)'.
- d. After their initial appointment the members shall select by a simple majority one of their members to serve as Chairman of the Board (C.B.) and thereafter he shall either retire or offer himself for re-election at the end of each complete year of office whereupon he may be either replaced or re-elected in similar fashion.
- e. The Secretary shall be informed by the C.B. of any changes which result from the foregoing provisions.
- f. The duties and responsibilities of the Board are as follows:-
 - i. The Board shall meet with whatever frequency it in its discretion thinks fit.
 - ii. The Board shall provide support and advice to the Committee and will give continuity through the members' experience of the *Association* and its history.

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- iii. The Board shall uphold the aims and traditions of the *Association* and will assist the Committee in this.
- iv. The Secretary shall ensure that the members of the Board are supplied with a copy of the minutes of all meetings of the Committee within fourteen days of the subject meeting having taken place.
- v. If on perusal of the said minutes or receipt of other information it appears to be a majority of the members of the Board that the Committee proposes to take action or refrain from some action with which the members of the Board disagree, then the C.B. may give notice of such disagreement either verbally or in writing to the Chairman whereupon no step or action shall be taken by the Committee relative to the subject matter of the disagreement until the provision of 'vi' below has been implemented.
- vi. Every effort shall be made to resolve the said disagreement by way of informal discussion between the members of the Board and elected members of the Committee and only if such resolution proves impossible shall the provisions of 'vii' below be implemented.
- vii. The Board may in its discretion call a joint meeting of the Board and the Committee which shall be chaired by the C.B. Decisions shall be made by a simple majority, each member of the Board and elected members of the Committee having a vote including the Chairman and C.B.
- viii. If after the said meeting either the Board or elected members of the Committee are dissatisfied with the said decision then either body may by a majority vote of either of them decide to proceed with a postal ballot of the whole membership of the *Association* under the provision of Rule '16' hereunder and any decision so arrived at shall be binding upon all parties.
- ix. At meetings of the Board or at joint meetings, the C.B. may accept votes by facsimile message, post, telephone or email from any member of the Board or elected member of the Committee who is unable to attend in person.

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- x. The foregoing provisions are not intended to give the right to the Board to intervene in the normal day-to-day conduct of the affairs of the *Association*, but are intended to provide an advisory and assistance service to the Committee in matters of importance and significance to the *Association* and it is further intended that members of the Board shall act in these matters in a matter akin to trustees of the *Association*.
6. The rules governing the membership of the *Association* shall be as follows:-
- a. Membership shall be open to any person who is willing to uphold and abide by the rules of the *Association* on completion and delivery of the requisite application form and payment of the requisite subscription. On receipt of the completed application form and subscription the Membership Secretary may, in his absolute discretion, accept the application or notify the applicant in writing that he/she is required to attend an interview before the Committee who shall decide by a majority whether to accept or reject the application. The decision of the Committee shall be final.
 - b. Members under the age of 18 must be supervised by their parent or guardian, who must also be an *Association* member, while attending any *Association* event or meeting.
 - c. Appointment to Honorary Membership of the *Association* shall be at the discretion of the Committee and such Honorary Members shall have all the rights of ordinary members of the *Association*.
 - d. Any member may withdraw from membership of the *Association* at any time upon giving written notice to the Membership Secretary. Membership shall be deemed to have ceased if any member has failed to pay the annual subscription by the 28th February in any year.
 - e. A member may be required to withdraw from membership of the *Association* in the following circumstances:-
 - i. Where the Committee is of the unanimous opinion that the said member has been guilty of a breach of the rules of the *Association* or conduct inimical to the aims of the *Association* or conduct which is disruptive or offensive or appears to be calculated or intended to interrupt the proper and harmonious conduct of the *Association*, the Secretary shall give ('notice of termination') and such notice shall set out in brief form the grounds upon which the decision has been made.

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- ii. Within fourteen days of the date of the notice of termination (in respect of which time shall be of the essence) the said member may appeal against the said termination of membership to the Committee by a written submission in reply. ('the Submission').
- iii. The Committee shall within 14 days of receiving the Submission appoint a person independent of the matter ('the Arbitrator') who may or may not be a member of the *Association* to consider the Submission. Within 28 days of his/her appointment the Arbitrator shall make his/her decision and either confirm or cancel notice of termination whichever seems to him/her the most fair and reasonable in all the circumstances of the matter. The Arbitrator shall communicate his/her decision in writing to the Committee and to the member concerned and the Arbitrator's decision shall be final and binding.
- iv. Any person whose membership has been terminated shall not be entitled to re-apply for membership of the *Association* until the expiration of the period of 2 years following the date of termination, and may be required by the Membership Secretary to attend for an interview before the Committee who shall decide by a majority whether to accept or reject the application. The decision of the Committee shall be final.

7. The financial affairs of the *Association* shall be conducted in the following manner:-

- a. The financial year of the *Association* shall run from 1st October to 30th September each year, and the conduct of the financial affairs of the *Association* shall be in the hands of the Treasurer. He/she shall prepare a balance sheet and schedules of income verses expenditure, and present the same to the Chairman and Committee for approval and to independent audit and shall present an approved report to the A.G.M.
- b. The Treasurer shall be responsible for providing the required Corporation Tax return to H.M.R.C for the same period each year.
- c. No enquiry into the financial affairs of the *Association* shall be made by any member save that if within thirty days after the A.G.M. any member wishes to obtain further information concerning the financial affairs of the *Association*, he shall give notice in writing to be received by the Secretary within the time of that requirement and the Treasurer shall then supply to such member such information as within reason he may require to satisfy his enquiry.

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- d. The Membership Secretary shall before the 20th January in any year send a notice to each member requiring payment of the annual subscription.
8. The formal meeting of the *Association* shall be initiated and conducted as follows:-
- a. The A.G.M. shall take place in November or December of each year and notification of it shall be sent to all current members not later than sixty days prior to the date of the meeting.
 - b. The A.G.M. shall be conducted by the Chairman or in the case of his absence the Secretary who shall place before the members attending any matters which may in their view be properly discussed at such a meeting and in accordance with the following agenda:-
 - i. Confirmation of Minutes of the last meeting
 - ii. Matters Arising
 - iii. Report by the Chairman
 - iv. Report of the Treasurer and setting of annual subscription
 - v. Approval of Accounts
 - vi. Reports by other Officers
 - vii. Election of Chairman and Committee Members
 - viii. Any proposals received under Rules '5(c)' '9' and '10'
 - c. A quorum of members shall be 10% of the membership including the Officers and members of the Committee and members of the Board.
9. Any alteration or amendment to this Constitution and Rules can only take place at the A.G.M. and requires a majority of two-thirds of the votes of the members attending the meeting.
10. If any member or members shall have any proposal for discussion or possible adoption at the A.G.M., which shall tend to amend, alter or affect this Constitution and Rules then such proposals shall be sent in written form to the Secretary and received by him not later than the first day of September in any year. A copy of the said proposal shall be sent to all elected members of the Committee and the members of the Board for their consideration. In deciding whether to recommend the proposal to the A.G.M. or to oppose it the Committee shall take into consideration the views of the members of the Board. Nevertheless, it shall be for a majority of the elected members of the Committee to make a final decision upon whether to recommend the proposal or not.

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11. A copy of any proposal arising under Rule '10' shall be sent to all members of the *Association* to be received not later than seven days before the A.G.M. in any year and the Secretary shall make every effort to publish in the issue of the Journal of the *Association* next before the A.G.M., particulars of other proposals to be put before the A.G.M. under Rules '5 (c)' and '12'.
12. If any member or members shall have any proposal for discussion and possible adoption at the A.G.M. which shall not fall under the description contained in Rules '9' and '10' or which shall be a nomination of a member for the office of Chairman or member of the Committee, such proposal or nomination shall be sent in written form and received by the Secretary not later than thirty days before the date of the A.G.M.
13. If at least fifty members of the *Association* require it, an Extraordinary General Meeting of the *Association* may be called at any time. The said members shall give notice of intention to call the meeting by sending their individual written requirements to the Secretary. The rules governing the conduct of an Extraordinary General Meeting shall be the same as those governing the conduct of the A.G.M.
14. Any Extraordinary General Meeting shall not be held earlier than sixty days from the date of any of the individual notices required by these rules to call the said meeting and the requirements of Rules '10' and '12' as to the admission of proposals to be discussed shall equally apply.
15. The *Association* shall make arrangements for third party insurance cover for its members in the following manner:-
 - a. Without further charge over and above the annual subscription the *Association* shall arrange third party liability insurance cover for each current member providing the reimbursement for loss arising from claims made from third parties or other members involving the operating of radio-controlled model aircraft.
 - b. Each member by his acceptance of membership of the *Association* thereby fully agrees that no liability of any kind will attach to past or present members of the Committee, or of the Board, or of any other member appointed by the Committee to perform a particular duty arising from and in any manner in connection with such insurance, such claim or such loss whatsoever.

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- c. It shall be the responsibility of each member to ensure that his operation of radio-controlled aircraft shall comply in every particular with any legislation, rule or official requirement governing, controlling or appertaining to the operation of such models and each member accepts that the said insurance cover shall not necessarily protect him from loss if he is in any breach of such requirements when operating such models.
16. If any issue arises concerning the interest of the members or the Committee or the Board, or any other matter which the Committee or the Board in its discretion considers sufficiently important, then the members shall be circularised with the full details of the said issue including the submission of any member or members thereon. The members shall then be given the opportunity to submit a postal vote upon such issue and the Committee and the Board shall be bound in deciding upon such issue by a two-thirds majority of those members replying to the circular, including the members of the Committee and the Board. The right of the Committee or the Board to avail themselves of this procedure shall be free of all restriction which might otherwise have been imposed by the provisions of Rule '5(f)' paragraphs 'v' and 'vii' and the costs of implementing such procedure shall be borne by the *Association*.
17. The Large Model Association is a non-profit making organisation. All profits and surpluses shall be used to maintain or improve the *Association's* facilities. No profit or surplus shall be distributed other than to another non-profit making body or to members on the winding up or dissolution of the *Association*.

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Section 3 – Guidelines And Safety Codes For Flying Large Model Aircraft

3.1 All Models

Model aircraft flying in respect of any weight or size is governed by two main articles of the Air Navigation Order (ANO), CAP 393 -

Article 138 states:-

A person must not recklessly or negligently cause or permit an aircraft to endanger any person or property.

Article 166, the most important paragraph (2) states:-

The person in charge of a small unmanned aircraft may only fly the aircraft if reasonably satisfied that the flight can safely be made.

This puts a legal requirement on the pilot to consider all aspects of safety before a flight is made. Pilots should take great care not to underestimate the importance of this clause.

These laws cover all model flying, and guidance is encapsulated in the CAA Publication (CAP 658) headed 'Model Aircraft: A Guide to Safe Flying'. Whilst the recommendations in CAP 658 are not regarded as legal requirements, one of the reasons why it is issued by the CAA is to provide guidance to what would be considered 'reasonable practice'. In this context it is sensible to suggest that all model flyers should read this publication, and it is available free as a download from the CAA website.

3.2 Models Between 7kg and 20kg

- I. Any model aircraft (power fixed-wing, glider or helicopter) weighing between 7 kg and 20 kg without fuel are subject to additional regulation by the Air Navigation Order in Article 166.
 - a. Pilots of models between 7 and 20 kg should take great care to comply with these regulations as their wilful or negligent breaking could result in their flights being illegal under the terms of the ANO and they may be liable to criminal prosecution.
 - b. Large models may not be flown-
 - i. at a height of greater than 400ft
 - ii. in any full-size air traffic control zone or special rules zonewithout the specific permission of the appropriate ATC authority.

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Section 3 – Guidelines And Safety Codes For Flying Large Model Aircraft

For information on such zones, contact your nearest airfield or airport air traffic control. They will be able to give you the permission you require if your flying site falls within such an area.

2. Pilots of large radio control models should be aware that such models may have different operating characteristics to smaller models, several of which may not be initially apparent. The greater mass and inertia of the large model, its generally more robust (less compliant) structure and the differences of larger flight surfaces can mean handling characteristics nearer to full size aircraft than models.
3. You may also have visual perception problems caused by the size of the model. This usually takes the form of the aircraft being much further away than you think and can cause positioning problems in flight and danger on landing due to the large 'swept' area on the approach. Be aware of this problem, especially when flying at low level.
4. When constructing the model ensure that all parts have adequate strength for the task they perform. Pay special attention to the way in which wing load stresses are transferred between the wing structure and the fuselage. Tailplane members, if detachable, should have a positive lock to their mounting so that they cannot be shed in flight.
5. Never use long unsupported control rods to the control surfaces or plastic clevis connectors as control forces will be high. Wherever possible each aileron should have its own servo and the elevator should preferably have two independent servos with either-
 - a. a mechanical interconnection so that either can drive the control surface (with reduced movement) should the other fail
 - b. each servo driving one half of the elevator through separate pushrods.
6. Pay particular attention to the state of the battery and the switch harness. Ensure that the batteries in both the model and the transmitter have adequate capacity for the flight to be undertaken and are fully charged for each flying session. Don't expect a standard receiver battery pack to cope with the demands of high power servos and large control forces. Loss of battery power is the most frequent cause of system failure. There are commercial battery back-up systems available and circuits have been published for similar systems. These should be seriously considered for all large models.

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7. Models in this category must have a radio fail-safe device fitted and operational. Remember that the purpose of the device is to prevent the model flying away in the event of radio failure and test it regularly as part of your pre-flight checks.
8. All 'large model' pilots should hold the LMA Proficiency Certificate, or equivalent such as the BMFA 'B' or SAA Silver Wings and ensure that both adequate third party insurance is in place and that all flights made comply with CAA regulations.
9. Do not operate large models at a site which allows public access to the take-off or landing area unless that access can be marshalled during the duration of the flight. Although you may be aware of the potential dangers, the general public, especially children, will not know these hazards.

Above all always fly sensibly and safely.

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Section 4 - Over 20Kg Scheme – Guidance and Advice

4.1 Introduction

If you plan to build and fly a model in the UK which weighs over 20kg then it is mandatory (a requirement of the CAA) that the aircraft is built, inspected and flight proven using the scheme operated by the LMA on behalf of the CAA.

Please note that since July 2011 pure gliders also require an Exemption.

Therefore, if you are planning to build or fly an aircraft over 20kg, contact The LMA CAA Liaison Officer. Please do this BEFORE you begin building.

Registration of a project can be made using the form available on the LMA website and the details on this form can be E mailed or phoned through to the CAA Liaison Officer. You will find that the aim is to help you complete a successful project that will be a safe aeroplane to fly.

Note that if you are considering building a model that weighs over 150kg you will have to put the model through a FULL airworthiness certification.

As part of the LMA's relationship with the CAA, there is an annual meeting to discuss topics of interest and possible improvements to the Over 20kg Scheme.

4.2 Brief Description Of The Inspection Process

The CAA introduced revised procedures for the completion of registration and the issue of Exemption Certificates on the 1st April 2002. The LMA have been running the scheme on behalf of the CAA using these procedures since the late summer of 2001 and only a few changes have been found necessary. However from mid 2007 further improvements were made to the Scheme in conjunction with the CAA.

The Over 20kg procedure consists of several parts and is designed to ensure that all models weighing over 20 kg are fully tested and the pilot is competent to operate the model. The first part, the inspection process, starts with an appointed inspector overseeing the construction of the model and final approval so that a Certificate of Design and Construction can be issued by the LMA's CAA Liaison Officer.

The owner will be issued with a form to apply direct to the CAA for an Exemption to Test Fly and will also be given a copy of the Certificate of Design and Construction which will accompany the application.

This exemption will be an Exemption to Test Fly and will only permit the model to be flown in private for test purposes in the presence of an approved LMA witness. Please note that if the owner wishes the first test flights to be carried out by another person they will also have to be named on the exemption. There are procedures

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however where the test flying may be carried out by a small number of LMA approved Examiners. This list can be obtained from the LMA's CAA Liaison Officer.

The exemption will be valid for 3 years and it is expected that during that time the pilot will complete a Flight Test Log in accordance with the guidance given below.

An Exemption (Test only) will not permit a model to be flown where the general public are in attendance.

Only when the pilot has a Full Exemption to Operate will the named pilot be permitted to fly the model without an LMA Examiner or other approved person being present.

If another pilot is to be added at a later date, that pilot can apply to the LMA CAA Liaison officer for an additional Flight Test Log which will give approval for the other pilot to start test flying. When this is completed, it will enable the second pilot to be added to the Full Exemption.

This procedure can only be done with a model that already has a Full Exemption.

4.3 Flight Test Log

A flight test log must be completed individually by every pilot that is to be named on the Exemption to Operate.

As mentioned previously all flights must be witnessed by an approved LMA witness. The pilot should check with the approved list before commencing any flights. The flying site must also be able to comply with the rules regarding the operation of Over 20kg aircraft and any doubt about this should be clarified by liaison with LMA CAA Liaison Officer.

It is not permitted to carry out any flights whilst operating under an Exemption (Test only) without the presence of an approved LMA witness See paragraph 2 (I) of the Exemption.

All flights must be recorded on the log and must total a minimum of one hour flying time with the individual specified manoeuvres completed over the period of the test flying.

The flying time must be completed in not less than 6 flights totalling 1 hour and each flight should include start-up and shut-down of the engines and radio.

There are specific minimums in relation to gas turbine powered and Over 80kg aircraft and this is covered below.

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It should be stressed that 1 hour is an absolute minimum and it is likely that it will take longer than this to satisfactorily complete the test programme.

Any modifications to the model that are identified during the test program, or any repairs that are needed, should be carried out with the involvement of the original build inspector(s) and recorded on the build log, and this may mean further testing is required.

It is expected that for unusual, complex, or types of model new to the pilot, that the test programme will be extended to ensure that the model is safe and pilot is competent.

The individual manoeuvres listed on the log are designed to demonstrate the integrity of the model and the ability of the pilot to control the model under more “extreme” conditions that it would see in normal use.

Special care will be taken to ensure that the pilot is competent to carry out crosswind take-off and landings and knows the models’ limitations in this respect. The pilot should also be able to demonstrate take-offs without having to stand behind the model. The show routine box is there to confirm that the pilot is capable of positioning the model safely in relation to a crowd-line. It is not meant as a method of judging how good an aerobatic or low flying display the pilot can put on, but it will include any types of manoeuvres that the pilot would wish to normally fly.

Sometimes it may be necessary to complete the test flying over a period of time and not in one day. Witnesses will ensure that the pilot is capable of operating the model in a variety of weather conditions and not only on a ‘nice’ day.

On satisfactory completion of the Flight Test Log it should be returned to the LMA CAA Liaison Officer who will then provide an application form requesting a Full Exemption to Operate which is to be completed, signed and sent to the CAA. The CAA will then issue the Full Exemption.

A copy of this Exemption is sent to the LMA CAA Liaison Officer by the CAA and held on file. It is also posted on the LMA website in the section ‘Current Over 20kg Exemptions’.

If the witness is unhappy for whatever reason at the end of the flight test period, the matter will be referred back to the LMA CAA Liaison Officer who will then appoint an LMA Examiner to review the matter and make a recommendation for further flights or model inspection prior to the application for a Full Exemption.

Once the named pilot has a Full Exemption to operate, the model can be flown without an LMA witness being present noting that the model must be operated within the requirements as laid down on the Exemption.

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4.4 Witnesses

Witnesses are approved by the LMA Committee and they are provided with Guidance Notes about the test flying procedures.

The witness of any flight test programme takes on a big responsibility for the subsequent safe operation of the model. Witnesses will ensure that all of the requirements of the Flight Test Log are fully completed in accordance with the Guidance Notes and also any specific requirements or guidance attached to the model before completing the log. Brief notes will be included in each box commenting on the performance of the model and pilot. If the witness considers that additional flights should be completed prior to the issue of a Full Exemption to Operate, this will be recorded.

By signing the log the witness is confirming that the pilot appears to be safe to fly the subject model at the place and in the weather conditions noted.

In the exercise of these responsibilities the witness will take great care to make sure that this part of the process is carried out accurately and without fear or favour.

It should be understood that the test programme is not only to test the model, but also test the pilot's ability to operate the model in a safe manner.

4.5 Models Over 20Kg but Under 80Kg

One Inspector will be appointed who will record 'progress' inspections on the Progress sheet and complete a Final Inspection for the issue of a Certificate of Design & Construction.

The 'Exemption to Test Fly' issued by the CAA will also allow an LMA designated Examiner to do the test flying in addition to any named pilot(s) on the Exemption. This enables the builder or owner to delegate this responsibility if they so wish. All pilots wishing to fly in public with the aircraft will have to complete the minimal requirements of 6 flights totalling 1 hour.

The minimum requirement for gas turbine powered models is-

- over 20kg but under 30 kg no less than 6 flights totalling at least 1 hour
- over 30kg but under 80 kg no less than 12 flights totalling at least 2 hours.

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4.6 Models Over 80Kg but Under 150Kg

One Inspector will be appointed who will record the 'Progress' inspections and liaise where necessary with an Senior Inspector who will then attend the Final Inspection for the issue of a Certificate of Design & Construction.

All test flights in this category must be witnessed by an approved LMA witness, and some test flights (number to be agreed with the Senior Inspector) must be witnessed by a Senior Inspector who was not involved in the build inspection process. The 'Exemption to Test Fly' issued by the CAA will also allow an LMA designated Examiner to do the test flying in addition to any named pilot(s). The period of test flying must be a minimum of 12 flights totalling 2 hours. All pilots will be required to meet these criteria before being allowed to fly the aircraft in public.

4.7 Airborne Systems In Over 20kg Models

Since the introduction of the LMA Over 20kg Scheme 25 years ago there have been tremendous developments in the technology of R/C model activity. This has, more recently, been accelerated by the approval of 2.4 GHz for model aircraft and has challenged our concept of what is, and what is not, acceptable. The LMA Safety Panel have discussed this issue and also sought technical advice.

For many years the LMA have operated a policy of addressing 'single point' failure in airborne systems and wherever possible system installations have been given approval using that concept. However it is felt that in order to deal with enhanced technology our emphasis in the future should be based on a 'minimum risk' approach, and we are asking Inspectors to use these criteria. The LMA recognise that irrespective of the airborne system installed, total failure will probably, at best, result in a controlled crash – this is why we and other model organisations use the criteria defined in CAP 658 regarding safety distances at public events and also in the 'club flying' environment.

Specific attention has been given to systems which have the facility to plug in one or more aerials (called satellite receivers). Because these satellite receivers are only attached to a single decoder, they comprise of only a single receiver. This system would need to be duplicated to meet the LMA criteria because they represent no less risk than a 'traditional' single receiver.

As a result of these discussions we feel our Inspectors are in a position to recommend the following scenarios which present the 'minimum risk':-

1. The traditional system of 2 batteries, 2 Rx's, and 'crossed' controls.

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2. A Powerbox (or any other similar manufacturers' system) which has a redundant Rx system (RRS) which provides for the fitting of 2 Rx's and 2 batteries – these Rx's can be Futaba, JR, Spectrum, or any other proven product. In this system it is expected that all controls surfaces would still be operative in the event of most recognised failures.
3. The Weatronics (or any other similar manufacturers' system) which contains dual receiver systems on either 35 MHz or 2.4 GHz. This system would emulate the operation in No 2 above.

We must emphasise that the success of the Over 20kg Scheme has been largely achieved by the relationship between the builder and the appointed Inspector. Anyone contemplating building a model that will come close to, or exceed the Over 20kg limit should register it and then liaise with the appointed Inspector before proceeding. This is particularly important when purchasing radio equipment which is intended for use in the model.

The LMA Committee, in conjunction with the Civil Aviation Authority will continue an 'on-going' re-appraisal of new systems and technologies as they become available.

4.9 Frequently Asked Questions

Q Can some else test fly my new project

A Yes – the CAA have approved some pilots in the LMA to carry out test flying. You can obtain that information from the LMA CAA Liaison Officer. Alternatively you can also nominate a pilot (or several pilots) on the application form which you use to apply for an Exemption to Test fly.

Please remember that any pilot who flies your aircraft in public must have completed the mandatory test flying programme in accordance with Test Flight Log procedures.

Q What happens if unintentionally, my project creeps over 20kg and I have not registered it.

A Houston, we have a problem! We will try our best to resolve the situation but if the wings have been sheeted etc then there may be some hacking about to do.

Far better to register the project in the first place and if it comes in Under 20kg, as some do, then nothing is lost except the expense of the Inspectors cups of tea!! If you are an LMA member then the LMA pick up the travelling costs.

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Q What do you do about ARTF models

A Obviously, most of these are composite, and our Inspectors are usually able to look at the build quality. If you have any doubts contact us first. Each case is treated on an individual basis

Q What do I do if someone builds the model for me

A You can register the project in your name but the builder must ensure that the appointed Inspector can carry out Progress checks and perform the Final Inspection.

Q What do I do if I buy a second hand large model.

A Get in touch with LMA CAA Liaison Officer first before you part with any money. EBay bargains may look good at face value but quite a few aircraft have 'been round the block' a few times and have failed Inspections. Even if the aircraft has had an Exemption or even has a current one please remember that when it is registered in your name it has to be re-inspected – you cannot go on flying it with the previous registered owners Exemption. The motto in this scenario is 'buyer beware'. Having said that, there are some good reputable large models for sale. If they are advertised on the LMA website then the owner is obviously not too concerned about the rest of the LMA knowing about it!

Q What do I do if I want to have additional pilots after getting the Full Exemption.

A The CAA now allow us to approve test flights for additional pilots on aircraft that hold a Full Exemption. Until recently you would have needed to apply for another Exemption to Test Fly for your new pilot. The form for additional pilot test flying is available from LMA CAA Liaison Officer. When the flights are completed in accordance with the Test Flight Log procedures, it is processed and the CAA informed. The CAA will then send you another Full Exemption with the existing and new pilots' names on it.

Q What do I need to do if I damage the aircraft, change the engine, alter the flying surface area, change the radio installation i.e. from 35Mhz to 2.4Ghz.

A All these changes affect the Certificate of Design and Construction and thereby the Full Exemption. Any of these aspects should be reported to LMA CAA Liaison Officer so that an Inspector can be appointed to view the changes and provide an audit trail of the work involved.

Well hopefully that covers everything – We are sure some people will come up with a few more questions, but we cannot emphasise strongly enough – if in doubt ring, phone or E mail the LMA CAA Liaison Officer; do anything rather than nothing – we are here to help not hinder. We just want to help you to stay legal!!

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Section 5 - The LMA Proficiency Scheme

5.1 A Brief Overview of the Scheme

Examiners are appointed by the LMA Committee on recommendation from the Chief Examiner to test the competence of members who have applied for Proficiency Certificate. These tests are usually conducted at an LMA Fly In provided they have the permission of the Event Organiser and the paying public are not in attendance or they may elect to be tested on 'home ground'. In calling on an Examiner to test a particular candidate on their 'home patch' travelling distance will have to be taken into consideration, although the Examiners travelling costs will be met by the LMA if the candidate is an LMA member.

Only LMA members who hold a Proficiency certificate can fly at LMA organised public events.

The parameters of the test which lead to the grant of a Proficiency Certificate are set out in this document. It has been drawn up over a period of time in consultation with LMA Examiners, and the CAA. It is specifically designed to ensure that those who qualify are competent to fly at LMA Public Events and the Certificate forms an essential requisite of our Risk assessment.

Throughout it should be remembered that the aim of the Proficiency Scheme is to ensure that LMA members who fly in public are SAFE to do so. It is also hoped that it will help to raise standards generally. We expect that any competent and experienced member will be able to qualify.

5.2 The Test

The candidate will be asked to produce his current LMA membership card and advised that the 'test aircraft needs to be the type of aircraft (or similar) to that which he proposes to fly at Public Events'. He will also be advised that it is reasonable for the test to be conducted whilst other aircraft are in the air as this helps to give the Examiner a better indication of what sort of performance would be achieved in this context at Public Displays.

It will also be emphasised that whilst it would not be considered acceptable to do the test in extreme flying conditions there should be no attempt to postpone the test because the conditions are not perfect on the day – this type of situation may well be applicable to public show days.

It is essential for you ensure that your helper is an integral part of the test and your ability of working with your helper as a team will be a measured part of the testing procedure. In other words the helpers' duties are not completed after starting, but remain an important feature of the whole process. You are asked to comment about this relationship in your remarks about the test.

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5.2.1 Section A - Structural Integrity of the model – Preparation and Start up procedures

- You will be asked to inspect your model as if you were an independent scrutineer at a public show and explain to the Examiner what aspects you feel are important about pre-flight inspection as you carry out this process.
- The examiner will observe the starting procedure with particular regard to safety aspects. This should include the position of other persons present. He will also monitor the relationship with your helper during these procedures.
- The examiner will observe how you ensure that the power plant is operating safely at all power settings and as most models presented for test will be Over 7kg you will be asked to conduct a 'fail safe' check.
- The examiner will observe you checking in the general flying area for safety before taxiing out to the take off position and confirming with other pilots before doing so that it is safe to take off. You will need to demonstrate that you have a clear knowledge of the take off direction and circuit pattern. Up to the take off point he will expect that the model will be restrained at all times by your helper.

5.2.2 Section B - Standard Take off in relation to the wind and starting the test in the air

- The examiner will ensure that you are capable of taking off safely in the wind conditions relative to your position and not when you are standing behind the model. This should be accomplished in regards to an imaginary crowd line.
- After take off, the climb out and first turn will be observed as to safety, with the possible need to make the first turn relatively tight to avoid infringing the 30m imaginary crowd line.

5.2.3 Section C - Quality of the flying at various heights, adherence to display line parameters and simulated wind directions

- The examiner will test your ability to display the aircraft to the crowd at different heights and speeds without encroaching over the imaginary 50m display line and, as far as possible, without making turns towards the crowd line. You should be able to make relatively tight turns without losing height and should be able to fly 'figures of eight' in front of yourself without significant loss or gain of altitude.

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5.2.4 Section D - Response to imaginary Emergency procedures

- During a simulated emergency you will be asked to recover control of the model but you will not be required to do anything by the examiner which would cause a hazard to your model. However, it is reasonable to expect that you should be able to recover quickly and safely from a stall situation.
- If the model is appropriate the examiner will test your ability to recover quickly and accurately from a spin.
- Common sense will be used in this section of the test - the type of model is important and no candidate will be asked to do anything which is not within the reasonable capability of the model or which would put it at risk.
- The examiner will also test your ability to cope with an unexpected situation, without endangering the model or the crowd.
- For instance the wind has changed through 90 degrees so how, if at all, will you change your landing approach.
- You will also be tested on your ability to deal with an engine failure, or a loss of power output. You will be expected to make use of your helper to call a warning to other pilots and to the flight line director so that you can make a safe landing approach. Circumstances will dictate where this might be, if the model is too low to carry out a safe turn and land into wind you may be expected to take the safer option and land downwind. It is up to the examiner to test your ingenuity on this matter. In all circumstances you be judged on quick, decisive, and safe action in relation to the presence of the public.

5.2.5 Section E - Quality of the approach, go around, and landing

- On the landing approach towards the end of the test the examiner might instruct you to go around. On setting up this test the examiner will not make unfair demands or do anything which may put a model or person at risk.
- You must show that you can judge the distance of the model and its approach path. You should also be prepared to enlist the assistance of your helper with the lining up on final approach, and in warning others of the landing approach.
- You will be expected to be able to land from the left or from the right and demonstrate that you can cope with adverse wind conditions including cross wind conditions.
- After landing you will be expected to clear the runway and stop the engine in a safe area. You should demonstrate that you are aware of the need to clear the runway for other aircraft as rapidly as possible and to taxi to a safe position where your helper can safely retrieve the aircraft

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5.2.6 Section F - General impression of airmanship and team work with helper

- The examiner will comment on the way you reacted with other fliers during the test and how much use you made of your helper in ensuring that a high standard of airmanship was maintained throughout the whole of the test.

5.2.7 Section G - Oral Examination

- You will be asked a range of questions from the Aide memoire that is provided to the Examiner. It is not considered that you will fail the whole test simply upon some mistakes in your replies to his questions. The aim is to ensure that you have all round knowledge about large model issues and if you are not up to an acceptable standard then it may be necessary to spend a little time filling in some of the knowledge gaps.
- Questions in the Aide memoire cover the following aspects:-
 - Air Navigation Regulations on Model Flying as set out in CAP 658
 - Knowledge and skills required for the building and operation of Large Models
 - Scrutineering procedures at Public Events
 - Public Event procedures and Safety Distances

5.3 Follow Up Action

The completed test form will be sent to the Chief Examiner who will then pass it to the Proficiency Scheme Secretary. If you have passed the test then your membership card will be annotated accordingly with the examiners signature and the date of the test. This is a temporary measure because you will be issued with a revised LMA membership card indicating that you are now a holder of the Proficiency.

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Section 6 - Events

6.1 Public Shows

The LMA runs public shows around the country both for the enjoyment of members and to promote modelling to the public.

If you would like to get involved, help is always welcome running the shows no matter what previous experience you have; all are welcome so please come and join us!

If you have a burning desire to run your own public show, please contact the LMA Secretary for advice.

6.2 Flyins

The LMA tries to ensure that flyins are provided for members throughout the country and throughout the main flying season.

They are informal events open to all LMA members that allow relaxed flying in a friendly atmosphere.

A full calendar of flyins is provided on the LMA website with the contact details for each event.

New flyins are always considered, so if you think that there is gap in the market (and the calendar) that could be filled by another flyin, and you have a venue that would be both suitable for and amenable to holding an LMA flyin, please contact the LMA Secretary.