

Unmanned Aircraft System Operations – Model Aircraft Operations Policy and Guidance

CAP 722F



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Revision History

First Edition AUG 2021

Initial issue. Information has been extracted and updated from CAP 658 in accordance with the regulatory changes within ANO 2016, as amended, and the introduction of the UAS Implementing Regulation. This edition brings policy and guidance for model aircraft into the CAP 722 UAS suite of documents.

Foreword

Purpose

The purpose of this document is to:

- Describe the how the unmanned aircraft system (UAS) regulatory framework applies to the operation of model aircraft;
- Set out CAA policy for model aircraft operations;
- Describe the boundaries between operations which require an authorisation and those that do not;
- Provide guidance to model aircraft associations when applying for an authorisation on behalf of their members.

Note:

This CAP is not intended to provide operational guidance on the flying of model aircraft. This guidance should be contained within model aircraft association handbooks and other such documentation.

Intended Audience

This CAP is intended to be read by:

- Current Model Aircraft Associations;
- Associations wishing to become a recognised Model Aircraft Association;
- Clubs affiliated with Model Aircraft Associations, and their members.

Content

The content of this CAP does not replace Civil Aviation Regulations, or procedures notified within the UK Aeronautical Information Publication (AIP).

Policy

Model aircraft are considered a subset of unmanned aircraft (UA). The regulations that apply to the flying of any UA are the same, regardless of how they are flown, however certain additional privileges can be enjoyed in some circumstances by remote pilots and operators of certain model aircraft.

Availability

The primary method of obtaining a copy of the latest version of CAP 722F is via the CAA website under the [publications](#) section.

The CAA has a system for publishing further information and guidance. This can be found on the CAA website under the [SkyWise system](#). This can be filtered by subject matter area.

Structure

CAP 722 is a suite of documents which describes the guidance and policy applicable to unmanned aircraft in the UK.

Point of Contact

Unless otherwise stated, all enquiries relating to this CAP must be made to:

RPAS Policy Team
General Aviation and RPAS Unit
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Editorial Practices

CAP 722F includes both requirements, and guidance.

Requirements are set out within blue boxes within each chapter.

Regulatory references, which support the requirement listed above, are included below in italics.

Terminology

The terms below are to be interpreted as follows:

- **'Must'** / 'must not' indicates a mandatory requirement.
- **'Should'** indicates a strong obligation (i.e. a person would need to provide clear justification for not complying with the obligation).
- **'May'** indicates discretion.
- **'Describe'** / **'explain'** indicates the provision of logical argument and any available evidence that justifies a situation, choice or action.

Remotely piloted aircraft system (RPAS) is the CAA preferred terminology when referring to an aircraft, and its associated systems, that is remotely piloted. The regulation (ANO 2016 as amended, and UAS IR) refers to 'unmanned aircraft' (UA), and 'unmanned aircraft systems' (UAS), and so this is the terminology used within this policy and guidance document.

Abbreviations and Glossary of Terms

The Glossary and abbreviations for all CAP 722 series documents can now be found in a standalone publication, [CAP 722D](#).

CHAPTER 1 | General Information

1.1 Introduction

Model aircraft are considered a subset of unmanned aircraft systems (UAS), and fall under the same regulatory framework. The CAA recognises that there are differences between model aircraft and other UA, and regulates them in different ways. This document sets out the way that model aircraft are regulated within the UK and the CAA policy on model aircraft operations.

CAP 722F, refers only to model aircraft which, by definition, are used for sport and recreation. More general guidance and policy relating to the use of UAS is contained in CAP 722.

This document outlines the current regulatory framework applicable to model aircraft, how model aircraft associations may operate outside the usual UAS regulations, and CAA policy on authorising such operations.

1.2 Regulatory Framework

Model aircraft **must** be flown in accordance with the applicable regulatory requirements, including:

- UAS Implementing Regulation (including the conditions and limits of any authorisation issued by the CAA); and
- UAS Delegated Regulation; and
- Air Navigation Order 2016, as amended (ANO).

EU IR 2019/947, as retained in UK law, (The UAS Implementing Regulation)

EU IR 2019/945, as retained in UK law, (The UAS Delegated Regulation)

From 31 December 2020, the regulations contained within *Regulation (EU) 2019/947 as retained (and amended in UK domestic law) under the European Union (Withdrawal) Act 2018 - (The UAS Implementing Regulation, or 'UAS IR')* became applicable within the UK. These regulations overhaul the regulatory framework for UAS, and the ANO has been amended to remove requirements which are superseded by these regulations.

For model aircraft, the requirements are broadly similar, with a few notable exceptions. Model aircraft associations are now able to apply for an '[Article 16 Authorisation](#)', which will contain all authorisations, permissions and exemptions necessary. See Chapter 4.

The UAS IR introduces 3 categories of operation for unmanned aircraft, which are briefly summarised below for reference. Full details of these categories can be found in CAP 722.

- **Open** – There are 3 sub categories of operation in the Open category:¹ These requirements are summarised in factsheet [CAP 2012](#).
 - **A1:** ‘Over’ people;
 - **A2:** ‘Close’ to people;
 - **A3:** ‘Far’ from people;

- **Specific** – Operations authorised in accordance with a safety case, based on risk. See CAP 722.
 - Model aircraft operations conducted under an Article 16 Authorisation are contained within the Specific category.

- **Certified** – UAS operations involving: Transportation of people, transportation of dangerous goods where there is a high level of risk to third parties, flight over assemblies of people with a UA characteristic dimension of 3m or more, or any other sufficiently high-risk operation.

Model aircraft not operated under an Article 16 Authorisation predominantly fit within the Open A3 category. The CAA has previously issued a number of permissions and exemptions to model aircraft associations, for example, to permit flight above 400ft. There are no longer any general exemptions/permissions in place, and instead these will need to be contained within an Article 16 Authorisation, which will allow members of respective associations to enjoy such privileges, and operate outside the usual limits of the Open category.

1.3 Definition of a Model Aircraft

The CAA has adopted the following two definitions, set out in CAP 722D and repeated here for reference:

Model aircraft – *An unmanned aircraft used for sporting and recreational purposes, flown by direct control inputs made by the remote pilot without any autonomous capability other than for flight stabilisation purposes.*

Note:

*The definition of a model aircraft may include multi-rotor type ‘drones’. Any unmanned aircraft being flown in accordance with the definition above is considered a model aircraft. The use of any automation, such as automatic flight modes which alter the position of the aircraft, places the operation outside the definition of a model aircraft, and therefore outside the scope of Article 16. The aircraft **must** be flown with direct control inputs from the remote pilot.*

¹ These are the basic Open category requirements. Other transitional requirements also exist, which can be found in CAP 722 and are summarised in [CAP 2012](#).

It is acknowledged that many unmanned aircraft have built in failsafe modes, which may be activated in some instances, for example- loss of control link. Activation of such a mode, although possibly automatic in nature, does not necessarily place the aircraft outside the scope of the definition of a model aircraft.

Large model aircraft – *A model aircraft with a maximum take-off mass greater than 25kg.*

CHAPTER 2 | Regulation

This chapter builds on the regulatory introduction in Chapter 1 and describes the regulation of model aircraft in detail.

2.1 Regulation that Applies to Model Aircraft

The requirements of the UAS Implementing Regulation and UAS Delegated Regulation apply, along with a number of regulations within the Air Navigation Order 2016, as amended. These are explained within CAP 722.

Consolidated versions of the regulations can be found as follows:

- The UAS Implementing Regulation: [CAP 1789A](#);
- The UAS Delegated Regulation: [CAP 1789B](#);
- The 2020 amendment to the ANO: [CAP 2013](#).

ANO Article 23 excludes unmanned aircraft operated in the **Open** and **Specific** categories from the majority of the Air Navigation Order. [Table 1](#) lists those ANO articles which **do** still apply to all categories of UAS operation.

ANO Article Number	Description
2	Interpretation
91	Dropping articles for purposes of agriculture etc. and grant of aerial application certificates
92	Mooring, tethering, towing, use of cables, etc
93	Release of small balloons
94A	Certain unmanned aircraft: permission for flights that are over or near aerodromes
94B	Interpretation of expressions used in the definition of “flight restriction zone”
94BA	Certain unmanned aircraft: permission for flights that are over or near space sites
239	Power to prohibit or restrict flying
241	Endangering safety of any person or property
257	CAA’s power to prevent aircraft flying (Except 257(2)(a))
253	Revocation, suspension and variation of certificates, licences and other documents

ANO Article Number	Description
265	Offences and penalties
265A	Offences: Contravention of Commission Implementing Regulation (EU) 2019/947 on the rules and procedures for the operation of unmanned aircraft – UAS operator
265B	Offences: Contravention of Commission Implementing Regulation (EU) 2019/947 on the rules and procedures for the operation of unmanned aircraft – remote pilot
265C	Offence: registration of certified unmanned aircraft
265D	Minimum age requirements: UAS operators and remote pilots
265E	Offences: tethered small unmanned aircraft
265F	Penalties
266	Exemption from Order (other than articles 179, 230, 247, 250, 251, 252, 255, and 267)
269	Certificates, authorisations, approvals and permissions

Table 1- Applicable ANO regulations to model aircraft

2.2 Authorisations Issued Prior to 31 December 2020

Model aircraft operating under a valid permission or exemption issued prior to 31 December 2020 **may** continue to operate under this authorisation until it expires, or until 01 January 2022 – whichever is sooner.

UAS IR Article 21(1)

There are no longer any general exemptions or general permissions in place for the operation of model aircraft. This is because of the change in legislation on 31 December 2020. Additionally, there are no longer any 'named' permissions issued to individual associations.

The CAA has issued Article 16 Authorisations to the currently recognised national model associations, described in Chapter 4.

Individual members should be aware of the restrictions, limitations and privileges of their respective Article 16 Authorisation from their associations.

2.3 Article 16

The vast majority of model aircraft activity is likely to be carried out under an 'Article 16 Authorisation', which is an authorisation issued by the CAA to a model aircraft association, which sets out a number of conditions and limitations of use, including some 'exclusions' from the usual Open category requirements. These authorisations are issued following a safety case from the association, and allow their members to continue flying in safe and pragmatic way, as set out in the UAS IR.

More information and guidance on the Article 16 process can be found in chapter 7.

Any model aircraft remote pilot **must** be clear about whether they are flying under an Article 16 authorisation, or within the Open Category, and must be familiar with whichever requirements apply to their flight.

UAS IR UAS.OPEN.060

Article 16 Authorisation section 3.10

Chapter 3 | Flight above 400ft

The flight of any model aircraft **above 400ft must** be authorised by either:

- Basic 'Above 400ft' authorisation within valid Article 16 Authorisation; or
- 'Above 400ft' club permit issued by an association; or
- Model aircraft flying display permit as part of an Article 16 authorisation; or
- Specific category Operational authorisation.

UAS IR Article 4(1)(e)

Article 16 Authorisation limitations and conditions

The limits applied to UAS by the UAS Implementing Regulation stipulate that any flight above 120m (*approximated to 400ft for the purpose of this document*) falls within the Specific category, and therefore needs to be authorised.

An Article 16 Authorisation has been issued to the currently recognised model aircraft associations, which permits flight above 400ft, subject to a number of conditions and limitations- one of which is a mass limit of 7.5kg, which may be extended in some circumstances by associations (section 3.1).

Associations which are permitted to do so, may permit model aircraft to operate above 400ft for the purpose of a model aircraft flying display. The association must issue a permit, to the display organiser, which will adjust the limits of any large model aircraft participating within the display, and which will permit model aircraft between 7.5kg and 25kg to also operate above 400ft.

3.1 Above 400ft Club Permits

The routine operation of model aircraft above 400ft, outside the *basic* limits of the Article 16 Authorisation, **must only** be carried out at clubs that hold a permit, issued by their respective association, or within the Specific category providing a suitable Operational authorisation is held.

UAS IR Article 4(1)(e)

Article 16 Authorisation limitations and conditions

The CAA may authorise the operation of model aircraft above 400ft through an Article 16 Authorisation, with a number of limits and conditions attached. One such condition is an upper mass limit (usually 7.5kg).

Associations may request, within their application for an Article 16 Authorisation, that provision is made to raise this mass limit (up to 25kg) for routine operations at specific clubs.

The procedures, processes and safety case for this must be presented to the CAA on application for an Article 16 Authorisation.

If such provision is added to an Article 16 Authorisation, then the association may issue a permit for routine flight above 400ft, to any suitable club which requests it, following successful completion of the association's process.

An association that issues a club '*above 400ft*' permit, is responsible for carrying out sufficient **oversight** of the club. Such a permit may last no longer than 12 months, and **must** be subject to renewal by the club.

Article 16 Authorisation limitations and conditions

3.2 Controlled Airspace

The operation of model aircraft above 400ft, in accordance with an Article 16 issued permit, may require the notification of the ANSP when inside controlled airspace. This will be set out within such a permit as a condition of use.

When setting out procedures and guidance for the application and issue of a permit (above 400ft, or model aircraft flying display), an association must consider the impact to other airspace users, and ensure sufficient liaison with the relevant ANSP where necessary.

Chapter 4 | Model Aircraft Flying Displays

A model aircraft flying display is defined as:

'Any flying activity deliberately performed, by model aircraft, for the purpose of providing an exhibition or entertainment at an advertised event.' - CAP 722D.

Every model aircraft flown under an Article 16 Authorisation **may only** take part in a model aircraft flying display which has been authorised by the national association responsible through the issue of a permit, within the terms of the Article 16 Authorisation that they hold.

Article 16 Authorisation limitations and conditions

Model aircraft flying displays often involve flight of model aircraft above 400ft. There are mechanisms built into the Article 16 process, which may adjust the maximum height of 400ft for the purpose of a model aircraft flying display:

- For **large model aircraft**, within the Operational authorisation; or
- For **model aircraft less than 25kg**, within the maximum height section of the Article 16 Authorisation.

Both of these mechanisms are activated within the model aircraft flying display permit issued by the relevant association.

Every model aircraft club, which intends to organise a model aircraft flying display, **must** do so under the oversight of their respective national association in accordance with their Article 16 Authorisation, and may only hold a display once a permit has been issued by the association.

Article 16 Authorisation limitations and conditions

Operators of model aircraft being flown as part of a full-sized aircraft flying display, should read CAP 403, Chapter 17. These displays are subject to regulatory requirements, and the model aircraft elements of the display must be flown safely, in accordance with the display authorisation and CAP 403, and in accordance with the Article 16 authorisation and any necessary requirement to obtain a permit for the display

Model aircraft operating in the Open or Specific category are excluded from the scope of ANO Article 86 (Flying Display) regulations, by the provisions of ANO Article 23, however any model aircraft operating as part of a display which is outside the limits of a suitable Article 16 Authorisation, or the Open category limits, must be authorised to do so within the Specific Category.

Operators of all model aircraft involved in the display **must** hold any relevant authorisation, for example a Large model aircraft operational authorisation, and any display **must** be operated in accordance with a relevant Article 16 Authorisation and the limits and conditions therein.

Article 16 Authorisation limitations and conditions

Specific pilot competence requirements relating to model aircraft flying display events, can be found in section 7.3.2.

Anyone wishing to undertake a model aircraft display should contact their relevant association for further advice. Only an association that is permitted to do so within their Article 16 Authorisation, may issue a permit for a model aircraft flying display.

Operators of any model aircraft operating **outside** an Article 16 Authorisation, and outside the limits of the Open category, must obtain an Operational authorisation from the CAA for operating in the Specific category.

An Article 16 application will include within it any requirements relating to model aircraft displays, including the need for suitable risk assessments and the need to obtain any relevant airspace permission (such as FRZ permission from an aerodrome).

Model aircraft associations wishing to establish a risk assessment format for clubs to use as part of a model aircraft display plan, are encouraged to make reference to [CAP 403](#), and [SRG1303T](#).

4.1.1 Model Aircraft Flying Display Permits

Model aircraft associations that are authorised by the CAA to permit model aircraft flying displays **must only** do so when satisfied that the display has been organised safely, in line with agreed procedures, and that a suitable risk assessment has been carried out.

Article 16 Authorisation limitations and conditions

The CAA will not normally authorise model aircraft flying displays, unless specifically requested to do so within the Specific category. Instead, model aircraft flying displays should be permitted by one of the national associations authorised to do so.

Any such association must have in place sufficient procedures and processes to:

- Assess any application from a club for a display; and
- Issue and revoke permits, where safe, appropriate and necessary to do so; and

- Carry out suitable and appropriate oversight of any such displays.

In some cases, where necessary, a model aircraft flying display permit may authorise the flight of model aircraft above 400ft, for the purpose of the display event. This is achieved by activating the relevant section within an operational authorisation, or by activating the maximum height section of the Article 16 Authorisation, for the purpose of a model aircraft flying display event.

Such a permit is **not** equivalent to an Operational authorisation, and is simply a mechanism by which to activate or deactivate sections of the Article 16 Authorisation.

4.1.2 Notification of display events

A NOTAM **must** be requested for **any display** which operates **above 400ft**, regardless of the size of model aircraft involved in the display.

UAS.SPEC.060 (2)(d)

Depending on the type of display, a NOTAM **may** be required, to notify other airspace users to the presence of the display. Further information can be found in Chapter 3.

A NOTAM request must be submitted by contacting AROps@caa.co.uk and requesting a NOTAM for the relevant dates. This should be done as part of the process of signing off the display, by the relevant association. Depending on the procedures of the association, the request may be submitted by the club organising the display, or the association.

Chapter 5 | Large Model Aircraft

Large model aircraft **must only** be operated with a valid CAA Operational authorisation, unless being operated for the purposes of a Large Model Association (LMA) flight test programme under an LMA Article 16 Authorisation.

UAS IR Article 5(1)

LMA Article 16 Authorisation Section 4.8 & UAS IR Article 7(2)

All large model aircraft having a maximum take-off mass of more than 25kg require an Operational authorisation for operation within the Specific category unless they are being flown in accordance with the Large Model Association (LMA) Over 25kg Scheme flight test programme described in section 5.1.1 below.

An operator of a large model aircraft wishing to obtain a CAA Operational Authorisation **must** hold a valid LMA Certificate of Design and Construction and LMA Certificate of Flight Test.

LMA Article 16 Authorisation Section 4.8 & UAS IR Article 7(2)

An Operational authorisation will only be issued by the CAA after it has been satisfied that the model is designed, built and test flown to a satisfactory standard. This is achieved through the LMA Over 25kg scheme.

Anyone planning to build a large model should first read CAP 722F and contact the LMA to ensure the proposed model is likely to be acceptable.

The maximum mass for a model aircraft to be treated under the guidelines of CAP 722F is 150kg, as defined by the LMA Over 25Kg scheme. Builders contemplating the construction of a model having a mass of more than 150kg should contact the CAA prior to commencing construction.

Reference should be made to the scheme of charges for up to date information about the CAA's charging.

Note:

Although the operator of a large model aircraft may approach the CAA directly for an operational authorisation in the Specific category, without having completed the LMA Over 25Kg scheme, this will require a safety case and operations manual to be created, following the guidance in CAP 722A, in compliance with Article 11 of the UAS IR.

5.1.1 Operational Authorisation Process



Design and Build Process

The LMA will advise on the availability of an LMA inspector locally to the model aircraft builder, who will be able to supervise and assist with the project. The selected inspector will be appropriately experienced for the specific type of large model aircraft proposed in accordance with the LMA Over 25kg Scheme.

The build inspection schedule will be agreed and followed by the builder. It is particularly important to build to such a schedule if the construction does not readily allow access to all parts of the model for a final inspection – such as box sections or composite airframes.

In the case of ‘Almost Ready To Fly’ (ARTF) power models where the construction does not allow easy access to the structure, a manufacturer’s specification sheet detailing the maximum engine capacity must be provided (where available) to the LMA inspector.

Once the inspection schedule has been satisfactorily completed, it will be forwarded by the inspector to the LMA who will issue a Certificate of Design and Construction and Flight Test permit to authorise the start of the flight test programme.

Flight Test Programme

The flight test programme **must** be carried out in accordance with the conditions of the LMA Article 16 Authorisation, and only when a Certificate of Design and Construction is held.

LMA Article 16 Authorisation Section 4.8

Once the builder holds a Flight Test Permit, and has been approved to do so by the LMA, they may commence the flight test programme. This will be in the presence of an LMA appointed flight test witness, and must be flown in accordance with the LMA Article 16 Authorisation. A specific Operational authorisation from the CAA is not required for flights undertaken within the limits of the LMA Article 16 Authorisation for the purpose of conducting a flight test programme.

The purpose of the flight test programme is to:

- Ensure the aircraft can be flown safely; and
- Ensure that the aircraft flies as expected; and
- Ensure the correct functionality of any system fitted to the aircraft; and
- Identify the limits of the flight envelope; and
- Ensure that the pilot is competent to fly the aircraft.

Once the flight test programme has been satisfactorily completed and a flight test log submitted, the LMA will issue a Certificate of Flight Test. The builder may, at this stage, submit the Certificates of Design and Construction and Flight Test to the CAA and apply for a full Operational authorisation.

Operational Authorisation

If any changes have been made to the large model aircraft since the original Certificate of Design and Construction was issued, it **must** be re-inspected, and a new Operational authorisation issued.

The Operational authorisation issued to the operator of a large model aircraft will include any special operating conditions. The authorisation is valid for one year and can be renewed by application to the CAA with a statement that no changes have been made to the model. Where the Scheme of Charges sets out a triannual fee, 1/3 of this fee will be charged on renewal each year.

A charge may be made by the LMA for elements of the above process.

Although the terms of an operational authorisation are specific to the individual operation, a number of basic requirements are included on all Operational authorisations for large model aircraft. These include (*and are not limited to*):

- The requirement to comply with the LMA Article 16 Authorisation, and all the conditions and limits specified therein.
- A maximum height of 400ft, unless this height has been varied by an Article 16 Authorisation.
- The requirement to fly in accordance with the LMA handbook, including only flying from sites in accordance with the LMA site selection procedures.
- The requirement to discharge certain UAS operator and remote pilot responsibilities.
- The requirement to comply with the occurrence reporting regulations.

5.1.2 Large Model Aircraft Over 150kg

Large model aircraft over 150Kg may not use the LMA Over 25Kg scheme, and instead must apply directly to the CAA for an operational authorisation. Anyone wishing to build such an aircraft must read CAP 722 and CAP 722A, and follow the requirements for obtaining an operational authorisation for the Specific Category.

CHAPTER 6 | Notification of Model Aircraft Operations

A request for notification of model aircraft operations to other airspace users **must** be made in some circumstances, via NOTAM.

UAS.SPEC.060 (2)(d)

These circumstances are:

- When flying as part of a model aircraft flying display above 400ft; or
- When operating a large model aircraft above 400ft.

Model aircraft operating in accordance with an Article 16 Authorisation to fly above 400ft within line of sight do not require a NOTAM, unless specifically stated within the authorisation.

Model aircraft operating within an aerodrome FRZ **may** be notified to other airspace users, via a NOTAM. This is at the discretion of the aerodrome air traffic service unit (ATSU), and the recommendations set out in AIP section ENR 1.1 – 4.1.8.13.

There are two methods of notifying such operations, described in the sections below.

6.1 Aeronautical Information Publication (AIP)

Model aircraft flying sites may be notified within the AIP, in section ENR 5.5 (Aerial sporting and recreational activities). The purpose of this section of the AIP is to notify other airspace users of areas where potentially hazardous activities may occur, such as microlight flying sites, glider sites, parachute jumping areas, hang-gliding sites and model aircraft flying sites. Some of these sites are replicated on VFR charts, as part of the aeronautical information package- **currently, model aircraft sites are not.**

There is a programme of work underway at the CAA to introduce model aircraft flying sites onto VFR charts, however this is expected to take some time. Until that time, some sites may also require a NOTAM to improve their visibility.

6.2 NOTAM

A NOTAM highlights important operational information to pilots, which is checked as part of the brief before departure. NOTAMs are issued by the NOTAM office at NATS, and can be arranged by the CAA, individual operators, aerodromes or other agencies as necessary.

A NOTAM should be used to highlight unusual model aircraft activity to other pilots for awareness. This includes displays above 400ft, large model aircraft operating above 400 ft and in some cases, when operating within an aerodrome FRZ.

A NOTAM may be requested via ARops@caa.co.uk or for an aerodrome ATZ, by the aerodrome contacting the NOTAM office.

A model aircraft flying site which is notified within the AIP ENR 5.5 **should not** usually also be notified by NOTAM, in order to prevent duplication of information and reduce proliferation of NOTAMs.

AIP ENR 1.1 Section 5.1.1.4

However, it is acknowledged that some sites in some instances (large display events for example) may need additional notification, in order to improve their visibility to airspace users, particularly the VFR GA community.

In this case, a NOTAM *in addition* to the AIP entry **may** be requested for ‘*an intense area of model aircraft activity*’. These should be requested when necessary via ARops@caa.co.uk.

The requirement for NOTAMs will reduce significantly following inclusion of model aircraft flying sites in VFR charts.

6.3 Military Low Flying System

The military operate a system of low flying routes throughout the UK, and frequently fly below 500ft, often to heights as low as 100ft. The vast majority of military low flying takes place between 250ft and 500ft, and usually on weekdays between 0700-2300 (GMT)

In order to assist deconfliction between low flying military aircraft and other civil airspace users, the low-level Civil Aircraft Notification Procedure (CANP) has been established to provide a means of notification to the low flying cell.

Model aircraft displays and any other intense model aircraft activity should be notified through the CANP process, by emailing the low flying booking cell. Contact details for the cell are published in the AIP, in section ENR 1.10 - 5.1.

Charts of the low flying system are available from the AIP (ENR 6-20 and 6-21), which show the tactical training areas, boundaries and areas of avoidance.

CHAPTER 7 | Requirements and Guidance for Model Aircraft Associations

7.1 Article 16 Authorisation

Any association wishing to authorise model flying activity outside the limits of the Open category, on behalf of its membership, should make use of the Article 16 provisions.

UAS IR Article 16

On 31 December 2020 the EU Implementing Regulation became applicable, and the suite of previous exemptions and permissions issued no longer have effect. In order to continue to enjoy the privileges contained within these exemptions, and further privileges, so that members may operate outside the Open category limits, associations must hold an Article 16 Authorisation.

The Article 16 Authorisation may include a number of exclusions from the UAS IR, in order to facilitate the operation of model aircraft in line with the association's procedures.

An application for an Article 16 Authorisation **must** be submitted in accordance with [CAP 722A](#), as an Operating Safety Case, which must set out which parts of the regulations the association wishes to be excluded from, and must include an accompanying safety case.

UAS IR Article 16

It is CAA policy that an Article 16 Authorisation will only be issued to an association, and not an individual, club or group.

The application must be submitted to the CAA via form SRG 1320, and payment made as per the Scheme of Charges.

A member of an association which holds an Article 16 Authorisation and meets the criteria within, may operate within the limits of the authorisation in accordance with the association procedures and rules.

An association may not exempt members from the requirement to register as an operator, but may elect to develop a system which feeds directly into the CAA Registration database, in order to register their members on their behalf. The CAA operates a bulk upload functionality for approved associations, which such systems may feed into.

An Article 16 Authorisation will be valid for 12 months, after which it must be renewed.

The CAA will regularly review any Article 16 Authorisations issued, and the conditions therein, and may require new evidence, or changes to conditions upon renewal. Any authorisation issued is based on balance between enabling the sport of model aircraft flying to continue, and the safety of other airspace users and other third parties. This balance may change from year to year, based on the changing landscape of aviation, particularly those areas which interface most with model aircraft.

7.1.1 Application Guidance

Any application for an Article 16 Authorisation must follow the guidance in CAP 722A. This must include the following (this list is not exhaustive):

- Description of the Association and its membership, including current total number of members;
- Description of flying activity, including locations and type of flying carried out;
- Description of competence and achievement schemes;
- Organisational structure, including organogram;
- Relevant procedures and processes within the association- including occurrence reporting and membership oversight;
- Description of which parts of the regulatory framework the association wishes to be excluded from. This should be included in a suitable tabular format, for example:

Article of Regulation	Requirement	Requested change	Reason	Supporting Evidence
EU 2019/947 Article 4 (1)(e)	During flight, the unmanned aircraft is maintained within 120m from the closest point on the surface of the Earth.	During flight, the unmanned aircraft is maintained within 450m from the closest point on the surface of the Earth, for model aircraft with a mass less than 7.5kg.	Requirement to regularly fly above 120m for flight training and displays.	OSC Volume 3

- Safety case to provide evidence supporting the application. This should support any requests made in the table above.

Before submitting the application, the association should engage with the UAS Unit to establish whether the Article 16 Authorisation is likely to be granted, and to answer any initial queries. Some

basic feedback may be given at this stage, but a full review and feedback will not be given until the application is submitted.

Following submission of the application, an initial meeting will be arranged to discuss the application with the association, and once issued, regular meetings will be held with the association.

The application should be formatted and set out in accordance with CAP 722A. A standard fee is payable for an Article 16 Authorisation, in accordance with the CAA Scheme of Charges.

7.2 Registration of Model Aircraft Operators

Every UAS Operator required to do so, under UAS IR Article 14, including operators of model aircraft, **must** be registered with the CAA Registration system. There is no exception to this, and operators may not be exempted from this through Article 16.

UAS IR Article 14(5)

UAS IR Article 16(4)

There is a legal requirement set out in the UAS IR, for the operator of every UAS above 250g, or if equipped with a camera (and is not a toy) to be registered with the CAA, which is tied in with the requirement to obtain a suitable level of pilot competence.

The purpose of this scheme is:

- To assure a level of competency among the UAS community; and
- To be able to identify the operator of a UAS, for the purposes of safety and law enforcement; and
- To be able to contact every UAS operator in the UK with important safety and regulatory information as required.

Model aircraft operators must ensure they are registered and their registration ID number is displayed on the aircraft. A registration lasts for 12 months, and members must renew their registration at the end of the 12 month period.

Any model aircraft association wishing to make use of the Article 16 provision to bulk upload members details into the registration system, **must** hold a valid Article 16 authorisation. Associations who do not hold a valid authorisation may no longer make use of the bulk upload service to add, remove or change details within the CAA registration database.

UAS IR Article 16(4)

Associations may develop a system in order to register their members on their behalf, into the CAA database. In this instance, members would not be required to register themselves, and will be provided with a CAA registration ID by their association. Members should contact their associations for guidance in this regard.

Any association wishing to develop such a system should contact the RPAS Unit for further discussion.

The CAA understands that some model aircraft are developed with a high degree of importance placed on aesthetic, and so do not wish to affect this with the adhesion of a registration label. In such cases, the registration label may be affixed to an internal compartment, which can easily be accessed without the need for the use of a tool.

In order to minimise administrative burden on operators, after 08 December 2020, any registration operator ID number issued will remain the same following further renewals. Existing registration operator ID numbers already issued *before* this date will be changed following renewal after 08 December 2020, to the new format, in line with the UAS IR.

7.3 Model Aircraft Remote Pilot Competence

Any remote pilot of a model aircraft **must** be able to demonstrate sufficient pilot competence. The higher the risk of the operation, the higher level of competence the remote pilot must demonstrate.

Article 16 (2)(b)(ii)

At the most basic level, remote pilots must hold a Flyer ID from the CAA DMARES (*Drone and Model Aircraft Registration and Education System*) website before operating a model aircraft in the **Open** category.

Remote pilots operating under an Article 16 Authorisation and within the limits therein, may be excluded from the requirement to hold a Flyer ID, if they hold a suitable level of competence within their association.

An association which operates a competence scheme under an Article 16 authorisation, must make available to the CAA on request, details of remote pilots who hold such a level of competence.

Article 16 (3.12)

Completion of an achievement scheme only demonstrates competence for flight within the auspices of the relevant association.

A remote pilot flying outside the limits of an Article 16 Authorisation in the **Open category** must also hold a CAA DMARES Flyer ID. For example, a model aircraft pilot who holds an association achievement certificate and **only** flies in accordance with the Article 16 Authorisation does not need to hold any further competence certificate.

A remote pilot flying outside the limits of an Article 16 Authorisation in the **Specific category** must set out within the operations manual and safety case what an appropriate level of pilot competence is, and demonstrate that this level has been achieved. Further guidance can be found in CAP 722A.

7.3.1 Large Model Aircraft

Any remote pilot operating a large model aircraft must hold the appropriate level of competence, as set out in the relevant Article 16 Authorisation, and Operational authorisation.

As a guide, the remote pilot competence must be made up of the following elements:

- **Basic flying competence.** Assessed through LMA achievement scheme;
- **Theoretical knowledge, including regulatory requirements.** Assessed through DMARES Flyer ID or LMA equivalent scheme;
- **Flying competence on individual large model aircraft.** This is specific to the individual large model aircraft, and is assessed as part of the LMA Over 25kg scheme during the flight test phase, by an LMA flight test witness or other authorised person.

7.3.2 Model Aircraft Display Competence

Remote pilots of certain model aircraft must be able to demonstrate **currency** of competence, before flying within a model aircraft flying display.

Article 16 (4.4)

Remote pilots of:

- Large Model Aircraft; or
- Jet turbine powered model aircraft

must have flown at least three complete display routines within the preceding 90 days of the event, one of which must have been flown within the preceding 30 days of the event. These flights must

have been flown on an aircraft which is reasonably representative of the aircraft to be flown within the display (or preferably, on the same aircraft).

'Reasonably representative', in this context, refers to an aircraft of a similar mass, flying characteristics and type.

7.3.3 Assessment Guidance

The remote pilot competence assessment carried out by an Association, **must** assess competence to at least the same level as the CAA DMARES online test, and must include additional assessment where necessary, to cover Article 16 specific activity.

Article 16 (2)(b)(ii)

Any association wishing to establish their own competence scheme as part of an Article 16 Authorisation application should follow the guidance in this section.

Details of the competence scheme must be included within the Article 16 application.

Assessment Method

The assessment must be written, and contain at least 40 questions which may be multiple choice. Verbal assessment of a selection of questions is not sufficient.

The pass mark may be determined by the association, but must be 70% or greater.

The association should determine whether a limit on the number of resits is necessary. There is currently no limit to the number of times a person may sit the online CAA DMARES test.

The association should decide whether the test can be completed 'open book', with a copy of the association handbook /regulations available to the candidate. The online CAA DMARES test may be completed with reference to the Drone Code manual.

Assessment Objectives

The test must assess knowledge of 9 subject areas. These subjects are:

- Aviation Safety
- Airspace restrictions
- Aviation regulation

- Human performance limitations
- Operational procedures
- Model aircraft general and technical knowledge
- Privacy and data protection
- Insurance
- Security

Some of these subjects may be of more relevance to some associations than others. The association should decide on the appropriate distribution of questions across these subject areas. If an association wishes to miss out an entire subject areas, the reason for this must be detailed within the Article 16 application.

An association may wish to expand the selection of questions within the assessment, to cover a wider range of topics than is covered by the CAA DMARES test.

CHAPTER 8 | Safety Considerations

A model aircraft **must only** be flown if the remote pilot and operator are reasonably satisfied that the flight can be safely made.

UAS .SPEC.050

UAS.SPEC.060

The overarching principle behind the safety of any model aircraft, is that it must be:

- Safe to be flown; and
- Flown safely

There are a number of considerations that must be taken into account before flying a model aircraft. These can be broken down into:

- The risk on the ground; and
- The risk to other airspace users.

8.1 Risk on the Ground

A model aircraft **must** always be flown within visual line of sight of the remote pilot, unless a suitable authorisation is held for beyond visual line of sight flight.

UAS IR Article 4(1)(d)

Article 16 Authorisation section 3.8

A model aircraft **must not be** flown any closer to any uninvolved person than is absolutely necessary for the purpose of the flight, and **must never** be flown closer than the minimum distances set out in the Open category regulations, or the Article 16 Authorisation.

UAS IR Article 4(1)(c)

Article 16 Authorisation section 3.11

The relevant minimum distance from uninvolved people depends on the type of model aircraft, and the type of operation. These are either set out in the Open category regulations (if operating outside an Article 16 Authorisation), or specifically set out within an Article 16 Authorisation. A model aircraft being operated in the A3 sub-category should not be flown closer than 50m horizontally to any

uninvolved person, and must not overfly people or assemblies of people. CAP 722 describes the full Open category requirements.

Any load carried on the model aircraft must be secured suitably, and the model aircraft must not drop any articles during flight. This requirement may be removed within an Article 16 Authorisation, which may in some circumstances permit the dropping of articles providing doing so does not endanger any person or property on the ground.

A serviceable 'fail-safe' mechanism should be incorporated to operate on loss of signal or detection of an interfering signal. For example, on an internal combustion power driven model this should operate, as a minimum, to reduce the engine(s) speed to idle, or preferably, cut it altogether.

8.2 Risk in the Air

Maintaining unaided visual line of sight of the model aircraft will mitigate the majority of air risk. This enables the remote pilot to keep the model aircraft nearby, whilst being able to scan the surrounding area for other airspace users.

This mitigation is particularly effective for model aircraft, which (by definition) requires the pilot to look at the model aircraft for the majority of the time whilst flying it.

Notification of model aircraft activity in some circumstances will also mitigate some of the air risk. See Chapter 3.

Model aircraft **must not** be flown within the Flight Restriction Zone (FRZ) of an aerodrome or space site, or within any other applicable airspace restriction, without a suitable permission being held.

ANO 2016 (as amended) article 94A, 94B and 94BA

The requirements of controlled airspace do not apply to UAS in the Open and Specific categories, unless otherwise applied within the terms of an operational authorisation or Article 16 authorisation.

Model aircraft must not be flown above 120m/400ft above ground level, unless flying in accordance with an Article 16 Authorisation, or other suitable authorisation, to exceed this height.

It is recommended that local model flying clubs establish close working relationships with any nearby aerodromes, especially those with an FRZ that the club may fall inside. Permission to fly within an FRZ may be granted either on a one off, or a longer term basis- depending on the operation and procedures that are in place.

Any request to fly within an FRZ, or other airspace restriction, which an operator believes has not been considered in line with the guidance set out in CAP 722C can be reported to the CAA via the UAS airspace access reporting portal, which can be found [here](#).

CHAPTER 9 | Third Country Operations

The term 'third country' refers to any country or territory other than the United Kingdom.

9.1 Operations Within the UK by Third Country Operators

Any model aircraft pilot or operator from a third country operating in the UK, **must** either fly within the confines of a UK CAA issued Article 16 Authorisation, or within the limits of the Open category, whilst meeting the relevant requirements. A third country Article 16 Authorisation is not valid within the UK.

Provisions for issuing an Article 16 Authorisation are made within the UAS IR, which (*in its European form*) has been implemented in all EU member states on 31 December 2020. As such, model aircraft operators from overseas may be able to operate in accordance with an Article 16 Authorisation issued by **their own authority**, within **their own member state**. Regulation EU 2019/947 (the current European Commission version) sets out within Article 16, paragraph 3, that such an authorisation is limited to the territory of the Member State in which it is issued.

Remote pilots must meet the UK requirement for pilot competence, which is to hold a valid Flyer ID, or other such certificate if flying under a UK Article 16 Authorisation.

Model aircraft operators **must** register with the UK CAA DMARES database. The UK does not recognise registrations held in third countries.

UAS IR Article 14

Third country model aircraft remote pilots and operators may operate within the limits of a UK CAA issued Article 16 Authorisation, with agreement from the relevant association. Any such operation must adhere to applicable UK regulations. Advice should be sought from the relevant association in the first instance.

9.2 Operations within Third Countries by a UK Operator

Any UK remote pilot and operator wishing to operate overseas must comply with the local regulations in place within the destination country. Any UK issued Article 16 Authorisation is only valid for use within the UK, and may not be used in any third country.

Currently no other countries recognise UK issued operator registrations, or pilot competence certificates.

9.3 Third Country Large Model Aircraft Schemes

The UK does not currently recognise any third country large model aircraft schemes, or Operational authorisations issued by third countries. The operator of any model aircraft over 25kg, or otherwise outside the limits of the Open category or Article 16 Authorisation, must obtain a UK issued Operational authorisation. Model aircraft operators wishing to operate under the auspices of a UK model aircraft association should engage with the relevant association early, in the first instance. Further information can be found in CAP 722.

CHAPTER 10 | Occurrence Reporting

The reporting regulation, and its associated requirements, applies to all UAS including model aircraft. The reporting requirements referenced within the UAS IR, and described in the conditions of any CAA issued authorisation **must** be followed.

UAS IR Article 19(2)

Model aircraft remote pilots must know when mandatory occurrence reporting is required by the AAIB and/or the CAA. The safe operation of a model aircraft is as important as that of manned aircraft, and third-party injury and damage to property can be just as severe when caused by either type of aircraft.

Proper investigation of each accident, serious incident or other occurrence is necessary in order to identify causal factors and to prevent repetition.

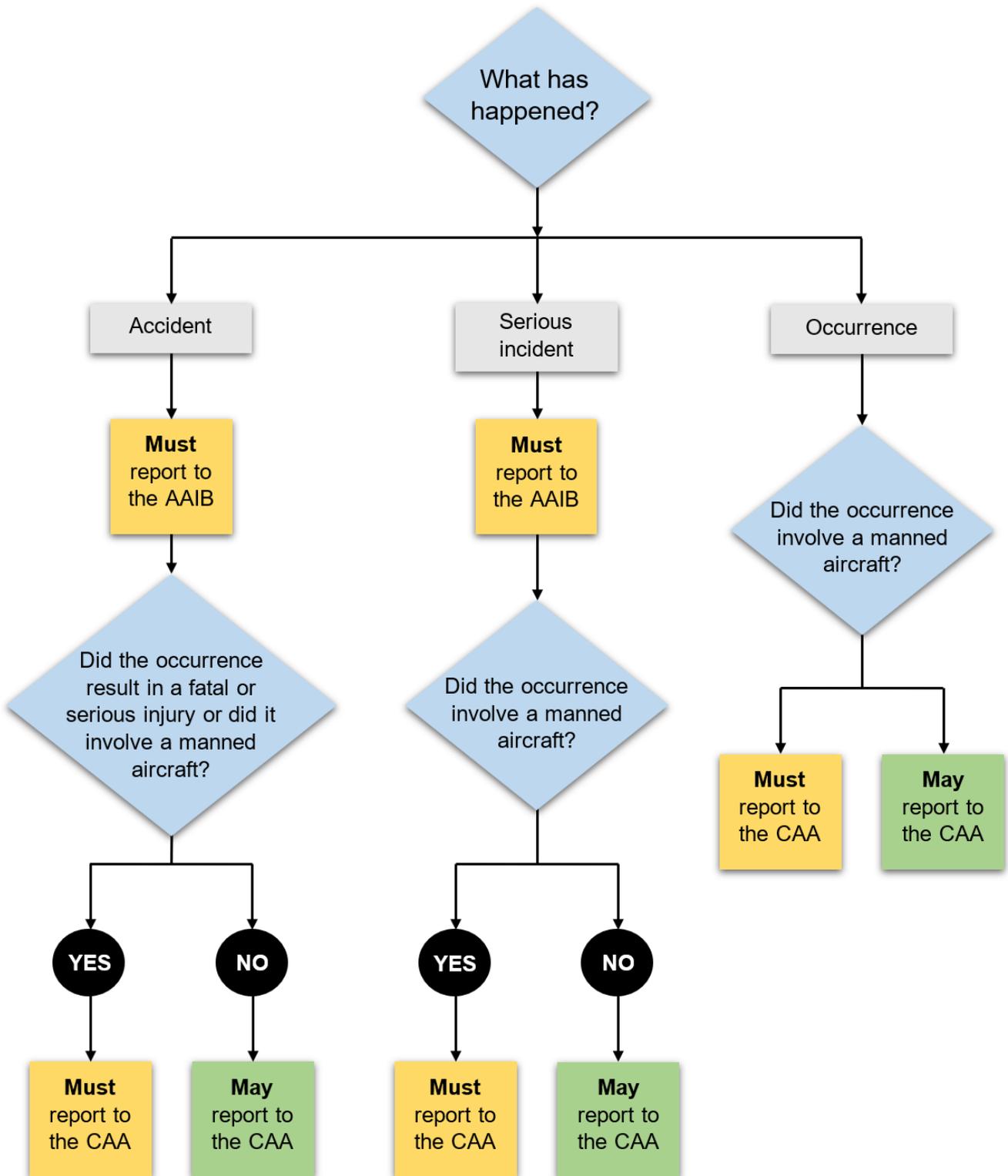
Similarly, the sharing of safety related information is critical in reducing the number of occurrences.

The reporting flowcharts published in CAP 722 have been repeated below for reference. Detailed guidance on the relevant reporting requirements and regulations can be found in [CAP 722](#), Chapter 2, section 2.9.

Those flying model aircraft under an Article 16 Authorisation, or an Operational Authorisation, must be aware of the conditions within their operational authorisations that require occurrence reporting. These are requirements beyond the baseline of mandatory reporting and are intended to monitor the overall safety risks associated with authorised operations. Associations should promulgate these to their members with appropriate guidance.

Effective occurrence reporting is an indicator of an engaged air safety culture being present within an organisation. The purpose of reporting is not to apportion 'blame' for mistakes, and should not be used for such activities. Instead, reporting should be used to identify why occurrences have happened, and how to stop them from occurring again in future- possibly with a more severe outcome. An open, honest and engaged reporting culture is vital in any aviation organisation, and associations are encouraged to establish voluntary reporting mechanisms where possible, for their members.

Reporting requirements for the Open Category



Reporting Requirements for the Specific Category/Article 16 Operations

