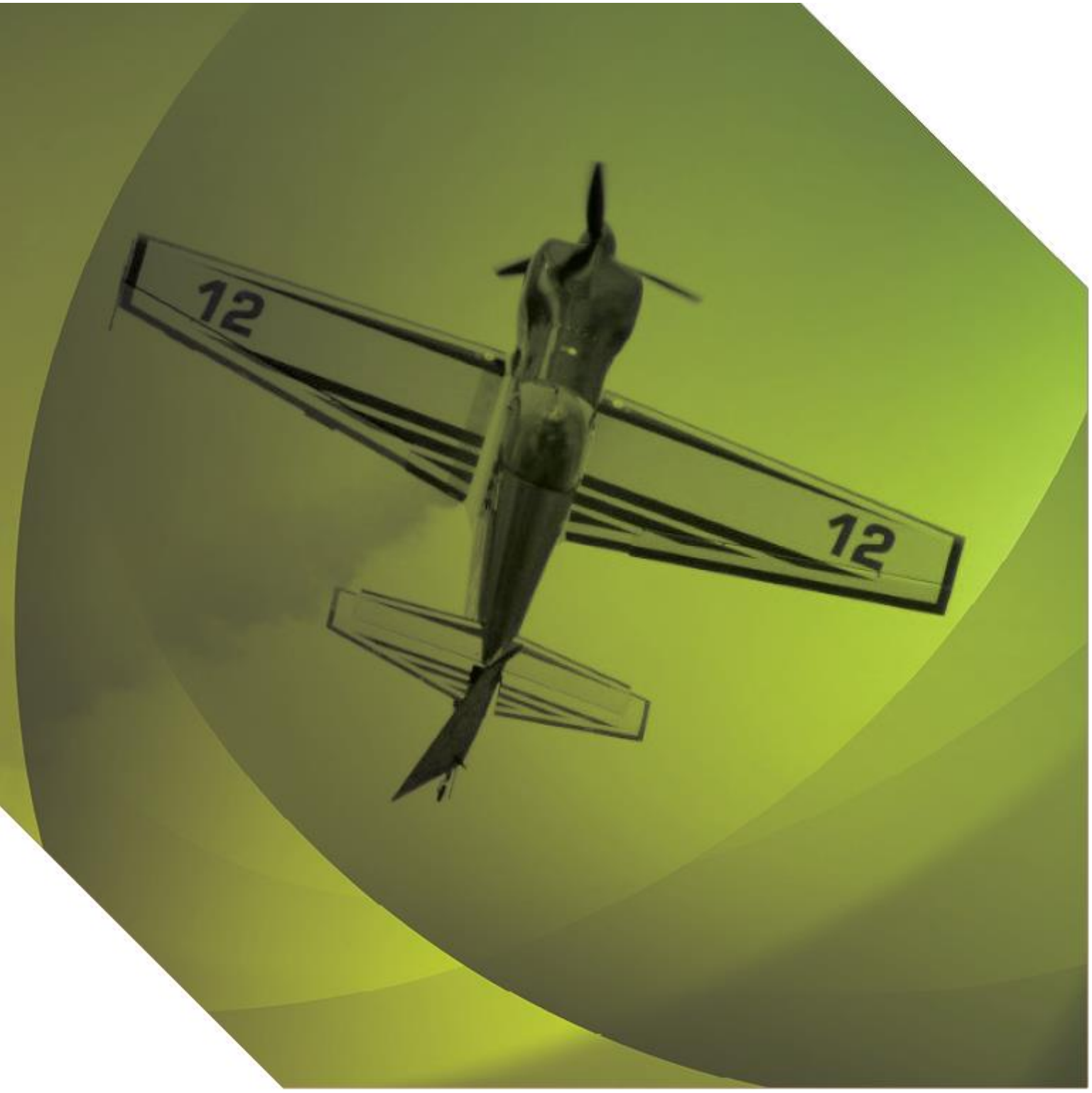
Civil Aviation Authority

Flying displays and special events: A guide to safety and administrative arrangements

CAP 403



Published by the Civil Aviation Authority, 2016

Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex RH6 0YR

First published October 1973

Second edition July 1977

Reprinted February 1979

Reprinted August 1980

Third edition August 1982

Fourth edition January 1989

Fifth edition January 1990

Sixth edition March 1992

Seventh edition April 1995

Eight edition February 1998

Ninth edition 29 November 2002

Tenth edition 9 March 2007

Eleventh edition 1 April 2009

Twelfth edition 1 March 2010

Twelfth edition including amendment 2012/01, 29 June 2012

Thirteenth edition. February 2015 Re-written

Thirteenth edition 1 including amendment 2016, 1 March 2016

Thirteenth edition 2 including amendment 2016, 13 April 2016

Enquiries regarding the content of this publication should be addressed to:

General Aviation Unit, Safety and Airspace Regulation Group, Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex RH6 0YR

The latest version of this document is available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments.

Contents

PART B

Revision history

Edition 10 March 2007

This revision incorporates changes to the Air Navigation Order (ANO) references to reflect the 2005 edition of the ANO.

References to internal departments have also been updated to reflect changes in the organisational structure of the CAA.

Other minor editorial corrections, convenient to be included at this time, have also been included. All technical changes are marked by a marginal line.

Edition 11 April 2009

This revision incorporates changes to the Rules of the Air regulations references to reflect the 2007 edition of the ANO.

Other minor editorial corrections, convenient to be included at this time, have also been included. All technical changes are marked by a marginal line.

Edition 12 March 2010

This revision incorporates changes to the Air Navigation Order (ANO) references to reflect the 2009 edition of the ANO.

Other minor editorial corrections, convenient to be included at this time, have also been included. All technical changes are marked by a marginal line.

Edition 12, Amendment 2012/01 June 2012

This amendment amends Chapter 6, paragraphs 3.1 and 4 to address two AAIB Safety Recommendations (2011-001 and 2011-002 in FACTOR 02/2011, available via www.caa.co.uk/factor022011). Due to their urgent nature these changes have been made ahead of the major revision to this CAP.

Edition 13 February 2015

This revision is a complete rewrite of CAP403. The CAP is now split into Part A and Part B covering Flying Displays and Special Events respectively.

Edition 13, Amendment 2016/01 March 2016

Amends to reflect change in display application requirements (Chapter 3 Part A, Chapter 4 Part A and Annex A – Risk Assessment) and introduction of fitness assessment for Flying Display Director and display pilots (Chapter 1 Part A). All subsequent to CAA's review of flying display regulation conducted in 2015/6. Due to their urgent nature these changes have been made ahead of a major revision to this CAP in late 2016.

Edition 13, Amendment 2016/02 April 2016

Amends to reflect change to requirements on FDDs, requirements attached to display authorisations and preliminary planning requirements (Chapter 2 Part A), and amends to reflect changes in site assessment and display planning rules and new requirements on post event feedback and safety breach reporting (Chapter 3 Part A). Introduction of requirement to collect and communicate information on latent hazards within aircraft (Chapter 4 Part A). Further amends on DAE appointment and competency and the requirements and processes attached to Display Authorisations and Display Authorisation renewals (Chapter 5 Part A).

All subsequent to CAA's review of flying display regulation conducted in 2015/6. Due to their urgent nature these changes have been made ahead of a major revision to this CAP in late 2016.

General information

Introduction

1.1 Flying displays and aerial special events form a significant part of the UK leisure industry today and participation, together with their organisation and administration, needs careful consideration if the highest safety standards are to be achieved and maintained. This publication is intended as a code of practice and an indicator of best practice to provide guidance to ensure that the safety of both the participants and the spectators is not compromised.

1.2 The coverage of this CAP is split into two parts:

PART A Flying displays
PART B Special events

1.3 Participating in or organising flying displays and special events carries a heavy responsibility. Safety is paramount; not only that of the participants, but arguably even more important, that of the spectators, whether paying or not. Therefore only the highest standards are acceptable. Displays must be carefully planned both on the ground and in the air and nothing should be considered without careful thought to ensure that it is safe. A risk assessment procedure is included to help in this process.

1.4 The impromptu, ad hoc, unrehearsed or unplanned should never be attempted.

Background

1.5 Article 162 of The Air Navigation Order 2009 (ANO) (as amended), empowers the Civil Aviation Authority (CAA) to regulate civil flying displays within the United Kingdom. This publication sets out the safety and administrative procedures to be followed by the organisers and participants at such events.

1.6 Military flying displays are defined in Article 162 paragraph (15) of the ANO. Military flying displays and flypasts are conducted under the regulation of the Military Aviation Authority (MAA) and in accordance with MAA Regulatory Article 2335.

1.7 Guidance is also provided, beyond the statutory requirements, so that experience gained from past displays can be of use to those new to the organisation of such events. For the same reason, some basic supplementary advice is included in Part B for air races, balloon events, fly-ins, helicopter events, microlight events, model events and other special events none of which are subject to the regulations governing flying displays.

1.8 FDDs, when making application for a Permission to hold a flying display, are required to confirm that the organisation and conduct of the flying display will be in accordance with the provisions of this CAP.

1.9 Nothing in this publication is intended to conflict with the ANO or other legislation, which, in case of doubt, must be regarded as overriding.

1.10 An Aeronautical Information Circular (AIC) 'Regulation of Flying Displays', is issued periodically to update the information in this publication.

1.11 An AIC, 'Notification of Unusual Aerial Activities', is issued periodically to advise current notification procedures.

1.12 A list of addresses of organisations referred to in this publication is given at Appendix H and the Flying Display and Unusual Aerial Activity Notification forms are at Appendix E.

1.13 Some of the text of this publication is presented in the third person singular. For conciseness, the pronoun 'he' is used throughout. 'She' should be substituted when appropriate.

1.14 Further useful information can be found at www.caa.co.uk/airdisplays and the QRDA link therein.

Terminology

1.15 Throughout this CAP the following terms are used:

Flying display - Any flying activity deliberately performed for the purpose of providing an exhibition or entertainment at an advertised event open to the public. (Article 162 of the ANO)

Special event - Any flying activity during which aircraft may not necessarily comply with the Rules of the Air and normal air traffic control rules and which requires consideration of one or more of the following:

- the issue of special procedures;
- the level of an 'air traffic service' to be provided;
- the establishment of Restriction of Flying Regulations.

Crowd line - The forward edge of the areas intended for spectators and any car park to which the public has access during a Flying Display.

Display line or axis - A line defining the closest a display aircraft should approach the crowd line.

Display area – The ground area the FDD intends the display to be confined within to comply with their Article 162 permission.

Event organiser - The Organiser of an event which includes a Flying Display.

Flying Display Director (FDD) - The person responsible to the CAA for the safe conduct of a flying display.

Display item - A single aircraft, or formation of aircraft, flying as one display 'act'.

NOTE: Random collections of aircraft are not considered to be a single display item unless they are flying together as a formation.

Display pilot - A pilot who holds a Display Authorisation (DA) or Exemption, issued by his appropriate national authority, which allows him to take part in a Flying Display.

NOTE: In the UK this only applies to civil Display Pilots. Military Display Pilots are approved and authorised as specified by the MOD normally in the form of a PDA

Spectator - A person attending a flying display and remaining in the areas set aside by the organiser for the public.

Display Authorisation (DA) - A national document detailing the types or groups of aircraft in which a pilot is authorised to display, together with any limitations and other specific endorsements.

Display Authorisation Evaluator (DAE) – A CAA authorised person qualified to conduct examinations and tests for the award of a DA.

Skill levels for authorisation of aerobatic displays - See Part A Chapter 6 for the manoeuvres appropriate to each skill level. The skill levels used on DAs are:

- Standard
- Intermediate
- Advanced
- Unlimited

Pleasure flights - Any passenger flight starting from, or arriving at, the display site purely for the purpose of commercial air transport pleasure flying.

Static aircraft park - A park for aircraft to which the public has access at all times.

Aircraft parking area - A park for aircraft to which the public has no access during the period of the display.

Car parks - Where the words ‘Car Park(s)’ are used in the text of this CAP, the words are only intended to apply to Car Park(s) to which the public has access during the flying display and as such must be considered the same as the spectator area.

ATC – references to ‘ATC’ contained in this CAP apply to all ground to air operators transmitting on an approved frequency.

Chapter 1

Part A - Flying display legal requirements

Article 162

1.1 Article 162 of the ANO deals with civil flying displays within the United Kingdom. Where such a flying display is at an advertised event open to the public, Article 162 places responsibilities on both the organiser of a flying display (hereafter referred to as the 'Flying Display Director') and the participating pilots. For such an event, the Flying Display Director (FDD) must obtain the permission in writing of the CAA and civil display pilots must hold a DA.

1.2 Before a Permission can be issued, the CAA must be satisfied that: **A person is fit and competent as an FDD, having regard in particular to his previous conduct and experience, his organisation, staffing and other arrangements, to safely organise the proposed flying display**.

1.3 Similarly, a pilot must satisfy the CAA that: **He is a fit person to hold a DA and is qualified by reason of his knowledge, experience, competence, skill, history, physical and mental fitness**.

1.4 To this end, the pilot is required to provide such evidence and undergo such tests and examinations as the CAA may require of him.

1.5 In deciding if an application for a Permission under Article 162 should be made, the FDD should note that the 'open to the public' requirement is the principle requirement rather than the 'advertised' element. If the general public are permitted onto the site for the purposes of witnessing the event, with or without payment, during the flying display, an Article 162 Permission will be required.

1.6 Flights at events that are not open to the public remain subject to the low flying rules. If an Exemption is needed from any aspect of the low flying rules then this must be sought by completion of Form 1304

1.7 Races and contests, are specifically exempt from the requirements of Article 162 of the ANO. However, where the public has access to the site of the race or contest the organiser should comply with those parts of this CAP relating to public safety particularly in relation to minimum separation distances between aircraft, in flight and on the ground, and the public.

Military events, venues and military participation in civil flying displays

1.8 Displays organised by the MOD as specified in Article 162 of the ANO are exempt from the other provisions of Article 162.

1.9 Flying displays held on or over MOD property by civilian organisers are also exempt from the provisions of Article 162. Participation by civilian pilots in such displays will be subject to compliance with display limits as approved by the Military Aviation Authority.

1.10 Further information can be found in Appendix G - Military participation.

1.11 Before any military aircraft may participate in a UK flying display, its participation must be approved by the MOD. In the case of UK military aircraft, it can be assumed that the required approval has been given by the MOD when the display aircraft is allocated to the flying display by the relevant service. See paragraph 1.16 below for the position concerning foreign military aircraft.

Foreign participation

Foreign civil participants from countries operating a DA system

1.12 Certain other countries have issued, or are in the process of issuing, DAs to their display pilots. DAs issued by other countries may be accepted by the UK CAA for pilots participating in displays in the UK (ANO Article 162). The limitations imposed on pilots holding a DA issued in another country whilst displaying in the UK are the higher of the limits specified in the pilot's DA or the limits imposed in the Article 162 Permission.

1.13 Confirmation of foreign DA pilots acceptability should be directed initially to the FDD. If the foreign DA pilot is also the FDD, approval may be gained in either case from the UK CAA.

1.14 Pilots from other countries may hold, if they wish, a UK DA provided they have met all the requirements as specified in Chapter 5 and have been recommended to the CAA by a UK DAE. The limitations of the UK DA will apply to flying displays flown in the United Kingdom.

Foreign civil participation from other countries without a DA system

1.15 A foreign civil licensed pilot from countries without a DA system wishing to take part in a flying display under an Article 162 Permission is required to hold a UK DA or, exceptionally, an Exemption from the need to hold one. Where a foreign qualification equivalent to a DA is held, the CAA may be prepared to accept it as confirmation of competence in considering the issue of a UK DA or an Exemption from the need to hold a DA. Further details may be obtained from the CAA.

Foreign military participation

1.16 All foreign military display items require the specific approval of the MOD before participating in a UK flying display. FDDs should seek early clarification from the MAA if they believe that such items will be participating in their flying display.

1.17 In some countries, foreign military registered aircraft may be operated by non-military organisations. In this case the MAA and the CAA must be consulted for clarification as to whether a form of military PDA/validation or DA is required prior to participating in a UK flying display.

1.18 In some countries, foreign civilian registered aircraft may be operated by foreign military organisations. Again in this case the CAA and the MAA must be consulted for clarification as to whether a form of military PDA/validation or DA is required prior to participating in a UK flying display.

Civil foreign registered aircraft

1.19 Flying displays are aerial work. Consequently, civil foreign registered aircraft appearing at any UK flying display, civil or military, may well require Permission under Article 225 of the ANO from the UK CAA (foreigncarrierpermits). Copies of the Certificate of Insurance, Certificate of Registration and the Certificate of Airworthiness must be submitted.

1.20 Where foreign registered aircraft are carrying passengers for valuable consideration into an airfield hosting a flying display, a Permission under Article 223 of the ANO may be required. The FDD should advise the operators of such aircraft to contact the UK CAA (foreigncarrierpermits) for clarification and full details.

1.21 Any civil foreign registered aircraft operating on any form of non-standard or restricted Certificate of Airworthiness (equivalent to the UK Permit to Fly) requires an Exemption to fly in UK airspace. Exemptions are issued by the CAA Applications and Approvals Department. In addition, for ex-military aircraft with a Maximum Take-off Mass Allowed (MTMA) in excess of 2730kgs, a degree of equivalence with BCAR A8-23/25 and CAP 632 will be required. Details on making an application for an Exemption to fly in UK airspace can be obtained from the Applications and Approvals Department.

Further reading

1.22 A list of the articles of the ANO with particular relevance to flying displays is given at Appendix J.

Chapter 2

Part A - Personnel and preliminary planning

The event organiser

2.1 One person must assume overall responsibility as the Event Organiser. Responsibility for particular aspects (such as site survey, air traffic services, provision of emergency services and conduct of flying activities) should only be allocated to people with the relevant experience and, if applicable, licences.

The Flying Display Director

2.2 The FDD is the person responsible to the CAA for the safe conduct of the flying display and is named as such on the Permission issued under Article 162 of the ANO.

2.3 It therefore follows that the FDD must be suitably experienced, dependent upon the size and complexity of the flying display, in all matters relating to flying in general and flying displays in particular, before being appointed to the position. The FDD is responsible for flying discipline generally, control of the flying display programme and cancellation or modification to the programme in the light of prevailing weather or other conditions.

2.4 FDD's are required to undergo behavioural and attitudinal fitness assessment as a condition of their acceptance in relation to flying display applications. As part of this, FDDs should submit a behavioural and attitudinal fitness questionnaire (SRG 1303B), prior to, or alongside the first display application containing their name each year. Information of how these assessments are applied can be found here.

2.5 At small flying displays - 3 items or less - the pilot of a participating aircraft may act as the FDD.

2.6 At a flying display with up to 6 items, the role of Event Organiser and FDD may be combined if the Event Organiser is suitably qualified it is however recommended to separate these two duties where possible. At displays of 7 items or more, a separate FDD should be nominated.

2.7 It is very strongly recommended that FDDs at displays of 7 or more items should not take any other part in the flying display, especially as a participant, commentator or organiser.

2.8 During 2016, FDDs wishing to direct displays of 7 or more items are required to undergo further briefing as a condition of their acceptance. Additional information may be sought from the CAA GA Unit.

2.9 It is essential that the FDD has adequate communications with all appropriate agencies and the flying display participants throughout the flying display. In the event that the FDD is sited away from the air traffic services unit, it is recommended that a fixed communications link is established to enable instant two-way communications in the event of an emergency arising. Mobile telephones should not to be used for this purpose, except in extremis.

2.10 It also follows that there is a robust means of communication with the commentator in order to liaise when programme changes have been made and more importantly if an emergency arises the commentator will be essential if crowd control is required.

2.11 The FDD must take an active role in every aspect of the flying display including selection of display items, display timings including pre-event briefings with on and off site emergency services where appropriate.

2.12 The FDD must ensure that all pilots participating at civil air displays submit a pre-display declaration certificate which appears at Appendix B.

2.13 During the display, the Flying Display Director should monitor the safety of the display supported by any Flying Control Committee and/or DAEs present, and using the information that they have about the ground area to be displayed over and the manoeuvres that performing pilots intend to perform. The FDD should stop the display item or in some cases the whole display where this is justified by safety concerns.

Flying control committee

2.14 It is strongly recommended that a Flying Control Committee (FCC) is utilised at display of 7 or more items. The roles of the FCC are:

a) to assist the FDD in monitoring display standards;

b) to provide specialist knowledge for specific display items; and

c) to provide opinion in case of any regulatory infringements.

2.15 Advice on whether such a committee is required may be obtained from the CAA.

2.16 The FCC should, wherever possible, comprise pilots with experience on the types of aircraft being flown at the flying display. Additionally, members of the FCC should hold, or have held, a civilian DA, or have extensive military flying display experience.

2.17 The FCC should be available throughout the period of the flying display.

2.18 The FCC should have the clear authority of the Event Organiser to curtail or stop, on the grounds of safety, any display item or, in extreme cases, the whole flying display.

Appointment of officials

2.19 Experienced staff must be detailed to supervise the parking of aircraft and cars, to operate any public address system, to control messengers and other staff. Sufficient marshals must be available to control members of the public, to ensure that on and off site emergency vehicle access is kept clear, to be available in the case of emergency and to prevent public access beyond the crowd line.

2.20 It is generally possible to find persons competent to undertake such duties from among the membership of a flying club or other suitable aviation organisation. At a large flying display, only persons trained and experienced in flight line ground handling of aircraft must be used in the aircraft movement area. For car parking, the services of one of the organisations that specialise in the arrangement and management of car parks may be worth considering. All officials must be thoroughly briefed in the duties expected of them and provided with some means of identification, such as arm-bands.

2.21 Air cadets and other youth organisations should not be used as marshals unless well briefed and supervised.

Flight crew

2.22 All participating civil pilots must hold a current licence with a current class or type rating, or, where no type rating exists, an Aircraft Type

Rating Exemption (ATRE), which entitles him to fly the type of aircraft to be displayed. Any questions relating to license matters should be addressed to CAA's Shared Service Centre.

2.23 All civil display pilots taking part in a flying display which requires Permission under Article 162 of the ANO must possess a current and valid DA issued by the CAA. DAs issued by other countries may be accepted by the CAA. Details of the UK DA system, validity of DAs and DA recency requirements can be found in Chapter 5. Additional information may be sought from the CAA GA Unit.

2.24 DAs are only valid if the pilot holds either an EU medical certificate issued by an AME or an ICAO medical certificate that is of an equivalent or higher standard.

2.25 Pilots authorised to perform standard level aerobatics will only be permitted to perform loops or barrel rolls in civil registered ex-military jet aircraft at civil air displays if they have received explicit approval from a suitably qualified DAE and this is recorded on their DA.

2.26 Pilots participating at civil air displays are required to submit a pre-display declaration certificate containing the information and declarations contained at Appendix B.

2.27 Exemptions from the need to hold a DA may exceptionally be issued, but only for a specific display approved by the CAA GA Unit prior to the issue of the Exemption. No deviation from the agreed routine is permitted, except where this is justified by safety concerns. This is of particular relevance to Air Operator's Certificate (AOC) operators of large transport aircraft where the display permission will generally be for a simple demonstration or flypast.

2.28 Special provision is extant for emergency services operators and confirmation should be sought through the Chief Pilot and the relevant Flight Operations Inspector. Before a DA Exemption can be considered for an AOC operator, the proposed display routine must be approved and recommended to the CAA GA Unit by the assigned CAA Flight Ops Inspector.

2.29 Military display pilots are approved and authorised as specified by the MOD. FDDs should note, however, that Article 162 of the ANO stipulates that military pilots are subject to the more restrictive limits imposed by MAA Regulatory Article 2335 or the flying display Permission when they appear at a civil flying display. In practice, this rarely causes difficulty because the limits set down in MAA

Regulatory Article 2335 are generally at least the same as, or higher, than those imposed in this CAP. The only exception to this may be at off-airfield display sites where military aircraft display limits could be lower than the Permission limits.

Preliminary planning

2.30 The Event Organiser and the FDD will, in particular, need to consider and make arrangements for:

1. Event site and flying display management covering:

a) site assessment;

b) airspace/air traffic management requirements

c) spectator enclosures, car parks and public address system;

d) areas and buildings outside the event where members of the public may congregate, busy roads and railway lines – which are put at increased risk by the fact the display is happening;

e) parking and ground manoeuvring of aircraft (participants, visitors, static display);

f) the display line;

g) over-flight of spectators and car parks;

h) setting of minimum heights;

i) aircraft maximum speeds;

j) weather minima;

k) use and allocation of radio frequencies;

l) ground special effects safety;

m) briefing;

n) document checks;

o) pilot display programmes;

p) pleasure flights;

q) any latent hazards in participating aircraft.

2. Liaison with the UK CAA SARG and the local authority and emergency services including:

    a) prior notification of the event to the UK CAA SARG, local authority and emergency services; and

    b) notification time scales

NOTE: Each of these aspects is discussed in detail in Chapter 4.

Chapter 3

Part A - The flying display - site and display management and post-event feedback

Site assessment

3.1 Where the flying display is held at a licensed aerodrome, the aerodrome licensee remains responsible for ensuring that the conditions of the aerodrome licence are not infringed. If any such condition is likely to be infringed then early discussion must take place between the Event Organiser or the FDD, the aerodrome licensee and CAA Aerodrome Standards. The aerodrome licensee, his representative or the aerodrome operators (if the aerodrome is unlicensed) must be involved at all stages of preparation for the flying display.

3.2 While many flying displays and special events are held at licensed aerodromes and can take advantage of facilities already available, many are staged at other sites. In assessing any proposed site the FDD should take into account:

a) The suitability of surfaces used by aircraft for take-off, landing and taxiing;

b) The take-off and landing distances available and required; and

c) Obstructions in the vicinity with regard to the aircraft types which are expected to take part;

d) The proximity of congested areas, particularly if they include schools or hospitals. A congested area is defined in Article 255 of the ANO as being any area in relation to a city, town or settlement which is substantially used for residential, industrial, commercial or recreational purposes. It should be noted that, with few exceptions, flight below 1000 feet over such areas is illegal except when an aircraft is taking off, practising approaches to or landing at a licensed or government aerodrome;

e) The proximity of any sensitive or restricted areas (nuclear power stations or hospitals etc). Local police should be able to advise on such areas;

f) The presence of livestock or wildlife conservation areas. The local branch of the National Farmers' Union can often help in identifying the owners of particular fields;

g) The proximity of controlled airspace, aerodromes, heliports, helipads, airstrips, microlight sites, ballooning sites, parachuting, hang gliding, gliding, ridge soaring, paragliding sites and VRP's;

h) The availability of clear entry and exit routes for on and /or off site emergency service vehicles appropriate to the scale of the event.

3.3 FDDs should consider imposing minimum height restrictions over local sensitive and congested areas. Details of any restrictions imposed should be clearly promulgated in the flying display instructions and form part of the application to hold the event.

3.4 Applicants for flying display permissions are required to submit an up-to-date 1:50,000 scale Ordnance Survey map (or colour copy) alongside their application showing the event location and the layout of the site including:

- the display axis or axes
- boundaries of the display area
- spectator's enclosures and car parks

and, any surrounding:

- congested areas - hospitals, schools, power stations;
- masts, railway lines, bridges and other local infrastructure;
- major / busy roads;
- areas where non-paying spectators assemble,

that are put at increased risk as a result of the display taking place.

3.5 This information forms part of the assessment CAA conducts as part of the display approval process.

3.6 In advance of the display happening, the FDD should contact participating pilots to request a description of the ground area and vertical space that they are likely to cover in the course of their display. FDDs should consider this information to assess whether or

not the display will enable compliance with the Article 162 permission granted and, if not, request alterations so that it does.

3.7 Gas-filled toy balloons when released are a potential hazard to aircraft. Event Organisers must ensure that the vendors of such balloons are not allowed into the public enclosures.

3.8 Existing legislation provides that unmanned, gas-filled, advertising balloons should not be flown in captive flight at or near an aerodrome without written permission from Airspace Regulation. If such permission has been granted or, in any event if the flying display is not sited at an aerodrome, the Event Organiser must arrange that any such balloon, and other obstructions with vertical extent such as hot-air balloons and bungee jumping cranes are lowered to ground level during the period of the display.

Spectator enclosures, car parks and public address systems

3.9 The FDD must carefully select sites for the spectator enclosures and car parks in relation to the aircraft flight paths during the flying display. Any area to which the public has access must never be located closer than the appropriate distance to, or under, the planned display line or area.

3.10 Spectator enclosures and car parks should be positioned behind the crowd line which is usually parallel to the display line. Normally spectator enclosures and car parks should be confined to one side of the site thus allowing aircraft maximum freedom of movement on the other side.

3.11 If no practical alternative exists, spectators' vehicles and visiting aircraft may be parked under the display line or area provided the FDD does not permit access to these areas by the public for the duration of the flying display.

3.12 A public address system covering the spectator enclosures is essential. Such a system, when installed, must be audible throughout the whole area to which spectators have access.

3.13 The commentator should be in a position where important messages or emergency information can be given to him for rapid broadcast to the public. Pre-scripted emergency messages covering major emergencies should be available.

Parking and ground manoeuvring of aircraft

3.14 Aircraft taking part in the flying display should be segregated from both visiting and static aircraft parks unless arrangements are made to tow aircraft from the static aircraft parks to an aircraft parking or manoeuvring area, appropriately segregated from the public, prior to start. In this case, adequate arrangements must be made to ensure public safety during aircraft movement. Under no circumstances will aircraft have any engines running or move under their own power.

3.15 Appropriate security should be in place to guard against interference with aircraft. Pilots should be advised to ensure that starting systems etc. are isolated. Fire extinguishers should be readily available and aircraft should be parked so that fire vehicles can achieve easy access and move freely amongst them. Parking areas must be out of bounds to spectators when aircraft engines are running or aircraft are taxiing.

3.16 Where possible taxiing parallel to the crowd line, shutting down and man handling into place should be considered during the planning of marshalling activities. Consideration must also be given to any expected aircraft arriving without brakes or a poor turning ability.

3.17 Spectator enclosures and car parks should be sited away from taxiway and runway strips and so arranged that no part of a taxiing aircraft passes within 10 metres of the enclosure or car park. This distance will need to be increased significantly if spectators are positioned behind or close to where aircraft are ground running engines, particularly in the case of high powered aircraft, jet aircraft or large helicopters and more particularly when aircraft are likely to use significant amounts of power such as when turning. Helicopters should only be permitted to ground taxi in the above circumstances and in any case, with at least 10 metres separation.

3.18 Spectators should not be allowed closer than 15 metres to any fixed refuelling area, nor closer than 15 metres radially from any fuelling or venting point on an aircraft or bowser whilst refuelling is being carried out.

3.19 Effective barriers and marshalling arrangements are required to keep spectators clear of aircraft manoeuvring areas. Areas in which spectators are not permitted must be properly enclosed at all times. Marshals must be detailed to control the movement of spectators throughout the event. Pilots and passengers of visiting aircraft must remain behind the crowd line during the period of the display. If the

visiting aircraft parking area is remote from the spectators' area, a method of transporting pilots and passengers must be established.

3.20 In the interests of safety, smoking must not be permitted in aircraft parking areas or static aircraft parks.

3.21 Aircraft may take-off and land provided the runway centre line is at least 75 metres from the crowd line. The CAA GA Unit may grant a concession to allow a lesser distance where geographical or topographical features or the layout of the airfield restrict the distances available. The grant of any concession is conditional on the type of aircraft involved.

3.22 The runway should be kept available as much as possible for emergency purposes during the flying display and aircraft departing and landing should minimise the time they occupy the runway whilst other aircraft are displaying. Certain display items, such as the Red Arrows, may require the runway to be available for emergency landings for the duration of their display.

The display line or axis

3.23 Displaying aircraft perform relative to the display line which must be clearly identified. On an aerodrome this is usually parallel to a runway or, in the case of off aerodrome sites, parallel to some significant feature. Where the display line is not clearly delineated by a paved runway or other obvious line feature it should be marked with day-glo pyramids or panels, whitewashed lines or by some other suitable method.

3.24 Marking of more than one display line is at the discretion of the FDD. Ideally, two clearly defined lines, covering the separation distances most likely to be used by pilots during the flying display should be available, allowing pilots to interpolate for intermediate distances. Intelligent positioning of the crowd line in relation to existing ground features, such as the runway edges, can be of great assistance in this respect.

3.25 The display datum or centre should be clearly marked where this is not co-located with some obvious ground feature.

3.26 **Sea front displays.** A Maritime Exclusion zone or local equivalent should where possible be established after consultation with the Coastguard and or local maritime agency. It is essential that the

display line is marked with hi-visibility buoys or marker floats, additionally a distinctive buoy or group of buoys should be used to mark display datum.

3.27 The distance between the display line and the crowd line is related to the actual speed of the aircraft and the type of display. For aircraft flying in formation, the distances are applicable to the aircraft performing nearest to the crowd line.

3.28 The minimum distances are as follows:

Type of Aircraft	Type of Display	Separation Distance
All Aircraft	All aircraft including rotary-wing aerobatics	230 metres
All Aircraft	Speed greater than 300KIAS with velocity vector towards crowd	450 metres

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

Type of Aircraft	Type of Display	Separation Distance
Light Aircraft	MTOM less than 1200kg and speed less than 150KIAS throughout the display	150 metres
Rotary-wing	Take-off, landing and transitional manoeuvres	150 metres
Rotary-wing	Non-aerobatic flight and underslung load operations	150 metres
VSTOL Aircraft	Vertical take-off, landing and non wing borne flight at low speed	150 metres
VSTOL Aircraft	Conventional wing borne flight	230 metres

3.30 The speed ranges given above are the speed of the aircraft at any particular time during the display. A pilot may vary the separation distances if the speed of the aircraft varies during the display. If any doubt exists about a particular aircraft, the relevant distances and if

Touch and Goes (in light STOL types) are to be part of a sequence the CAA GA Unit should be consulted.

3.31 Simulated Go-Arounds may involve a number of configuration and power changes therefore the aerobatic separation distance appropriate to the actual approach speed of the aircraft should be used, as specified in the table above.

3.32 Pilots should plan their flying sequence such that they can always regain the display line without infringing the minimum lateral separation distance from the crowd line. Effects of any on-crowd velocity vectors and on-crowd wind component must be taken into account.

3.33 Rotorcraft must not be flown in such proximity to spectators' enclosures, buildings or aircraft on the ground as to cause a possible hazard either from downwash or as a result of control difficulties. Similarly, helicopters with under-slung loads should only be flown over clear areas.

Over-flight of spectators

3.34 Display aircraft are not permitted to overfly the spectator enclosures or car parks unless with the specific written permission of CAA GA Unit. Outside the display area, normal Rules of the Air apply.

3.35 Permission may be granted provided the application is for an established formation team of four (or more) similar powered fixed wing aircraft, supported by a comprehensive Risk Assessment (updated annually).

3.36 Aircraft carrying parachutists may overfly the spectators' enclosures or car parks whilst positioning to drop, but not below a minimum height of 1500 feet above ground level.

Setting of minimum heights

3.37 Where Flying Displays are held at an aerodrome, the CAA will normally authorise the FDD to allow pilots to fly down to the minimum height specified in their individual DA.

3.38 Where Flying Displays are held away from an aerodrome, the CAA will impose a minimum height. This is usually 200 feet above ground

level over land and 100 feet above surface level over water. Higher minima may be imposed if considered appropriate at a particular venue.

3.39 Until further notice, the CAA will not permit civil registered ex-military jet aircraft to perform aerobatic manoeuvres below 500 feet and requires pilots performing in these aircraft to always recover manoeuvres at their aerobatic height before transitioning to their flypast height as a separate manoeuvre.

3.40 FDDs are free to impose higher limits but should take into account that any increase in minima may increase risk without any increase in safety. Pilots who are asked to substantially alter or restrict their display limits may unwittingly be pressured into flying an unpractised display.

3.41 FDDs should ensure that pilots are advised of the minimum heights applicable at the flying display in writing, supported by verbal or telephone briefs.

3.42 Pilots of military aircraft participating in a civil flying display should advise the FDD of their individual height minima. Where the limits laid down in the Permission issued under Article 162 of the ANO are higher than the military pilot's limits, the pilot is to be informed that the more stringent limit applies during the Flying Display. This does not apply to the Red Arrows, who are permitted to display to their set limits.

3.43 For parachute displays, the minimum height by which parachutists must have their main parachute open is normally 2,000 feet above ground level (agl). FAI 'D' Certificate holders on parachuting displays may, exceptionally, deploy so as to be open by 1,500 feet agl.

3.44 For private events not requiring a Permission under Article 162 of the ANO when no DA is necessary, acceptable minimum heights will depend on the particular site, the pilot's experience and competence on type, the task, compliance with the RoTA and the prevailing weather, but the following are recommended:

a) 100 feet - erect straight and level flypast, flour bag bombing, and air race finishing lines;

b) 500 feet - Balloon bursting, streamer cutting and complete recovery from aerobatic manoeuvres and inverted flight.

3.45 The recommended minima do not absolve the organiser or pilot from compliance with the ANO or Rules of the Air unless an Exemption or Permission has been issued by the CAA. The CAA GA Unit will give advice on any particular circumstances.

Aircraft maximum speeds

3.46 An absolute true limit of Mach 0.90 or 600 kt, whichever is reached first, is not to be exceeded in straight and level flight. Aircraft flying at or approaching this speed should reduce speed further before initiating any manoeuvre to avoid inadvertent sonic booms.

3.47 Aircraft taking part in Flying Displays for which a Permission has been granted under Article 162 of the ANO are exempt from the maximum speed limit of 250 kt IAS when flying below Flight Level 100 (SRG 1318). FDDs should be aware that this exemption only applies during the validity period of the flying display Permission and within the immediate vicinity of the flying display site.

Weather minima

3.48 Minimum weather conditions must be determined in advance, published and strictly observed. Recommended minima are contained in the table below:

Pilots and FDD's should give greater consideration to visual reference when there is little or no defined horizon.

			Weather minima	
Type aircraft	**Type of display**		~~**Cloud ceiling or significant cloud (4/8 or more)**~~ **Cloud base broken (BKN) or overcast (OVC)**	**Visibility**
V/STOL aircraft, rotorcraft and other aircraft with a stalling speed below 50 knots[1]	Flypasts	Solo aircraft	500 ft	1,500 m
		Formations	500 ft	3,000 m
	Full aerobatic displays	Solo aircraft	800 ft	3,000 m
		Formations	800 ft	5 km
Flying displays by other aircraft	Flypasts or flat aerobatic displays	Solo aircraft	500 ft	~~3,000 m~~ 5 km
		Formations	800 ft	5 km
	Full aerobatic displays	Solo aircraft	1,000 ft	5 km
		Piston formations	1,000 ft	5 km
		Jet / turboprop formations	1,500 ft	8 km

3.49 FDDs should consider carefully operating characteristics of participating aircraft which may necessitate specific increases in the above minima. Military displays, particularly jet formations, may have significantly higher weather limitations than those specified above.

3.50 FDDs and pilots should also be aware of a condition known as 'goldfish bowl effect' at coastal display sites. This gives the impression that the sea and sky merge, with no defined horizon. Where visibility is reduced by haze, and when combined with a grey sea colour, this will make positioning relative to the horizon difficult.

3.51 It should be borne in mind that participants may be further restricted by their licence or rating privileges.

1 This applies only to VSTOL aircraft operating in VSTOL mode.

Use and allocation of radio frequencies

3.52 With the exception of small events, most Flying Displays will require the use of some level of radio communications. Details of the air traffic control aspects, allocation of frequencies and the use of frequencies can be found in Chapter 4. The frequency allocation application form www.caa.co.uk/srg1417

3.53 Where feasible and within the constraints covered in Chapter 4, FDDs should endeavour to allocate a quiet frequency for use during the flying display with another frequency being available for administrative requirements and communication with non-display aircraft. If only one frequency is available, the FDD must emphasise, in the written brief and at the verbal briefing, the need for good Radio Telephony (RT) discipline and for the minimum use of RT.

Ground special effects safety

3.54 The use of explosives for simulated groundbursts, smoke and other special effects must be strictly controlled by a competent person appointed by the Event Organiser. Debris from such effects must not impinge on aircraft, the spectators or the runway/ taxiways and to this end the scale of any effects must be known before the event. Briefings for ground officials and Display Pilots must draw attention to the hazardous nature of such devices and approval of all involved Display Pilots must be achieved before any demonstration goes ahead. The location of the explosives and safety radii, if appropriate, are to be out of bounds to all staff except those directly involved with their operation.

Briefing

3.55 Regardless of the size of the Flying Display, the importance of a thorough, formal briefing cannot be over-emphasised. No pilot is to take part in a flying display unless he has received a briefing.

3.56 A comprehensive written brief covering the arrangements for the flying programme should be circulated in advance to all participating pilots, Air Traffic Control, pleasure flight operators and those in charge of particular aspects of the display, such as safety services. A list of points which should be covered is given in Appendix C.

3.57 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 include all the points detailed in Appendix C. If a NOTAM or Restricted Area (Temporary) (RA(T)) has been issued, specifying the limits of the airspace within which the aircraft will be performing, pilots must be reminded of the need to keep within those boundaries, and that they are still required to observe the rules for avoiding aerial collisions.

3.58 The display minima, whether these be DA or other limits imposed by the CAA or the FDD, should be confirmed at the verbal briefing. The extent and method of marking the display line(s) and display datum must be confirmed, preferably with the use of a large scale map.

3.59 Participants not landing at the flying display site or flying in to display prior to landing must contact the FDD by telephone, immediately prior to the display to obtain a full formal briefing, this may be in the form of a crib sheet identical to both FDD and participant issued by the FDD as part of the comprehensive written brief covering the arrangements for the flying programme.

Document checks and insurance

3.60 Prior to the flying display, FDDs are responsible for checking all required pilot documentation including:

- pilot licence;
- correct display authorisation for intended display, including, when relevant to the intended display, explicit approval from a DAE to display loops or barrel rolls in civil registered ex-military jet aircraft, as contained in their DA;
- possession of an EU medical certificate issued by an AME or an ICAO medical certificate that is of an equivalent or higher standard;
- display currency confirmation;
- list of manoeuvres the pilot intends to confine their display to.

3.61 FDDs should also check the following in the pilot's pre-display submission:

- Certificates of Registration and Airworthiness or Permit to Fly;

- confirmation from pilot that their intended display complies with the conditions placed on the performing aircraft's CoA, Permit to Fly etc.
- appropriate insurance;
- information about any hazardous material contained in the aircraft together with contact information for person or organisation available on the day to advise on making them safe should an emergency occur.

3.62 Participating pilots are required to communicate this information to the FDD as part of a pre-display declaration. A certificate for these purposes can be found at Appendix B.

3.63 Although there is no requirement within UK civil aviation legislation for third party insurance cover of Flying Displays and other aviation events, Event Organisers and participants are strongly advised to give this particular aspect serious consideration. Insurance cover is normally conditional on compliance with legal requirements, and violation of the law or the conditions of a Permission or Exemption may render insurance invalid.

3.64 Event Organisers are strongly advised to seek professional guidance on liability aspects and to obtain advice from a reputable insurance broker with aviation experience as to the appropriate level of third party liability coverage that should be effected. This should be done at the earliest possible stage in planning.

3.65 The MOD will require Event Organisers to buy into the MOD insurance policy as a condition of allowing military aircraft to take part in the Flying Display.

Pilot display programmes

3.66 FDDs are to ensure that pilots of display aircraft do not carry out any form of impromptu display such as on arrival (unless a pre-planned and agreed display practice) or departure.

Post-event feedback

3.67 FDDs are required to submit a post-event feedback report using Form (SRG 1305), within seven days of their display, The report contains

the display items performed on each day of the display, what went well, any lapses and breaches from the required standards and any lessons learned. The FDD should use any information provided by the Flying Control Committee, performing pilots and any DAEs in attendance in writing the report.

3.68 CAA uses the intelligence gathered from these reports to better understand the risks associated with civil air displays, assist DAEs in monitoring and evaluating standards, feedback lessons learnt to the air display community through briefings and seminars, and identify opportunities to improve air display safety.

Safety breach reporting

3.69 Serious safety breaches resulting in stop calls should be reported by the FDD to CAA GA Unit immediately following the display, including a clear statement of what happened, the perceived breach, and any supporting evidence.

3.70 Where a stop is called because an FDD (or FCC member) has reason to doubt the fitness or competence of a pilot (i.e. a safety concern related to the pilot's performance) that pilot will be subject to a provisional suspension of their display authorisation pending an investigation by the CAA of the circumstances leading to the stop being called. A provisional suspension notice will be issued by the CAA once it has received the report from the FDD. Pending issue of the provisional suspension notice by the CAA, the pilot should not exercise the privileges of their display authorisation until an investigation is complete.

3.71 Where it is known that the pilot concerned is due to appear in a subsequent display and, where possible, the FDD should also notify the FDD and event organisers of the next and subsequent displays that a stop has been called.

3.72 The provisional suspension will only be lifted once the outcome of a CAA investigation is known and, where appropriate, a re-evaluation by a new DAE.

Carriage of persons on board display aircraft

3.73 No persons other than minimum crew, as detailed in the aircraft C of A or Permit to Fly, shall be on board a civil registered aircraft during a

display unless the prior written permission of the CAA GA Unit has been obtained.

Displays by Air Operator's Certificate operators

3.74 Displays by AOC operators i.e. large transport aircraft, will normally be conducted under an Exemption from the need to hold a DA issued by the CAA GA Unit. The requested display profile is to be submitted in advance to both the CAA GA Unit and the assigned CAA Flight Operations Inspector (FOI) in the form of a Captain's brief. The Exemption will be issued only after the assigned FOI has agreed the content of the Captain's brief.

3.75 Passengers are not to be carried during flypast by AOC operators. However, additional flight crew or specialist maintenance personnel may be carried provided that a recommendation to that effect is made to the CAA GA Unit by the assigned FOI.

3.76 Formation flights by large commercial air transport aircraft will not normally be permitted but specific applications will be considered on their merits.

3.77 Displays by UK registered Emergency Services Helicopters are exempt from the requirements of the Captain to hold a DA provided he operates in accordance with his approved company Operations Manual detailing such flights and under an annual Exemption issued to the CAA FOI (H) by the CAA GA Unit.

Pleasure flights

3.78 Pleasure Flights for valuable consideration may only be conducted by companies holding an AOC and (with the exception of flights in helicopters) may take place only at a Government aerodrome or a licensed aerodrome. Initial application for a temporary aerodrome licence, if required, should be made to the CAA using form SRG 2003.

3.79 Flights conducted under SSAC or Charity Flights must not be conducted during a day when an airshow or associated media coverage is organised.

3.80 FDDs are to coordinate Pleasure Flights and are to ensure that they do not take place during the flying display period itself, unless the

prior approval of both ATC and the flying display participants has been obtained. At other times care should be taken to ensure integration with other aerodrome traffic.

3.81 Aircraft engaged on Pleasure Flights must be parked away from aircraft taking part in the flying display itself, and passengers must be escorted between the spectator enclosures and the aircraft before and after each flight and to remain behind the crowd line whilst aircraft are displaying. The escort route must be planned to take them well clear of other aircraft. It is recommended that all personnel associated with the pleasure flying operation remain behind the crowd line when aircraft are displaying. Smoking must not be permitted in the aircraft parking area.

Helicopter flights

3.82 If helicopters are used for Pleasure Flights they must be positioned and routed so as to prevent problems with rotor downwash. In all cases, the site used for passenger loading and unloading must be well clear of the flying area, and be approved by the FDD. If the helicopter operating area is not adjacent to the spectator enclosure, as could be the case at off-aerodrome events, those parts of the site at which passengers would be expected to assemble before being escorted to the helicopter should be fenced off securely. Arrangements must also be made to prevent access to the helicopter operating area by third parties.

3.83 Helicopter operators are recommended to maintain a list of passenger names so that it is known who is on board the helicopter during each pleasure flight. This information could prove invaluable to police and rescue services in the event of an accident.

Pleasure flight escorts

3.84 Escorts must remain on duty until all Pleasure Flights have finished. Escorts must be briefed on, and demonstrate their knowledge of, the correct manner of boarding and alighting from aircraft. A pre-arranged system of signalling between escort and pilot is essential so that the pilot may know when passengers and escort are clear of the aircraft. To avoid the possibility of any misunderstanding between the pilot and escort they must, before the start of flying,

discuss together and agree such matters as the positioning of the aircraft at the changeover point, and the boarding and alighting procedures to be used. Clear procedures are vital where operational circumstances make it desirable to keep engines running or helicopter rotors turning during changeover.

Inspection of flying displays and special events by CAA

3.85 The CAA GA Unit is required to inspect and monitor safety standards at a number of events annually. Formal written notification will normally be given to the FDD in adequate time stating that a formal inspection of the event will take place. However, the CAA reserves the right to inspect any flying display or Special Event without notice.

3.86 The CAA Air Traffic Management oversight team may exercise its right to inspect facilities, equipment, processes and procedures in cases where a formal Approval against Articles 169, 205 or 206 of the ANO 2009 (as amended) is necessary.

Chapter 4

Part A - Liaison with the CAA, Local Authority and Emergency Services

Notification to the CAA

4.1 The smooth and expeditious planning for a Flying Display, or any other Special Event, requires that various applications are made to the CAA within an appropriate timescale. These timescales are dictated by the requirements of the CAA to discharge their obligations to third parties, to achieve preparation of appropriate documentation including various regulations in the case of a Restricted Area (Temporary) (RA(T)) and to achieve satisfactory dissemination of the information to all interested parties.

4.2 This section of the CAP will deal with the required applications in timescale sequence, starting with the first required actions. The timescales given are the **minimum** requirements. Where possible, and certainly in the busy summer periods, Event Organisers are requested to give as much warning as possible. All contact addresses, telephone numbers and details are given in Appendix H.

120 days prior to the event

Restricted Area (RA(T)) - major events

4.3 Application should be made to Airspace Regulation in respect of a RA(T) for major events at least 120 days prior to the event.

90 days prior to the event

Restricted Area (RA(T)) - other events

4.4 As above, application should be made to Airspace Regulation for any RA(T) requirements.

4.5 Event Organisers should note that RA(T)s are automatically provided for Red Arrows and other major military jet formation display teams but only for the duration of their display plus a small margin.

4.6 RA(T)s may be available for medium size and large Flying Displays where these are sited at natural choke points, in otherwise unprotected airspace such as coastal events or where the size and nature of the event warrant the setting up of a RA(T). Event Organisers should contact Airspace Regulation for guidance.

Air Traffic Service requirements

4.7 The following is a guideline to the requirements for the provision of an air traffic service, Air Ground Communications Service or Radio Communications Service at a flying display or other Special Event.

Air Traffic Control Service

4.8 If it is intended to establish a Temporary Air Traffic Control Unit at an event, it is essential that organisers/operators refer to CAA CAP 670 ATS Safety Requirements, which contains comprehensive information and requirements for the establishment of such a unit.

4.9 Temporary Air Traffic Control Services must be provided in accordance with CAA CAP 774.

4.10 A provider of Air Traffic Control must be nominated and he is required to apply to the appropriate CAA ATSD Regional office a minimum of 90 days in advance of the event for unit approval. This application should be made via submission of a copy of the Form SRG 1417 (Application to establish or change an Aeronautical Ground Radio Station) that must also be submitted to the Radio Licensing Section within the same timescale. A copy of the proposed Manual of Air Traffic Services Part 2 (MATS Part 2) should be submitted to the ATS Regional Office as soon as possible but no later than 60 days before the event. The format of the MATS Part 2 is laid out in CAA CAP 670, ATC 02, Section 2, with further information in CAA CAP670, Part B, Section 1, APP 04, Page 3, paragraph 8.

4.11 Established ATC Units intending to hold a flying display or Special Event are required to notify their ATS Regional Office if the event requires changes to:

- Promulgated Air Traffic Services (including category of service);
- Safety Related Procedures;
- Air Traffic Services Equipment (Radios, Navigational Aids, Surveillance equipment, etc.);
- Groundstation Callsigns or Identification Codes; or

- Groundstation Designated Operational Coverage.

4.12 Further information applicable to the conduct of Special Events and ATC licensing requirements may be obtained from the following documents:

c) CAP 670 ATS Safety Requirements (www.caa.co.uk/cap670)

d) CAP 744 United Kingdom Manual of Personnel Licensing - Air Traffic Controllers (www.caa.co.uk/cap744)

e) CAP 793 Safe Operating Practices at Unlicensed Aerodromes (www.caa.co.uk/cap793)

f) Aeronautical Information Circulars

g) CAP 393 Air Navigation Order (www.caa.co.uk/cap393)

4.13 The requirement to provide an air traffic control service depends on various factors, some of which are listed below:

a) The number of aircraft expected to attend, the arrival/departure 'time window' available for these aircraft and the movement rate generated by such;

b) The complexity of the flying programme itself, e.g. is the event fixed-wing only or a mix of rotary/fixed-wing, are a wide variety of types expected? Is it intended to operate cross runways/night operations? and

c) The need to co-ordinate the activity with other ATS units in the area.

4.14 As a general guide, if an event is likely to generate more than 100 movements **per day**, proposals should be discussed with the Regional Manager ATS. These discussions must be initiated in order to allow at least 90 days from submission of the application to the date of the event. If any doubt exists within an organiser's mind as to the need to provide an air traffic control service, he should contact the Regional Manager ATS for advice.

4.15 Questions relating to air traffic personnel requirements, provision of a Visual Control Room and the procedures relating to the inspection and approval of any facility should be addressed to the appropriate Regional Manager ATS Safety Regulation. Form SRG 1417 may be obtained from the CAA web site (www.caa.co.uk/forms).

4.16 There are two ATS Regional Offices (Northern and Southern), and boundary of responsibility is a line from just North of Caernarfon to just south of Skegness. The addresses of the Regional Offices are detailed in Appendix H of this document.

4.17 Approval for a temporary air traffic control unit is required under Part 23 of the ANO. The unit will also require Article 205 Approval - Air traffic service equipment and Article 206 Approval - Air traffic service equipment records. It is essential that details of the radio and recording equipment to be used are submitted a minimum of 90 days before the date of the event.

Flight information service

4.18 Event Organisers who wish to provide a Flight Information Service (FIS) at a temporary site; or an established site not normally providing FIS, are required to apply to the appropriate CAA ATS Regional Office and also submit an application on Form SRG 1417 to the Radio Licensing Section 90 days before the event.

4.19 Temporary Flight Information Services must be provided in accordance with CAP 1032.

4.20 The unit will require approval for any air traffic service equipment under Article 205. The provision of suitable recording equipment is encouraged, but ANO Article 206 Approval is not required.

4.21 A set of Local Instructions for the unit shall be submitted a minimum of 60 days before the event. Guidance for the format of the Local Instructions is detailed in CAP 797 Flight Information Service Officer Manual.

4.22 Organisers should refer to the following documents which are also available on website:

a) CAP 1032 Aerodrome Flight Information Service Officer Licensing (www.caa.co.uk/cap1032)

b) CAP 797 Flight Information Service Officer Manual (www.caa.co.uk/cap797)

c) CAP 774 Flight Information Services (www.caa.co.uk/cap774)

d) CAP 413 Radiotelephony Manual (www.caa.co.uk/cap413)

4.23 Further guidance may be obtained from the appropriate ATS Regional Office and an application Form SRG 1417 may be obtained from the CAA web site.

Air/Ground communication service (A/G)

4.24 A large number of events are run on an Air/Ground basis. Event Organisers must ensure that they have obtained Article 205 approval and that personnel providing the A/G Communications Service possess a Radio Operator's Certificate of Competence (ROCC) (CA 1308). The holder of the particular radio station's Wireless Telegraphy Act license is responsible for ensuring that all individuals using the radio are competent in both the operation of the equipment and local procedures, and must sign the CA1308 Certificate to confirm this. Organisers should refer to:

CAP 452 The Aeronautical Radio Station Operator's Guide and
CAP 413 Radiotelephony Manual

Operational Control (OPC)

4.25 Some events require communication for synchronisation or intervention purposes only. Typically OPC assignments are used for synchronising single aircraft movements with music or other ground activities. Such assignments can also be made for the purposes of facilitating FDD intervention during a display. The latter use will normally be assigned a 'Judges' callsign. Event Organisers must ensure that they have obtained an Article 205 Approval and the Wireless Telegraphy Act (WTA) Licence. The WTA Licence holder is responsible for ensuring that users of these groundstations use appropriate radio discipline.

NOTE: Organisers should ensure that the type of service (i.e. ATC, FIS or AGCS or OPC) is suitable for their event and that the event has been adequately notified. 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.

Air Traffic Service Personnel

4.26 ATCOs, or FISOs intending to provide an ATS at a Special Event or flying display based at a temporary site, or a site not normally providing the service intended must ensure that they:

a) provide a minimum of 30 days' notice to the appropriate Regional Manager ATS specifying the type of service they wish to provide, confirming their licence details and requesting examination dates

b) submit completed Forms SRG 1411 or SRG 1414

c) in the case of ATCOs, comply with the requirements of CAP 744, Part 3, Paragraph 7.8.

Frequency allocation

4.27 A request for a frequency is integral to the ANO approval process. Event Organisers seeking approval are advised to apply as early as possible but on no account later than 90 days prior to the event. Initiation of the frequency allocation process is achieved through submission of Form SRG 1417

4.28 Change of use of an already allocated and approved radio frequency is not permitted without the further approval of the CAA (ATS Regional Office), and written consent of the existing WTA Licence and ANO Approval holder (where not the applicant).

4.29 Organisers should note that frequencies for use in Flying Displays and other Special Events are in extremely short supply, and allocation cannot be guaranteed.

60 days prior to the event

Aerodrome licence

4.30 Where the event is held at a licensed aerodrome the licensee remains responsible for ensuring that the conditions of the aerodrome licence are not contravened. If any such condition is likely to be contravened then discussion must take place between the Event Organiser or the FDD, the Aerodrome Licensee and the CAA ASD at least 60 days prior to the event.

4.31 In the case where a temporary aerodrome licence is required, application must be made to the CAA ASD at least 60 days prior to the event on Form SRG 2003. Further information can be obtained from the CAA ASD and CAP 168 Licensing of Aerodromes.

42 days prior to the event

Notification to AIRSPACE REGULATION

4.32 A copy of either Form SRG 1303 - Flying Displays Notification Form or SRG 1304 - Unusual Aerial Activity Notification Form must be sent to

the Airspace Regulation at least 42 days before the flying display or Special Event date to allow the necessary coordination of the event in the interests of flight safety, to achieve the most efficient use of the airspace and to notify the event to other airspace users.

42 days prior to the event

Notification to the CAA GA UNIT

4.33 The FDD is required by law to obtain a Permission from the CAA to hold a Flying Display. Additionally the CAA itself has certain obligations with regard to the safety of third parties, both on the ground and in the air. To discharge these obligations and issue the necessary Permissions or Exemptions, the CAA GA Unit requires full details of the event, including press or practice days.

4.34 Form SRG 1303 or SRG 1304 should be forwarded, together with a 1:50,000 scale map clearly delineating the display line and display area, the spectator enclosure layout including car parks and any restricted or sensitive areas in the immediate area of the display venue, and in the case of Article 162 permissions a completed risk assessment template (SRG1303RA). For Article 162 permissions this map should also show any surrounding: congested areas - hospitals, schools, power stations; masts, railway lines, bridges and other local infrastructure; major / busy roads; areas where non-paying spectators assemble, that are put at increased risk as a result of the display taking place.

4.35 The Form SRG 1303 or SRG 1304, the map and the appropriate payment (Credit/debit card, BACS payment) should reach the CAA GA Unit at least 42 days before the display date.

4.36 Forms SRG 1303 and SRG 1304 incorporate a Certificate on which the FDD undertakes that the flying display or Special Event will be conducted in accordance with this CAP. He should also list any additional Exemptions (such as an Exemption from Article 129 of the ANO to allow flour bombing to take place) he may seek. Forms SRG 1303 and SRG 1304 are available from the CAA website

4.37 Particularly in the busy season it may not be possible to process applications giving the CAA GA Unit shorter notice than 28 days (or Airspace Regulation shorter than 42 days) notice. However, it is appreciated that FDDs may not have complete details of the

participating aircraft this far in advance. The CAA GA Unit and Airspace Regulation will, therefore, accept forms where the participating aircraft section is still incomplete to allow processing to start. The full list of aircraft should be sent as soon as it becomes available.

Liaison with the Local Authority and Emergency Services

Introduction

4.38 Liaison with the Local Authority, the Police and the Emergency Services (including Maritime and Coastguard Agency and Royal National Lifeboat Institution for offshore display sites) at the start of the planning for the flying display or other Special Event is absolutely vital. Notification to the local Safety Advisory Group will enable the Local Authorities and Emergency Services to start initial planning and provide early guidance and support to the Event Organiser. As a guide the model timescales for contacting Local Authorities and Emergency Services are:

Event size	Classification	Ideal notice period
1 - 3 Items	Small	2 months
4 - 12 items	Medium	5 months
12+ Items	Large	10 months

4.39 Given the considerable variation of flying display activity, both in terms of size and content, it is impossible for this CAP to specify in detail what level of emergency cover should be provided. The specific local circumstances, the availability of on-site services (particularly at an active airfield), the type and numbers of aircraft displaying and the anticipated crowd size will all influence the level of emergency cover required.

The emergency plan

4.40 An integrated emergency plan is an essential pre-requisite for any flying display and is strongly recommended for Special Events. The extent of the Emergency Plan will vary depending on the size of the event. For example, at a single aircraft flying display it may suffice to have a list of contact telephone numbers for the local emergency services (plus a mobile telephone). At major Flying Displays, a comprehensive written plan will be required specifying the

responsibilities of all parties in the event of an incident arising. The Emergency Plan must be agreed by all the services having a role to play within the plan, and the local Safety Advisory Group.

4.41 The information contained in the Health and Safety Executive (HSE) Event Safety Guide - known as the Purple Guide - applies to Flying Displays.

4.42 Since the Event Organiser is responsible for the production of a safety plan, it is strongly recommended they read the HSE Event Safety Guide prior to writing the plan. Suitable and sufficient risk assessments must be produced and circulated to all contractors and emergency services working on the airfield or adjacent areas used for the Air Show and associated displays. These risk assessments should contain specific mitigation for dealing with any aviation materials which could become unstable following an accident.

4.43 Local Authorities and Emergency Services have considerable expertise in planning for large public events and can assist Event Organisers in the planning process. However, time is of the essence and contact should be made as soon as planning for an event is started. Do not wait until applying to the CAA for a permission.

4.44 Organisers must remember that an emergency plan will require strategies for crowd management and welfare, transport management, fire, first aid, major incident and contingency planning. If the worst does happen, a well-planned event, including all the agencies involved, will have a more effective response.

4.45 The emergency plan must include information about how to communicate information on any potential latent hazards that exist within performing aircraft to emergency services should an incident occur.

4.46 In deciding who to notify and liaise within the Local Authorities and Emergency Services the size of event will have bearing. Notifying the local police and local authority planning department can adequately cover a village fete with flypast. However, for medium and large events, or if in doubt, Event Organisers should direct their initial correspondence to the Chief Officers of the Emergency Services of the area/s in which they intend to hold the event (the Chief Constable, Chief Fire Officer, Chief Ambulance Officer and Chief Executive of the Local Authority). The Event Organiser should notify each in writing, and, if the event straddles more than one area (e.g. two constabularies), all Chief Officers should be notified.

4.47 Costs are a matter for the Event Organiser and the agency involved and should be agreed as soon as practicable.

Risk assessment

4.48 Risk assessment is an essential element of the production of any safety plan. The procedure detailed at Appendix A should suit most flying display and Special Events needs. However, other alternative systems can be equally effective. If you require advice on risk assessment please contact the CAA GA Unit.

4.49 A particular focus of the risk assessment should be identification and mitigation of any risks relating to concentrated groups of people outside of the event site, but which are put at increased risk as a result of the display taking place. Further information on this requirement is included in Appendix A.

4.50 Flying display applicants are required to submit information about any risks that they will be actively managing during their event to CAA as part of the display application process. The information should be submitted using the Flying Display Risk Assessment template (SRG 1303RA).

Notification of agencies

4.51 Local Authorities and Emergency Services should be notified as soon as possible and whenever possible within the ideal timeframes detailed above.

Local authorities

4.52 Local Authorities have control of the various public services which an Event Organiser may wish to use, and in any case will wish to be aware of the additional air activity which is to take place, in anticipation of any queries or complaints which may arise. Depending on the size of the event this may include liaison with local Safety Advisory Group(s). Additionally, the event emergency plan will be expected to comply with Local Authorities existing major incident plans and the Civil Contingencies Act 2004.

The Police

4.53 The role of the police at any public event is the preservation of life, prevention and detection of crime, preventing disorder, traffic regulation (local authority lead) and the co-ordination of the response to a major incident. Generally, the police will not be responsible for event security. However, they may have specific roles, e.g. VIP protection; or provide specialist resources. Equally, they may need to

have an on-site role for the prevention of disorder. The likelihood of criminal activity (including terrorist attack) or disorder should be incorporated into the event risk assessment.

4.54 Only the police or someone under their direction may control traffic. Although the Local Authority are responsible for approving the traffic management plan (Part II Traffic Management Act 2004), its development will involve the Event Organiser, the police and, where appropriate, the Highways Agency.

4.55 Most events have an onsite event control where a police presence may be required to deal with policing issues and to co-ordinate incident response.

4.56 In the event of a fatal accident or death on site the police act as coroner's officers and as such, have statutory duties which include responsibility to preserve the scene until the appropriate investigation is undertaken.

4.57 The police will usually co-ordinate media liaison in the event of a major incident.

Fire and Rescue Service

4.58 Adequate facilities must be available on site to respond to any fire or rescue emergency. Aerodromes may have dedicated trained staff available; the degree to which these need to be augmented will be dictated through the risk assessment.

4.59 Event Organisers should ensure that the Fire Service for the area is notified of an event even if there appear to be adequate on site resources.

4.60 If flying is to be conducted over water then the appropriate emergency services should be informed.

Medical

4.61 Medical provision is essential for any event. Notification of an event should be directed to the local National Health Service (NHS) Trust and the Ambulance Service.

General

4.62 A suitable room sited as near as possible to the manoeuvring area should be made available and equipped as a first-aid and casualty reception centre. Local branches of the Red Cross and St John Ambulance Brigade can usually provide first-aid teams and

ambulances, suitably marked, should be located within the spectator area, with access to the display area.

4.63 Should, for any reason, the emergency services at the event have to leave the site to deal with an accident then the FDD should reconsider any flying activities taking place particularly AOC flights since the conditions of the Aerodrome Licence may not be fully satisfied.

4.64 Event Organisers should be aware of the increasing use of hazardous materials, such as carbon fibre, in modern military and civil aircraft construction. Information on such hazards should be included in the risk assessment. The MOD can advise on specific hazards in relation to military aircraft. Advice on civil aircraft can be obtained from CAA Aerodrome Standards.

4.65 The DfT Air Accident Investigation Branch (AAIB) must be informed of any aircraft accident by the quickest means of communication available (Contact details can be found in Appendix H). The police also require notification.

4.66 At many events, particularly at airfield sites, the congregation of spectators, outside the airfield boundary, on the live-side, may give organisers cause for concern. Neither the Police nor the Local Authority has the power to remove these people, especially if they have the permission of the landowner upon whose land they are congregating. It is recommended that the Event Organiser anticipates this during the planning process and takes necessary steps to reduce it by, where possible, blocking the view from obvious vantage points. Consideration should also be given to notifying landowners (or over water, pleasure boat owners) of the risks of allowing spectators to watch the display/event from their land/vessel. Landowners/owners should be advised that they have a liability to protect the public from obvious and anticipated risks at public events, and, in the event of an accident, they could be held liable for injuries to spectators on the property. It is advised that professional legal advice on such notification is taken prior to action.

Latent hazards

4.67 Aircraft performing at civil air displays may contain a variety of equipment and material that may be hazardous to first responders and other personnel on the accident site should emergencies occur. Prior to the display, FDDs are required to collect information on such hazards and the contact details of available individuals or

organisations who can advise on making them safe. FDDs must further ensure that they have a means of communicating this information to the emergency services, should an accident happen.

Chapter 5

Part A - Pilot display competency

General

5.1 In order for any pilot (other than pilots of military aircraft) to fly in a flying display for which a Permission under Article 162 of the ANO has been issued by the CAA, the pilot must hold a valid DA issued by the CAA or by a country with an acceptable DA evaluation system.

5.2 When applicable, pilots must also ensure that any necessary Exemptions from the ANO or Rules of the Air Regulations are in place before carrying out practice flights at any location. This is particularly important where it would not be possible to adhere to the provisions of any relevant low flying rules.

Display Authorisation Evaluators (DAE)

5.3 Under Article 162, the CAA shall authorise a person to conduct such examinations or tests as it may specify (for the award of a DA) and the CAA shall approve a person as qualified to furnish reports to the CAA and accept such reports. Such persons are known as DAEs.

5.4 The CAA will refer any pilot who is seeking a DA to a DAE in his discipline and area.

General requirements

5.5 To be nominated as a DAE an individual must:

- have received a written recommendation from either the CAA or an organisation associated with a particular display discipline. The sponsor must have personal knowledge of the individual's work, standards and integrity;
- hold a valid pilot's licence with normally a minimum of 1,000 hours as pilot-in-command or equivalent experience acceptable to the CAA;
- have normally held a DA for at least three years; and
- normally be an active Display Pilot.

Appointment as a DAE

5.6 Appointment as a DAE is conditional on CAA assessment of current competence, experience and fitness.

5.7 The appointment process includes an assessment of the potential DAE's:

- current competency in display flying;
- ability to act as a role model for CAA in carrying out display authorisation evaluations;
- knowledge of display flying and air display regulation;
- knowledge of DA approval, renewal and upgrade processes;
- experience of mentoring and knowledge of ongoing responsibilities in relation to display pilot monitoring;
- knowledge of display flying human factors;
- ability to write useful and meaningful assessment reports.

5.8 Nominees for a DAE are required to submit a behavioural and attitudinal fitness questionnaire (SRG 1303B) during the appointment process to inform the fitness assessment.

Responsibilities and limitations

5.9 A person who is selected by the CAA and listed as a DAE is authorised to evaluate a pilot's display competency within specific categories and submit a report form to the CAA GA Unit on Form SRG 1301 Display Pilot Authorisation Application in the case of an initial issue, on Form SRG 1302 for the Renewal or Form SRG 1300 for an Upgrade of a DA.

5.10 Any pilot who is denied a recommendation by a DAE may apply directly to the CAA GA Unit.

5.11 When a DAE has prepared a report recommending issue of a DA this must be forwarded direct to the CAA GA Unit.

5.12 Individuals who are appointed DAEs may continue to conduct display competency evaluations as long as they remain current in flying display activity. If it becomes necessary to remove an evaluator from

the list of DAEs due to inactivity or deficient performance, then the CAA will give notification in writing explaining the reason for such termination. Appointments are for a maximum of three years, terminating on 31 March.

5.13 DAEs should actively monitor Display Pilot standards throughout the display season. Where a DAE perceives a lapse in safety standards he is to bring the matter to the attention of the Display Pilot. How the matter is handled from this point is very much at the discretion of the DAE. However, where a serious breach has occurred the DAE should report the matter to the FDD and the CAA GA Unit. In this latter case a clear statement of the perceived breach, with supporting evidence if possible, will be required before the CAA can consider any action.

5.14 CAA GA Unit organise a DAE seminar each year, where current and topical issues relating to DAs and display flying are discussed. Where possible, DAEs should attend annually, but must attend at least one out of every three seminars.

Display competency demonstrations

5.15 Before a pilot can undertake an evaluation prior to the initial issue of a DA, he must apply to a CAA appointed DAE. Once the DAE has agreed to mentoring and or evaluating, the pilot shall send a display relevant C.V. to the CAA GA Unit. Providing the applicant meets the minimum requirements as set out in this CAP the CAA GA Unit will issue Form SRG 1301 to the nominated DAE. A provisional DA number will be allocated at the same time as the form is issued. DAEs must only report on initial evaluations using SRG 1301 forms stamped and dated by the CAA GA Unit and with the provisional DA number clearly allocated. The form and provisional number will be valid for 24 months after the date of issue.

5.16 Part of the application process is a degree of mentoring. All initial DAs will be mentored by an appropriate DAE throughout their process of work up. It is highly recommended that the mentoring continues after the DA is initially issued.

5.17 There are no specific minimum experience requirements before a pilot can apply for a DA. However, the following should be used as a guide for DA applicants and DAEs when considering the minimum

sensible level of experience required before a DA application should be considered:

a) Pilots of aircraft with 800HP or greater, 2730 kg mass or greater, jet powered or helicopter - a minimum of 500 hours total time, of which not less than 300 hours should be as pilot-in-command.

b) Pilots of fixed-wing aircraft that do not fall within these display aircraft categories - a minimum of 200 hours total time, of which not less than 100 hours should be as pilot-in-command.

c) Pilots of fixed wing aeroplanes (including powered gliders), helicopters and gyroplanes - a total of 200 hours flying of which not less than 100 hours must be as pilot-in-command of a fixed wing aeroplane, helicopter or gyroplane as appropriate.

d) Pilots of microlight aircraft - a total of 100 hours flying of which not less than 50 hours must be as pilot-in-command of a microlight aircraft.

e) Pilots of gliders - a total of 100 hours flying of which not less than 50 hours must be as pilot-in-command of a glider.

f) Pilots of powered parachute, powered paragliders, powered hang gliders, hang gliders or paragliders - a total of 50 hours flying of which not less than 25 hours must be as pilot-in-command of a powered parachute, powered paraglider, powered hang glider, hang glider or paraglider as appropriate.

5.18 In order to establish a standardised evaluation of all pilots who request a DA the following guidelines supported by the DAE's standards document issued by the CAA will be the basis for the issue, renewal and upgrade of a DA.

Documentation

5.19 The DAE should:

a) Inspect the applicant's logbook to determine total flying experience, display experience, aerobatic or other relevant experience and total time on the aircraft type that will be used in the flight demonstration;

b) Check the applicant's pilot licence, medical certificate, certificate of experience or test (if any) to enable particular aircraft types to be included in the DA; and

c) Check the aircraft documentation including the certificate of airworthiness or permit to fly, certificate of registration, aircraft radio station licence and certificate of radio installation approval, certificate of release to service and certificate of maintenance review. If the aircraft is operated on any alternative system of certification then all relevant documents should be checked.

Oral examination

5.20 The DAE should:

a) Discuss the weight, balance and loading limitations; airframe and engine operating limitations; 'G' load restrictions and any other operating limitations that are applicable to the demonstration aircraft.

b) Discuss personal motivation, philosophy and reason for applicant's wish to obtain a DA. Include in the discussion common causes of flying display accidents.

c) Require the applicant to describe the sequence of the display which he intends to demonstrate. Discuss the logic of his sequence, energy management of manoeuvres, the planning of the manoeuvres in relation to the aircraft limitations, the effects of density altitude, the effects of surface and upper winds and how to adjust the sequence to compensate for external constraints.

d) Discuss the applicant's emergency planning for items such as awareness and avoidance of inadvertent stalls/spins, engine or system failures, key heights and speeds and actions if these are not achieved and changes in the weather during the display.

e) Discuss the pilot's responsibilities at a formal flying display briefing and on receipt of any written brief.

f) Discuss human performance and its limitations relating to display flying, including stress, cumulative fatigue, mental attitude and personal limitations.

5.21 The DAE should determine the applicant's familiarity and knowledge of:

a) the terms and conditions of a Permission issued by the CAA to a FDD under Article 162;

b) the relevant parts of CAP 403 ‘Flying Displays and Special Events - A Guide to Safety and Administrative Arrangements’;

c) the Rules of the Air Regulations currently in force with particular reference to Rules 5, 6 and 18;

d) the ANO currently in force with particular reference to Articles 137, 138, 162, 259, 265 and 268;

e) limitations imposed by the pilot’s licence;

f) the actions necessary to maintain a valid pilot’s licence and DA;

g) the normal separation standards between the crowd line and the display line(s); and

h) mandatory requirements to adhere to minimum heights specified in the Article 162 Permission granted by the CAA;

i) the need to establish clear visual signals for the control of any display in the event of radio failure together with the need to observe extra precautions while starting or taxiing at an flying display.

Pre-flight inspection

5.22 The normal pre-flight inspection is to be carried out with special emphasis on the following areas:

a) fuel and oil adequate for the planned flight with contingency reserve;

b) aircraft structural integrity and freedom of flying surfaces and engine controls;

c) thorough check for loose objects in the cockpit and elsewhere in the aircraft;

d) parachute, if carried, and emergency equipment inspection;

e) altimeter setting to proper reference;

f) planned use of transponder;

g) emergency door or canopy releases inspected for proper operation and security;

h) safety precautions and checks on ejection seats and explosive canopy release or MDC, if fitted.

Flight demonstrations

5.23 At the discretion of the DAE, pilots who are demonstrating aerobatic manoeuvres for the first time may be required to conduct an initial flight at or above 1000 feet AGL before demonstrating at much lower height as may have been requested. For low level display evaluations, an Exemption to Rule 5 of the Rules of the Air Regulations 2007 may be required.

5.24 The DAE must be satisfied that the demonstrating pilot is operating well within his personal competence and experience in a safe and controlled manner and with strict adherence to limits.

5.25 Evaluation criteria must include:

a) precision of manoeuvres;

b) orderly execution of planned sequence;

c) airspeed and height control;

d) ability to remain within the display area and to conform to display axis separation minima;

e) ability to compensate for wind drift;

f) ability to adjust sequence to accommodate unplanned constraints;

g) ability to execute a planned sequence in an order specified by the DAE;

h) ability to handle emergencies during flying display performance;

i) maintenance of planned sequence slot times and duration.

Spin training and departure awareness

5.26 An initial application for a DA that includes an authorisation for display aerobatics must include evidence that the applicant has received appropriate spin training. Additionally, the applicant must show that he is current on standard spin entry and recovery techniques preferably on the aircraft type flown during the evaluation, if permitted by log book evidence and/or demonstration. DAEs are to indicate that these conditions are satisfied in the ‘Applicant’s previous Spin/Aerobatic Training’ section of Form SRG 1301.

5.27 If the DAE is not satisfied that the applicant is sufficiently aware of, or current in, spin entry and recovery techniques he is to restrict the recommendation to non-aerobatic displays until such time as the applicant has received additional appropriate training.

5.28 During the oral examination of DA initial and renewal candidates, the DAE is to satisfy himself that the pilot is well versed in the symptoms of, and recovery from, inadvertent departure from controlled flight. The candidate must be aware of the particular characteristics of the aircraft to be flown in the demonstration and be well versed in the avoidance of danger areas associated with aerobatic displays.

Reporting by DAEs

5.29 Following an evaluation for initial issue of a DA or the renewal or upgrade of an existing DA, the DAE is to make a written recommendation or report to the CAA GA Unit on the appropriate form. (Form SRG 1301 for initial issue and Form SRG 1302 for renewal or Form SRG 1300 for upgrade.)

5.30 Where a candidate fails to achieve the required standard for either the initial issue of a DA or the renewal or upgrade of an existing DA, the DAE is to ensure that the application form is returned to the CAA GA Unit clearly indicating that the applicant has failed, stating reasons for the failure and recommending any remedial action such as further training. The candidate is to contact the CAA GA Unit prior to arranging any further evaluation.

5.31 Forms SRG 1300 and SRG 1301 incorporates a check list to assist DAEs in conducting evaluations.

Fitness assessment

5.32 Applicants for DAs, DA renewals and upgrades are required to undergo behavioural and attitudinal fitness assessment. As part of this pilots should submit a behavioural and attitudinal fitness questionnaire (SRG 1303B) each time an application is made.

Issue of the DA

5.33 A DA consists of the Display Authorisation, and a Certificate of Test and Competence. The categories or specific aircraft types authorised, the type of display authorised, any specific approvals to perform loops and barrel rolls, the level of formation and tailchase approval authorised and the minimum altitude for aerobatics, if

authorised, and flypasts will be specified in the DA. The DA is valid once the pilot receives a legible copy issued by the CAA GA Unit.

5.34 The initial grant of a DA is valid for a period of 6 months from the date of successful evaluation. The next DA issued is also valid for a period of 6 months. Subsequent renewals will be valid for a period of 13 months. First time DA pilots are recommended to attend a DA seminar in the first 24 months from the date of their initial evaluation and thereafter a minimum of every 5 years.

5.35 The initial issue of an unlimited category DA will only be granted under specific circumstances, on a case by case basis, after application to and consideration by CAA GA Unit.

5.36 The following categories and individual type classifications are used in the DA:

Single–engined piston aeroplanes **A** Less than 200 hp **B** Between 200 and 600 hp **C** Exceeding 600 hp	**Helicopters and Gyroplanes** **L** Helicopters specified by type **M** Gyroplanes specified by type
Multi–engined piston aeroplanes **D** Less than 300 hp total **E** Between 300 and 600 hp total **F** Single Pilot Exceeding 600 hp total, specified by type **Z** Multi-crew Exceeding 600 hp total, specified by type	**Gliders, Hang Gliders and Paragliders** **N** Gliders of all types **O** Hang Gliders of all types **Y** Paragliders of all types
Jet powered aeroplanes **G** Single jet aeroplanes specified by type **H** Multi jet aeroplanes specified by type	**Microlight Aeroplanes** **T** Microlight aeroplanes of all types with weight shift control **U** Microlight aeroplanes of all types with three axis control **V** Microlight aeroplanes of all types with hybrid control
Turbo-prop powered aeroplanes **I** Single turbo-prop aeroplanes specified by type **J** Multi turbo-prop aeroplanes specified by type	**Powered Parachutes, Powered Paragliders and Powered Hang Gliders** **W1** All types of Trike Unit Powered Parachutes **W2** All types of foot launched Powered

	Paragliders **W3** All types of foot launched Powered Hang Gliders

Recency

5.37 In addition to a valid Certificate of Test and Competence, a Display Pilot is required to meet certain recency requirements before his DA is valid.

5.38 Up until 1 June 2016, in the **90 days preceding** a demonstration at a flying display for which an Article 162 Permission is required, **a minimum of three full display sequences must have been flown or practised, with at least one display sequence flown or practised in the specific type of aircraft to be displayed.**

5.39 From 1 June 2016, onwards, in addition to the requirements set out at para 5.37 above, where the aircraft to be displayed is 800HP or greater, 2730 kg mass or greater, or jet powered a pilot must, **in that specific type of aircraft:**

- **have flown or practised at least one display sequence within the 30 days preceding the date of the display, and**
- **have flown a minimum of three full display sequences within the 90 days preceding the date of the display.**

5.40 From 1 June 2016, in addition to the requirements set out at para 5.37 above, for all other types of display aircraft a pilot must:

- **have flown or practised in the specific type of aircraft to be displayed within the 30 days preceding the date of the display, and**
- **have flown a minimum of three full display sequences within the 90 days preceding the date of the display.**

5.41 A log book entry is sufficient proof that the display sequences or practices have been flown.

5.42 It is emphasised that the above requirement should be viewed as a minimum requirement for display recency and that pilots are encouraged, particularly during the winter months or pre-season work up, to undertake sufficient practice to ensure that a sufficiently high standard of safety is maintained.

5.43 If the display sequence has not been practised recently, the pilot should set himself appropriately higher minima, for practice or actual display purposes, until such time as full currency is regained.

Required medical certification

5.44 Display authorisation for pilots of registered are only valid if the pilot holds either an EU medical certificate issued by an AME or an ICAO medical certificate that is of an equivalent or higher standard.

Expiry

5.45 An initial DA will expire 6 months after the date of the successful initial evaluation. Following successful renewal revalidation, the DA will be valid for a further 13 months from the date of that evaluation.

5.46 If less than a 5 year period since the date of the last evaluation has elapsed then the DA holder will have to conduct a successful renewal evaluation. If more than a 5 year period since the date of the last evaluation has elapsed then the DA will be considered expired and the full initial process for gaining a DA must be followed.

5.47 The validity is based on attending a DA Seminar at least once every 5 years and a renewal evaluation at least every 13 months. If a DA Seminar has not been attended in a 5 year period the DA will lapse. A DA cannot be renewed on the strength of attending a DA Seminar alone.

Renewal

5.48 The renewal of a DA will be by certification of the DA Certificate of Test and Competence. The renewal evaluation must be conducted by a suitably qualified DAE.

5.49 In the case of an expired DA, where no upgrade of the privileges is being sought, the Certificate of Test and Competence can be signed and revalidated by the DAE.

5.50 The necessary criteria to satisfy a DAE of a pilot's display competency will combine a check of 'recency' and observation of the pilots flying competence. Any observation of a pilot's display flying competency,

either at a display or during a practice, must be pre-arranged with the DAE conducting the evaluation.

5.51 Where revalidation takes place at a display, the DAE must formally de-brief the pilot after the performance, to cover any variation of planned display due to conditions and include a discussion on how the pilot would have varied the display to accommodate other unplanned constraints.

5.52 Retrospective approval is not permitted.

5.53 A display pilot authorised to perform above standard level aerobatics and in more than one aircraft category will be required to renew their display authorisation is each category.

5.54 A display pilot authorised to perform at standard level aerobatics in multiple categories that include jet powered and helicopter categories is required to renew in those categories at least every two years. Where the authorisation includes one or more of turboprop, multi-engine piston (MEP) or single-engine piston (SEP) categories they are required to rotate their renewal across those categories year on year.

5.55 CAA requires that no display pilot has the same DAE conducting their revalidation for more than two consecutive years. Where geographical coverage and specialisation of DAEs means that this is not possible the following options can apply:

- revalidation by appropriately qualified CAA Flight Standard Officer;
- revalidation by the same DAE observed by CAA Flight Standard Officer;
- application to the CAA for exemption from requirement. This is only possible where CAA receives adequate assurance that any risks of conflict of interest are minimised.

Upgrade

5.56 Where an upgrade to the privileges of the DA, either display type or aircraft category, is being sought the Certificate of Test and Competence can only be signed and revalidated by the CAA GA Unit. In either case, a completed Form SRG 1300 Application for the Upgrade of a DA must be returned to the CAA GA Unit for record keeping or action purposes as appropriate.

5.57 A charge is payable for the upgrade of a DA.

Charges

5.58 A charge is made for the initial issue of a DA, an upgrade or change to the DA privileges or where a replacement copy of the DA is required. The charges are as specified in the Official Record Series 5 CAA Scheme of Charges (General Aviation) an extraction for ease of reference only can be found in the QRDA on the Flying Display webpage. Payment as specified must accompany the initial application or application for the extension or change of DA privileges.

5.59 No charge is made for the renewal of the DA.

Suspension and re-instatement

5.60 Where the Authority deems it necessary to suspend a DA, formal notification will be given to the DA holder. Following receipt of a letter the DA holder must surrender their DA by sending it accompanied by the acknowledgement slip to CAA GA Unit.

5.61 The procedure for re-instatement has two parts.

a) A satisfactory interview with the CAA GA Unit normally held at Aviation House, Gatwick.

b) A successful re-evaluation and recommendation by a CAA nominated DAE which must be carried out within 13 months of the date of the satisfactory interview.

Display criteria

5.62 The actual construction of a display sequence will vary considerably from pilot to pilot because of requirements to deal with varying factors such as experience and competence levels, aircraft capabilities, requirements to deal with varying weather conditions and display sites etc. For the novice, early guidance should be sought from a DAE or other experienced Display Pilot and from CAP1047 ‘Civil Air Displays - A Guide for Pilots’.

5.63 The following paragraphs, whilst not exhaustive, are intended to give Display Pilots some basic guidance in various specific areas.

Vintage or unique aircraft

5.64 Owners, operators, pilots and DAEs are encouraged to take into consideration the age, the rarity value and the need for continued preservation of aircraft when developing display sequences. In general terms, the limitations placed on the operation of the aircraft, either generally or in a display situation, should show a level of sympathetic appreciation of these factors whilst allowing the aircraft to be safely flown and displayed.

Displaying multi-engine aircraft

5.65 Deliberate asymmetric flight as part of a display routine is not permitted at civil Flying Displays.

5.66 Emergency asymmetric handling problems, particularly with some of the older historic aircraft types, are a potential source of difficulties during a display in these aircraft. Whilst it is impossible to give specific guidance on minimum speeds below which a multi-engine aircraft should not be flown in display, the following should be taken into consideration during the planning process and the actual flying.

5.67 A multi-engine aircraft should not be flown below a speed at which it is possible to achieve a positive rate of climb, without change of configuration, should any engine fail to respond to an acceleration demand.

5.68 DAEs are to ensure, during initial evaluation or renewal, that pilots holding DAs covering multi-engine types have made adequate preparation for asymmetric difficulties during their display planning.

Crowd separation distances - on crowd wind

5.69 During any display, pilots are to be aware of, and make due allowance for, any on crowd wind component. Note that if flying towards the crowd, but inadvertently too close to turn safely, an early decision to terminate the manoeuvre and climb, even if this involves the final

resort of overflying the crowd, is preferable to risking an overstress or departure from controlled flight by pulling too hard.

Minimum heights during displays

5.70 All aerobatic manoeuvres, including inverted flypasts, and manoeuvres which involve pulling through the vertical are to be executed above the approved aerobatic display height. Descent below the approved aerobatic display height to the approved fly-by height is permitted once certain of capturing the aerobatic display height. Slow speed, high angle of attack flypasts are regarded as aerobatic manoeuvres from the minimum height point of view.

Spinning as part of a display

5.71 Pilots are only permitted to include spinning as part of their display sequence if they hold an aerobatic DA authorisation the aircraft is approved for the manoeuvre and they have been evaluated conducting such a manoeuvre.

5.72 When developing a display sequence that includes spinning the pilot is to determine the spin parameters that will ensure adequate safety margins are maintained during every spin. Specifically, the following should be taken into account when determining the minimum spin entry height:

a) spin characteristics of the aircraft including ability to recover consistently;

b) height lost per spin turn;

c) height lost during normal recovery; and

d) margin required to allow for inconsistencies in either the aircraft or on the part of the pilot.

5.73 DAEs are to ensure, during initial evaluation or renewal, that pilots holding Intermediate, or better, aerobatic DAs have made adequate provision for any spinning carried out during their display planning.

Chapter 6

Part A - Skill levels for authorisation of aerobatic displays

Standard

6.1 Standard aerobatic displays

- **Lines** – Mainly horizontal or up to 45° climbing/diving lines in normal flight.
- **Turns** – Turns through 90° to 360° in normal flight.
- **Spins** – Erect Spins of one turn, with entry and exit in normal flight.
- **Stall Turns** – Stall turns with normal entry and exit.
- **Loops and Eights** – Inside circular loops with normal entry and exit.
- **Combinations** – Half an inside loop followed by a half roll ('Roll off the Top'.) Five eighths of an inside loop combined with a half roll on diving exit Line ('Half Cuban 8'). 45° climbing line followed by a half roll and pull through to level flight ('Reverse Half Cuban 8')
- **Rolls** – Slow, aileron or barrel rolls on horizontal line, or where combined with a combination manoeuvre listed above, on the diving or climbing line.

NOTE: Pilots authorised at this level are only permitted to perform loops or barrel rolls in civil registered ex-military jet aircraft at civil air displays if they have received explicit approval from a suitably qualified DAE.

Intermediate

6.2 Intermediate aerobatic displays

- **Lines** – Mainly horizontal or 45° climbing or diving Lines in normal or inverted flight.
- **Angles** – Change of flight path between lines normally through angles of not more than 90°.

- **Turns** – Turns through 90° to 360° in normal flight, starting and finishing in normal or inverted flight.
- **Spins** – Erect spins of one or two turns with entry and exit in normal flight.
- **Stall Turns** – Stall turns with normal entry and exit, with or without half rolls in the vertical climb and/or dive.
- **Loops and Eights** – Inside half loops, loops and ‘Cuban 8s’ with normal entry and exit. Loops may be circular or square.
- **Combinations** – Half to five eighths of an inside loop may be combined with entry or exit lines and angles. Quarter or half rolls may be included on the lines.
- **Rolls** – By definition these are inserted in lines or other figures. Slow or aileron rolls, two point or four point rolls, with between a quarter and one rotation flown in any one of the positions referred to above. Positive flick rolls.

Advanced

6.3 Advanced aerobatic displays

- **Lines** – Horizontal, climbing and diving in normal flight and vertical Lines climbing and diving. All lines may be flown with or without rolls.
- **Angles** – Flight through any angle between such lines, with a change of flight path typically between 45 and 135°.
- **Turns and Rolling Turns** – Turns through 90 to 360° starting and finishing in normal or inverted flight, with or without rolls, with rotation in the same or opposite direction to the turn.
- **Spins** – Normal and Inverted spins with entry and exit in normal or inverted flight.
- **Stall Turns** – Stall turns with normal or inverted entry and exit with or without rolls in the vertical climb and/or dive.
- **Loops and Eights** – Inside and outside half loops, loops and horizontal eights (‘inside’ + ‘outside’), with normal or inverted entry and exit. Loops may be circular, square, diamond or eight–sided. Rolls may be inserted in loops and eights.

- **Combinations of Lines, Angles, Loops and Rolls** – Half to three–quarters of an inside or outside loop may be combined with entry or exit lines or angles and rolls may be included on the lines.
- **Rolls** – By definition these are inserted in lines or other figures. Slow or aileron rolls, 2 point, 4 point or 8 point rolls, positive or negative flick rolls with typically between a quarter and one rotation flown in any of the positions referred to above.

Unlimited

6.4 Unlimited Aerobatic Displays - By definition, there are no restrictions on aerobatic figures, including autorotative figures which a pilot flying Unlimited category aerobatics may perform.

NOTE: Although based on FAI skill levels, these aerobatic DA skill levels have been adjusted to reflect the normal display aerobatic environment. They should not be confused with the FAI skill levels.

Chapter 7

Part A - Formation flying

Formation

7.1 For the purposes of this CAP formation may be considered as two or more aircraft conducting synchronised flying not in a tail chase scenario.

7.2 In order to take part in a formation display the pilot must hold a DA permitting formation flying in the required category. Formation DA authorisations are broken down as follows:

7.3 Where close formation flying is permitted it will be limited to:

Close Formation flying with up to 4 aircraft; or

Close Formation flying with unlimited numbers of aircraft.

7.4 Where close formation leading is permitted it will be limited to:

Close Formation Leading with up to 4 aircraft; or

Close Formation Leading with unlimited numbers of aircraft.

7.5 Close Formation flying numbers may be restricted by CAA GA Unit where necessary. For example, this may include a limitation of 2 aircraft only.

7.6 Close formation flying is further classified into Basic, Intermediate and Advanced (Aerobatic) categories. The categories are defined as:

Basic - Gentle formation manoeuvring where the bank angle should be limited to approximately 30 degrees and the pitch angle to 30 degrees. Formation manoeuvring should be smooth and progressive.

Intermediate - Formation manoeuvres, including gentle wingovers, with pitch and bank angles limited to approximately 60 degrees. Formation manoeuvring should remain smooth and progressive. However, the formation may be required to undertake more rapid changes in pitch and bank angles during the flight.

Advanced - Formation manoeuvring where there is no limit to bank angle or pitch angle (Aerobatics).

7.7 Applications for formation DAs will need to specify the level of authorisation recommended in the 9 categories. DAEs will need appropriate evidence of competence before recommending a specific formation authorisation. Extensive formation experience will be a pre-requisite before any of the unlimited authorisations can be considered.

Close formation

7.8 Close formation is defined as when an aircraft is flying in close proximity (usually within 200m) to another aircraft in such a manner as to require the following aircraft to take all external visual references solely from the lead aircraft.

7.9 Close formation leading is defined as being totally responsible for all aspects of the safety, terrain clearance, positioning and handling for a number of aircraft that are formating in close proximity to the lead aircraft.

7.10 The size of the planned formation dictates the DA requirements of all the participants when all the aircraft are to be flown in close formation. Any close formation group with more than 4 participating aircraft requires all pilots, including the leader, to hold an Unlimited Numbers Formation/Leader DA, as appropriate.

7.11 However, where a large formation is planned with elements consisting of four, or less, aircraft in each element, pilots holding a 4 Aircraft Formation/Leader DA authorisations may participate subject to the following limitations:

a) the overall formation leader holds an Unlimited Numbers Formation Leader DA;

b) individual formation element leaders hold, at a minimum, 4 Aircraft Formation Leader DAs;

c) All participating formation members hold, at a minimum, 4 Aircraft Formation DAs;

d) The elements are flown in trail (line astern) with sufficient separation between each element to enable each element leader to clearly define his own flight path and, if necessary, for him to disengage his element from the formation without endangering other aircraft. The separation required will

depend on individual aircraft characteristics but, as a guide, should be in the order of 100 to 200 metres between the rear of one element and the lead of the next element.

Close formation flying with up to 4 aircraft

7.12 Before a DAE recommends an applicant for a 'close formation flying with up to 4 aircraft' authorisation the applicant must demonstrate the following minimum standards during an evaluation:

a) During the pre-flight briefing the applicant must show a clear understanding of the basic principles of formation flying including:

(i) The principles of safely joining into close formation; the safe escape manoeuvre if the join-up is incorrect; the break from close formation and the rejoin;

(ii) The effects of inertia; assessment of closing speed; throttle handling (if appropriate, the differences between jet and piston engine handling and response must be appreciated by the applicant) and flying control effects;

(iii) Clear definition of the position cues for the three basic formation positions - echelon starboard, echelon port and line astern - in relation to the aircraft being flown in the evaluation;

(iv) Procedures for moving safely from one formation position to another; the executive commands for making a change of formation; the safety aspects and sequence of moving formation when more than two aircraft are involved;

(v) The need for regular monitoring of aircraft parameters, particularly engine temperatures and pressures and fuel contents; the timing of these airmanship checks;

(vi) Aircraft emergency procedures and handling when in formation.

7.13 During the formation flight evaluation the DAE should either fly as the formation leader or, if the applicant's aircraft is suitably equipped, with the applicant. It is recommended that initial formation manoeuvring be carried out at medium altitude to confirm the applicant's ability. However, before a recommendation is made,

representative manoeuvring must be carried out at display height. The flight should consist of at least two aircraft and should cover the following minimum requirements:

i) If appropriate, a pairs take-off in echelon;

ii) Manoeuvres in the three basic formation positions. Within the constraints of the aircraft limitations and performance, the manoeuvres should include straight and level, climbing, descending and turning flight at high and low speeds and power settings;

iii) Change of formation position in straight and level flight and moderate bank turns, appropriate to the level of approval sought;

iv) Breaks and rejoins from both echelon positions in straight and level flight and moderate banked turns;

v) An emergency break during manoeuvre;

vi) Confirmation that the applicant is carrying out airmanship checks (fuel calls etc.);

vii) A close formation run and break into the visual circuit.

Close formation leading with up to 4 aircraft

7.14 An application for a formation leading authorisation will not be considered unless the applicant already holds, or is recommended for, a formation member authorisation.

7.15 Before a DAE recommends an applicant for a ‘close formation leading with up to 4 aircraft’ authorisation the following must be considered:

a) The applicant must have adequate experience in flying as a formation member in addition to suitable training in formation leading;

b) The applicant must be aware of his responsibilities as a leader specifically in relation to:

(i) The need to fly smoothly and with consideration for the other formation members;

(ii) The use of power by the leader and the power margins the leader needs to allow for other formation members,

particularly in manoeuvre and where the formation contains more than one aircraft type;

(iii) The leader's responsibility for terrain clearance, lookout and positioning relative to the display line for all formation members;

(iv) Actions in event of an emergency;

c) The applicant must brief and lead a formation with the DAE acting, ideally, as the applicant's wingman. The briefing must cover all required aspects, particularly safety precautions, in a logical manner;

d) The in-flight portion of the evaluation must include an assessment of the leader's abilities in all normal and display related manoeuvres including, if appropriate, formation aerobatics.

Requirements for the Issue of a Formation DA

7.16 Only DAEs who are appropriately approved for formation evaluations may recommend an applicant for the inclusion or upgrade of a formation authorisation on a DA. DAEs hold the following levels of formation approval:

a) Basic Formation Authorisation - Allows these DAEs to recommend the issue or upgrade of a formation DA, as a member or as a leader, with up to 4 aircraft but not tailchasing unless specifically authorised.

b) Intermediate Formation Authorisation - Allows these DAEs to recommend the issue or upgrade of any level of formation DA, except Advanced Formation.

c) Advanced Formation Authorisation - Allows these DAEs to recommend the issue or upgrade of any level of formation DA, including aerobatic formation flying.

7.17 DAEs are to satisfy themselves that the DA applicant has completed a period of formation training prior to being assessed for a formation DA.

7.18 The level of formation authorisation recommended will be dependent on the previous formation experience level of the applicant, the

extent and level of the training carried out and the applicant's performance during the evaluation.

Unlimited formation authorisations

7.19 Before any unlimited authorisation is recommended, the applicant must have extensive previous formation experience or must have demonstrated a consistently high standard of ability over a number of display seasons at a lower level of authorisation.

Tailchase

7.20 A tailchase is defined as a number of aircraft following a leader in loose proximity, in line astern, whilst the leader carries out a series of manoeuvres of an aerobatic or semi-aerobatic nature. Each aircraft in turn will generally follow the leader's flight path but retain a high degree of individual decision making over the exact path taken using the principles of lead and lag. Separation distances usually vary from 50 to 200 metres.

7.21 Mock combat or dog-fight displays, whilst not necessarily following the above definition of a tailchase, do require many of the same skills such as assessment of closing speed and angle off. Consequently, these types of display are to be treated as tailchases from the DA point of view.

7.22 An essentially straight and level flypast of individual aircraft in loose trail (200 metres plus) with manoeuvres restricted to gentle turns is not a tailchase and a Formation / Tailchase DA is not required for this type of display.

7.23 To participate in a tailchase a pilot must hold a Tailchase DA authorisation.

7.24 To lead a tailchase a pilot must hold a Tailchase Leader DA authorisation.

7.25 To fly or lead an aerobatic tailchase, a pilot must hold an aerobatic authorisation in his DA.

7.26 Tailchases are restricted to a maximum element size of 4 aircraft. However, more than one element may participate in a tailchase with the leader of the rear element(s) deciding the specific flight path for

their element under the overall direction of the main leader. Where more than one element are involved in the tailchase, each element leader must hold a Tailchase Leader DA authorisation and, additionally, the overall formation leader must hold an Unlimited Formation Leader DA authorisation.

7.27 Where Tailchasing is permitted it will be limited to:

a) Tailchasing with up to 4 aircraft; and

b) Tailchase leading.

7.28 Tailchase authorisations will not be issued unless a close formation authorisation is already held by the applicant or recommended by the DAE as part of the application.

7.29 Tailchase leading authorisations will not be issued unless a tailchase authorisation and formation leading authorisation are already held by the applicant or recommended by the DAE as part of the application.

7.30 If an aerobatic DA is not held by the applicant, tailchase flying will be restricted to non-aerobatic tailchasing only.

Tailchasing with up to 4 aircraft and tailchase leading

7.31 An application for a tailchase authorisation will not be considered unless the applicant already holds, or is recommended for, a formation member authorisation.

7.32 Before a DAE recommends an applicant for a tailchasing with up to 4 aircraft' authorisation the applicant must demonstrate the following minimum standards during an evaluation:

a) During the pre-flight briefing the applicant must demonstrate awareness of the following areas:

(i) The positions usually flown;

(ii) How the position can be maintained by use of 'lead and lag' and the need to follow the leader's flight path without over anticipating the manoeuvre;

(iii) Assessment of separation distances and closing speeds;

(iv) Avoidance of, the dangers of and action in event of hitting slipstream;

(v) Loss of leader (or aircraft ahead) procedure - ‘safe area’, radio call, no rejoin until contact with all other members and they are aware of the rejoining aircraft; and

b) The applicant must successfully carry out a realistic tailchase at medium level and at a representative display height during the in-flight portion of the evaluation.

7.33 An application for a tailchase leading authorisation will not be considered unless the applicant already holds, or is recommended for, a tailchase member authorisation and a formation leading authorisation.

7.34 Before a DAE recommends an applicant for a ‘tailchase leading’ authorisation the applicant must demonstrate the following minimum standards during an evaluation:

a) During the briefing the applicant must demonstrate awareness of the pertinent leadership factors such as maximum speeds and power to be used, maximum ‘g’ loading, type of manoeuvres used in tailchasing, consideration for other formation members and the emergency and loss of leader procedures; and

b) The applicant must demonstrate the ability to satisfactorily lead a representative tailchase.

Chapter 8

Part A - Ballooning as part of a flying display

Legal requirements

8.1 Balloon participation as part of a flying display usually happens as a tethered flight or a free flight or a combination of both.

8.2 The carriage of fare paying passengers requires the balloon operator to hold a valid Air Operators Certificate (Balloons) whether tethered or free flight.

8.3 Pilots of free flight balloons are granted an exemption from the requirement to hold a DA by a General Exemption (refer to the next section).

8.4 Pilots of tethered balloons are not required under Article 162 to hold a DA.

8.5 For events where balloons are the only participants refer to Part B – Balloon Events.

General exemption

8.6 The General Exemption states that any pilot who is the holder of a Private Pilot's Licence (Balloons and Airships) or a Commercial Pilot's Licence (Balloons) or a Part FCL Balloon Pilot Licence is authorised to act as the pilot of a balloon taking part in a flying display without holding a DA.

8.7 The General Exemption is available at www.caa.co.uk/ors4.

Considerations

8.8 Balloons require a large area to layout and prepare for inflation prior to launch. This area can be between the crowd line and the display axis.

8.9 The specific requirements for the setup layout and deflation should be discussed with the FDD and usually happens early morning or early evening.

8.10 If aircraft are displaying, wake vortices may be generated which could affect the lay out and inflation of the balloons. Consideration by the FDD and or the organiser must be given to the effects on the Balloon of any form of wind generation.

Chapter 9

Part A - Parachuting as part of a flying display

Legal requirements

9.1 Whilst parachuting itself does not constitute a display item requiring an Article 162 Permission, this chapter is included for the assistance of the Event Organiser or FDD.

9.2 Display parachuting may be arranged as an additional attraction at many events including Flying Displays, or as an event in its own right. Display teams must be in possession of a valid parachuting Permission as required by Articles 129 and 130 of the ANO. This document is issued by the CAA and it is a condition that all operations of the team are conducted in accordance with the relevant provisions of a parachuting Operations Manual for the time being in force and which has been submitted to the CAA.

9.3 Parachute dropping aircraft are NOT permitted to execute a low pass after the drop, unless the pilot holds a valid DA for a flying display or a Rule 5 Exemption has been issued.

9.4 Aircraft may only be used for parachute dropping if there is information available in the Flight Manual or Flight Manual Supplement relating to parachute dropping for that particular aircraft. The aircraft must have approved modifications, if necessary, for the purpose of parachute dropping and must be operated in accordance with the Flight Manual or Flight Manual Supplement.

9.5 The parachute display team leader is responsible for obtaining any air traffic permission in principle (e.g. Non-Standard Flights in Controlled Airspace) and for notifying the proposed display to Airspace Regulation, the British Parachute Association and to the local police a minimum of 28 days prior to the event.

9.6 The parachute display team will require the written permission of the landowner concerned or his agent.

Liaison and reconnaissance

9.7 An experienced team member will need to visit the proposed landing area in order to plot existing and anticipated hazards. This visit will ideally be made at least six weeks before the proposed display.

9.8 The Event Organiser or FDD should be present at this visit in order to discuss:

a) Weather minima;

b) Dimensions of the landing area required by the team;

c) Arrangements for crowd control;

d) Location of overshoot/undershoot areas, buildings and power lines;

e) Locations of spectator enclosures, car parks, marquees and other hazards (e.g. cranes used for bungee jumping); and

f) First aid.

9.9 The FDD must ensure that the display team is informed of any other aviation related activities known to be taking place at the event or nearby (e.g. helicopter Pleasure Flights, tethered balloons, model aircraft).

9.10 The FDD must ensure that under no circumstances are propellers, jet engines or helicopter rotors to be turning closer than 250 metres to the intended parachute landing site during the period that the parachutists are descending.

The landing area

9.11 Where the designated landing area is on the display side of the crowd line, no part of that area should be closer than 15 metres to the crowd line.

9.12 Where the designated landing area is in an area set aside for the spectators, it should be enclosed with rope, tape or fencing and no parachutist should intentionally land closer than 15 metres to any spectator.

9.13 The landing area should be suitably marked and should be clearly identifiable by each parachutist from the time he exits the aircraft.

The display

9.14 When the display of parachuting forms part of a Flying Display, the commander of the parachute dropping aircraft will require briefing from the FDD.

9.15 The parachute display team will provide a ground party at the landing site who will be able to communicate with the parachute dropping aircraft by means of signal panels and/or radio.

9.16 The Event Organiser is responsible for the arrangements for crowd control.

9.17 Parachute display team leaders should study the additional guidance material for parachuting displays contained within CAP 660 Chapter 4.

9.18 Aircraft landing or taking off, other aircraft with engines running and turning propellers or rotors constitute a hazard to parachutists. In order to minimise the risks FDDs are to ensure that the following procedures are followed:

a) All pilots are to be briefed on the procedures to be followed during any parachute drop;

b) Under no circumstances are propellers, jet engines or helicopter rotors to be turning closer than 250 metres to the intended parachute landing site during the period that the parachutists are descending;

c) Pilots of aircraft outside a radius of 250 metres (1,000 metres in the case of Pleasure Flights), both airborne and on the ground, should remain aware of the progress of the descending parachutists and, if on the ground, be prepared to stop engines or rotors if the descending parachutists are seen to be drifting close to their aircraft.

9.19 FDDs should consider programming events in such a manner that potential conflicts between aircraft and parachutists are minimised.

Chapter 10

Part A - Banner towing as part of a flying display

Banner towing

10.1 Banner towing as part of a display requires good co-ordination between the FDD, the participant and ATC as the ‘combination’ is slow to manoeuvre and susceptible to drift.

10.2 Aircraft may only be used for towing if there is information available in the Flight Manual or Flight Manual Supplement relating to towing for that particular aircraft. The aircraft must have approved modifications if necessary for the purpose of towing and must be operated in accordance with the Flight Manual and any applicable Flight Manual Supplements.

DA requirements

10.3 The participant must hold a valid UK CAA DA with the inclusion to tow banners.

Separation distances

10.4 Pick up and drop should be no closer than 75m from the crowd.

10.5 Passes should be such that if the banner should fall; it shall be no closer than 100m horizontally from the crowd. The tail of the banner should not be lower than 200’.

Considerations

10.6 Banner towing needs a dedicated area that should be set aside for the set up, pick up and dropping of the banner, this should be on open ground with no obstructions particularly on the approach and climb out which is usually into the wind.

10.7 The combination of towing aircraft and banner must not be flown under / over or around by another aircraft.

10.8 Formation as defined in Chapter 7 of this CAP may be flown with a banner in tow or with a tow rope attached to the towing aircraft provided that any formation changes are at a safe distance behind the lead aircraft in the event that the banner or tow rope separates from the towing aircraft.

10.9 When banner towing is conducted outside the permission period issued for the purpose of an Article 162 display or Exemption to Rule 5 this may be very close to the beginning or end of a display. The combination must at all times comply with the rules of the air with particular attention to congested areas, increased density of people and the ability to land clear in the event of an engine failure.

Chapter 11

Part A - Twilight and airborne pyrotechnic displays

Twilight displays

11.1 Displays at Twilight should take account of many factors that differ from those during daylight. Particularly but not exclusively:

- reduced and deceptive visual references,
- inadvertent entry into cloud,
- ability to chose a suitable area to alight clear and to land before official night when natural and artificial light may be limited.

11.2 Additional planning by the FDD and the participant is essential in order to identify and reduce the hazards associated with flying in low light conditions.

11.3 Pre-declared (to the FDD) increased minima above those specified in the DA must be used by the pilot taking into account at least, terrain, ambient light levels, deception of terrain shape formed by shadows, loss of visual cues and references when flying over or in ‘black holes’.

11.4 It is essential that pilots familiarise themselves with the local topography in daylight.

Airborne displays using pyrotechnics

11.5 Displays when using Pyrotechnics should take into account the following but not limited to:

- momentary blindness when firing and looking into pyrotechnics,
- fall-out from emitting fireworks,
- increased fire hazards both on the ground and in the air.

11.6 Both the FDD and pilot(s) should discuss their planned action(s) in the event of an engine failure when the pyrotechnic is burning or still hot.

Minimum heights for release

11.7 Pyrotechnics have different burn rates and descent rates. After testing and practice, an established minimum release height with a margin for error must be established in order to prevent any burning or hot particles causing damage or injury on the surface.

Wind speed and direction of fallout and rate of fall

11.8 Careful consideration must be given to where any fallout may land during normal operation or if a malfunction occurs.

Anticipating a pre-ignition and/or failure in the air and on the ground

11.9 Consideration must be given to

- The potential of uncommanded or pre-ignition in the air which may cause momentary blindness in the air and on the ground may cause a fire;
- Anticipating a forced or early landing before the pyrotechnic has extinguished.

11.10 Additional pre display planning is essential to cater for a pyrotechnic that may still be alight or hot when the aircraft reaches the ground.

11.11 Routing to and from the venue should be carefully planned so as to minimise the risk from falling debris.

11.12 Spent pyrotechnic canisters may cause runway FOD issues therefore planning to minimise runway disruption is essential.

Safety information and special handling details

11.13 All pyrotechnics require safe and careful handling. Details of specific handling requirements must be sent to the FDD and communicated to the emergency services prior to the event.

Chapter 12

Part A - Foot-launched aircraft as part of a flying display

Foot-launched aircraft as part of a flying display

12.1 Displays encompassing the operation of foot-launched aircraft present unique issues to the organiser and/or the FDD. They should be discussed early on in the flying programme development.

12.2 Pilots must hold a recognised foot-launched aircraft qualification or rating.

12.3 Pilots must hold a valid UK CAA DA with the relevant category included.

12.4 Pilots must hold a valid radio licence (if required). The use of non aviation frequency radios i.e. ‘walkie talkies’ is not recommended.

12.5 Pilots must ensure they have valid insurance that includes third party liability and display flying.

Pilot access to the launch area

12.6 A specific area suitably clear of obstructions should be set aside for the set up and subsequent re-packing of the equipment. Ideally it should not be under the display area. When selecting a suitable operating area, careful consideration must also be given to terrain and obstruction induced turbulence.

Separation distances

12.7 Separation distances for foot-launched aircraft must comply with the table in Chapter 3. Takeoff may be commenced from a point no closer than 30m to the crowd provided the takeoff run and subsequent climb out continues away from the crowd to meet and maintain the minimum separation distance for the duration of the display. Otherwise the minimum separation distance for take-off and landing shall be 50m.

Down draughts, prop wash, jet blast and maximum wind limitations

12.8 Wind, 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 proximity of rotating propellers, jet engines and rotor blades from the foot-launched aircraft so as not to affect them. Take off and landing has to be made directly into the wind, with a maximum wind strength of only 10 kts for some foot-launched aircraft.

Preceding and following display items

12.9 The content and order of the flying display programme must take into account the type of display act that is before and after the foot-launched aircraft taking into consideration the separation distances.

12.10 Residual vortices particularly in light or nil wind conditions from preceding aircraft may incur programme delays.

Chapter 13

Part A - Model aircraft as part of a flying display

Model display general

13.1 Uncontrolled free flight models should not be flown during the period of the Flying Display.

13.2 Use of drones at Flying Displays must observe all the separation distances and be approved for use by the Event Organiser, the FDD and the Flight Line Director.

13.3 Where the designated model aircraft display area is in an area set aside for the spectators it should be safely enclosed.

13.4 Model aircraft with a mass of more than 20kg are required to hold a CAA exemption to fly. The exemption will state the physical characteristics of the model and the names of the pilot(s) allowed to fly the model. An Exemption to Test Fly is not valid at a public event including Flying Displays. Pilots are required to hold a BMFA Qualification B (or equivalent) and valid insurance that includes third party liability.

13.5 The FDD and/or the Flight Line Director should consider the need to add an additional separation distance for models of exceptional dimensions, weight or performance. Some jet model aircraft are capable of speeds in excess of 200mph.

13.6 The FDD should be responsible for ensuring that model aircraft displays are adequately separated in distance or time from other flying events. Where the model flying is taking place on the display side of the crowd line, there should be direct communications between the FDD and the Flight Line Director to ensure that in the event of an aircraft emergency the model flying can be stopped as quickly as possible.

13.7 The Flight Line Director will assist in the planning of the model flying display and is responsible for arranging strict control and use of model aircraft transmitters and frequencies, the briefing of the model pilots and control of the model flying area.

13.8 A Flight Line Marshall responsible to the Flight Line Director must be appointed at medium to large scale events to directly control the active model flying. At smaller events this role may be assumed by the Flight Line Director.

Model display limitations

13.9 The separation distances between spectators and model aircraft should be maintained whether the models are flown in a specified area or on the display side of the crowd line. Refer to www.caa.co.uk/cap658

13.10 The minimum separation distance is 30 metres for takeoff and landing. The minimum separation is 50 metres for flypasts and aerobatics. A greater separation distance of 75 metres is required for high energy model aircraft including turbine.

13.11 The recommended weather limits for model aircraft flying are a minimum visibility of 500 metres and a maximum wind strength of 25 knots.

Full size and model synchronised displays

13.12 Where a display act comprises of a full size aircraft and a model aircraft, there are a number of risk factors that must be considered. The display act should determine a safe method of flying the routine taking into account the difficulties in ensuring separation between the two (or more) aircraft and the spectators is maintained. Judging separation distances from the ground becomes increasingly difficult as the horizontal distance increases from the ground based pilot.

13.13 The display act will need to brief the FDD on the sequence and specific requirements to set up prior and also any non standard recovery actions after the display.

13.14 The model pilot is not required to hold a DA but must hold a BMFA B or equivalent qualification to display at a Flying Display.

13.15 The display pilot must have successfully passed an evaluation to upgrade the DA to include ‘Display flying with model aircraft’

Chapter 14

Part A - Air racing as part of a flying display

Air races

14.1 An ‘Air Race’ can provide an alternative spectacle for an Article 162 flying display audience. However, display flying involves operating aircraft close to their permitted limits while close to the ground without the element of competition. Air Races add the element of competition which can subject aircraft and aircrew to greater than normal risks, together with the added psychological pressure of performing to an audience. Accordingly, an un-scripted air race involving multiple aircraft flying the same course in competition introduces a large degree of unpractised manoeuvring that does not fit within the Article 162 flying display environment.

NOTE: This does not exclude competition flying involving single aircraft flying a set course against the clock from being incorporated as part of an Article 162 Flying Display.

14.2 Pre-briefed, ‘stage-managed’ air racing is permitted at Article 162 Flying Displays. This will usually be arranged with the slowest aircraft taking off first followed by progressively faster aircraft, with take-offs timed so that after flying a number of visual circuits, all arrive almost together, but in a pre-briefed order, at the nominal finish.

14.3 Aircraft fly at nominal pre-determined normal operating speeds, rather than a maximum possible speed.

14.4 All pilots must hold a minimum of a Tailchase DA. The lead pilot at the finish of the ‘race’ must hold a Tailchase Leader DA. All pilots must hold a DA appropriate to any combined manoeuvring planned after the end of the ‘race’.

14.5 The minimum separation distance between aircraft during the ‘race’, including while overtaking, is 50m.

14.6 The minimum separation distance from the crowd must be in accordance with Part A Chapter 3 paragraph 3.25.

14.7 The minimum height (within the authorised display area) must be the highest of the event minima and the highest minima applicable the display pilots, with an absolute minimum of 100 ft agl.

14.8 The FDD should consider and plan for the variations in speed of the different types involved, as well as any ground handling differences.

14.9 The FDD should ensure that the ‘air race’ briefing includes departure order and timing, overtaking, the requirement for aircraft to manoeuvre predictably and to avoid the aircraft ahead especially during and after overtaking, post-race positioning and landings.

Chapter 1

Part B - Air race events

Air races

1.1 Although air racing has its own code of conduct much of the advice given in the earlier parts and chapters of this CAP is relevant. The national organisation and control of air racing, including the issue of organising permits and competitors' licences, is undertaken by the Racing, Rally and Records Association (RRRA) of the Royal Aero Club. The detailed rules of air racing, which can be obtained from the RRRA on application, are designed to ensure a high standard of safety. Organisers of air races are recommended to seek the advice of the RRRA as far as possible in advance of the proposed date of the event.

1.2 The Formula Air Racing Association (FARA) similarly has a code of practice for formula races and should be consulted where appropriate it can be obtained through the Royal Aero Club.

1.3 Should the race route pass through, over or close to either controlled airspace or major airports it is essential that proposals are discussed with CAA Airspace Regulation and the ATC authority responsible for the management of the specific airspace prior to any firm arrangements being made. These discussions should be initiated at least 90 days prior to the date of the event. The air race will almost certainly require co-ordination with other airspace users. Therefore, details should be notified to Airspace Regulation at least 42 days prior to the date of the event (see the appropriate parts of Chapter 4). Applications for any necessary Exemptions or Permissions must reach the CAA GA Unit at least 28 days before the event (see the appropriate parts of Chapter 4).

Weather minima to be observed

Cross country and formula air races	Aircraft to remain 1,000 ft vertically and 1,500 m horizontally from cloud	5 km in flight visibility

Chapter 2

Part B - Balloon events

Balloon events

2.1 Balloon only events, whether a tethered display, air race or contest, do not require Permission under Article 162 of the Air Navigation Order.

2.2 Event Organisers are reminded that any additional display content, such as aircraft, powered parachutes or Microlights, remains subject to Article 162 display requirements, even though the main purpose of the event is a balloon competition or rally.

2.3 Notification of a balloon event, whether including a flying display element or not, should be made to the appropriate authorities or statutory bodies as detailed in Chapter 4.

2.4 The following specific balloon event considerations augment the general guidance given in the aeroplane chapters and should be read in conjunction with these. The guidance notes have been prepared in association with the British Balloon and Airship Club (BBAC) and refer directly to events organised under BBAC auspices and particularly to large balloon meets. However, the guidance is considered applicable to any balloon event irrespective of BBAC involvement.

British balloon and airship club guidelines

2.5 At events organised by, or in association with, the BBAC, affiliated organisations or requiring BBAC support or advertising, the following points should be noted:

- An event held under the guidelines contained in this document must be subject to the supervision of a flying director and a safety officer who is nominated by the organisers of the event and approved by the BBAC flying committee.
- The safety officer should be a CPL(B) holder with experience of ballooning at public events.

- The flying director may act as the safety officer if independent from the Event Organiser.

2.6 The safety officer should be involved in the planning stages of the event and should be present on site during all planned launch and inflation times, except that he may delegate specific duties but retain overall responsibility for the event, including the right to cancel a planned flight due to meteorological or any other reasons bearing on safety. Except where the safety officer has banned flying, the decision to take off or not remains with the pilot.

2.7 It is the responsibility of the Event Organiser, the flying director, the safety officer and the participating pilots to ensure that the planned activities do not infringe airspace restrictions. If at the planning stage it seems likely that flights may affect an aerodrome then liaison should be established with the relevant air traffic control service unit. For mass ascents, the use of transponders on some balloons should be considered so that ATC has an indication of the track and extent of the activity. The relevant ATSU should also be informed of actual launch time and again when all balloons have landed.

2.8 Rules governing the event must be made available, in writing, prior to the event. These must include the limits of acceptable weather conditions for flights, including tethered flights, to be made. Variations in rules not pertaining to safety may be notified by means of a pilots' briefing.

2.9 Adequate first-aid and fire-fighting equipment should be available on site to deal with minor incidents. Prior consultations with outside services should be made and communications established with them on the day of events, so as to facilitate their rapid help in the case of emergency.

2.10 Event Organisers are particularly reminded that a large balloon meet necessitates effective control that will require adequate assistance for the safety officer and landowner relations staff. An event should not take place unless the safety officer and Event Organiser ensure that a level of support is provided in the areas of safety and landowner relations appropriate to the number of balloons participating in the event.

2.11 Mass take-offs should only take place in windspeeds of less than 8 knots on the surface. In winds exceeding 8 knots, take-offs may be staged in 'waves' so as to maximise the separation of balloons.

2.12 Prior to take-off, pilots must ensure that their projected track out of the site is clear of balloons either on the ground or in the air. A check for balloons overhead must be made immediately before take-off, either by a member of the crew or by a marshal appointed by the safety officer.

2.13 If the wind speed exceeds 5 knots the crowd should be separated from the balloons in such a way that in the event of a change of wind direction prior to launching no part of a balloon will come into contact with the crowd.

2.14 All free and tethered flights must be made within the criteria contained in the manufacturers' flight manuals for the specific balloon.

2.15 Refuelling should take place in an area to which the public does not have access. The propane tanker or fuel bulk tank should be separated from any large gathering of people by at least 100 metres and sited so as to avoid drainage of propane towards such an area.

2.16 Pilots must respect the BBAC landowner relations, LPG and safety codes. The following points should be noted in relation to landowner relations:

- The Event Organiser should nominate an experienced person as the landowner relations officer to handle any landowner problems caused by the event;
- Because of the disturbance that large groups of balloons can cause to livestock, pilots should be briefed to fly at a minimum height of 1,000 feet above ground level except when making a final approach;
- Competition tasks should be not set in such a way that they cause large concentrations of balloons in the proximity of livestock or sensitive areas;
- A system should be in place to ensure that each pilot receives a landing card for each flight and returns it to the Event Organiser so that should there be a subsequent complaint the balloons involved can be identified.

2.17 Officials and commentators must be briefed by the safety officer on the contingency plan to be followed in the event of a fire or other emergency on the launch field.

2.18 The BBAC flying committee may with the agreement of the CAA vary these guidelines in the light of experience or particular circumstances of an event.

Chapter 3

Part B - Fly-ins and rallies

Fly-ins

3.1 Due to the variety of venues and aircraft types it is impossible to consider all aspects of a Fly-In which may be a spontaneous gathering of like minded aviators or a small planned event which is advertised as a Fly-In. The following should be read in conjunction with other relevant documents and the LAA safety procedures.

3.2 Adequate insurance should be valid for the event.

3.3 PPR should be considered as a requirement for attendance which gives the organiser the opportunity to brief each pilot on any specific approach / departure requirements and confirm that they have the recommended third party insurance.

3.4 The ANO is the overriding document for all aspects of a Fly-In or Rally and must be complied with.

3.5 If the proposed event is to be held at an unlicensed or off-airfield venue, then a pre assessment of the terrain, approaches, surfaces, overshoots and other operational aspects should be considered. The organisers briefing should include operational aspects including the taxi routes, runway orientation, circuit direction and any ‘avoid’ areas.

3.6 It is the responsibility of the Event Organiser or the Safety Officer and the pilots of the participating aeroplanes to ensure that the planned activity does not infringe airspace restrictions. A NOTAM should be considered to notify other airspace users of the event; therefore, details should be notified to Airspace Regulation.

3.7 Ground manoeuvring can become awkward at some venues with taxiing ‘pinch points’ which can be exacerbated by soft ground. Planning a taxi flow depending on the take–off and landing direction should be considered.

3.8 If there are co-located activities or local events then they should be co-ordinated. Any agreements should be held in writing.

3.9 A suitably placed wind sock should be in established and if possible a method of identifying the runway in use from the air.

3.10 The venue may attract members of the general public and they should be restricted from aircraft active areas. Where appropriate warning signs should be erected.

3.11 Informing the emergency services as early as possible in the planning stages is essential enabling discussions on such things as access routes and gates.

3.12 A reliable method of communication must be established to communicate with external services.

3.13 Provision of on-site emergency equipment and or services must be considered by the organiser.

3.14 Action in the event of an accident should be prepared by the organiser and briefed to all those with an operational post.

3.15 During re-fuelling there must be adequate provision of fire extinguishers immediately available for use by a trained operative, no smoking requirements must be observed.

3.16 Supplementary guidance is contained in CAP 793 and should be considered where appropriate.

Weather minima

Fly-ins and air rallies	Cloud ceiling of 1,000 ft agl at destination	5 km in flight visibility

Air rallies

3.17 Notification should be made to Airspace Regulation to enable promulgation of a suitable NOTAM. Many of the requirements discussed earlier in this document may not be applicable to rallies, but the attention of organisers is drawn to the recommended weather minima and to the need for full written briefing of participants, including the arrangements for notifying a cancellation of the event.

3.18 If weather conditions cause a rally to be cancelled, every possible means should be used to ensure that participants are informed before take-off or en-route so as to avoid dangerous congestion at the destination aerodrome.

3.19 The aerodrome management and ATS at destination should be fully consulted about the proposed event so that appropriate safety arrangements may be made and conflicts with other traffic avoided. The rally will almost certainly require co-ordination with other airspace users. Therefore, details should be notified to Airspace Regulation at least 42 days prior to the date of the event.

3.20 If an event is likely to attract more than **100 aircraft** it is essential that proposals are discussed with the appropriate CAA ATS Regional Office prior to any firm arrangements being made. These discussions should be initiated at least 90 days prior to the date of the event (see the relevant parts of Chapter 4).

3.21 Organisers must brief all pilots and with a specific inclusion that only normal take-offs and landings plus any arrival and departure routings must be strictly adhered to.

Chapter 4

Part B - Helicopter and gyroplane events

Introduction

4.1 Previous Chapters have included guidance on the particular requirements for helicopters at Flying Displays. This Chapter will reference this information and give details of other documents that contain additional relevant information when flying at Special Events.

CAP 403 helicopter references

4.2	Parking and Manoeuvring	Chapter 3 paragraph 3.11
4.3	Minimum Distances	Chapter 3 paragraph 3.25
4.4	Downwash & Under Slung Loads	Chapter 3 paragraph 3.29
4.5	Weather Minima	Chapter 3 paragraph 3.43
4.6	Pleasure Flights	Chapter 3 paragraph 3.69

Additional references

4.7 The following documents are available via the CAA website:

i. CAP 793 Safe operating practices at Unlicensed aerodromes (including HLS and aerodromes used for flying training) Safety (www.caa.co.uk/cap793)

ii. CAP 748 Aircraft Fuelling and Fuel Installation Management (www.caa.co.uk/cap748)

iii. CAP 789 Requirements and Guidance Material for Operators (www.caa.co.uk/cap789)

iv. Environmental Information Sheet No. 5: Helicopter Activities and Private Landing Sites (www.caa.co.uk/environmentalinformation)

v. Environmental Information Sheet No. 6: Helicopter Activities in the London Control Zone and over Central London (www.caa.co.uk/environmentalinformation)

vi. Special Events Guidelines, and guidance for Helicopter Site Keepers (British Helicopter Pilots Association)

Chapter 5

Part B - Model flying events

Model displays and competitions

5.1 The organisational requirements for model displays are detailed in CAP 658: Model Aircraft: A Guide to Safe Flying. Refer to www.caa.co.uk/cap658

5.2 Application forms for model displays and competitions are available from this link; www.caa.co.uk/ga

Chapter 6

Part B - Microlight aircraft events

General

6.1 At events organised by, or in association with, the British Microlight Aircraft Association (BMAA), the following points should be noted:

6.2 Any event held under the conditions laid down in this document must be subject to the direct supervision of a Safety Officer who is nominated by the sponsor club and who is acceptable to BMAA. The Safety Officer may delegate duties but retains overall responsibility for safety at the flying event.

6.3 It is the responsibility of the Event Organiser, the Safety Officer and the pilots of the participating aeroplanes to ensure that the planned activity does not infringe airspace restrictions.

6.4 Facilities must be provided for the booking in and briefing of pilots on all rules laid down for participation in the event and such rules must be in writing and available prior to the event.

6.5 Adequate first aid and fire fighting equipment should be available with communication to outside services arranged to deal with any emergency.

6.6 If a landing or take-off is to be made at the site of the event, the area available must be adequate for the intended operations, taking into account the aeroplane performance, weather conditions and the ability of the pilots. The minimum operating area provided must not be less than 250 x 25 metres with all approach and departure paths clear of buildings, persons, vehicles, trees and overhead electricity or telephone cables.

6.7 A suitable forced landing area is to be available and accessible throughout the event.

6.8 Each pilot attending a rally or fly-in but not taking part in any race, contest or display is to hold at least a PPL(A) Microlight licence.

6.9 Each pilot taking part in a race, or display is to hold at least a PPL(A) Microlight (unrestricted); and must have gained at least 45 hours as pilot in command of aeroplanes or microlight aeroplanes, of which at least 25 hours must be on the class of microlight to be displayed and of which at least 5 hours must be on the type of microlight aeroplane to be flown at the event. In this connection class is defined as being either weight shift or three axis.

6.10 To fly in a flying display requiring a Permission under Article 162 of the ANO, the pilot must possess a DA as detailed in Part A Chapter 5.

6.11 Organisers are to ensure that each aeroplane taking part in the event is registered with the CAA, is displaying correct registration markings and has a valid Permit to Fly.

6.12 Engines may be started or run only in areas separated from the public by a suitable barrier.

6.13 Clearance to a specified holding point clear of the take-off area is to be the responsibility of an authorised marshal or, where air traffic control is in operation, given by the controller.

6.14 The decision when to take off remains the responsibility of the pilot except where air traffic services are available. The Safety Officer must ensure that the number of aircraft in the circuit at any one time does not exceed a safe number.

6.15 No local area flying is to be permitted during competitive events taking place on the site.

6.16 No overflight of the crowd or a car park area, or of any built-up area or congested area en route to, from, or at the event site are allowed.

6.17 Crosswind limitations are to be those stipulated in the manufacturer's handbook. However, where no published limits exist, the maximum acceptable cross-wind component is to be 5 knots.

6.18 No aerobatic or intentional stalling manoeuvres are permitted. Maximum bank and pitch angles are as prescribed in the Permit to Fly or other relevant aircraft document, but in any case must not exceed:

	Type approved aeroplanes	**Homebuilt aeroplanes**	**Type accepted aeroplanes**
Degrees of bank	60°	60°	40°

Degrees of pitch	+/-30°	+/-30°	+/-30°

6.19 At any other event where microlight aircraft are to be flown where the public are present, similar conditions will be imposed by the CAA. Event Organisers should carefully note the definition of a flying display and the advice given in Chapter 1 in deciding if a Permission under Article 162 of the ANO is required for a particular event.

Appendix A

Risk assessment

General

A1 At any public event there are hazards that may cause harm to people. It is necessary to identify these hazards and the risks that arise from them and to minimise them. This is done through the medium of a Risk Assessment, which is therefore an essential element of the production of any safety plan.

A2 Risk assessment need not be complicated and the procedure that follows should suit the needs of most flying display and Special Events. However, other alternative systems can be equally effective. If you require advice on risk assessment please contact the CAA GA Unit.

A3 A hazard is anything that could cause harm at an air display, for example the aircraft participating, or the crowds involved.

A4 The associated risk is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.

A5 i.e. Risk is defined as:

the Severity of the Risk X the Likelihood of the Occurrence

A6 The five steps to risk assessment are:

Step	Action
Step 1	Identify the hazards associated with activities contributing to the event, where the activities are carried out and how they will be undertaken.
Step 2	Identify those at risk and how they may be harmed. As part of this you must consider those not attending the event who may be put at increased risk as a result of your display happening.
Step 3	Identify existing precautions.
Step 4	Evaluate the risks.
Step 5	Decide what further actions may be required, i.e. mitigation.

A7 For flying displays step 2 should include an assessment of any increased risk to individuals not at the event but who are put at increased risk by the fact the display is happening. As part of the flying display application process, applicants are required to include a map showing any areas surrounding the event site where potential concentrations of third parties are put at increased risk. For example, congested areas - hospitals, schools, power stations; railway lines, bridges and other local infrastructure; major / busy roads; areas where non-paying spectators assemble. In making this assessment you should consider your event location and the types of aircraft displaying and routines to be performed.

A8 Step 2 must always include an assessment of the site specific considerations listed in Chapter 3, and any specific risks arising from the participating aircraft.

A9 Assessment of likelihood and severity of hazard is subjective and is based on personal experience of the activity under assessment or statistical evidence when available.

A10 Therefore, the assessment process must be undertaken by someone who is aware of the risks associated with the activity being assessed, knowledge of the range of mitigations available to reduce any risk and who will use sound judgement in the preparation of the assessment. The assessor should also be aware that, in the event of a subsequent accident or incident, the risk assessment process might be challenged.

A11 The severity of a risk should be assessed under the following headings, depending on the possible outcome should the risk be realised, and allocated a score:

A12 The severity of a hazard should be assessed under the following headings, depending on the possible outcome should the hazard become a reality, and allocated a score:

Trivial	Minor injury	Serious injury	Single fatality	Multiple fatalities
1	**2**	**3**	**4**	**5**

A13 The likelihood of the risk occurring should be assessed against the following headings and again allocated a score:

Highly unlikely	Possible	Quite possible	Likely	Highly likely
1	2	3	4	5

A14 Once Severity and Likelihood levels have been decided they should be entered into a matrix, an example of which is:

Hazard description	Risk (inc location, where appropriate)	S	L	R	Mitigation	Rating post mitigation
Aircraft accident	Display spectators harmed as a result of aircraft accident.	5	3	15	Adhere to separation distances; ensure crowd remain inside crowd line.	5
Aircraft accident	Spectators watching from areas surrounding display site are harmed.	5	1	5	Application process risk assessment. Warning signs and public information. Adjacent road closure.	2
Fire in exhibition area	Display attendees hurt. Damage to display infrastructure	3	3	9	Provision of First Aid. Fire Fighting facilities.	6

Note: The content of the above table is for example only.

A15 The Risk Rating (R) is the figure obtained when the Severity (S) assessment is multiplied by the Likelihood (L) assessment.

A16 A resultant figure of less than 6 indicates a low risk; a figure between 6 and 15 a medium risk; and a figure greater than 15 a high risk.

A17 Mitigation action should be taken whenever possible to reduce risk ratings even when the risk is low.

A18 High risk ratings should generally be deemed unacceptable and mitigation sought to reduce the rating to an acceptable level - medium or better.

A19 Mitigating risks to third parties not involved in the display itself, poses particular challenges for flying display organisers because there is less ability to confine them to restricted areas. When seeking to mitigate these risks organisers should be aware of the range of options open to them which include:

- engagement with local authority Safety Advisory Groups, Highways England, local highways authorities and rail network operators where appropriate;
- application for road closures and/or Temporary Traffic Orders during the display;
- providing alternative routes for members of the general public who wish to avoid passing directly by the air display location;
- ensuring that there is adequate information provided to the general public, both in advance and during the air show;
- engaging with the owners or controllers of land near a display site where the general public may or are known to gather and informing them of their display;
- informing the public that the safest viewing point is always within designated spectator areas provided by the organiser.

A20 Step 5 concludes by a reassessment of the risk rating if planned mitigations are put in place.

A21 Organisations must record and retain the details of their risk assessment process and submit evidence of it as part of display application (SRG 1303RA).

Appendix B

Certificate to be supplied to the FDD by a pilot participating in a flying display

I (name): ……,

the pilot of Aircraft type: …….. Registration No:

…….. intending to participate in a flying display to

be held at: ……..……on:

…… hereby certify that:

a) There are current and valid Certificates of Registration and Airworthiness or Permit to Fly for the above aircraft to allow it to be flown at the Flying Display, details of which are given above.

b) The display that I intend to perform complies with the conditions placed on the aircraft's CoA and Permit to Fly.

c) This aircraft carries the following hazardous material (delete as applicable):

pyrotechnics / live ejection seat(s)/other (specify):

……

……

……

Contact name of competent person or organisation available on day to advise on making safe should an emergency occur:

……..

Organisation: ……..... Contact telephone: ….....

Alternative contact: ……

d) I hold a valid Pilot's Licence No: …… together with a Certificate of Test / Experience valid until: …….. and a Class: …… Medical Certificate valid until: …… to allow me to fly in the above mentioned aircraft.

Note: With effect April 2016, a display authorisation will only remain valid for pilots of all registered aircraft who hold an either an EU medical certificate issued by an AME or an ICAO medical certificate that is of an equivalent or higher standard.

e) My Display Authorisation, No: …….. is valid until: …… for the aircraft type I intend to fly and I am compliant with the currency requirements contained within CAP 403 and necessary for my display authorisation to be valid during this display.

f) During the display I intend to confine my display to the following manoeuvres (list):

f) The insurance policy covering the aircraft to be flown specifically covers Flying Displays.

Signature: ……. Date ……..

In the event of an incident, please notify:

Name: …… Relationship: ……

Contact Telephone No:

Address:

……
……

NOTE: This certificate should be completed by the pilot. If this is not possible, the operator of the aircraft may complete it if he has access to the pilot's records and the certificate is appropriately annotated.

Appendix C

Points for inclusion in the written, verbal and telephone briefings

The written brief

C1 The FDD is responsible for ensuring that, in advance of the Flying Display, all participants are sent a written flying briefing. The content of the briefing will vary depending on the complexity of the flying display but the following items should, where appropriate, be included:

(1) Place, date, time (UTC or local time) and duration of the Flying Display.

(2) Provisional flying programme.

(3) Map of the display location showing the site layout and local area with spectator enclosures, car parks, the crowd line, display line(s) or area and any adjacent sensitive areas clearly marked.

(4) Air Traffic Services information including:

(a) Type of air traffic service available to pilots – A/G, AFIS or ATC

(b) Arrival and departure procedures

(c) Radio frequencies and, if required, transponder codes

(d) Procedures during the Flying Display

(e) Holding areas and altitudes

(f) Adjacent air traffic conflictions

(g) Local flying restrictions

(h) Local diversion airfields

(5) Flying display limits and weather minima.

(6) Need for aircraft commanders to ensure that the aircraft is operated in accordance with any airworthiness limitations.

(7) Only manoeuvres that are known and have been practised, including bad weather ‘flat–shows’, to be flown.

(8) Aircraft positioning at all times to be such that, in the event of an engine or airframe failure causing a forced landing or uncontrolled ground impact, this would be outside the crowd area.

(9) Documentation – Copies of all required pilot and aircraft documentation to be forwarded before the Flying Display.

(10) Unless specifically authorised in writing by the CAA GA Unit, only minimum crew to be carried during the Flying Display.

(11) Procedures to be followed when the flying display includes parachuting, parascending and foot launched aircraft.

(12) Procedures for cancellation or variation of programme.

(13) Aircraft parking and refuelling.

(14) Arrangements for Pleasure Flights and visiting aircraft.

(15) Emergency services and procedures.

(16) Contact details for the FDD and other organisation personnel, including those on the day of the display.

(17) Administrative arrangements – hotel, road transport, feeding arrangements etc.

(18) Details of place and time where the formal pre–Flying display briefing will be conducted at the event.

The verbal brief

C2 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.

C3 Flying display Briefing Checklist (and Telephone Brief if required)

Telephone briefing

C4 At Flying Displays at non–airfield sites, or for participants who are flying into a display from a different location, a briefing may be conducted by telephone.

Flying display Briefing Checklist	**Notes**
Attendance Check / Roll call.	
Time Check (specify UTC or Local time).	
Show a **large-scale map of the Display Area**, showing display lines, display area, avoid areas, car parks, crowd areas or any other sensitive areas.	
Show a copy of the **CAA flying display Permission**, to include any conditions attached to it.	
Air Traffic briefing:	
Type of service available (A/G, FIS or Full ATC)	
Arrival & departure procedures	
Radio frequencies, transponder codes	
Display procedures	
Holding areas & altitudes	
Adjacent air traffic conditions	
Local flying restrictions	
Full details of diversions airfields	
Ejection & abandonment areas	
Weather Briefing:	
Current Conditions	
Forecast Conditions	
Weather forecast for diversion airfields	
Any local weather conditions/effects	
Weather minima for the display	
Ground Briefing / Arrangements:	
Arrival & Departure procedures	

Parking Areas	
Refuelling Arrangements	
Accommodation Arrangements	
Flying Programme:	
Confirmation of Pilots, Aircraft, Call signs	
Flying display Minima	
Display programme timing	
Alterative plans if incidents or weather holds	
If parachute activity, stress the need for no rotors/engines turning	
Any other activity? (before, arrivals, departures after display)	
Handling of Ground & Air Emergencies	
Contact Numbers & Locations for:	
Flying Display Director	
ATC	
Event Organiser	
Any other relevant contacts	
Questions?	

C5 The briefing conducted by the FDD should be from an identical crib sheet (written specifically for the telephone briefing) to the one issued to the participant as part of the briefing material, containing all the relevant safety items for that pilot.

Appendix D

Summary of deadlines for flying display or special event organisers

Timeline

D1 As detailed in Chapter 4, a number of critical deadlines need to be met in the planning for a flying display or other Special Event. These are summarised below:

Type of Event	AIRSPACE REGULATION (For RA(T) action)	Air Traffic Action (CAA ATS Regional Office) Form SRG 1417	Aerodrome Licensing Action (ASD) Form SRG 2003	Airspace Specialist 1 AIRSPACE REGULATION (For deconfliction) Form SRG 1303/ 1304 (copy)	CAA GA Unit Section Action Form SRG 1303/ 1304
Flying Display (Major Event)	120 Days	90 Days	60 Days	42 Days	42 Days
Flying Display (Other Events)	90 Days	90 Days	60 Days	42 Days	42 Days
Balloon Events	90 Days	90 Days		42 Days	
Parachuting	90 Days	90 Days		28 Days	
Microlight Events (Non–display)	90 Days	90 Days		42 Days	42 Days*
Helicopter Events (Non–display)	90 Days	90 Days	60 Days	42 Days	42 Days*
Air Races and	90 Days	90 Days	60 Days	42 Days	42 Days*

Rallies					

D2 *42 Days notice required if any Permissions or Exemptions from the Rules of the Air are required.

NOTE: The 42 day requirement for SRG 1303/1304 action is the minimum time period needed to process applications. For new display sites, or events where extensive investigation may be required, substantially more notice should be given, and organisers are advised to obtain CAA agreement for the proposed display prior to entering into any formal commitment.

Appendix E

Flying display and unusual aerial activity notification forms

Flying displays

E1 This application form can be found on the CAA web site at www.caa.co.uk/srg1303

and should be submitted alongside Form (SRG1303B).

Special events and unusual aerial activity

E2 This application form can be found on the CAA web site at www.caa.co.uk/srg1304

Appendix F

Charges for permissions for flying displays and other special events

General

F1 A charge becomes payable when an application is made for a Permission under Article 162 of the ANO to organise an event which consists wholly or partly of a Flying Display.

Charge bands

F2 The amount payable is dependent on the number of chargeable display items, and a 'display item' is defined as 'a discrete exhibition of flying by one or more aircraft'. Numbers of items have been banded, and each band attracts a standard charge:

Band 1:	1 – 3 display items
Band 2:	4 – 6 display items
Band 3:	7 – 12 display items
Band 4:	13 – 18 display items
Band 5:	19 – 24 display items
Band 6:	25 – 30 display items
Band 7:	31 or more display items.

Charges

F3 The actual charges payable are as published in the CAA Official Record Series 5 and these will vary from time to time. Payment may also be made direct to the CAA GA Unit by personal credit, debit card or BACS transfer.

Exempt Items

F4 The following items are currently exempt from charges:

(a) Any race, rally or competition event.

(b) Any parachute display

(c) Any balloon display

Charge concessions

F5 A repeat flying display at the same location within 15 days attracts a 50% reduction for the second and subsequent days, one within 30 days attracts a 33 1/3% reduction and one within 90 days a 20% reduction see the QRDA on the Flying Display website.

Charges for issue of other permissions and exemptions

F6 Charges, as specified in the CAA Official Record Series 5, are made for the following Permissions or Exemptions:

F7 Exemption from Article 129 of the ANO Dropping of articles or animals. Where the items to be dropped are flower petals or ashes for any religious ceremony, they are exempt from charges. Form SRG 1304 must however, be submitted.

F8 Exemption from Article 162(2)(c) of the ANO – Pilots to hold a DA.

F9 Exemption from Rule 5(3)(c) of the Rules of the Air – Flight below 1000 feet above the highest fixed obstacle within 600 metres of the aircraft.

F10 Exemption under Rule 5(3)(b) of the Rules of the Air – Flight closer than 500 feet to any person, vessel, vehicle or structure.

F11 Exemption from Rule 11 of the Rules of the Air – The overtaking rule.

F12 Exemption from Rule 14 of the Rules of the Air- Landing when the runway is occupied.

F13 Permission under Rule 21 of the Rules of the Air – Flight in excess of 250 knots below Flight Level 100.

Assessment of charges

F14 If in doubt about the amount payable, please contact the CAA GA Unit (01293 573988). Unless the full remittance accompanies the relevant Form (SRG 1303 or SRG 1304), the Permission cannot be issued.

Appendix G

Military participation

General

G1 When Military Pilots, or MOD approved civilian pilots flying UK military registered aircraft, appear at a flying display subject to Permission under Article 162 of the ANO they are to observe the more restrictive of the limitations laid down in MAA Regulatory Article 2335 or the flying display Permission. (See Chapter 3, Paragraph 5 and Chapter 4, Paragraph 6.5. and also Article 162 of the ANO).

G2 See Military Participation Contact numbers in Appendix H for the Royal Air Force, Royal Navy and Army.

Responsibilities to military organisers

G3 Under military flying regulations, military organisers will require to see the DA of civilian pilots as evidence of display competency, currency and limitations.

Incidents

G4 A serious accident or incident involving a military aircraft at any display must be reported immediately to the appropriate military authorities. Event Organisers should undertake these tasks if military personnel directly associated with the aircraft are unable to do so. Initial reporting is to be by telephone to the MOD DCD Staff Duty Officer number given in Appendix H, followed by a call to the parent unit. Further details will usually be found in the military operation order, where one has been issued.

Appendix H

Useful contact details

Useful Civil contact details

H1 Civil Aviation Authority – Safety and Airspace Regulation Group
Aviation House
Gatwick Airport South
West Sussex RH6 0YR
Telephone 01293 567171
Central Fax 01293 573999
www.caa.co.uk

H2 Aerodrome Standards
(Aerodrome Standards Matters)
Telephone 01293 573267
Fax 01293 573971

H3 Aerodrome Standards
(Fire and Crash Rescue Matters)
Telephone 01293 573251
Fax 01293 573971

H4 GA Unit
Telephone 01293 573988
Email: ga@caa.co.uk

H5 Personnel Licensing
Licensing Department
Telephone: 01293 573700
Email: fclweb@caa.co.uk (for flight crew licensing)
Telephone: 01293 573270 Email: ats.licensing@caa.co.uk (for ATCO/FISO licensing)

H6 Airworthiness Division
Applications and Approvals Department
Telephone 01293 768374
Email: aanda@caa.co.uk

H7 Regional Manager ATS Safety Regulation
ATS Southern Regional Office
Aviation House
Gatwick
West Sussex RH6 0YR
(Refer to Chapter 4 for areas of responsibility)
Telephone 01293 573330
Email ats.southern.regional.office@caa.co.uk

H8 Regional Manager ATS Safety Regulation
Northern Regional Office
First Floor
Kings Park House
Laurelhill Business Park
Stirling FK7 9JQ
(Refer to Chapter 4 for areas of responsibility)
Telephone 01786 457400
Fax 01786 457440
Email ats.northern.regional.office@caa.co.uk

H9 Principal Inspector (ATM)
Northern Regional Office
First Floor
Kings Park House
Laurelhill Business Park
Stirling FK7 9JQ
Telephone 01786 457400
Fax 01786 457440

H10 AIRSPACE REGULATION
CAA House K6 G2
45-59 Kingsway
London WC2 6TE
Telephone 020 7453 6599
Email: ausops@caa.co.uk

H11 CAA Publications (Paper copy)
TSO (The Stationery Office)
PO Box 29
Norwich NR3 1GN
Telephone 0844 477 7300
Textphone 0870 240 3701
Fax orders 0870 600 5533
www.tso.co.uk/bookshop
Email: caa@tso.co.uk

H12 National Air Traffic Services
UK Aeronautical Information Services, NATS Ltd
1st Floor, North Wing
Heathrow House
Bath Road
Hounslow
Middlesex TW5 9AT
Telephone 020 8750 3777
www.nats-uk.ead-it.com

H13 Department for Transport (DfT)
Zone 1/25
International Aviation Negotiations 2
Great Minster House
76 Marsham Street
London SW1P 4DR
Telephone 020 7944 5847
www.dft.gov.uk

H14 Air Accidents Investigation Branch
Berkshire Copse Road
Aldershot GU11 2HH
Telephone 01252 510300 – General enquiries only
01252 512299 – Reporting accidents (24 hrs)
Fax 01252 376999 www.aaib.dft.gov.uk

Representative bodies

H15 Airport Operators' Association
3 Birdcage Walk
London SW1H 9JJ
Telephone 020 7799 3171
www.aoa.org.uk

H16 Aircraft Owners and Pilots Association
50A Cambridge Street
London SW1V 4QQ
Telephone 020 7834 5631/2
Fax 020 7834 8623
www.aopa.co.uk

H17 The British Air Display Association
Website: www.bada-uk.com
Email: admin@bada.uk.com

H18 British Aerobatic Association ltd.
c/o West London Aero Club
White Waltham Aerodrome
Maidenhead SL6 3NJ
Telephone 01628 637732
www.aerobatics.org.uk

H19 British Balloon and Airship Club
Ms Hannah Cameron
c/o Cameron Balloons Ltd
St John Street
Bedminster BS3 4NH
Telephone 0117 953 1231
Fax 0117 9668 1168
www.bbac.org

H20 British Gliding Association
Kimberley House
47 Vaughan Way
Leicester LE1 4SE
Telephone 0116 253 1051
www.gliding.co.uk

H21 British Hang Gliding and Paragliding Association Ltd
8 Mews Court
Meridian Business park
Leicester LE19 1RJ
Telephone 0116 289 4316
www.bhpa.co.uk

H22 British Helicopter Association
Graham Suite, West Entrance
Fairoaks Airport
Chobham
Woking GU24 8HX
Telephone 01276 856100
www.britishhelicopterassociation.org

H23 British Microlight Aircraft Association
The Bull Ring
Deddington
Oxford OX15 4TT
Telephone 01869 338888 www.bmaa.org

H24 British Model Flyers Association
Chacksfield House
31 St Andrews Road
Leicester LE2 8RE
Telephone 01162 440028
www.bmfa.org

H25 British Parachute Association
5 Wharf Way, Glen Parva
Leicester LE2 9TE
Telephone 0116 278 5271
www.bpa.org.uk

H26 European Airshow Council
Cheryll
Dauntsey
Chippenham SN15 4JH
Telephone 01666 510389
www.european-airshow.com

H27 Honourable Guild of Air Pilots
Cobham House
9 Warwick Court
Grays Inn
London WC1R 5DJ
Telephone 020 7404 4032
www.gapan.org

H28 Helicopter Club of Great Britain
Ryelands House
Aynho, Banbury
Oxon OX17 3AT
Telephone 01869 810646
www.hcgb.co.uk

H29 Historic Aircraft Association
17 Ravensdale Avenue
Leamington Spa
Warwickshire CV32 6NQ
Telephone 01926 831324
www.haa-uk.aero

H30 Light Aircraft Association
Turweston Aerodrome
Brackley
Northants NN13 5YD
Telephone 01280 846786
www.lightaircraftassociation.co.uk

H31 RAeC Records Racing & Rally Association
5 Springhill Court
Sandhurst Lane
Sandhurst
Gloucester GL2 9NX
Telephone 01452 730874
www.airraceuk.co.uk

Useful military contact details

Military accident reporting

H33 Military Accident Reporting
MOD DCD Staff Duty Officer
Telephone 030 6788 8938 (24 hrs) Ministry of Defence

Military correspondence

H34 Ministry of Defence
A1 DARS(MOD)
Royal Air Force Northolt
West End Road
Ruislip
Middlesex HA4 6NG
Telephone 020 8833 8095
Fax 020 8833 8098

H35 Military Aviation Authority
#5104 Juniper Wing 4, Level 1
MOD Abbey Wood (North)
Bristol, BS34 8QW
Email: MAA-Display@mod.uk

Requests for military participation in the UK

Royal Air Force

Applications by **30 September** for the following season.

Royal Air Force Air Events Team
Bentley Priory Building
RAF Northolt
West End Road
Ruislip
Middlesex HA4 6NG
Tel: +44 (0) 20 8833 8769 / 8762 / 8063
Fax: +44 (0) 20 8833 8763
Email: CER-AirEventsTeam@mod.uk

Royal Navy

Applications by **30 November** for the following season.

JSATO
FAO: JSATO Admin
Cormorant House
Yeovilton
Somerset BA22 8HL
Tel: 01935 455332
Email: NAVYCSAV-JSATOAdmin@mod.uk

Army

Applications by **31 October** for the following season

BH Tasking JHC
Land Command
HQ Army
Monxton Road
Andover
Hampshire SP11 8HJ
Tel: 01264 381471
Email: JHC-Tasking Mailbox@mod.uk

Appendix I

Application forms for the renewal and upgrade DA

Renewal application form

I1 This form can be found on the CAA web site at www.caa.co.uk/srg1302

Upgrade application form

I2 This form can be found on the CAA web site at www.caa.co.uk/srg1300

Appendix J

Relevant legislation

The Air Navigation Order 2009

Article(s)	Subject
50-59 61-63	Flight crew, licences and ratings. (Also Schedule 8.)
64	Grant, renewal and effect of flight crew licences.
128	Towing, picking up and raising of persons and articles.
129	Dropping of articles and animals.
130	Dropping of Persons
137	Endangering safety of an aircraft
138	Endangering safety of any person or property
161	Power to prohibit or restrict flying.
162	Flying Displays
163, 164	Balloons, kites and airships, gliders and parascending parachutes.
166, 167	Regulation of small aircraft.
169	Requirement for air traffic approval for the provision of air traffic services.
177, 178	Prohibition of unlicensed air traffic controllers, student air traffic controllers and aerodrome flight information service officers
181, 182, 203	Licensing of air traffic controllers, student air traffic controllers and aerodrome flight information service officers.
205	Air traffic service equipment
206	Air traffic service equipment records

207, 208, 209	Aerodromes – public transport of passengers and instruction in flying
223	Restriction with respect to carriage for valuable consideration in aircraft registered outside the United Kingdom.
225	Restriction with respect to aerial photography, aerial survey and aerial work from aircraft registered outside the United Kingdom.
255	Interpretation (definitions).
259, 260	Public transport and aerial work (examples of private flights).
265-270	Exceptions for certain classes of aircraft

Rules of the Air Regulations 2015

Rule 4	Aerobatic flights
Rule 8	Avoiding aerial collisions
Rule 10	Landing and taking off

Appendix K

Charges for the temporary allocations of radio frequency and licensing, ATCU and FISO

Radio frequency, establishment of a temporary ATCU and the establishment of a temporary FISO Unit

Charges

K1 Charges become payable when an application is made for the temporary allocation of a radio frequency, the establishment of a temporary ATCU and the establishment of a temporary FISO unit in support of a flying display or Special Event.

Radio licensing charges

K2 Full details of Radio Licensing fees, including a fee calculator are contained in the following publication - WIRELESS TELEGRAPHY ACT RADIO LICENCE FEES FOR UK MAIN which can be found by clicking on this link (www.caa.co.uk).

Some types of licences are charged at a single rate whilst others attract bespoke prorated fees that reflect the amount of spectrum used.

K3 Advice on charging and the making of payments may be obtained from the Radio Licensing Section

Charges for the establishment of a temporary ATCU

K4 Charges for the establishment of a temporary ATCU are detailed in ORS5 CAA Scheme of Charges (Aerodrome Licensing and EASA Certification and Aerodrome Air Traffic Services Regulation): The relevant page can be found by clicking on this link (www.caa.co.uk).

K5 On making an application to carry out a Special Event where a temporary ATC service is required, a fixed charge, as detailed in the Scheme, will be made plus a specified amount per hour for any hours in excess of the standard 6 hours spent by the CAA on processing the application and carrying out its investigations up to a maximum charge of £20,000 during any period of 12 months following receipt of the application by the CAA.

K6 Advice on charging and the making of payments may be obtained from the appropriate CAA ATS Regional Office.

Charges for the establishment of a temporary FISO unit

K7 Charges for the establishment of a temporary FISO unit are detailed in ORS5: 'CAA Scheme of Charges (Personnel Licensing)' and can be found by clicking on this link (www.caa.co.uk/ors5).

K8 When making an application for the naming of a place, or any additional place, in a FISO Licence, the applicant shall pay to the CAA the charge specified in the Scheme, and for any examination conducted by the CAA for that purpose, the applicant shall pay to the CAA the charge specified.

K9 Advice on charging and the making of payments may be obtained from the appropriate CAA ATS Regional Office.

Appendix L

Quick reference display administration (QRDA)

L1 A quick reference guide to aid accurate and expeditious completion of application forms including the scheme of charges, application forms, plus other useful display and event references can be found here.