

Air Navigation (Amendment) Order 2018 - Guidance for small unmanned aircraft users

Introduction

On 30 May 2018, the United Kingdom Government published an amendment to the UK Air Navigation Order 2016 (ANO) which contains its changes to the legislation regarding the operation of small unmanned aircraft.¹ The amendment is published as Statutory Instrument (SI) 2018 No. 623, entitled 'The Air Navigation (Amendment) Order 2018'. This can be found at: www.legislation.gov.uk/ukxi/2018/623/made. Some articles (parts) of the amendment come into force on 30 July 2018, but others take a further 16 months, coming into force on 30 November 2019.

Purpose of this document

This document has been written with the aim of providing readers, particularly those who are less familiar with the layout and structure of ANO amendments, with an outline of the revised regulations as they now appear in law; to provide guidance on the effects of the changes; and how they will be interpreted by the CAA.

Structure of the Amendment

The SI is structured in the form of a series of textual changes that need to be made to the original ANO document. While the amendment has introduced some 'completely new' articles in which the full text is given, the meaning of many of the other changes cannot be fully understood by reading the SI on its own. By way of assistance, a consolidated version of the ANO articles that have been affected by this amendment can be found at Annex A.

Although the SI document consists of eight pages of text, the areas covered by the amendment are relatively few and can be summarised as:

- Effective from 30 July 2018
 - A 400 ft operating height limitation for all small unmanned aircraft
 - A new limitation on the closest distance that small unmanned aircraft weighing 7 kg or less may be flown near specific types of aerodrome

¹ 'Small unmanned aircraft' means any unmanned aircraft, other than a balloon or a kite, having a mass of not more than 20 kg without its fuel but including any articles or equipment installed in or attached to the aircraft at the commencement of its flight.

- Changes to terminology with the introduction of the terms 'remote pilot' and 'SUA operator' in place of the previously-used term 'person in charge'
- Minor corrections to the ANO 2016 to provide clarification or to correct previous errors
- Effective from 30 November 2019
 - A requirement for the registration of SUA operators
 - A requirement for the competency of remote pilots to be tested

Article 7 - meaning of 'commercial operation'

This article has been adjusted very slightly in order to make it more applicable to small unmanned aircraft than was previously the case. It also relates more specifically to an 'SUA operator', now that this is a distinct term (as opposed to the more generic term 'operator').

The intent of this is unchanged from before. The key elements in understanding the term are: '... any flight by a small unmanned aircraft [...] in return for remuneration or other valuable consideration.'

The term 'available to the public' within Article 7 should be interpreted as being a service or commodity that any member of the public can make use of, or actively choose to use (e.g. because it has been advertised or offered to someone).

Article 20 - application of the Order to the Crown

This is a simple amendment which now includes the term 'SUA operator' within the text.

Article 23 - exceptions from the provisions of the Order

This is an important Article, because it exempts small unmanned aircraft (as well as small balloons, small kites and parachutes) from the majority of the ANO's provisions, and it then specifies those Articles which still apply. The Articles that still apply are:

Article 2	Interpretation
Article 91	Dropping of articles for agriculture etc.
Article 92	Mooring, tethering, etc. (not related to small unmanned aircraft)
Article 93	Release of small balloons (not related to small unmanned aircraft)
Article 94	Small unmanned aircraft: requirements
Article 94A	Small unmanned aircraft: height restrictions on flights (new)
Article 94B	Small unmanned aircraft: restrictions on flights over or near aerodromes (new)
Article 94C	Small unmanned aircraft: registration of SUA operator (new)
Article 94D	Small unmanned aircraft: requirement for registration as SUA operator (new - not applicable until 30 November 2019)
Article 94E	Small unmanned aircraft: competency of remote pilots (new)
Article 94F	Small unmanned aircraft: requirement for acknowledgement of competency (new - not

applicable until 30 November 2019)

Article 94G	Meaning of 'remote pilot' and 'SUA operator' (new)
Article 95	Small unmanned surveillance aircraft
Article 239	Power to prohibit or restrict flying (Prohibited and Restricted Areas)
Article 241	Endangering safety of any person or property
Article 257	CAA's power to prevent aircraft flying (except 257(2)(a))

The following articles also apply insofar as they relate to the articles above:

Article 253	Revocation, suspension, variation of certs, licences or other documents (new to this list)
Article 265	Offences and penalties
Article 266	Exemption from the ANO (new to this list)
Article 269	Certificates, authorisations, approvals and permissions (new to this list)

Article 94 - small unmanned aircraft: requirements

In terms of its meaning and intent, this article is essentially unchanged from previous, with the only changes being:

- The term 'person in charge' has been replaced with either 'remote pilot' or 'SUA operator' as applicable
- The previous reference to a height limit of 400 ft for small unmanned aircraft with a mass greater than 7 kg in paragraph 94(4)(c) has been removed, as the same requirement has now been included in Article 94A
- A new paragraph 94(4A) has been added which essentially states that the requirements within the airspace described in the new Article 94B (the 'flight restriction zone' of a protected aerodrome) take precedence over the requirements of paragraph 94(4). In simple terms, this means that if you are flying a small unmanned aircraft that is over 7 kg mass and have received permission from an ATC unit to fly within controlled airspace or an aerodrome traffic zone, you must also ensure that you have received an additional permission to fly within the 'Inner or Outer Zones' (see 94B below)

Irrespective of all the new aspects within the ANO amendment, it is vital to remember that Article 94 sets out the two key principles of small unmanned aircraft flying that must always be applied:

Article 94(2) The remote pilot is directly responsible for ensuring that the aircraft is flown safely

Article 94(3) The remote pilot must not fly the aircraft out of his/her sight, in order to ensure that collisions can be avoided

Article 94A - small unmanned aircraft: height restrictions on flights

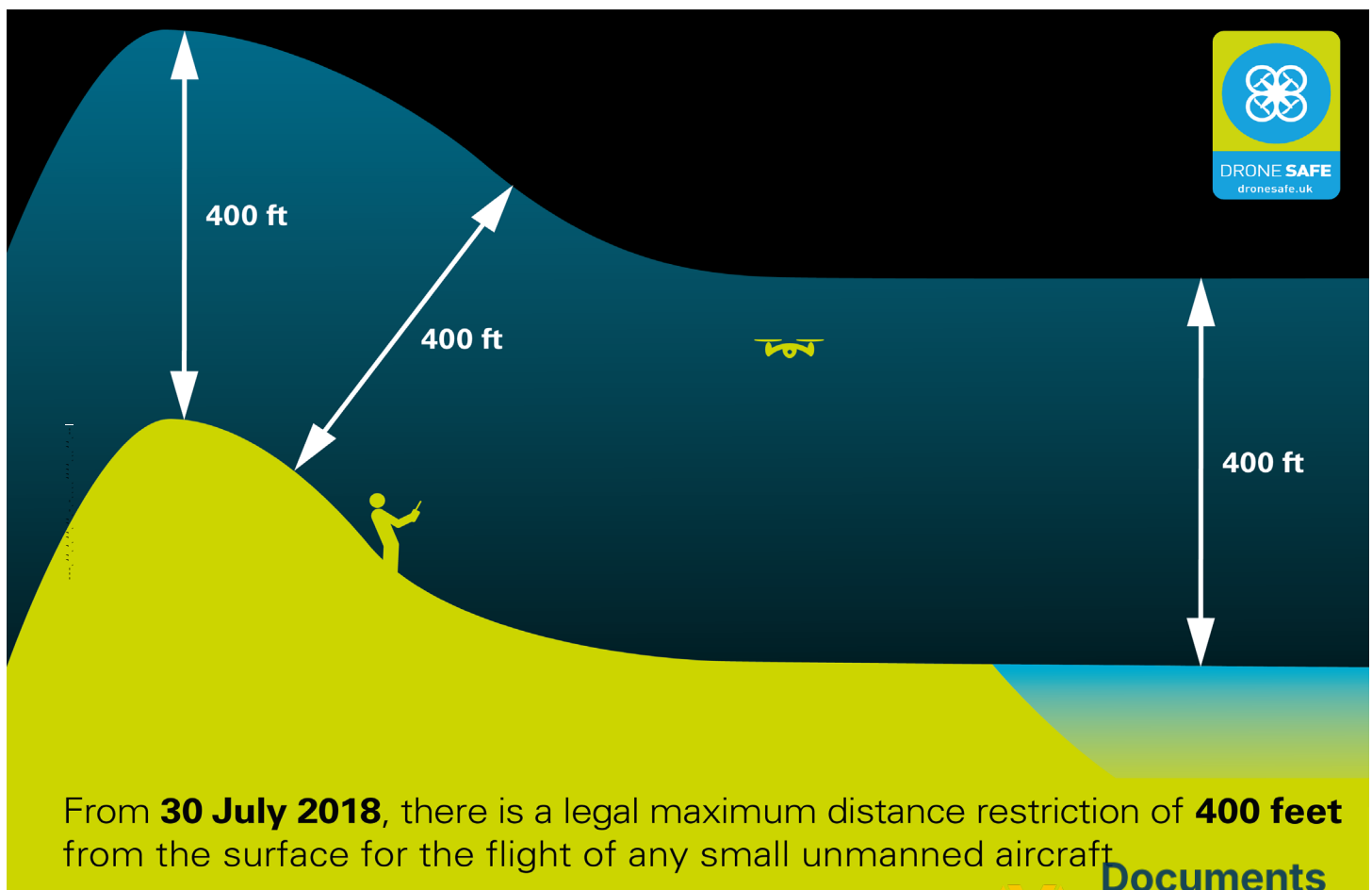
This article introduces a legal maximum height restriction of 400 feet above the surface for the flight of any small unmanned aircraft. Previously, this height restriction only applied to small unmanned aircraft with a mass greater than 7 kg, but now the height limit applies to all small unmanned aircraft, regardless of mass. However, there is scope within the article for the CAA to permit flight at a greater height if the CAA is satisfied that this can be achieved safely.

This height limitation is intended to contribute to the safety of manned aircraft from the risk of collision with a small unmanned aircraft. With the obvious exception of take-off and landing, the majority of manned aircraft are required by the rules of the air to fly at heights greater than 500 ft from the surface. While there are some other exceptions where manned aircraft are permitted to fly at 'low level' (such as Police, Air Ambulance and Search and Rescue helicopters, as well as military aircraft), flying a small unmanned aircraft below 400 ft significantly reduces the likelihood of an encounter with a manned aircraft. The height limitation is also identical to the one that is being introduced within the forthcoming European regulations for the operation of unmanned aircraft.

In aviation terms, 'height' means the vertical distance of an object (in this case the small unmanned aircraft) from a specified point of datum (in this case above the surface of the earth). To cater for the few occasions where a small unmanned aircraft is being flown over hilly/undulating terrain or close to a cliff edge, the 400 ft height above the surface requirement may be interpreted as being a requirement to remain within a 400 ft distance from the surface, as shown in the diagram below. For the purposes of Article 94A, this is considered to be an acceptable means of compliance with the legal requirement.

Remember that the limitation applies to 'heights above/distances from' the surface of the earth. It does not automatically apply to heights/distances from tall buildings or other structures: in such cases, an additional permission from the CAA will be required, which will invariably also require permission to operate within a congested area.

The CAA has currently issued a General Exemption (ORS4 No. 1226) allowing the operation of certain small unmanned aircraft to be flown using 'first person view' (FPV) equipment up to a height of 1,000 ft in certain, specified, cases. In order to remain within the spirit of Article 94A, this General Exemption will shortly be reissued with a lower 400 ft height limit. This revision of the General Exemption will also ensure that the privileges it offers will remain in line with the requirements of the forthcoming European regulations for the operation of unmanned aircraft.



Additional work is underway with UK aeromodelling associations to permit certain 'model aircraft' operations to continue above 400 ft when being flown within an appropriate club or association environment.

Details on how to obtain permissions from the CAA can be found on the CAA's website at: www.caa.co.uk/uas or within CAP 722 at www.caa.co.uk/cap722.

Article 94B - small unmanned aircraft: restrictions on flights that are over or near aerodromes

While Article 94(4) already imposes a number of airspace-related restrictions, they only apply to small unmanned aircraft with a mass that is greater than 7 kg. This new Article imposes restrictions on the flight of all small unmanned aircraft within the immediate vicinity of aerodromes that have been termed 'protected aerodromes'.

In simple terms, a 'protected aerodrome' is an aerodrome that has an Aerodrome Traffic Zone (ATZ) established around it, and so it is already recognised in aviation circles as an aircraft operating location that warrants some additional safeguarding. The existence of an ATZ also provides a direct link with the airspace referred to in Article 94(4) for the 'over 7 kg' small unmanned aircraft. It also makes the identification of the relevant aerodromes easier on aviation charts (although the ATZs are not marked on charts for aerodromes that are also surrounded by a control zone (CTR)).

A protected aerodrome can be one of the following:

- An EASA certified aerodrome (i.e. what we would typically call an airport)
- A Government aerodrome (i.e. a military airfield)
- A national licensed aerodrome (i.e. most smaller 'General Aviation' airfields, where the CAA has issued a licence to the airfield operator)

There is also scope for other aerodromes that do not have an ATZ to be specifically nominated (prescribed) in law as protected aerodromes at a later date. As yet, though, no additional aerodromes have been identified for this classification. Any that are prescribed in the future will be identified within the UAS pages of the CAA website.

Details of the aerodromes that fall into the 'protected' category can be found within the UK Aeronautical Information Publication (UK AIP) at the following links:

- EASA certified and national licensed aerodromes (and RAF Northolt): http://www.nats-uk.ead-it.com/public/index.php%3Foption=com_content&task=blogcategory&id=6&Itemid=13.html
- Government aerodromes: go to ENR 2.2, pages 2.2-1 to 2.2-5 at http://www.nats-uk.ead-it.com/public/index.php%3Foption=com_content&task=blogcategory&id=4&Itemid=11.html (Scroll down to 'ENR 2 - Air Traffic Services and Airspace' and click 'ENR 2.2').

Flight restrictions near protected aerodromes

The basic idea of the new restrictions is that you must not fly a small unmanned aircraft closer than 1 km from the boundary of a protected aerodrome without first checking that you have permission to do so. The airspace around a protected aerodrome is now called the 'flight restriction zone' and is divided into two separate zones as follows:

- The 'Inner Zone' which consists of the area over the aerodrome and up to the aerodrome boundary