Dumfries Model Flying Club

Government Legislation covering Model Flying

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Overview

In common with many aspects of life, model flying is subject to Government Legislation which is administered in the United Kingdom by the UK Civil Aviation Authority (CAA).

Regulations relating to the flying of model aircraft are contained within a wider "umbrella" set of regulations and restrictions relating to all forms of Unmanned Aerial Systems (UAS), documented in CAA publication CAP722.

CAP722 Regulations and Restrictions make a distinction between people who "Operate" a UAS and those who pilot or "Fly" a UAS, whilst acknowledging that in most cases this will be the same person.

OPERATOR ID

The Operator is the person who owns the UAS and authorises its use, and all operators have a legal responsibility to be registered annually with the CAA for a small annual fee. Upon registering, the UAS Operator is issued with an Operator ID which must be clearly displayed on every UAS or model aircraft they operate. It is permissible to display the Operator ID inside the model provided it can be accessed without the use of tools. The minimum age for Operators of all forms of UAS (including model aircraft) is 18 years old. An Operator ID is a legal requirement for all UAS types over 250g AUW and for those of any weight where a camera is installed in it.

FLYER ID

All pilots (Flyers) of unmanned aerial vehicles over 100g AUW must obtain a Flyer ID, regardless of whether or not they are also the Operator, and there is no age limit to qualify for a Flyer ID. To obtain a Flyer ID they must be able to demonstrate an understanding of their legal obligations and the regulations, restrictions and advisories which apply. The first step is to download and/or read the Drone Code Booklet from the CAA website, as this contains all the information necessary to successfully complete the test. The test itself is done online and is free and simple, and it may be taken as many times as necessary to obtain a pass mark and thereby be allocated a Flyer ID which is valid for five years. Flyers must retain this ID on their person whenever they fly, and be able to produce it if challenged when flying.

BMFA RCC CONCESSION

As the largest and longest established of the UK model flying associations, the British Model Flying Association (BMFA) offers an alternative to taking the Flyer ID test on the CAA website. The BMFA offers a similar free test called RCC on its own website and this is recognised by CAA for the issue of a Flyer ID. The questions are more specifically geared towards model flying and Article 16 and also may be taken as many times as necessary to obtain a pass. The correct answers to any which were wrong in the test are displayed at the end of the test. Those taking the RCC should indicate on the BMFA Membership Portal that they agree (Opt In) to their personal data being passed to CAA. It is a legal requirement that all model flyers must obtain a Flyer ID, either by completing the CAA DMARES test, or the BMFA Registration Competency Certificate (RCC). Both these tests are online and are free of charge.

ARTCLE 16

The CAA currently recognises four Model Flying Associations in the United Kingdom. These are the British Model Flying Association (BMFA), the Scottish Aeromodellers Association (SAA), the Large Model Association (LMA) and the association representing model flyers who utilise First Person View technology (FPVUK). It is the CAA's wish to delegate much of the day-to-day operational management of model flying to these Associations, but this is subject to their willingness and ability to comply with certain conditions set by CAA. These relate to their internal operating rules, their membership documentation, and the Achievement Scheme processes and practices which they apply. When these conditions are met, the CAA may grant certain concessions to members of each individual Association in the form of an **Article 16**, which permits them to fly their models within a more generous regime of regulations and restrictions compared to anyone who is not a member of one of these Associations. Each of these four Associations must apply for its own Article 16 and the benefits it accords apply only to members of that specific association. This is so that each Association is individually responsible and accountable for its ongoing compliance with the conditions upon which their concessions were granted.

If an Article 16 has not been granted or is revoked by the CAA, the members of that association are denied the special concessions of Article 16 and must fly within the Open Category rules and restrictions of CAP722. At the date of publication of this document the BMFA, SAA, LMA and FPVUK have all been granted an Article 16. Note that both BMFA and SAA Article 16 are subject to compliance with CAA/AAIB Reporting Regulations. See article on Page 3.

Dumfries Model Flying Club, located as it is close to the border between Scotland and England, is affiliated to both the BMFA and SAA, and members of the Club may be members of either model flying association. It is their membership of their Model Flying Association which determines whether or which Article 16 is applicable to each flyer. SAA has recently negotiated some form of integration with BMFA, and as yet it is unclear whether SAA will have its own Article 16 in future years.

SUMMARY

Every operator of model aircraft must register annually with the CAA and obtain an Operator ID which must be displayed on every model the operate. Everyone who flies model aircraft must also obtain a Flyer ID and be able to produce it on demand whenever they fly.

OTHER LEGAL OBLIGATIONS

There is a legal obligation to apply a **Fail-Safe Setting** on every radio-controlled model aircraft to ensure that the motor is cut in the event of the radio-control signal being lost. The purpose of this is to avoid the danger of a fly-away which would not only result in a lost model, but would also be a legally reportable incident under CAA rules. The fail-safe setting is usually applied during the binding process between the transmitter and the receiver installed in the model, but flyers should refer to their transmitter documentation to ensure that it is set properly, and run a check to ensure that it is functioning correctly. To check the fail-safe, restrain the model, power up the motor and then switch off the transmitter. The motor should stop almost immediately when the transmitter signal is lost.

Flyers must remember that is always their personal responsibility to fly safely and legally. This means carrying out pre-flight checks on models, including a Range-Check whenever a receiver is newly fitted or rebound, or after any incident which may have damaged the receiver, its aerials or its power supply. All transmitter manuals provide instructions on how to conduct a range-check.

Flyers must take due account of weather conditions and other circumstances at the flying field which may impact upon safety, and must not fly at times when their own faculties are impaired due to ill-health, tiredness or the effects of alcohol or drugs, including prescribed medication.

Flyers must observe all the safety rules applicable at the flying site, including Flight Line Rules and designated No-Fly Zones.

The CAA publishes details of places and times when UAS operations are forbidden. These usually related to specific events but it is every flyer's responsibility to ensure that they comply with these temporary bans. Heavy fines or even prison terms can be imposed in the event of breach of these restrictions. See separate article below.

Priority must always be given to manned aviation and model flyers must always maintain vigilance when flying to ensure that the safety of any manned aircraft in the vicinity is not compromised.

All Flyers must abide by CAA Mandatory Reporting Regulations whenever an incident or accident occurs which results or could have resulted in injury or damage to property. Specific guidance relating to mandatory reporting is provided separately below.

The Third Party Insurance provided via membership of BMFA or SAA is an extremely valuable benefit providing financial protection for their members in the event of accidents. However it is important to remember that this insurance cover is invalidated whenever flyers are flying illegally by failing to comply within the rules and regulations imposed by CAA.

Airspace Restrictions and UAS Operator Responsibilities

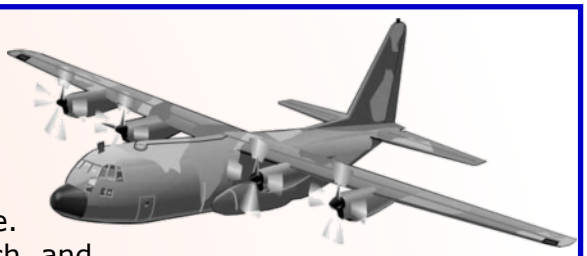
Model flying and model flyers have always been subject to legal obligations specified by the CAA, and each individual model flyer has a personal responsibility to fly within the legal restraints and regulations imposed by CAA. Members are reminded that the validity of the third party insurance provided via membership of BMFA or any other national body is wholly dependent upon compliance with our personal legal obligations.

CAA and/or the police often impose temporary airspace restrictions for safety and/or security reasons, which may include notice of radio jamming tests, and it the personal responsibility of each individual to make themselves aware of any temporary flight restrictions which may be imposed. **This also a specific condition of the BMFA Article 16 document.** Neither BMFA nor SAA nor local club committees have any obligation to keep their members informed of such restrictions, although they may do so on occasions without prejudice to each member's personal responsibility.

For this reason, it is strongly recommended that all model flyers should subscribe to Skywise so that they will receive email notifications of any temporary restrictions. Subscribing is free and very easy to set up via the website at http://skywise.caa.co.uk/ Only your name and email address are required.

A link to Skywise has also been added to the Useful Links webpage of the Club Website.

Low-Flying Manned Aircraft



The implications of a collision between a manned aircraft and a flying model could be very serious and CAA rules oblige us always to maintain vigilance for approaching manned aircraft when flying our models, and to take evasive action and land promptly if possible. Large transport aircraft are often very quiet on approach, and fast jets also provide very little warning of their approach so it is especially important for everyone on site to keep a lookout and shout a warning, as anyone flying a model will necessarily have his eyes concentrated on his own model.

The RAF operates low flying training in our area throughout the year, and publishes a schedule online. You can find a link to this in the Useful Links webpage of the Club website.

CAA/AAIB Mandatory Reporting Requirements

CAA Publication CAP722 is the overriding document relating to the legal operation of all forms of unmanned aerial system (UAS), including all types of model aircraft. Article 16 of this document grants specific concessions to BMFA and SAA members to permit their members to continue to operate much as they have done for some time. However, although Article 16 grants valuable benefits to the model flying community, it is nevertheless strictly subject to compliance with the standard Mandatory Reporting Rules of CAP722. Although the requirement to report serious occurrences predates CAP722 by many years, it is understood that both CAA and the AAIB are now placing greater emphasis on this obligation, and have made it a specific condition for granting the special benefits of Article 16. There is therefore a legal obligation for members to report serious defined OCCURRENCES (Accidents or Incidents) to the AAIB and/or CAA. (Remember this is not new, but it has now attracted more significant importance and emphasis, and wider scope).

The following must be reported to the AAIB and/or CAA:-

Serious Incidents or Other Occurrences which involve any of the following:

- Manned aircraft
- Operating above 400ft
- Operating less than 50m from uninvolved people
- All instances where aircraft have flown beyond visual line of sight. (VLOS)

The last of these also relates to FPV flying in which there is a legal requirement for a competent observer to stand with the pilot to monitor the flight path of the model in relation to other aircraft, persons, vehicles, vessels and structures for the purpose of avoiding collisions, and to advise the remote pilot accordingly. The model must not be flown beyond the unaided visual line of sight of the observer.

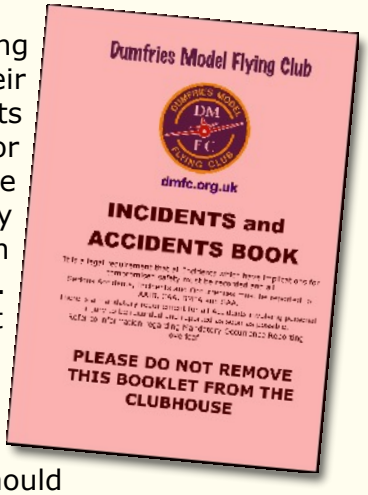
The primary concern of AAIB and CAA is the safety of manned aircraft and uninvolved persons. It is therefore important to understand that there is a legal obligation to report certain occurrences or incidents even where there is no actual injury or damage to property, but where the occurrence COULD HAVE posed a danger to uninvolved people, or manned aircraft. Obviously a model flown beyond VLOS would fall into this category, but any loss of control of a flying model for whatever reason might also have this potential, depending on the individual circumstances. CAP722 lists a range of occurrences which must be reported if only luck prevented a more serious outcome than was actually the case.

- Loss of control over the aircraft
- Aircraft operated outside the legal limitations imposed by the Article 16 applicable to their individual association membership.
- Aircraft operated in an unairworthy or unflightworthy condition
- Critical battery failure or malfunction (whether in the model or the transmitter)
- Power plant failure
- Aircraft structural failure (eg. part of the aircraft detaches in flight)
- Transmitter programming errors, including incorrect model memory selected or failsafe not set correctly
- Flight or “arrival” within close proximity of uninvolved persons, buildings, property or roads
- Any occurrence where the safety of the aircraft, operator, third parties or property is compromised whereby potential for harm or damage was likely to occur (or only prevented through luck)

The above list is not exhaustive, but it should be evident from this that a heavy landing on the runway, even if there was some damage to the model, would not be reportable, whereas a model crashing out of control on or near the road, or in the pits, or close to a bystander, should most certainly be reported.

Clearly the location of our flying field in a relatively remote rural area is intended to significantly reduce the likelihood of compromising the safety of uninvolved people, but situations could still occur which would need to be reported. It should be evident that the airworthiness of all models, and transmitter issues such as range-checking, model memory, correct control surface settings and failsafe settings are the responsibility of the pilot and that the consequences of lapses in any of these could have a serious outcome. If there is any doubt whatsoever, the assistance of a fellow-member should be sought before flying the model. Remember also that correctly setting a failsafe to cut the power in event of signal loss is itself a legal requirement.

The CAA and AAIB make it clear that the purpose is not for recrimination, to apportion blame or liability or impose disciplinary sanctions, but to determine causes with a view to promoting action to prevent recurrence. The aim is to enable the aeromodelling community to learn from and benefit from any lessons that may be drawn, and thereby help to avoid other incidents arising from similar causes or circumstances.



It is very important that all members take these mandatory reporting requirements seriously and do not wilfully or inadvertently put their colleagues into the invidious position of being obliged to report incidents where fellow members are in breach of any of these conditions and/or have failed to report potentially serious incidents in which they were involved. It is recommended that any member who observes what they think is a reportable occurrence should raise the issue with the person involved and remind them of their obligation to report it themselves. All such incidents must also be recorded in the Club's own Incident Book which is retained in the Clubroom at all times.

In the event that an occurrence results in personal injury or death, or damage to property, the contact details of everyone on site at the time should be recorded and as much photographic evidence as possible should be obtained by those present, to support the report. In addition, any model and equipment, including the transmitter implicated in the incident should be impounded and not be in any way repaired, altered or otherwise tampered with pending any enquiry which the AAIB or CAA may wish to conduct. Guidance notes are included in the Club Incident and Accidents Book.

Inevitably there will be situations arise where it is unclear whether there is a reporting obligation or not. In such instances the incident should ALWAYS be recorded in the Club Incident Book and the BMFA has very sensibly added a portal to their website where BMFA members can post details of possibly notifiable incidents and obtain advice from BMFA as to whether or not the specific incident should be reported to AAIB and/or CAA. https://reporting.bmfa.uk/ CAA/AAIB approve this as a useful facility to aid compliance with the legal obligations without overloading the reporting processes with occurrences of a relatively minor nature.

SAA has no equivalent online facility, but SAA members should refer incidents to the SAA who will advise as to whether they must be reported. Forms to do this are downloadable from the SAA website.

It is inevitable that other model flying clubs will become more stringent in their reporting procedures and that as a result, Clubs who do not do so will become apparent to the authorities. As a small club in a remote area we would not expect to have a high number of reportable incidents but it behoves all our members to take these obligations seriously.

If there is any doubt whether a particular case should be reported, the members involved should record the incident in the Club Incident book and seek advice from the Club Chairman or Safety Officer. However any such advice offered will be without prejudice, and in no way removes,

replaces or negates the legal obligations of the individual to comply with the law in such matters, and where possible, reference to the BMFA Incident Reporting system or SAA is strongly recommended. Guidance on Mandatory Reporting is available on the BMFA website.

Both within the club and on the main UK model flying forum, it is clear that Occurrence Reporting is an emotive issue, so in an effort to diffuse the emotions and allay fears, albeit without prejudice to the text of CAP722, here are a few things which should help to put minds at rest.

For many decades the AAIB has published a Monthly Bulletin of Air Accidents and near misses. They do not name the pilots involved, and the emphasis is entirely on determining cause. They actually make quite interesting reading, and you can read them online here:-

https://www.gov.uk/government/collections/air-accident-monthly-bulletins

Deciding whether occurrences should be reported is really just a matter of applying common sense. Some obviously dangerous occurrences MUST be reported, but the vast majority of incidents will be relatively minor. However because every incident and set of circumstances is different, there is clearly a sliding scale of potential seriousness, so some should be reported and others may not need to be. Both BMFA (online) and SAA (via email) will provide guidance to their members in cases of doubt.

BMFA are naturally reluctant to give specific scenario examples, as individual Club Flying sites and their associated risks vary enormously. However since DMFC has only one flying site and its layout and safety rules are clearly defined, it is reasonable to here provide some examples of occurrences that should definitely be reported and others which may not need to be.

BMFA have made it clear that heavy landings on the runway (including minor undershoots and overshoots) which only damage the model (and perhaps the pilot's pride) are not reportable. Any model crash within the No Fly Zone (NFZ) should be recorded in the Club Incident Book, but may not necessarily be reportable to BMFA/SAA unless personal safety was compromised (see list below). A brief flight incursion into the NFZ at a reasonable height would not need to be recorded or reported, but any incident where anyone has to duck, dive or dodge to avoid being struck by a model should be recorded and reported.

Most crashes in the outfield due to pilot error would not normally need to be recorded or reported unless the nature of the crash indicated a potential and repeatable danger to persons or third party property. Certain kinds of pilot error (eg. loss of orientation) are much more likely to occur at a distance over the outfield and much less likely closer to the flightline. The rural location where we fly provides a considerable natural mitigation against serious danger from certain incidents which might be reportable if they occurred at other locations.

Accidents and Incidents which **must always** be recorded and reported to BMFA or SAA are as follows:-

- **Any accident involving injury or damage to property**
- **Any accident or near miss involving a manned aircraft**
- **Any flight beyond visual line of sight from the flightline**
- **Any overflight of the road or car park or any buildings**
- **Any incident in which a model lands or crashes in or near the pits, on the fairway behind the pits, in the car park, on the road, or close to any bystander or uninvolved person, and any flight in which bystanders must duck, dive or dodge to avoid being struck by a model**
- **Any incident in which there is total loss of control of the aircraft**

The Pareto Principle - sometimes called the 80/20 Rule - applies here as in almost every aspect of life. See https://en.wikipedia.org/wiki/Pareto_principle

It is axiomatic that 80% of consequences result from 20% of possible causes. In a model flying club 80% of crashes will involve the same 20% of members. Anyone who crashes models very frequently should seek advice, as all crashes involve some degree of potential for harm, as well as being disheartening and often expensive.

Clearly flyers new to the hobby present greater risk when they are first let off the buddy-lead, but there are also other members who crash far more often than would reasonably be expected. Another factor is the natural desire we all have to develop our flying and/or modelling skills, which means "pushing the envelope" of our talents.

Maiden flights of new models always introduce an element of unpredictability, so it is wise to choose a calm day for maiden flights and always ask other members to stand well away from the flightline until initial trimming and test-stalling is completed. It really all boils down to using our common sense, but also being open and honest when life, limb or property are endangered by a model of which we are the Operator and/or Pilot.

BMFA MEMBERS

The British Model Flying Association (BMFA) is the largest of the UK model flying associations so its members have the benefit of a large association employing full-time staff and a showcase central model flying centre. BMFA also publish a full-colour magazine on their website, and there is a comprehensive online membership portal where they can join or renew their membership. On the same portal they can also complete their CAA registration or renewal for the CAA Operator ID, complete a CAA compliant basic competence test and obtain a Flyer ID, and confirm their agreement to the BMFA Article 16, which is a condition of use of its concessions.

BMFA have been issued with an Article 16 authorisation, and provided their members have confirmed their agreement to its conditions via the BMFA membership portal they can enjoy the full benefit of these concessions. The BMFA also publishes a useful Guide to Article 16 to help members understand the rules and implications of the document, and even a Quick-Start Chart to keep with member's flying kit to use as a quick reference guide, and a help if challenged when flying. An updated BMFA Article 16 for 2024 has been granted by CAA - see links above.

BMFA members also benefit from being able to refer incidents online to BMFA who provide immediate guidance as to whether the occurrence should be reported to AAIB and/or CAA.

SAA MEMBERS

CAA has now granted a single Article 16 Authorisation jointly covering BMFA, SAA, FPVUK and LMA. Article 16 makes specific reference to the Associations Safety Rules and Regulations and Achievement Scheme criteria.

The SAA documents had to be comprehensively updated as part of the original SAA Article 16 application process, and all SAA members should therefore read these updated documents before flying under the auspices of the new Article 16. SAA members must also formally declare to SAA that they have read and understood it, including the specific conditions imposed upon members when flying under Article 16 rules.

All the relevant information is available from the SAA website.

SAA integration with BMFA

The SAA is in the process of negotiating some level of integration with BMFA, and BMFA have already defined Scotland as an administrative area within BMFA. It is envisaged that eventually the current SAA Achievement Scheme will be replaced by the BMFA scheme which has no equivalent of the SAA Bronze-Plus award. BMFA and SAA (also LMA and FPVUK) are now covered by the same Article 16.

Each CAA Article16 is issued to the respective model flying associations annually and is valid for one year only. Article16's issued to SAA and BMFA used to be separate but are now the same. The BMFA has an online membership portal which enables their members to fulfil all their obligations on the same online facility.

BMFA members should obtain their Flyer ID via the BMFA free online RCC Test and upload their RCC Certificate to their profile on the BMFA Membership Portal. This confirms their understanding of not only the CAA Drone Code, but also of their understanding of the Article 16 provisions and conditions.

All SAA members must successfully complete the online CAA Competence Test and carry a CAA Flyer ID in order to fly legally and thereby be covered by insurance.

SAA members must Register/Renew their Operator ID and Flyer ID on the CAA website, and must annually submit to SAA a signed hard-copy declaration of their confirmation of having read and understood the SAA Article16.

SAA are in the process of bringing their website and online processes in line with BMFA practice and systems so it is best to obtain up-to-date information from the SAA website if membership of SAA is your preference.

However for new DMFC members, the club preference is that they should join BMFA as they have full-time staff, and in view of the integration discussions between SAA and BMFA, new members of DMFC who are new to the hobby are strongly advised to join BMFA. You can join BMFA online via their membership portal which can be accessed from the BMFA website here:-

BMFA Membership Portal

BMFA RCC Test to get Flyer ID

Summary of Useful Links

BMFA Website Home Page (provides access to various announcements and other relevant data, including a link to their Membership Portal and RCC Flyer ID test)

SAA Website Home Page (provides access to various announcements and other relevant data, including a link to their Membership Portal).

CAA Website you can use the search facility to access all relevant information

CAA Website for UAS Operator Registration and online competency test

Skywise (for notification of temporary Airspace Restrictions)

AAIB Air Accident Monthly Bulletins

dmfc.org.uk