

CAP 403 Edition 21 2024 significant changes



Background

This document has been published in order to highlight proposed significant changes in edition 21 of CAP 403. It does not include minor changes / corrections to previous text. The aim is make the consultation process easier and less time consuming by providing an alternative to reading through the entire CAP in order to find proposed changes. The full draft version of edition 21 of CAP 403 has also been offered for consultation for those who prefer to view the complete document and for context if required for those who chose to use this document.

All proposed amendments are underlined in red.

Terminology and Definitions

Flypast (Mil)		A Flypast (Mil) involves aircraft flying, either singly or in formation, over or past a gathering of Spectators along a pre-planned route without manoeuvring, other than when necessary for safe and accurate navigation <u>or repositioning</u> . Accordingly, <u>flypasts</u> will not include Aerobatic Manoeuvres <u>but may include up to 3 pre-planned passes</u> .
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General information

Air Display HF course

The online Air Display HF course is a one-off requirement and once completed HF will be covered as set out below. Course completion is mandatory prior to the CAA issuing an initial DA and before awarding an initial FDD Accreditation. For access to the course email ga@caa.co.uk.

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Chapter 1 Flying Display legal requirements

1.1 The Air Navigation Order (ANO) defines a Flying Display as any flying activity deliberately performed for the purpose of providing an exhibition or entertainment at an advertised event open to the public. Article 86 details the regulations for both the Flying Display Director (FDD) and participating Display Pilots at such an event. The FDD **must** obtain, in writing, a Permission to hold the event from the CAA and to participate in the event, civilian Display Pilots **must** hold a Display Authorisation (DA) or a DA Exemption¹².

¹² For multi crew aircraft, the Pilot-in-Command (Captain) shall be the Pilot Flying and DA holder.

1.24 DAs issued by any National Aviation Authority, other than the UK CAA, are currently not acceptable for use in UK Flying Displays²⁰.

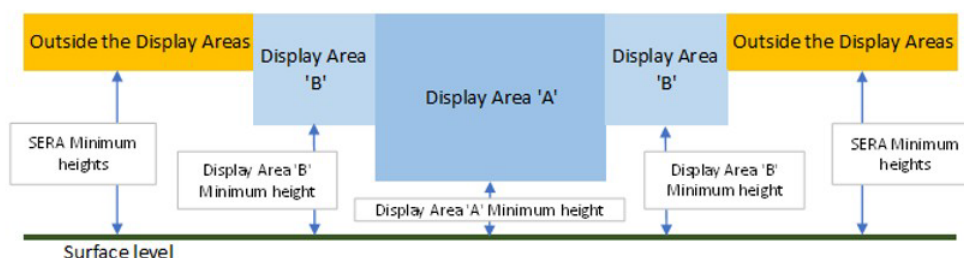
²⁰ This direction is issued by the UK CAA in accordance with Article 86(13) of the ANO but applies also to DAs issued by any National Aviation Authority other than the UK CAA.

Chapter 5 The Flying Display – planning and categorisation

5.29 A cross section through a typical Display Area, adequate for the majority of Flying Displays is shown below:



5.30 A Display Area can, if desired, be split into sub-areas (area 'A', area 'B', etc) with varying base minima. This allows the FDD to take different approaches to mitigating hazards within the areas and provide an area for transiting between SERA requirements and display minima. A cross section through such a Display Area is shown thus:





5.36 The minimum lateral Separation Distances between display aircraft and Crowd Line are as follows:

Type of aircraft	Type of display	Separation distance
All aircraft	All fixed and rotary-wing aircraft displays	230 metres
All aircraft	Speed greater than 300KIAS with velocity vector towards crowd	450 metres

For the following aircraft and activities, reduced minimum separations are permitted:

Type of aircraft	Type of display	Separation distance
Light Aircraft (<u>MTOM less than 1200kg and speed less than 150KIAS³²</u>)	<u>MTOM less than 1200kg and speed less than 150KIAS³³</u> <u>Fixed wing aircraft displays</u>	150 metres
Rotary-wing	Non-aerobatic flight and under-slung load operations	150 metres
VSTOL Aircraft	Vertical take-off and landing, and non-wing borne flight at low speed	150 metres
VSTOL Aircraft	Conventional wing borne flight	230 metres

Use of Transponder

5.51 Pilots operating transponder equipped aircraft are reminded of the mandatory requirement for the equipment to be turned on in flight to provide a level of conspicuity³⁵. Display aircraft **should** transmit the published conspicuity code (squawk) of 7004, unless otherwise directed.

³⁵ Use of transponders for formations shall be briefed by the formation leader.



Chapter 6 The Flying Display – Management

- 6.1 Displaying aircraft perform relative to a Display Line which **must** be clearly identified. Where the Display Line is not delineated by an obvious line feature (such as a paved runway) it **should** be clearly marked **with** ~~day-glo pyramids or panels, whitewashed lines or~~ by some ~~other~~ suitable method. ~~Hi-visibility buoys or marker floats should be used for over water displays.~~
- 6.4 FDDs **may** find it helpful to identify and mark a number of specific points to help pilots position, and / or for the benefit of the spectators. The Display Datum (if required) **may** be indicated by a marker on the Display Line (~~such as a group of pyramids or buoys~~) or by a significant feature on or behind the crowd line. The location and rationale for any marked points **must** be included in all pilot briefing material.
- 6.29 A formal verbal briefing **must** be given on each day of the Flying Display and at any rehearsal or press day, and all participants **must** attend if physically possible. ~~The briefing should, as a minimum include all the points detailed in Appendix BA~~ suggested briefing checklist is detailed in Appendix B.
- 6.30 Participants not operating from the Flying Display site, and those unable to attend the formal brief, **must** contact the FDD on the day, prior as close to their slot time, ~~as possible~~ to obtain a full formal verbal briefing. A crib sheet identical to both FDD and participant, issued by the FDD as part of the ~~comprehensive~~ display pilot's written brief, **should** be used.



Impromptu displays at Flying Displays

~~6.33 — FDDs are to ensure that pilots of display aircraft are specifically instructed to not carry out any form of impromptu display such as on arrival or departure.~~

Arrivals and Departures from Flying Displays

~~6.346.33~~ All Flying Display arrivals and departures **must** be in accordance with the aerodrome procedures and relevant regulation. Pilots **must not** use the privileges of their DA / PDA during arrivals or departures unless arriving into a pre-organised display ~~practise or displayslot~~. Unbriefed and unexpected manoeuvres are equally, if not more, dangerous during arrivals and departures to and from a Flying Display as those carried out during a display. Pilots of civilian aircraft who do not hold a DA are not permitted to use the SERA 5005(f) Exemption over MOD Occupied Property.

Chapter 8 Flying Display Director (FDD) – Requirements and information

Maritime Exclusion Zones for over water displays

~~8.418.42~~ An **Maritime** Exclusion Zone (**MEZ**) should be used at over water display venues in an attempt to limit the amount of marine traffic, and therefore Secondary Spectators and third parties, under the Display Area.

Post display feedback

8.49 FDDs / AFDDs **must** submit a Post Display Feedback Report using the joint CAA / MAA 'Flying Display Director Post Display Feedback Form' [SRG1305/Form 4](#) within seven days of the conclusion of the Flying Display⁶². The report contains details of the Display Items that performed on each day of the display, what went well, any lapses and breaches from the required standards, any Warning, Terminate or STOP calls made and any lessons learned. In addition to the pilot's name and aircraft type, when reporting Warning calls, it is important to include details of the trigger and subsequent actions, and any debriefs undertaken. The FDD **should** use any information provided by the FCC, performing pilots and any DAEs in attendance in writing the report.

⁶² Forms **should** be submitted even if the display is cancelled as FDD currency credit is given where a Permission has been issued.



Chapter 9 Air Traffic Services – requirements and information

- 9.3 Where ATC is being provided by a licenced ATCO, the responsibility for the control of display aircraft rests with the controller. FDDs and ATCOs must understand the boundaries of their responsibilities and mutually brief prior to the event to ensure there is no ambiguity and to agree any bespoke procedures including responsibilities for warning and STOP calls. FDDs must establish the same boundaries where AFIS / AGCS is provided recognising that the responsibilities differ from that of an ATCO with respect to control capabilities.
- 9.4 The CAA may, in the interests of safety, direct the person in charge of any aerodrome (other than a Government aerodrome) to provide an Air Traffic Control Service, a Flight Information Service or an Air / Ground Communication Service as considered appropriate. If an event is likely to generate more than 10 Air Traffic Movements per hour and / or 100 movements per day, proposals shall be discussed with the appropriate Principal Inspector (ATM) unless ongoing arrangements exist or the ANSP is already certificated by UK CAA.

FDD use of ground aeronautical radio station

- 9.22 There is a demonstrable need for FDDs and members of FCCs to be able to intervene in Flying Displays and issue the STOP calls and standard warning calls set out in this CAP. FDDs who do not hold either an Air Traffic Control Officer (ATCO) or Flight Information Service Officer (FISO) licence or a ROCC, and intend to use an aeronautical radio station, a 'Restricted ROCC Flying Display Director (FDD) only' is required.
- 9.23 The scope of the ROCC is limited to the calls set out in chapter 6 of this CAP only.
- 9.24 Any transmissions made directly by either the FDD or FCC or made indirectly via an ATCO / FISO or AGCS should be prefixed with the term 'from the FDD / FCC' (as applicable).

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- 9.25 Nothing in this document or Article 202 (3) of the ANO prevents a person operating an aeronautical radio station for the purpose of avoiding immediate danger.
- 9.26 A ROCC as described above will only be issued to accredited FDDs subject to GAU approval. A one off certification fee is payable at the point of application .
- 9.27 Once issued, the ROCC FDD must be signed by each radio station's WTA licence holder before a FDD is permitted to operate the station's radiotelephony equipment (which includes handheld equipment).
- 9.28 Application for a 'Restricted ROCC Flying Display Director (FDD) only' shall be made on form SRG 1413A. Permission to operate in any other role such as AGCS, OCS, CDO or PARA is strictly prohibited without additional learning / certification.
- 9.29 Further information can be found in Supplementary Amendment (SA) 2023/01 and CAP 452 Aeronautical Radio Station Operator's Guide.

FDD Attestation of FCC

- 9.30 FCC members who do not hold either an Air Traffic Control Officer (ATCO) or Flight Information Service Officer (FISO) licence or a ROCC, and intend to use an aeronautical radio station (whether fixed or mobile) are permitted to do so under the authorisation and supervision of the FDD.
- 9.31 The FDD is to assure themselves that any such FCC member is aware of the scope of the permitted phraseology in Chapter 6, is trained to use the radio equipment and understands the division of responsibility between the ATCO / FISO / AGCS, FDD and other FCC members.
- 9.32 The FDD shall declare their attestation of FCC members using the SRG1413B Declaration Form.

Note: A link to form SRG1413B will be provided once live.



- 9.38 FDDs / EOs should note that frequencies for use in Flying Displays and other Special Events are in extremely short supply, and allocation cannot be guaranteed. If an event is cancelled the FDD / EO should notify the CAA so that the frequency can be made available for use elsewhere.

Chapter 12 Paragliders and Hang-gliders and powered variants as part of a Flying Display

General

- 12.1 Displays encompassing the operation of paragliders, hang-gliders, and their powered variants (self propelled hang-gliders (SPHG) and paramotors), present unique issues to the EO and / or the FDD. These issues **should** be discussed early in the development of the flying programme.
- 12.19 The display elements **must** be completed and the paraglider / paramotor / hang-glider / SPHG **must** be in normal flight to commence the landing approach at a height no lower than 100 feet unless approved otherwise on the pilot's DA.

Separation Distances

- 12.21 Minimum Separation Distances for paragliders, paramotors, hang-gliders and SPHGs are contained in the table below:

Type of aircraft	Type of display	Lateral Separation Distance
Paraglider, paramotor, hang-glider and SPHG	Take-Off / Landing	30 metres
	Non-aerobatic	75 metres
	Full Aerobatic*	150 metres

* Full aerobatic flight for these aircraft include, but are not limited to, angles of bank exceeding 90 degrees, spins, loops, inverted flight, figures in which all or part of the aircraft is moving backwards or rotating and manoeuvres in which all or part of the aircraft is collapsed.



~~Down draughts, prop wash and jet blast~~

~~12.23 — Moving / disturbed airflow, however caused, has a great effect on the control of a paraglider or hang-glider as they are susceptible to air turbulence. Provision **should** be made to reduce the likelihood of rotating propellers, jet blast and turning rotor blades being within the proximity of paragliders so as not to affect them.~~

Chapter 13 Foot-launched aircraft as part of a Flying Display

~~Down draughts, prop wash and jet blast~~

~~13.8 — Moving / disturbed airflow, however caused, has a great effect on the control of a foot launched aircraft as they are susceptible to air turbulence. Provision **should** be made to reduce the likelihood of rotating propellers, jet blast and turning rotor blades being within the proximity of the foot-launched aircraft so as not to affect them.~~

~~Maximum wind limitations~~

~~13.9 — Take-off and landing has to be made directly into wind, with a maximum wind strength of only 10kts for some foot-launched aircraft.~~

Chapter 15 Banner towing as part of a Flying Display

~~15.1 — Banner towing as part of a Flying Display requires co-ordination between the FDD, the participant and ATS provider as the 'combination' is slow to manoeuvre and susceptible to drift.~~



Chapter 16 Airborne pyrotechnic displays

General

- 16.1 Pilots / operators are reminded that Article 89 prohibits the dropping of articles from an aircraft in flight unless the exceptions or alleviations in that article apply. A Permission under Art 89 is required for the use of any pyrotechnic where dross, embers or remnants reach the surface. Pilots / operators **must apply** for a Permission for each location / display (public, private or practice) at which the use of airborne pyrotechnics are to be used. An application for a Long Term Permission is permissible for the dropping of articles at a single location.
- 16.5 Pyro devices and projectiles **must not** be released with a trajectory that could result in projectiles, dross, embers or remnants landing in any areas occupied by persons; consideration **must** be given to release height, wind drift and lateral separation distances increased accordingly.
- 16.20 As soon as possible after landing from a pyro display a hazard triage should be carried out to assess the spent and / or partially spent pyrotechnics for smouldering fires and security before an aircraft is manoeuvred close to public areas. It is recommend that spent pyro are inspected and wetted down if necessary and / or removed after landing without delay.

Risk assessments for airborne displays using pyrotechnics

- 16.30 A risk assessment **must** be included with each Art 89 Permission application covering the use of airborne pyrotechnics; unless it is included within an Art 86 Flying Display risk assessment submitted by the FDD.
- 16.31 Applications for Art 89 Permissions covering the use of airborne pyrotechnics at Art 86 Flying Displays **may** be made by either the aircraft / team operator / manager or the FDD of that display.
- 16.32 All risk assessments submitted with applications where airborne pyrotechnics are to be used as part of a Flying Display **must** be countersigned by the Event Organiser.



Appendix B Briefings

- B1** The FDD is responsible for ensuring that, in advance of the Flying Display, all participants are sent a written briefing. It is important to distribute this information as early as possible to allow pilots time to plan. ~~and is particularly important for fast jets which might be a little less flexible in their timings.~~ The quality of the mapping / imagery provided is also vital to aid pilots in planning their displays.
- B2** The written brief should be concise and site specific.
- B3** The content of the briefing will vary depending on the complexity of the Flying Display. The relevance and importance of reproducing direct excerpts from this CAP should only be included if essential, but the following items should be considered, where appropriate:
- 33B4** ~~It is recommended that where possible the display pilot's written brief is produced in a bound A5 format. In addition, it~~ is recommended that one of the cover pages consists of a crib sheet ~~with an acetate overlay~~ to facilitate pilot's noting significant information as suggested in the following illustration:

The verbal brief

- B5** The FDD is responsible for ensuring that all participating pilots receive a thorough verbal briefing before the Flying Display on each day of the event. A copy of the Flying Display Permission **must** be available at the briefing.
- B6** As with the written brief, the relevance and importance of reproducing direct excerpts from this CAP should only be included if essential.