

Safety Regulation Group



CAP 403

**Flying Displays and Special Events: A Guide to
Safety and Administrative Arrangements**

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CAP 403

Flying Displays and Special Events: A Guide to Safety and Administrative Arrangements

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List of Effective Pages

Chapter	Page	Date	Chapter	Page	Date
	iii	01 March 2010			
Contents	1	01 March 2010	Chapter 7	1	01 March 2010
Contents	2	01 March 2010	Chapter 7	2	01 March 2010
Contents	3	01 March 2010	Chapter 8	1	01 March 2010
Contents	4	01 March 2010	Chapter 8	2	01 March 2010
Revision History	1	01 March 2010	Chapter 9	1	01 March 2010
Chapter 1	1	01 March 2010	Chapter 10	1	01 March 2010
Chapter 1	2	01 March 2010	Chapter 10	2	01 March 2010
Chapter 1	3	01 March 2010	Chapter 11	1	01 March 2010
Chapter 2	1	01 March 2010	Appendix A	1	01 March 2010
Chapter 2	2	01 March 2010	Appendix A	2	01 March 2010
Chapter 2	3	01 March 2010	Appendix A	3	01 March 2010
Chapter 2	4	01 March 2010	Appendix B	1	01 March 2010
Chapter 3	1	01 March 2010	Appendix B	2	01 March 2010
Chapter 3	2	01 March 2010	Appendix C	1	01 March 2010
Chapter 3	3	01 March 2010	Appendix D	1	01 March 2010
Chapter 4	1	01 March 2010	Appendix D	2	01 March 2010
Chapter 4	2	01 March 2010	Appendix E	1	01 March 2010
Chapter 4	3	01 March 2010	Appendix E	2	01 March 2010
Chapter 4	4	01 March 2010	Appendix E	3	01 March 2010
Chapter 4	5	01 March 2010	Appendix F	1	01 March 2010
Chapter 4	6	01 March 2010	Appendix G	1	01 March 2010
Chapter 4	7	01 March 2010	Appendix H	1	01 March 2010
Chapter 4	8	01 March 2010	Appendix H	2	01 March 2010
Chapter 4	9	01 March 2010	Appendix I	1	01 March 2010
Chapter 4	10	01 March 2010	Appendix I	2	01 March 2010
Chapter 5	1	01 March 2010	Appendix J	1	01 March 2010
Chapter 5	2	01 March 2010	Appendix J	2	01 March 2010
Chapter 5	3	01 March 2010	Appendix J	3	01 March 2010
Chapter 5	4	01 March 2010	Appendix J	4	01 March 2010
Chapter 5	5	01 March 2010	Appendix J	5	01 March 2010
Chapter 5	6	01 March 2010	Appendix J	6	01 March 2010
Chapter 5	7	01 March 2010	Appendix J	7	01 March 2010
Chapter 5	8	01 March 2010	Appendix J	8	01 March 2010
Chapter 6	1	01 March 2010	Appendix K	1	01 March 2010
Chapter 6	2	01 March 2010	Appendix K	2	01 March 2010
Chapter 6	3	01 March 2010	Appendix K	3	01 March 2010
Chapter 6	4	01 March 2010	Appendix K	4	01 March 2010
Chapter 6	5	01 March 2010	Appendix K	5	01 March 2010
Chapter 6	6	01 March 2010	Appendix K	6	01 March 2010
Chapter 6	7	01 March 2010	Appendix K	7	01 March 2010
Chapter 6	8	01 March 2010	Appendix L	1	01 March 2010
Chapter 6	9	01 March 2010			
Chapter 6	10	01 March 2010			
Chapter 6	11	01 March 2010			
Chapter 6	12	01 March 2010			
Chapter 6	13	01 March 2010			

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Contents

	List of Effective Pages	iii
	Revision History	1
Chapter 1	General Information	
	Introduction	1
	Background	1
	Terminology	2
Chapter 2	Legal Requirements	
	Article 162	1
	Military Events, Venues and Military Participation in Civil Flying Displays	1
	Foreign Participation	2
	Further Reading	3
Chapter 3	Personnel and Preliminary Planning	
	The Event Organiser	1
	The Flying Display Director	1
	Flying Control Committee	1
	Appointment of Officials	2
	Flight Crew	2
	Preliminary Planning	3
Chapter 4	The Flying Display - Site and Display Management	
	Site Assessment	1
	Spectator Enclosures, Car Parks and Public Address Systems	2
	Parking and Ground Manoeuvring of Aircraft	2
	The Display Line	3
	Overflight of Spectators	4
	Setting of Minimum Heights	4
	Aircraft Maximum Speeds	5
	Weather Minima	5

	Use and Allocation of Radio Frequencies	6
	Ground Special Effects Safety	6
	Briefing	6
	Document Checks and Insurance	7
	Pilot Display Programmes	7
	Pleasure Flights	8
	Parachuting as Part of a Flying Display	9
	Model Aircraft as Part of a Flying Display	9
	Inspection of Air Displays and Special Events by CAA FOI (GA)	10
Chapter 5	Liaison with the CAA, Local Authority and Emergency Services	
	Notification to the CAA	1
	120 Days Prior to the Event	1
	90 Days Prior to the Event	1
	60 Days Prior to the Event	5
	42 Days Prior to the Event	5
	28 Days Prior to the Event	5
	Liaison With the Local Authority and Emergency Services	6
Chapter 6	Pilot Display Competency	
	General	1
	Display Authorisation Evaluators	1
	Display Competency Demonstrations	2
	Issue of the Display Authorisation	5
	Recency	6
	Expiry	7
	Renewal	7
	Display Criteria	7
	Formation Flying	9
	Requirements for the Issue of a Formation DA	11
	Charges	13
Chapter 7	Microlight Aircraft Events	
Chapter 8	Balloon Events	
	Legal Requirements	1
	British Balloon and Airship Club Guidelines	1

Chapter 9	Air Races and Rallies	
	Air Races	1
	Air Rallies	1
Chapter 10	Display Parachuting	
	Legal Requirements	1
	Liaison and Reconnaissance	1
	The Display	2
Chapter 11	Helicopter Events	
	Introduction	1
	CAP 403 Helicopter References	1
	Additional References	1
Appendix A	Useful Addresses and Telephone Numbers	
Appendix B	Skill Levels for Authorisation of Aerobatic Displays	
	Standard	1
	Intermediate	1
	Advanced	1
	Unlimited	2
Appendix C	Military Participation	
	Requests for Participation	1
	Responsibilities to Military Organisers	1
	Incidents	1
Appendix D	Relevant Legislation	
Appendix E	Points for Inclusion in the Written and Verbal Briefings	
	The Written Brief	1
	The Verbal Brief	2
Appendix F	Certificate Supplied to the Flying Display Director by a Pilot Participating in a Flying Display	
Appendix G	Summary of Deadlines for Flying Display or Special Event Organisers	
Appendix H	Risk Assessment	

Appendix I	Charges for Permissions for Flying Displays and other Special Events	
	General	1
	Charge Bands	1
	Charges	1
	Exempt Items	1
	Charge Concessions	1
	Charges for Issue of Other Permissions and Exemptions	1
	Assessment of Charges	2
Appendix J	Specimen Flying Display and Unusual Aerial Activity Notification Forms (SRG 1303 and SRG 1304)	
Appendix K	Specimen Display Authorisation Application and Application for the Renewal or Upgrade of a Display Authorisation Forms (SRG 1301 and SRG 1302)	
Appendix L	Card Payment Authorisation (Form SRG 1305)	

Revision History

Revisions to the tenth Edition

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.

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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.

Revisions to the Twelfth Edition

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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.

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Chapter 1 General Information

1 Introduction

- 1.1 Air 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 ranges from full Flying Displays through air races and rallies, parachuting, helicopter and balloon events to model aircraft displays and the minima and standards quoted should be treated as almost absolute unless sound logic demands otherwise. They should be treated as applying equally to practice for, as well as participation in, Air Displays and Special Events.
- 1.3 Participating in or organising Air 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.

2 Background

- 2.1 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.
- 2.2 Military Flying Displays are defined in Article 162 of the ANO. Military flying displays and flypasts are conducted under the regulation of the Ministry of Defence (MOD) and in accordance with Joint Service Publication (JSP) 550.
- 2.3 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 advice is included on balloon events, air races, contests, competitions and rallies, none of which are subject to the regulations governing Flying Displays, provided there is no display element included in the event. Supplementary guidance is provided for microlight and parachute events.
- 2.4 Flying Display Directors, 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.
- 2.5 Nothing in this publication is intended to conflict with the ANO or other legislation, which, in case of doubt, must be regarded as overriding.
- 2.6 An Aeronautical Information Circular (AIC), 'Regulation of Flying Displays', is issued periodically to update the information in this publication.
- 2.7 An AIC, 'Notification of Unusual Aerial Activities', is issued periodically to advise current notification procedures.

- 2.8 A list of addresses of organisations referred to in this publication is given at Appendix A and the Flying Display and Unusual Aerial Activity Notification Forms (Forms SRG 1303 and SRG 1304) are at Appendix J.
- 2.9 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.

3 Terminology

3.1 Throughout this CAP the following terms are used:

- a) **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 255 of the ANO)
- b) **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:
- i) the issue of special procedures;
 - ii) the level of an 'air traffic service' to be provided;
 - iii) the establishment of Restriction of Flying Regulations.
- c) **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.
- d) **Display Line** - A line defining the closest a display aircraft should approach the crowd line.
- e) **Event Organiser** - The Organiser of an event which includes a Flying Display.
- f) **Flying Display Director** - The person responsible to the CAA for the safe conduct of a Flying Display.
- g) **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.
- h) **Display Pilot** - A pilot who holds a Display Authorisation 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.
- i) **Spectator** - A person attending a Flying Display and remaining in the areas set aside for the public.
- j) **Display Authorisation** - 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.

- k) **Skill Levels for Authorisation of Aerobatic Displays** - See Appendix B for the manoeuvres appropriate to each skill level. The skill levels used on Display Authorisations are:
- Standard
 - Intermediate
 - Advanced
 - Unlimited
- l) **Pleasure Flights** - Any passenger flight starting from, or arriving at, the display site purely for the purpose of commercial air transport pleasure flying.
- m) **Static Aircraft Park** - A park for aircraft to which the public has access.
- n) **Aircraft Parking Area** - A park for aircraft to which the public has no access.
- o) **Car Parks** - Where the words 'Car Parks' are used in the text of this CAP, the words are only intended to apply to Car Parks to which the public has access during the Flying Display.

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Chapter 2 Legal Requirements

1 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 must obtain the permission in writing of the CAA and civil Display Pilots must hold a Display Authorisation (DA).

1.2 Before a Permission can be issued, the CAA must be satisfied that:

A person is fit and competent as a Flying Display Director, 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, physical and mental fitness.

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

1.4 In deciding if an application for a Permission under Article 162 should be made, the Flying Display Director 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.

1.5 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 SRG 1304.

1.6 Different conditions apply to balloon and parachute events and these are covered separately in Chapters 8 and 10 respectively.

1.7 Races and contests, whether part of a Flying Display or not, 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 the CAP relating to public safety particularly in relation to minimum separation distances between aircraft, in flight and on the ground, and the public.

2 Military Events, Venues and Military Participation in Civil Flying Displays

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

2.2 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 approved by the military authority.

2.3 Further information can be found in Appendix C - 'Military Participation'.

2.4 Before any military aircraft may participate in a civil 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 3.3 below for the position concerning foreign military aircraft.

3 Foreign Participation

3.1 Foreign Civil Participants from Joint Aviation Authorities (JAA) Countries Operating a DA System

3.1.1 Certain other JAA countries have issued, or are in the process of issuing, DAs to their Display Pilots. DAs issued by other JAA countries are valid for pilots participating in displays in the UK (ANO Article 162). The limitations imposed on pilots holding a DA issued in another JAA 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.

3.1.2 Pilots from JAA countries may hold, if they wish, a UK DA provided they have met all the requirements as specified in Chapter 6 and have been recommended to the CAA by a UK Display Authorisation Evaluator. The limitations of the UK DA will apply to Flying Displays flown in the United Kingdom.

3.2 Foreign Civil Participation from non-JAA Countries or JAA Countries without a DA System

3.2.1 A foreign civil licensed pilot from non-JAA countries or JAA 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, non-JAA 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 Flight Operations Inspectorate (General Aviation) (FOI (GA)).

3.3 Foreign Military Participation

3.3.1 Foreign military participation falls into three categories; single display items from NATO countries, any display team whether North Atlantic Treaty Organisation (NATO) or otherwise and single display items from non-NATO countries.

3.3.2 Single display items from NATO countries are displayed in accordance with STANAG 3533 which has been ratified by the UK and lays down limitations equivalent to JSP 550. When these aircraft are displaying at a UK civil Flying Display, they should be treated in the same manner as a UK military aircraft.

3.3.3 All foreign military display teams and all non-NATO military single display items require the specific approval of the MOD before participating in a UK civil Flying Display. Flying Display Directors should seek early clarification from Headquarters Strike Command (Displays 1) if they believe that such teams or display items will be participating in their Flying Display.

3.3.4 In some countries, high-performance military aircraft may be operated by non-military organisations. Such aircraft could arguably be deemed civil and may even have civil markings. Nevertheless, for air display purposes they are treated as military aircraft as detailed in Paragraph 3.3.3.

3.4 Civil Foreign Registered Aircraft

3.4.1 Flying Displays are aerial work. Consequently, civil foreign registered aircraft appearing at any UK Flying Display, civil or military, may well require a Permission under Article 225 of the ANO from the Department for Transport (DfT). Copies of the Certificate of Insurance, Certificate of Registration and the Certificate of Airworthiness (C of A) must be submitted.

- 3.4.2 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 Flying Display Director should advise the operators of such aircraft to contact the DfT for clarification and full details.
- 3.4.3 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 Airworthiness Division, Applications and Approvals Department. The same information as submitted to the DfT will be required. In addition, for ex-military aircraft with a Maximum Take off Weight Allowed (MTWA) in excess of 2730 kgs, a degree of equivalence with BCAR A8'-20 and CAP 632 will be required. Details on making an application for an Exemption can be obtained from the Applications and Approvals Department.

4 Further Reading

- 4.1 A list of the articles of the ANO with particular relevance to air displays is given at Appendix D.

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Chapter 3 Personnel and Preliminary Planning

1 The Event Organiser

- 1.1 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.

2 The Flying Display Director

- 2.1 The Flying Display Director 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.
- 2.2 It therefore follows that the Flying Display Director 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 Flying Display Director 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.
- 2.3 At small Flying Displays - 3 items or less - the pilot of a participating aircraft may act as the Flying Display Director.
- 2.4 At a Flying Display with up to 6 items, the role of Event Organiser and Flying Display Director may be combined if the Event Organiser is suitably qualified. At displays of 7 items or more, a separate Flying Display Director should be nominated.
- 2.5 It is very strongly recommended that Flying Display Directors at displays of 7 or more items should not take any other part in the Flying Display, especially as a participant or commentator.
- 2.6 It is essential that the Flying Display Director has adequate communications with all appropriate agencies and the Flying Display participants throughout the Flying Display. In the event that the Flying Display Director 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 be used for this purpose, except in extremis.
- 2.7 The Flying Display Director must take an active role in every aspect of the Flying Display including selection of display items, display timings and briefings with Emergency Services

3 Flying Control Committee

- 3.1 It is very strongly recommended that a Flying Control Committee (FCC) is utilised at display of 7 or more items. The roles of the FCC are:
- to assist the Flying Display Director in monitoring display standards;
 - to provide specialist knowledge for specific display items; and
 - to offer in-depth opinion in the case of infringement of the regulations.

- 3.2 Advice on whether such a committee is required may be obtained from the CAA FOI (GA).
- 3.3 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.
- 3.4 The FCC should be available throughout the period of the Flying Display.
- 3.5 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.

4 Appointment of Officials

- 4.1 Experienced staff must be detailed to supervise the parking of aircraft and cars, to operate any public address system, and to control messengers and other staff. Sufficient marshals must be available to control members of the public, to ensure that emergency vehicle access is kept clear, to be available in the case of emergency and to prevent public access beyond the Crowd Line.
- 4.2 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.
- 4.3 Air Cadets and other youth organisations should not be used as marshalls unless well supervised.

5 Flight Crew

- 5.1 All participating civil pilots must hold a current licence with a current class or type rating, or, where no type rating exists, an Exemption from the need to hold a type rating, which entitles him to fly the type of aircraft which is to be displayed. Any questions relating to license matters should be addressed to CAA Personnel Licensing Department (PLD) Policy.
- 5.2 All civil Display Pilots taking part in a Flying Display which requires a Permission under Article 162 of the ANO must possess a current and valid DA issued by the CAA or other JAA country. Details of the UK DA system, validity of DAs and DA recency requirements can be found in Chapter 6. Additional information may be sought from the CAA FOI (GA).
- 5.3 Exemptions from the need to hold a DA may exceptionally be issued, but only for a specific display approved by the CAA FOI (GA) prior to the issue of the Exemption. No deviation from the agreed routine is permitted. This is of particular relevance to Air Operator's Certificate (AOC) operators (large transport aircraft, police, medical and Search & Rescue helicopters etc.) where the display given is a role demonstration or simple flypast. Before a DA Exemption can be considered for an operator holding an AOC, the proposed display routine must be approved and recommended to the CAA FOI (GA) by the assigned CAA Flight Operations Inspector.

- 5.4 Military Display Pilots are approved and authorised as specified by the MOD. Flying Display Directors should note, however, that Article 162 of the ANO stipulates that military pilots are subject to the limitations imposed within the Flying Display Permission when they appear at a civil Flying Display. In practice, this rarely causes difficulty because the limits set down in JSP 550 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.

6 Preliminary Planning

- 6.1 The Event Organiser and the Flying Display Director will, in particular, need to consider and make arrangements for:

- 6.1.1 Event site and Flying Display management covering:

- a) site assessment;
- b) spectator enclosures, car parks and public address system;
- c) parking and ground manoeuvring of aircraft (participants, visitors, static display);
- d) the Display Line;
- e) overflight of spectators and car parks;
- f) setting of minimum heights;
- g) aircraft maximum speeds;
- h) weather minima;
- i) use and allocation of radio frequencies;
- j) ground special effects safety;
- k) briefing;
- l) document checks;
- m) pilot display programmes;
- n) pleasure flights;
- o) parachuting as part of a Flying Display;
- p) model aircraft as part of a Flying Display; and
- q) ballooning as part of a Flying Display.

- 6.1.2 Liaison with CAA, Directorate Of Airspace Policy (DAP) and the Local Authority and Emergency Services including:

- a) prior notification of the event to the CAA, DAP, Local Authority and emergency services; and
- b) notification time scales.

NOTE: Each of these aspects is discussed in detail in Chapter 5.

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Chapter 4 The Flying Display - Site and Display Management

1 Site Assessment

- 1.1 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 Flying Display Director, 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.
- 1.2 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 Flying Display Director 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, other aerodromes, heliports, helipads, airstrips, microlight sites, gliding sites, ballooning sites, parachuting, hang gliding and paragliding sites; and
 - h) The availability of clear entry and exit routes for emergency service vehicles appropriate to the scale of the event.
- 1.3 Flying Display Directors 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.
- 1.4 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.
- 1.5 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 the Directorate of Airspace Policy (DAP), Airspace Utilisation and Off Route Airspace (AU&ORA). 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.

2 Spectator Enclosures, Car Parks and Public Address Systems

- 2.1 The Flying Display Director 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.
- 2.2 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.
- 2.3 If no practical alternative exists, spectators' vehicles and visiting aircraft may be parked under the Display Line or area provided the Flying Display Director does not permit access to these areas by the public for the duration of the Flying Display.
 - 2.3.1 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.
 - 2.3.2 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.

3 Parking and Ground Manoeuvring of Aircraft

- 3.1 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.
- 3.2 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.
- 3.3 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.
- 3.4 Spectators should not be allowed closer than 15 metres to any fixed refueling area, nor closer than 15 metres radially from any fuelling or venting point on an aircraft or bowser whilst refueling is being carried out.
- 3.5 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. Marshalls 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.

- 3.6 In the interests of safety, smoking must not be permitted in Aircraft Parking Areas or Static Aircraft Parks.
- 3.7 Aircraft may take-off and land provided the runway centre line is at least 75 metres from the Crowd Line. The CAA FOI (GA) 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.
- 3.8 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.

4 The Display Line

- 4.1 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 Dayglo pyramids or panels, whitewashed lines or by some other suitable method.
- 4.2 Marking of more than one Display Line is at the discretion of the Flying Display Director. 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. At seafront displays, it is essential that the Display Line is marked with hi-visibility buoys or marker floats.
- 4.3 The display datum or centre should be clearly marked where this is not co-located with some obvious ground feature.
- 4.4 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.
- 4.4.1 The minimum distances are as follows:

All Aircraft			
Aircraft Display Speed	Type of display		
	Flypast	Aerobatics	V/STOL aircraft only Flypast or Hovering
Less than 100 kt IAS	50 metres	100 metres	150 metres
100 - 200 kt IAS	100 metres	150 metres	150 metres
200 - 300 kt IAS	150 metres	200 metres	150 metres
Above 300 kt IAS	200 metres	230 metres	200 metres

- 4.4.2 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 and the relevant distances, the CAA FOI (GA) should be consulted.
- 4.5 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.
- 4.6 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 underslung loads should only be flown over clear areas.

5 Overflight of Spectators

- 5.1 Display aircraft are not permitted to overfly the spectator enclosures or Car Parks unless with the specific written permission of CAA FOI (GA). Outside the display area, normal Rules of the Air apply.
- 5.2 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 surface level.

6 Setting of Minimum Heights

- 6.1 Where Flying Displays are held at an aerodrome, the CAA will normally authorise the Flying Display Director to allow pilots to fly down to the minimum height specified in their individual DA.
- 6.2 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 or lower minima may be imposed if considered appropriate at a particular venue.
- 6.3 Flying Display Directors 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.
- 6.4 Flying Display Directors should ensure that pilots are advised of the minimum heights applicable at the Flying Display in both verbal and written briefs.
- 6.5 Pilots of military aircraft participating in a civil Flying Display should advise the Flying Display Director 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 pilots 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.
- 6.6 For parachute displays, the minimum height by which parachutists must have their main parachute open is normally 2000 feet above ground level (agl). FAI 'D' Certificate holders on displays may, exceptionally, deploy so as to be open by 1500 feet agl.
- 6.7 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, and the prevailing weather, but the following are recommended:

- a) 100 feet - 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.

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 FOI (GA) will give advice on any particular circumstances.

7 Aircraft Maximum Speeds

- 7.1 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.
- 7.2 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 (Rule 21 of the Rules of the Air Regulations 2007). Flying Display Directors 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.

8 Weather Minima

- 8.1 Minimum weather conditions must be determined in advance, published and strictly observed. Recommended minima are:

		Weather Minima		
Type Aircraft	Type of display		Cloud Ceiling or significant cloud (4/8 or more)	Visibility
V/STOL aircraft, Rotorcraft and other aircraft with a stalling speed below 50 knots.	Flypasts	Solo Aircraft	500 ft	1500 m
		Formations	500 ft	3000 m
	Full Aerobatic displays	Solo Aircraft	800 ft	3000 m
		Formations	800 ft	5 km
Flying Displays by other aircraft	Flypasts or Flat Aerobatic displays	Solo Aircraft	500 ft	3000 m
		Formations	800 ft	5 km
	Full Aerobatic displays	Solo Aircraft	1000 ft	5 km
		Piston Formations	1000 ft	5 km
		Jet Formations	1500 ft	8 km

- 8.2 Flying Display Directors 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.
- 8.3 Flying Display Directors 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.
- 8.4 The minima below should be applied to the following activities whether associated with a Flying Display or not:

Cross country and Formula Air Races	Aircraft to remain 1000 ft vertically and 1500 m horizontally from cloud	5 km in flight visibility
Fly-ins and Air Rallies	Cloud ceiling of 1000 ft agl at destination	5 km in flight visibility

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

9 Use and Allocation of Radio Frequencies

- 9.1 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 5.
- 9.2 Where feasible and within the constraints covered in Chapter 5, Flying Display Directors should endeavour to allocate a quiet frequency for use during the Flying Display with another frequency being available for administrative requirements and control of non-display aircraft. If only one frequency is available, the Flying Display Director 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.

10 Ground Special Effects Safety

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.

11 Briefing

- 11.1 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.

- 11.2 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 E.
- 11.3 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 E. 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.
- 11.4 The display minima, whether these be DA or other limits imposed by the CAA or the Flying Display Director, 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.
- 11.5 Participants not landing at the Flying Display site or flying in to display prior to landing must contact the Flying Display Director by telephone, immediately prior to the display to obtain a full formal briefing.

12 Document Checks and Insurance

- 12.1 Flying Display Directors are responsible for checking all required pilot/aircraft documentation details (Pilot licence, DA, display currency confirmation (see suggested certificate at Appendix F), aircraft airworthiness documents (C of A, Permit to Fly etc., insurance etc.) prior to the date of the Flying Display.
- 12.2 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.
- 12.3 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.
- 12.4 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.

13 Pilot Display Programmes

- 13.1 Flying Display Directors 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.
- 13.2 **Carriage of Persons on Board Display Aircraft**
- No persons other than minimum crew, as detailed in the aircraft C of A or Permit to Fly, shall be on board a civil aircraft during a display unless the prior written permission of the CAA FOI (GA) has been obtained.

13.3 **Displays by Air Operator's Certificate Operators**

- 13.3.1 Displays by AOC operators (large transport aircraft, police, medical and Search & Rescue helicopters etc.) will normally be conducted under an Exemption from the need to hold a DA issued by the CAA FOI (GA). The requested display profile is to be submitted in advance to both the CAA FOI (GA) and the assigned CAA Flight Operations Inspector in the form of a Captain's brief. The Exemption will be issued only after the assigned Flight Operations Inspector has agreed the content of the Captain's brief.
- 13.3.2 Passengers are not to be carried during flypast by AOC holders. However, additional flight crew or specialist maintenance personnel may be carried provided that a recommendation to that effect is made to the CAA FOI (GA) by the assigned Flight Operations Inspector.
- 13.3.3 Formation flights by large commercial air transport aircraft will not normally be permitted but specific applications will be considered on their merits.

14 **Pleasure Flights**

- 14.1 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 ASD.
- 14.2 Flying Display Directors 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.
- 14.3 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. This route must be planned to take them well clear of other aircraft. Smoking must not be permitted in the Aircraft Parking Area.
- 14.4 Operators are recommended to maintain a list of passenger names so that it is known who is on the aircraft during each pleasure flight. This information could prove invaluable to police and rescue services in the event of an incident.
- 14.5 **Helicopter Flights**
 - 14.5.1 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 Flying Display Director. 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.
 - 14.5.2 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.

14.6 **Escorts**

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.

15 **Parachuting as Part of a Flying Display**

- 15.1 Chapter 10, Display Parachuting, outlines the essential requirements for the conduct of a parachute display.
- 15.2 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 Flying Display Directors 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 (1000 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.
- 15.3 Flying Display Directors should consider programming events in such a manner that potential conflicts between aircraft and parachutists are minimised.

16 **Model Aircraft as Part of a Flying Display**

- 16.1 The general rules for the conduct of model aircraft displays are set out in CAP 658 Small (Model) Aircraft: A Guide to Safe Flying. This section will deal with the additional requirements where model aircraft displays are given as part of a Flying Display.
- 16.2 At a Flying Display, model aircraft flying should come under the control of a Flight Line Director who should be an experienced model aircraft flyer responsible to the Flying Display Director for the safe conduct and control of the model flying activities.
- 16.3 **Model Display Limitations**
- 16.3.1 Uncontrolled free flight models should not be flown during the period of the Flying Display.
- 16.3.2 Where the designated model aircraft display area is in an area set aside for the spectators it should be safely enclosed.

- 16.3.3 The following 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.

Model Aircraft Type	Model Aircraft Weight (kgs)	Separation Distance (metres)
Control Line	any	15 m
Radio Controlled (Piston)	less than 7 kgs more than 7 kgs	30 m 50 m
Radio Controlled (Turbine)	any	75 m

- 16.3.4 The Flying Display Director or the Flight Line Director should consider the need to add an additional separation distance for models of exceptional dimensions, weight or performance.
- 16.3.5 The Flying Display Director 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 Flying Display Director 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.
- 16.3.6 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.
- 16.3.7 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.
- 16.3.8 The recommended weather limits for model aircraft flying are a minimum visibility of 500 metres and a maximum wind strength of 25 knots.

17 Inspection of Air Displays and Special Events by CAA FOI (GA)

- 17.1 The CAA FOI (GA) is required to inspect and monitor safety standards at a number of events annually. Formal written notification will normally be given to the Flying Display Director in adequate time stating that a formal inspection of the event will take place. However, the CAA reserves the right to inspect any Air Display or Special Event without notice.

Chapter 5 Liaison with the CAA, Local Authority and Emergency Services

1 Notification to the CAA

- 1.1 The smooth and expeditious planning for a Flying Display, or any other Special Event, requires that various applications are made to the CAA in an appropriate time scale. These time scales 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.
- 1.2 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 facsimile details are given in Appendix A. The deadlines below are summarised in Appendix G.

2 120 Days Prior to the Event

2.1 Restricted Area (RA(T)) - Major Events

- 2.1.1 Application should be made to the Directorate of Airspace Policy, AU&ORA in respect of a RA(T) for major events at least 120 days prior to the event.

3 90 Days Prior to the Event

3.1 Restricted Area (RA(T)) - Other Events

- 3.1.1 As above, application should be made to AU&ORA for any RA(T) requirements.
- 3.1.2 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.
- 3.1.3 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 AU&ORA for guidance.

3.2 Air Traffic Service Requirements

- 3.2.1 The following is a guideline to the requirements of the CAA Air Traffic Standards Division (ATSD) for the provision of an air traffic service at a Flying Display or other Special Event.

3.3 Air Traffic Control Service

- 3.3.1 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.
- 3.3.2 Temporary Air Traffic Control Services must be provided in accordance with CAP 774.

- 3.3.3 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. A Form SRG 1417 Application to establish or change an Aeronautical Ground Radio Station must also be submitted to the DAP 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 ATSD 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 CAP 670, ATC 02, Section 2, with further information in CAP 670, Part B, Section 1, APP 04, Page 3, Paragraph 8.
- 3.3.4 Established ATC Units intending to hold a Flying Display or Special Event are required to notify their ATSD 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.
- 3.3.5 Further information applicable to the conduct of Special Events and ATC licensing requirements may be obtained from the following documents:
- CAP 670 ATS Safety Requirements
 - CAP 744 United Kingdom Manual of Personnel Licensing - Air Traffic Controllers
 - CAP 428 Safety Standards at Unlicensed Aerodromes
 - Aeronautical Information Circulars
 - CAP 393 Air Navigation: The Order and the Regulations
- 3.3.6 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.
- 3.3.7 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.
- 3.3.8 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. Copies of Form SRG 1417 may be obtained in either hard copy or electronic format from the ATSD Regional Offices, or the CAA web site (www.caa.co.uk/forms). The addresses of the Regional Offices are detailed in Appendix A of this document.

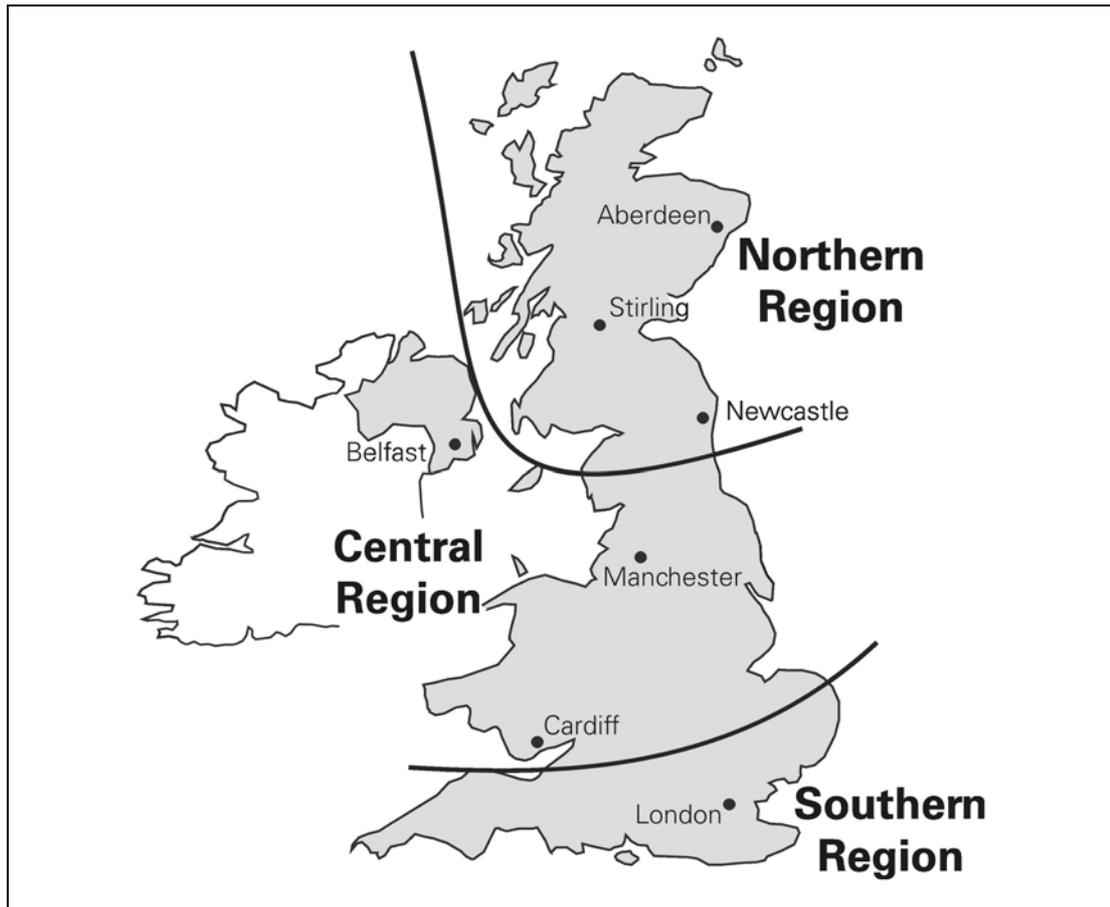


Figure 1 Area of Responsibility of the ATSD Regional Offices

- 3.3.9 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.
- 3.4 **Flight Information Service**
- 3.4.1 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 ATSD Regional office and also submit an application on Form SRG 1417 to the DAP Radio Licensing Section 90 days before the event.
- 3.4.2 Temporary Flight Information Services must be provided in accordance with CAP 774.
- 3.4.3 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.
- 3.4.4 A set of Local Instructions for the unit shall be submitted a minimum of 60 days before the event. The format of the local instructions is laid out in the Manual of Flight Information Service Part B Aerodrome, Chapter 14.

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

CAP 427 Flight Information Service and the FISO licence (www.caa.co.uk/cap427)
CAP 410 Manual of Flight Information Services Part A General and Part B Aerodrome (www.caa.co.uk/cap410)
CAP 413 Radiotelephony Manual (www.caa.co.uk/cap413)
CAP 774 Flight Information Services (www.caa.co.uk/cap774)

Further guidance and an application Form SRG 1417 may be obtained from the ATSD Regional Office or the CAA web site.

3.5 **Air/Ground Communication Service (A/G)**

- 3.5.1 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 (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 (www.caa.co.uk/cap452) and CAP 413 Radiotelephony Manual (www.caa.co.uk/cap413).

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

3.6 **Air Traffic Service Personnel**

- 3.6.1 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:
- 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
 - submit completed SRG Forms 1411 or 1414 as appropriate
 - in case of ATCOs, comply with the requirements of CAP 744, Part 3, Para 9.8.

3.7 **Frequency Allocation**

- 3.7.1 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 to DAP of Form SRG 1417.
- 3.7.2 Change of use of an already allocated and approved radio frequency is not permitted without the further approval of ATSD, and written consent of the existing WTA Licence and ANO Approval holder (where not the applicant).
- 3.7.3 Organisers should note that frequencies for use in Flying Displays and other Special Events are in extremely short supply, and allocation cannot be guaranteed.

4 60 Days Prior to the Event

4.1 Aerodrome Licence

- 4.1.1 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 Flying Display Director, the Aerodrome Licensee and the CAA ASD at least 60 days prior to the event.
- 4.1.2 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 CA 651A. Further information can be obtained from the CAA ASD and CAP 168 Licensing of Aerodromes.

5 42 Days Prior to the Event

5.1 Notification to DAP AU&ORA

- 5.1.1 A copy of either Form SRG 1303 - Flying Displays Notification Form or SRG 1304 - Unusual Aerial Activity Notification Form must be sent to the DAP AU&ORA at least 42 days before the Flying Display or Special Event date to allow the necessary co-ordination 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.

6 28 Days Prior to the Event

6.1 Notification to the CAA FOI (GA)

- 6.1.1 The Flying Display Director 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 FOI (GA) requires full details of the event, including press or practice days.

Form SRG 1303 or SRG 1304 should be forwarded, together with a large scale map clearly delineating the Display Line and/or area, the spectator enclosure layout including Car Parks and any restricted or sensitive areas in the immediate area of the display venue. The Form SRG 1303 or SRG 1304, the map and the appropriate payment (cheque, postal order or credit/debit card) should reach the CAA FOI (GA) at least 28 days before the display date.

- 6.1.2 Forms SRG 1303 and SRG 1304 incorporate a Certificate on which the Flying Display Director 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 (www.caa.co.uk/forms).

- 6.1.3 Particularly in the busy season it may not be possible to process applications giving the CAA FOI (GA) shorter notice than 28 days (or DAP AU&ORA shorter than 42 days) notice. However, it is appreciated that Flying Display Directors may not have complete details of the participating aircraft this far in advance. The CAA FOI (GA) and DAP AU&ORA 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.

7 Liaison With the Local Authority and Emergency Services

7.1 Introduction

- 7.1.1 Liaison with the Local Authority, the Police and the Emergency services (including Coastguard 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

- 7.1.2 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.

7.2 The Emergency Plan

- 7.2.1 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.
- 7.2.2 The information contained in the Health and Safety Executive (HSE) Event Safety Guide - known as the Purple Guide - applies to Flying Displays.
- 7.2.3 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.
- 7.2.4 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.
- 7.2.5 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.
- 7.2.6 In deciding whom to notify and liaise with in the Local Authorities and Emergency Services the size of event will have bearing. Notifying the local police 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.

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

7.3 **Risk Assessment**

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

7.4 **Notification of Agencies**

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

7.4.1 **Local Authorities**

7.4.1.1 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. Additionally, the event emergency plan will be expected to comply with Local Authorities existing major incident plans and the Civil Contingencies Act 2004.

7.4.2 **The Police**

7.4.2.1 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.

7.4.2.2 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), it's development will involve the Event Organiser, the police and, where appropriate, the Highways Agency.

7.4.2.3 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.

7.4.2.4 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.

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

7.4.3 **Fire and Rescue Service**

7.4.3.1 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.

7.4.3.2 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.

7.4.4 **Medical**

- 7.4.4.1 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.

7.5 **General**

- 7.5.1 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.
- 7.5.2 Should, for any reason, the emergency services at the event have to leave the site to deal with an accident then the Flying Display Director should reconsider any flying activities taking place particularly Commercial Air Transport flights since the conditions of the Aerodrome Licence may not be fully satisfied.
- 7.5.3 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 the CAA ASD - Head of Inspectorate.
- 7.5.4 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 A). The police also require notification.
- 7.5.5 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.

Chapter 6 Pilot Display Competency

1 General

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 JAA country or an Exemption from the need to hold a DA (See Chapters 2, 3 and 4). 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.

2 Display Authorisation Evaluators

2.1 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 approve a person as qualified to furnish reports to the CAA and accept such reports. Such persons are known as Display Authorisation Evaluators (DAE).

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

2.3 General Requirements

To be nominated as a DAE an individual must:

- a) 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;
- b) hold a valid pilot's licence with normally a minimum of 1000 hours as pilot in command or equivalent experience acceptable to the CAA;
- c) have normally held a DA for at least 3 years; and
- d) normally be an active Display Pilot.

2.4 Responsibilities and Limitations

2.4.1 A person who is selected by the CAA and listed as a DAE is authorised to evaluate a pilot's display competency and submit a report for the CAA FOI (GA) on Form SRG 1301 Display Pilot Authorisation Application in the case of an initial issue or on Form SRG 1302 Application for the Renewal or Upgrade of a Display Authorisation in the case of a renewal or upgrade to a DA. Examples of Form SRG 1301 and SRG 1302 are shown at Appendix K.

2.4.2 If subsequent to the initial grant of a DA it is necessary to recommend an amendment or revocation of the Authorisation then this will be done by letter.

2.4.3 Any pilot who is denied a recommendation by a DAE may apply directly to the CAA FOI (GA).

2.4.4 When a DAE has prepared a report recommending issue of a DA this must be forwarded direct to the CAA FOI (GA).

2.4.5 Individuals who are appointed DAEs may continue to conduct display competency evaluations as long as they remain current in air 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 3 years, terminating on 31 March.

- 2.4.6 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 consider reporting the matter to the Flying Display Director and, if appropriate, to the CAA FOI (GA). In this latter case a clear statement of the perceived breach, with supporting evidence if possible, will be required before the CAA could consider any action.
- 2.4.7 CAA FOI (GA) 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.

3 Display Competency Demonstrations

- 3.1 Before a pilot can undertake an evaluation prior to the initial issue of a DA, he must apply to a CAA appointed DAE, who will then recommend the issue of Form SRG 1301 to the CAA FOI (GA). A provisional DA number will be allocated at the same time as the form is issued. DAEs must only report on initial evaluations on SRG 1301 forms stamped by the CAA FOI (GA) and with the provisional DA number clearly allocated.
- 3.1.1 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 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.
 - b) 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.
 - c) 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.
 - d) 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.
- 3.2 In order to establish a standardised evaluation of all pilots who request a DA the following guidelines will be used by the CAA and DAEs for the issue and renewal of DAs.

3.3 **Documentation**

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.

3.4 **Oral Examination**

3.4.1 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 air 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, fatigue, mental attitude and personal limitations.

3.4.2 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 Flying Display Director 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 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 air display.

3.5 Preflight Inspection

The normal preflight 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.

3.6 Flight Demonstrations

3.6.1 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 such 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.

3.6.2 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.

3.6.3 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 handle emergencies during air display performance;
- h) maintenance of planned sequence slot times and duration.

3.7 **Spin Training and Departure Awareness**

- 3.7.1 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. DAEs are to indicate that these conditions are satisfied in the 'Applicant's previous Spin/Aerobatic Training' section of Form SRG 1301.
- 3.7.2 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.
- 3.7.3 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.

3.8 **Reporting by DAEs**

- 3.8.1 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 FOI (GA) on the appropriate form. (Form SRG 1301 for initial issue and Form SRG 1302 for renewal or upgrade)
- 3.8.2 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 FOI (GA) 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 FOI (GA) prior to arranging any further evaluation.
- 3.8.3 Form SRG 1301 incorporates a check list to assist DAEs in conducting evaluations.

4 **Issue of the Display Authorisation**

- 4.1 An aeroplane DA consists of the Authorisation itself, and a Certificate of Test and Competence. The format is suitable for inclusion in the holder's pilot licence. The categories or specific aircraft types authorised, the type of display authorised, 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 not valid until the pilot receives the original copy from CAA FOI (GA).

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

<p>Single-engined piston aeroplanes</p> <p>A Less than 200 hp</p> <p>B Between 200 and 600 hp</p> <p>C Exceeding 600 hp</p>	<p>Helicopters and Gyroplanes</p> <p>L Helicopters specified by type</p> <p>M Gyroplanes specified by type</p>
<p>Multi-engined piston aeroplanes</p> <p>D Less than 300 hp total</p> <p>E Between 300 and 600 hp total</p> <p>F Single Pilot Exceeding 600 hp total, specified by type</p> <p>Z Multi-crew Exceeding 600 hp total, specified by type</p>	<p>Gliders, Hang Gliders and Paragliders</p> <p>N Gliders of all types</p> <p>O Hang Gliders of all types</p> <p>Y Paragliders of all types</p>
<p>Jet-powered aeroplanes</p> <p>G Single jet aeroplanes specified by type</p> <p>H Multi jet aeroplanes specified by type</p>	<p>Microlight Aeroplanes</p> <p>T Microlight aeroplanes of all types with weight shift control</p> <p>U Microlight aeroplanes of all types with three axis control</p> <p>V Microlight aeroplanes of all types with hybrid control</p>
<p>Turbo-prop powered aeroplanes</p> <p>I Single turbo-prop aeroplanes specified by type</p> <p>J Multi turbo-prop aeroplanes specified by type</p>	<p>Powered Parachutes, Powered Paragliders and Powered Hang Gliders</p> <p>W1 All types of Trike Unit Powered Parachutes</p> <p>W2 All types of foot launched paramotors</p> <p>W3 All types of foot launched Powered Hang Gliders</p>

5 Recency

- 5.1 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. In the 90 days preceding a demonstration at a Flying Display for which an Article 162 Permission is required, a minimum of 3 full display sequences must have been flown or practised, with at least 1 display sequence flown or practised in the specific type of aircraft to be displayed.
- 5.2 A log book entry is sufficient proof that the display sequences or practices have been flown.
- 5.3 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.
- 5.4 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.

6 Expiry

A DA will expire 13 months after the date of the initial successful test or renewal unless further revalidated.

7 Renewal

- 7.1 The renewal of a Display Authorisation will be by certification of the DA Certificate of Test and Competence; the renewal evaluation being conducted by a suitably qualified DAE.
- 7.2 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. 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 FOI (GA). In either case, a completed Form SRG 1302 Application for the Renewal or Upgrade of a Display Authorisation must be returned to the CAA FOI (GA) for record keeping or action purposes as appropriate.
- 7.3 The necessary criteria to satisfy a DAE of a pilot's display competency will combine a check of 'recency' and observation of the pilot's 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. Retrospective approval is not permitted.
- 7.4 Where multiple aircraft types or categories are held on a DA it is not necessary to renew each individual aircraft type or category. The DA is renewed by demonstrating on any one of the authorised aircraft types or categories. The recency rules do, however, apply to individual aircraft types or categories.
- 7.5 A DA, if not renewed for a period of 5 consecutive years, will be considered to have lapsed and another initial application and evaluation will be required before the privileges of a DA can be exercised.

8 Display Criteria

- 8.1 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 CAA Document No. 743, Civil Air Displays - A Guide for Pilots (www.caa.co.uk/caadocumentno743).
- 8.2 The following paragraphs, whilst not exhaustive, are intended to give Display Pilots some basic guidance in various specific areas.
- 8.3 **Vintage or Unique Aircraft**

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.

8.4 **Displaying Multi-Engine Aircraft**

- 8.4.1 Deliberate asymmetric flight as part of a display routine is not permitted at civil Flying Displays.
- 8.4.2 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.
- 8.4.3 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.
- 8.4.4 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.

8.5 **Crowd Separation Distances - On Crowd Wind**

- 8.5.1 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.

8.6 **Minimum Heights During Displays**

- 8.6.1 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.

8.7 **Spinning as Part of a Display**

- 8.7.1 Pilots are only permitted to include spinning as part of their display sequence if they hold aerobatic DA authorisation and the aircraft is approved for the manoeuvre.
- 8.7.2 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.
- 8.7.3 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.

9 Formation Flying

9.1 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:

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

- a) Close Formation flying with up to 4 aircraft; or
- b) Close Formation flying with unlimited numbers of aircraft.

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

- a) Close Formation leading with up to 4 aircraft; or
- b) Close Formation leading with unlimited numbers of aircraft.

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

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

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

9.1.5 Where Tailchasing is permitted it will be limited to:

- a) Tailchasing with up to 4 aircraft; and
- b) Tailchase leading.

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.

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.

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

9.2 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 (See Paragraph 10.5).

9.3 Close Formation

9.3.1 Close formation is defined as when an aircraft is flying in close proximity to another aircraft in such a manner as to require the following aircraft to take all external visual references solely from the lead aircraft.

- 9.3.2 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 forming in close proximity to the lead aircraft.
- 9.3.3 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.
- 9.3.4 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.

9.4 **Tailchase**

- 9.4.1 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. Separation distances vary from 50 to 200 metres.
- 9.4.2 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.
- 9.4.3 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.
- 9.4.4 To participate in a tailchase a pilot must hold a Tailchase DA authorisation.
- 9.4.5 To lead a tailchase a pilot must hold a Tailchase Leader DA authorisation.
- 9.4.6 To fly or lead an aerobatic tailchase, a pilot must hold an aerobatic authorisation in his DA.
- 9.4.7 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.

10 Requirements for the Issue of a Formation DA

10.1 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.

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

10.1.2 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.

10.2 Close formation flying with up to 4 aircraft

10.2.1 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 particularly where more than two aircraft are forming.

- b) 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.

10.3 **Close formation leading with up to 4 aircraft**

- 10.3.1 An application for a formation leading authorisation will not be considered unless the applicant already holds, or is recommended for, a formation member authorisation.
- 10.3.2 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.

10.4 Tailchasing with up to 4 aircraft and tailchase leading

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

10.4.2 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.

10.4.3 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.

10.4.4 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.

10.5 Unlimited formation authorisations

10.5.1 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.

11 Charges

11.1 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).

11.2 Payment as specified must accompany the initial application or application for the extension or change of DA privileges.

No charge is made for the renewal of the DA.

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Chapter 7 Microlight Aircraft Events

- 1 At events organised by, or in association with, the British Microlight Aircraft Association (BMAA), the following points should be noted:
 - 1.1 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.
 - 1.2 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.
 - 1.3 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.
 - 1.4 Adequate first aid and fire fighting equipment should be available with communication to outside services arranged to deal with any emergency.
 - 1.5 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.
 - 1.6 A suitable forced landing area is to be available and accessible throughout the event.
 - | 1.7 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.
 - | 1.8 Each pilot taking part in a race, contest 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.
 - | 1.9 To fly in a Flying Display requiring a Permission under Article 162 of the ANO, the pilot must possess a DA as detailed in Chapter 6.
 - 1.10 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.
 - 1.11 Engines may be started or run only in areas separated from the public by a suitable barrier.
 - 1.12 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.
 - | 1.13 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.
 - 1.14 No local area flying is to be permitted during competitive events taking place on the site.

- 1.15 No overflights 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.
- 1.16 The minimum separation distance from spectators is to be as follows:
- a) Passes in front of the spectators - 50 metres.
 - b) Take-off and landing - 40 metres for the first 50 metres of the operating area and thereafter 50 metres.
- 1.17 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.
- 1.18 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°

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 2 in deciding if a Permission under Article 162 of the ANO is required for a particular event.

Chapter 8 Balloon Events

1 Legal Requirements

- 1.1 Balloon events, whether a tethered display, air race or contest, do not require a Permission under Article 162 of the Air Navigation Order.
- 1.2 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.
- 1.3 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 5.
- 1.4 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.

2 British Balloon and Airship Club Guidelines

- 2.1 At events organised by, or in association with, the BBAC, affiliated organisations or requiring BBAC support or advertising, the following points should be noted:
 - 2.1.1 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.
 - 2.1.2 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.
 - 2.1.3 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 air traffic control at this stage. 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 ATC should also be informed of actual launch time and again when all balloons have landed.
 - 2.1.4 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.

- 2.1.5 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.
- 2.1.6 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.
- 2.1.7 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 (see Chapter 4, paragraph 4.4.1 for separation distances and minimum heights for overflight of spectators).
- 2.1.8 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.
- 2.1.9 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.
- 2.1.10 All free and tethered flights must be made within the criteria contained in the manufacturers' flight manuals for the specific balloon.
- 2.1.11 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.
- 2.1.12 Pilots must respect the BBAC landowner relations, LPG and safety codes. The following points should be noted in relation to landowner relations:
- a) The Event Organiser should nominate an experienced person as the landowner relations officer to handle any landowner problems caused by the event;
 - b) Because of the disturbance that large groups of balloons can cause to livestock, pilots should be briefed to fly at a minimum height of 1000 feet above ground level except when making a final approach;
 - c) 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;
 - d) 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.
- 2.1.13 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.
- 2.2 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 9 Air Races and Rallies

1 Air Races

- 1.1 Although air racing has its own code of conduct much of the advice given in the earlier chapters of this document 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.
- 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 DAPLC section 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 DAP AUS at least 42 days prior to the date of the event. (See the appropriate parts of Chapter 5).

Applications for any necessary Exemptions or Permissions must reach the CAA FOI (GA) at least 28 days before the event (See the appropriate parts of Chapter 5).

2 Air Rallies

- 2.1 Notification should be made to DAP AUS 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.
- 2.2 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.
- 2.3 The aerodrome management and ATC 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 DAP AUS at least 42 days prior to the date of the event.
- 2.4 If an event is likely to attract more than 100 aircraft it is essential that proposals are discussed with the CAA ATSD 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 appropriate parts of Chapter 5).

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Chapter 10 Display Parachuting

1 Legal Requirements

- 1.1 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 Flying Display Director.
- 1.2 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 and Exemption' 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.
- 1.3 Parachute dropping aircraft are NOT permitted to execute a low pass after the drop, unless an appropriate Article 162 Permission or Rule 5(3)(b) Exemption has been issued and, if an Article 162 Permission is in force, the pilot holds a valid DA.
- 1.4 Aircraft may only be used for parachute dropping if there is information available in the Flight Manual (or in a Flight Manual Supplement or upon the individual Certificate of Airworthiness) 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 Aircraft Flight Manual and any applicable Flight Manual Supplements.
- 1.5 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 the DAP AU&ORA, the British Parachute Association and to the local police a minimum of 28 days prior to the event.
- 1.6 The parachute display team will require the written permission of the landowner concerned or his agent.

2 Liaison and Reconnaissance

- 2.1 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 6 weeks before the proposed display.
- 2.2 The Event Organiser or Flying Display Director should be present at this visit in order to discuss:
 - a) Weather minima;
 - b) Dimensions of the landing area required by the team (see below);
 - 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.

- 2.3 The Flying Display Director 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).
- 2.4 The Flying Display Director 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. Further details of Parachuting as part of a Flying Display can be found in Chapter 4, Paragraph 15.
- 2.5 **The Landing Area**
- 2.5.1 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.
- 2.5.2 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 land closer than 15 metres to any spectator.
- 2.5.3 The landing area should be suitably marked and should be clearly identifiable by each parachutist from the time he exits the aircraft.

3 The Display

- 3.1 When the display of parachuting forms part of a Flying Display, the commander of the parachute dropping aircraft will require briefing in accordance with Chapter 4, paragraph 11.
- 3.2 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.
- 3.3 The Event Organiser is responsible for the arrangements for crowd control.

Chapter 11 Helicopter Events

1 Introduction

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

2 CAP 403 Helicopter References

- | | | |
|----|------------------------------|---------------------------|
| a) | Parking and Manoeuvring | Chapter 4 paragraph 3.3 |
| b) | Minimum Distances | Chapter 4 paragraph 4.4.1 |
| c) | Downwash & Under Slung Loads | Chapter 4 paragraph 4.6 |
| d) | Weather Minima | Chapter 4 paragraph 8.1 |
| e) | Pleasure Flights | Chapter 4 paragraph 14 |

3 Additional References

The following documents are available via the CAA website:

CAP 428 Safety Standards at Unlicensed Aerodromes (Including Helicopter Landing Sites) (www.caa.co.uk/cap428)

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

CAP 768 Guidance Material for Operations (www.caa.co.uk/cap768)

Environmental Information Sheet No. 6: Helicopter Activities and Private Landing Sites (www.caa.co.uk/environmentalinformation)

Environmental Information Sheet No. 7: Helicopter Activities in the London Control Zone and over Central London (www.caa.co.uk/environmentalinformation)

Guidance for Event Organisers and Helicopter Operators at Special Events (www.caa.co.uk/ga)

Special Events Guidelines, and guidance for Helicopter Site Keepers. (available to view at the British Helicopter Association's website (www.britishhelicopterassociation.org/guidelines.asp)).

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Appendix A Useful Addresses and Telephone Numbers

Civil Aviation Authority – Safety Regulation Group

Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
Telephone 01293 567171
Central Fax 01293 573999
Website www.caa.co.uk

Departments/Sections

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

Aerodrome Standards
(Fire and Crash Rescue Matters)
Head of Inspectorate
Telephone 01293 573251
Fax 01293 573971

Flight Operations Inspectorate (General Aviation)
(FOI (GA))
Telephone 01293 573510/573525
Fax 01293 573973
e-mail ga@caa.co.uk

Personnel Licensing
Telephone 01293 573700
Fax 01293 573996

Airworthiness Division
Applications and Approvals Department
Telephone 01293 768374
Fax 01293 573860

Air Traffic Standards Division (ATSD) (Refer to Chapter 5 for areas of responsibility)

Regional Manager ATS
Southern Regional Office
Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
Telephone 01293 573330
Fax 01293 573974

Regional Manager ATS
Central Regional Office
First Floor
Atlantic House
Atlas Business Park
Simonsbury
Wythenshawe
Manchester
M22 5PR
Telephone 0161 216 4500
Fax 0161 216 4549

Regional Manager ATS
Northern Regional Office
First Floor
Kings Park House
Laurelhill Business Park
Stirling
FK7 9JQ
Telephone 01786 457400
Fax 01786 457440

Civil Aviation Authority – Directorate of Airspace Policy

AU&ORA
CAA House K6 G2
45-59 Kingsway
London WC2 6TE
Telephone 020 7453 6599
Fax 020 7453 6593
e-mail ausops@caa.co.uk

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Email caa@tso.co.uk

National Air Traffic Services

UK Aeronautical Information Services
1st Floor, North Wing
Heathrow House
Bath Road
Hounslow
Middlesex TW5 9AT
Telephone 020 8750 3777
Fax 020 8750 3771
Website www.nats-uk.ead-it.com

Department for Transport (DfT)

Department for Transport (DfT)
 Zone 1/25
 International Aviation Negotiations 2
 Great Minster House
 76 Marsham Street
 London SW1P 4DR
 Telephone 020 7944 5847
 Fax 020 7944 2194
 Website www.dft.gov.uk

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

Ministry of Defence**Military Correspondence**

DARS(MOD)
 Royal Air Force Northolt
 West End Road
 Ruislip
 Middlesex HA4 6NG
 Telephone 020 8833 8095
 Fax 020 8833 8098

Military Participation

RAF Events Team (Air) 1
 Inspectorate of Recruiting (Royal Air Force)
 Adastral Hall
 PO Box 1000
 Cranwell
 Sleaford
 Lincolnshire
 NG34 8GZ
 Telephone 01400 266824
 Fax 01400 2220
grant.macintosh@cranwell.raf.mod.uk

Military Accident Reporting

MOD DCD Staff Duty Officer
 Telephone 020 7218 8938 (24 hrs)

Representative Bodies

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

Representative Bodies contd.

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

The Air Display Association Europe
 The Grange
 Dunston
 Lincoln LN4 2ET
 Telephone/Fax 01526 320726
 Website www.adae.co.uk

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

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

British Gliding Association
 Kimberley House
 47 Vaughan Way
 Leicester LE1 4SE
 Telephone 0116 253 1051
 Fax 0116 251 5939
 Website www.gliding.co.uk

British Hang Gliding and Paragliding
 Association
 The Old School Room
 Loughborough Road
 Leicester LE4 5PJ
 Telephone 0116 261 1322
 Fax 0116 261 1323
 Website www.bhpa.co.uk

Representative Bodies cont.

British Helicopter Association
Graham Suite, West Entrance
Fair Oaks Airport
Chobham
Woking
Surrey GU24 8HX
Telephone 01276 856100
Fax 01276 856126
Website www.britishhelicopterassociation.org

British Microlight Aircraft Association
The Bull Ring
Deddington
Oxford OX15 4TT
Telephone 01869 338888
Fax 01869 337116
Website www.bmaa.org

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

British Parachute Association
5 Wharf Way, Glen Parva
Leicester LE2 9TE
Telephone 0116 278 5271
Fax 0116 247 7662
Website www.bpa.org.uk

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

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

Helicopter Club of Great Britain
Ryelands House
Aynho, Banbury
Oxon OX17 3AT
Telephone 01869 810646
Website www.hcgb.co.uk

Historic Aircraft Association
17 Ravensdale Avenue
Leamington Spa
Warwickshire CV32 6NQ
Telephone 01926 831324
Website www.haa-uk.aero

Light Aircraft Association
Turweston Aerodrome
Brackley
Northants.
NN13 5YD
Telephone 01280 846786
Fax 01280 846780
Website www.lightaircraftassociation.co.uk

RAeC Records Racing & Rally Association
Su Lloyd (Aviation Sec)
5 Springhill Court
Sandhurst Lane
Sandhurst
Gloucester GL2 9NX
Telephone 01452 730874
Website www.airraceuk.co.uk

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Appendix B Skill Levels for Authorisation of Aerobatic Displays

1 Standard

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.

2 Intermediate

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.

3 Advanced

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.

4 Unlimited

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.

Appendix C Military Participation

1 Requests for Participation

1.1 Requests for military participation should be made to the following addresses:

RAF	RAF Events Team (Air) 1 Inspectorate of Recruiting (Royal Air Force) Adastral Hall PO Box 1000 Cranwell Sleaford Lincolnshire NG34 8GZ Tel: 01400 266824 Fax: 01400 2220	(Applications by September 30 for the following season)
RN	JSATO Cormorant House Yeovilton Somerset BA22 8HL Telephone 01935 455286/455332	(Applications by 31 October for the following season)
ARMY	J3 (Displays) HQ JHC Land Command Erskine Barracks Wilton Salisbury Wiltshire SP2 0AG Telephone 01722 436735	(Applications by 31 October for the following season)

1.2 General

When military pilots of the Royal Navy, Army, Royal Air Force and QinetiQ or MOD approved civilian pilots flying UK military aircraft appear at a Flying Display subject to Permission under Article 162 of the ANO they are to observe the more stringent of the limitations laid down in JSP 550 or the Flying Display Permission. (See Article 162 of the ANO, Chapter 3, Paragraph 5 and Chapter 4, Paragraph 6.5.)

2 Responsibilities to Military Organisers

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

3 Incidents

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 number given in Appendix A, followed by a call to the parent unit. Further details will usually be found in the military operation order, where one has been issued.

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Appendix D Relevant Legislation

The Air Navigation Order 2009

Article 50-59 and 61-63	Flight crew, licences and ratings. (Also Schedule 8.)
Article 64	Grant, renewal and effect of flight crew licences.
Article 128	Towing, picking up and raising of persons and articles.
Article 129	Dropping of articles and animals.
Article 130	Dropping of persons.
Article 137	Endangering safety of an aircraft.
Article 138	Endangering safety of any person or property.
Article 161	Power to prohibit or restrict flying.
Article 162	Flying Displays.
Article 163 and 164	Balloons, kites and airships, gliders and parascending parachutes.
Article 166	Regulation of small aircraft.
Article 169	Requirement for air traffic approval for the provision of air traffic services.
Article 177 and 178	Prohibition of unlicensed air traffic controllers, student air traffic controllers and aerodrome flight information service officers.
Article 181, 182 and 203	Licensing of air traffic controllers, student air traffic controllers and aerodrome flight information service officers.
Article 205	Air traffic service equipment.
Article 206	Air traffic service equipment records.
Article 207, 208 and 209	Aerodromes – public transport of passengers and instruction in flying.
Article 223	Restriction with respect to carriage for valuable consideration in aircraft registered outside the United Kingdom.
Article 225	Restriction with respect to aerial photography, aerial survey and aerial work from aircraft registered outside the United Kingdom.
Article 255	Interpretation (definitions).
Article 259 and 260	Public transport and aerial work (examples of private flights).
Article 265-270	Exceptions for certain classes of aircraft.

Rules of the Air Regulations 2007, as amended

Rule 5 Low flying Prohibitions.

| Rule 6 Exemptions from the Low flying Prohibitions.

Rule 8 Rules for avoiding aerial collisions.

Rule 15 Aerobatic manoeuvres.

Rule 21 Speed limitation.

Appendix E Points for Inclusion in the Written and Verbal Briefings

1 The Written Brief

The Flying Display Director 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:

- a) Place, date, time (UTC or local time) and duration of the Flying Display.
- b) Provisional flying programme.
- c) 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.
- d) Air Traffic Services information including:
 - Type of air traffic service available to pilots – A/G, AFIS or ATC
 - Arrival and departure procedures
 - Radio frequencies and, if required, transponder codes
 - Procedures during the Flying Display
 - Holding areas and altitudes
 - Adjacent air traffic conflictions
 - Local flying restrictions
 - Local diversion airfields
- e) Flying Display limits and weather minima.
- f) Need for aircraft commanders to ensure that the aircraft is operated in accordance with any airworthiness limitations.
- g) Only manoeuvres that are known and have been practised, including bad weather 'flat-shows', to be flown.
- h) 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.
- i) Documentation – Copies of all required pilot and aircraft documentation to be forwarded before the Flying Display.
- j) Unless specifically authorised in writing by the CAA FOI (GA), only minimum crew to be carried during the Flying Display.
- k) Procedures to be followed when the Flying Display includes parachuting or parascending.
- l) Procedures for cancellation or variation of programme.
- m) Aircraft parking and refuelling.
- n) Arrangements for Pleasure Flights and visiting aircraft.

- o) Emergency services and procedures.
- p) Contact details for the Flying Display Director and other organisation personnel, including those on the day of the display.
- q) Administrative arrangements – hotel, road transport, feeding arrangements etc.
- r) Details of place and time where the formal pre–Flying Display briefing will be conducted at the event.

2 The Verbal Brief

The Flying Display Director 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. At Flying Displays on non–airfield sites, or for participants who are flying into a display from a different location, this briefing may be conducted by telephone. The verbal briefing will vary at each event; however, the items contained in the briefing checklist overleaf must be included.

Flying Display Briefing Checklist (and Telephone Brief if required)

	Notes
Attendance Check / Roll call.	
Time Check (specify UTC or Local time).	
Show a large-scale map of the Display Area , showing display lines, 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	
Alternative 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 of:	
Flying Display Director	
ATC	
Event Organiser	
Any other relevant contacts	
Questions?	

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Appendix F Certificate Supplied to the Flying Display Director 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) 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.
- c) My Display Authorisation, No is valid until for the aircraft type I intend to fly and I have flown 3 displays or practice displays within the last 90 days with at least one display or practice display on the specific type of aircraft.

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.

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Appendix G Summary of Deadlines for Flying Display or Special Event Organisers

As detailed in Chapter 5, a number of critical deadlines need to be met in the planning for a Flying Display or other Special Event. These are summarised below:

Table 1 Minimum Deadlines to be met if Appropriate Action is Required

Type of Event	DAP - AU&ORA (For RA(T)action)	Air Traffic Action (CAA ATSD) Form CA 2258	Aerodrome Licensing Action (ASD) Form CA 651A	Airspace Specialist 1 AU&ORA (For deconfliction) Form SRG 1303/1304 (copy)	CAA FOI (GA) Section Action Form SRG 1303/1304
Flying Display (Major Event)	120 Days	90 Days	60 Days	42 Days	28 Days
Flying Display (Other Events)	90 Days	90 Days	60 Days	42 Days	28 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	28 Days*
Helicopter Events (Non-display)	90 Days	90 Days	60 Days	42 Days	28 Days*
Air Races and Rallies	90 Days	90 Days	60 Days	42 Days	28 Days*

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

NOTE: The 28 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.

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Appendix H Risk Assessment

1 At any public event there are hazards that may cause harm to people. It is necessary to identify these hazards 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.

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

3 Risk is defined as:

The Severity of the Hazard X The Likelihood of the Occurrence

4 The five steps to risk assessment defined by the HSE are:

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.
Step 3	Identify existing precautions.
Step 4	Evaluate the risks.
Step 5	Decide what further actions may be required, i.e. mitigation.

Step 4 will involve a combination of the likelihood and severity of the identified risk.

5 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.

Therefore, the assessment process must be undertaken by someone who is aware of the risks associated with the activity being assessed 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.

6 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 Fatality
1	2	3	4	5

7 The likelihood of the hazard 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

- 8 Once Severity and Likelihood levels have been decided they should be entered into a matrix, as in the following example:

Hazard	Severity	Likelihood	Rating	Mitigation	M/Factor	Final Rating
Aircraft Accident Involving Crowd Casualties	5	3	15	Adhere to separation distances; ensure crowd remain inside Crowd Line.	Likelihood reduced to 1	5
Fire in Exhibition Area	3	3	9	Provision of First Aid Fire Fighting facilities	Severity reduced to 2	6
Terrorist Incident	5	2	10	Close, early liaison with police	Likelihood reduced to 1 through planning	5

The content of the above table is for example only and does not imply or infer a risk level.

- 9 The Risk Rating is the figure obtained when the Severity assessment is multiplied by the Likelihood assessment.
- 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.
- Mitigation action should be taken whenever possible to reduce risk ratings even when the risk is low.
- High risk ratings should generally be deemed unacceptable and mitigation sought to reduce the rating to an acceptable level - medium or better.
- 10 Organisations should record and retain the details of their risk assessment process.

Appendix I Charges for Permissions for Flying Displays and other Special Events

1 General

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.

2 Charge Bands

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.

3 Charges

The actual charges payable are as published in the CAA Official Record Series 5 and these will vary from time to time. Cheques should be made payable to the 'Civil Aviation Authority'. Payment may also be made direct to the CAA FOI (GA) by personal credit or debit card.

4 Exempt Items

The following items are currently exempt from charges and should not be included when calculating the total number of display items:

- Any race, rally or competition event
- Any parachute display
- Any balloon display

5 Charge Concessions

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 $\frac{1}{3}$ % reduction and one within 90 days a 20% reduction.

6 Charges for Issue of Other Permissions and Exemptions

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

| 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.)

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

| Exemption from Rule 5(3)(c) of the Rules of the Air – Flight below 1500 feet above the highest fixed obstacle within 600 metres of the aircraft.

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

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

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

7 Assessment of Charges

| If in doubt about the amount payable, please contact the CAA FOI (GA) (01293 573510). Unless the full remittance accompanies the relevant Form (SRG 1303 or SRG 1304), the Permission cannot be issued.

Appendix J Specimen Flying Display and Unusual Aerial Activity Notification Forms (SRG 1303 and SRG 1304)

These forms can be found on the CAA web site at www.caa.co.uk/srg1303 and www.caa.co.uk/srg1304

UK Civil Aviation Authority



FLYING DISPLAY NOTIFICATION

Please complete the form online or in block capitals using black or dark blue ink after reading the attached guidance.

1. EVENT DETAILS				
Location of Event	Is this an aerodrome? Yes <input type="checkbox"/> / No <input type="checkbox"/>			
Ordnance Survey Grid Ref : <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td> </td><td> </td><td> </td></tr></table>				
A colour copy of an Ordnance Survey 1:50,000 scale map must be enclosed with any application to show the event location and the layout of the site including:				
<ul style="list-style-type: none"> • The main Flying Display axis/axes and/or boundaries of the Flying Display area • Spectator's enclosures and car parks. 				
Date(s) of the Event :				
Time(s) of the flying activity (Local time):				
Name of the FLYING DISPLAY DIRECTOR : (Person responsible for any flying activity)				
Address :				
E-mail Address:				
Daytime Contact Telephone Number: Fax Number:				
For events of 7 display items or more, please list the Flying Display Director's previous experience of similar size flying displays, including locations and dates of events.				
.....				
.....				
.....				
Name of the EVENT ORGANISER :				
Address:				
E-mail Address:				
Daytime Contact Telephone Number: Fax Number:				
Where applicable, list members of the FLYING CONTROL COMMITTEE . (Refer to CAP 403, Chapter 3 for guidance)				
Name:				

2. PARTICIPATING DISPLAY AIRCRAFT				
A display item is defined in CAP 403 as "a single aircraft, or formation of aircraft flying as one display act". Random collections of aircraft are not considered to be a single display item unless they are flying together as a formation. Parachute teams are not included.				
Item Number	Aircraft Type	Registration	Pilot's Name	Display Activity
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				

(continue on separate sheet if necessary)

3. CONSULTATION WITH EMERGENCY SERVICES	
Name of Police Authority notified:	
.....	
Contact name or reference:	Telephone Number:
Name of Coastguard or Port Authority notified (For Coastal Display Sites) :	
.....	
Contact name or reference:	Telephone Number:

4. AIRSPACE REQUIREMENTS

For any required NOTAM action, please indicate the extent of the aerial activity:

Maximum height required feet amsl

Maximum radius from the event site nm

Any other information (holding patterns etc)

Air Traffic Authority consulted (for events in controlled airspace)

Contact name: Telephone Number:

5. CERTIFICATE OF COMPLIANCE BY THE FLYING DISPLAY DIRECTOR

I, (Name)

being the Flying Display Director of a Flying Display to be held

at

on 20

Hereby certify that the event has been, or will be, organised in accordance with the relevant provisions of CAP 403. I further certify that the appropriate fee for the Permission requested has been paid to the CAA.

Signed Date 20

6. SUBMISSION INSTRUCTIONS

Send your completed application form to:

Civil Aviation Authority, Flight Ops Inspectorate (General Aviation), 1W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR

Telephone No: 01293 573510/573525

Fax: 01293 573973

together with any attachments and appropriate payment in accordance with the CAA Scheme of Charges (General Aviation) to arrive **at least 28 days** before the event. Additionally, a copy of this form, less any attachments or payment, should be forwarded to:

Directorate of Airspace Policy, Airspace Utilisation Section, Room K102, CAA House, 45-59 Kingsway, London WC2B 6TE

Email ausops@caa.co.uk

Telephone No: 020 7453 6599

Fax: 020 7453 6593

to arrive **at least 42 days** before the event

7. PAYMENT METHODS

All fees must be paid in advance, failure to do so will delay your application.

I enclose a Cheque or postal order made payable to CIVIL AVIATION AUTHORITY for £

For credit or debit card payments, please complete CAA Card Payment Authorisation Form (SRG 1305) and enclose with this application.

We are unable to accept American Express, Connect or other charge cards.

General Guidance

This form should be completed for Flying Displays that require a Permission under Article 162 of the Air Navigation Order – That is, events which are **advertised and open to the Public**. Guidance on Air Displays is provided in CAP 403, and specific advice can be obtained by telephoning the CAA, Flight Operations Inspectorate (General Aviation) on 01293 573510 or 573525.

Applications for Permissions and Exemptions for other Events must be made on form SRG 1304.

All Sections must be completed in full on all applications. Section 5 may be completed in outline on initial application and full details forwarded when available, but not later than two weeks prior to the display.

This form provides the necessary information for the CAA to process an Article 162 Permission, which may be required under the ANO. It is also used for the DAP–AUS to effect the necessary airspace co-ordination and notification. Please ensure that the form is correctly and legibly completed with all questions appropriate to the planned event answered. Additional information is required for the establishment of a temporary ATC, AFIS or A/G Unit using Form SRG 1417.

Applications cannot be processed without receipt of the correct fee in accordance with the CAA Scheme of Charges (General Aviation). Advice on ATC requirements may be made to CAA Air Traffic Standards Division on 01293 573330.

When military participation at an event has been agreed, the Ministry of Defence (MoD) will require the organiser to complete a separate questionnaire. This MoD form should be completed and returned as requested and **not** sent with this application.

Section 3 – Airspace Requirements

CAP 403, Chapter 5 details the minimum time scales and contact details in respect of the provision of Temporary Restricted Airspace, air traffic service requirements and aerodrome licence requirements.

Section 4 – Consultation with Emergency Services

Details of the event, irrespective of the size, must be passed to the police and emergency services as soon as the event is proposed. (CAP 403, Chapter 5 refers). For a major event, pre-planning with the emergency services is essential.

Section 5 – Participating Aircraft

All aircraft (civil and military) must be included. Parachute displays and pleasure flying are not classed as 'items', but must be included for information.

UK Civil Aviation Authority



SPECIAL EVENTS AND UNUSUAL AERIAL ACTIVITY – APPLICATION

Please complete the form online or in block capitals using black or dark blue ink after reading the attached guidance.

1. EXEMPTION OR PERMISSION REQUIRED

(Please tick appropriate box)

ANO Article 129 Rule 11

Rule 5(3)(c) Rule 14 Rule 5(3)b

Other (please specify)

2. ACTIVITY DETAILS

Location of activity

Ordnance Survey Grid Ref :

Date(s) and Time(s) of the Activity (Local Time).....

Description of Flying Activity*

Name of Applicant

Address

E-mail

Daytime Contact Tel No Fax

Aircraft Operator Aircraft Operator

Aircraft Type Aircraft Type

Aircraft Registration Aircraft Registration

Pilot's Name Pilot's Name

Pilot's Experience Pilot's Experience

*(continue on a separate sheet)

3. RULE 5(3)(b) APPLICATIONS

Name of Event/Airfield

Name of the Event Organiser (Person Responsible for Flying Activity)

Address

E-mail

Daytime Contact Tel No Fax

SITE LAYOUT and LOCATION

An up-to-date 1:50,000 scale Ordnance Survey map (or colour copy) **must** be enclosed to show 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.

4. CONSULTATION WITH EMERGENCY SERVICES

Name of Police Authority consulted

.....

Contact name Telephone No.

Name of Coastguard and/or Port Authority consulted (Coastal sites)

.....

Contact name Telephone No.

5. AIRSPACE REQUIREMENTS (FOR RULE 5(3)b) AND ARTICLE 66 APPLICATIONS

For any required NOTAM action, please indicate the extent of the aerial activity:

maximum height required feet amsl maximum radius from the event site nm

any other information (holding patterns etc.)

.....

Air Traffic Authority consulted (for events in controlled airspace)

.....

Contact name Telephone No.

6. CERTIFICATE OF COMPLIANCE BY THE APPLICANT

I, (Name)

being the person responsible for the Aerial Activity

at

on 20

Hereby certify that the activity will be organised in accordance with current regulations and any relevant provisions of CAP 403.

Signed Date 20

7. SUBMISSION INSTRUCTIONS

Send your completed application form to:

Civil Aviation Authority, Flight Ops Inspectorate (General Aviation), 1W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR

Telephone No: 01293 573227/573517/573525

Fax: 01293 573973

together with:

any attachments and appropriate payment in accordance with the CAA Official Scheme of Charges No. 5 to arrive **at least 28 days** before the event.

A further copy of the notification form, less attachments and payment, should be forwarded, where applicable, to:

Directorate of Airspace Policy, Airspace Utilisation Section, 45-59 Kingsway, London WC2B 6TE Email: ausops@caa.co.uk

Telephone No: 020 7453 6599

Fax: 020 7453 6593

to arrive **at least 42 days** before the event**8. PAYMENT METHODS**

All fees must be paid in advance. Failure to do so will delay your application.

I enclose a Cheque or postal order made payable to CIVIL AVIATION AUTHORITY for £

Card payments (VISA/MASTERCARD/SWITCH) – please complete CARD PAYMENT AUTHORISATION form (SRG1305) and send with this application.

We are unable to accept American Express, Connect or other charge cards.

General Guidance

This form should be completed for all events that require an Exemption or Permission under the Air Navigation Order or Rules of the Air Regulations. General guidance on special events is provided in CAP 403, and specific advice can be obtained by telephoning the CAA, Flight Operations Inspectorate (General Aviation) on 01293 573510 or 573525.

Application for a Flying Display Permission under ANO Article 162 must be made on form SRG 1303.

Sections 1, 2 and 6 must be completed in full on all applications. Sections 3 and 4 must also be completed when the application is for an Exemption under Rule of the Air 5(3)(b).

This form provides the information necessary for the CAA to process any Exemption or Permission, which may be required under the ANO or Rules of the Air. It is also used for the DAP-AUS to effect the necessary airspace co-ordination and notification. Please ensure that the form is correctly and legibly completed with all questions appropriate to the planned event answered. Additional information is required for the establishment of a temporary ATC, AFIS or A/G Unit using Form CA 2258.

Applications cannot be processed without receipt of the correct fee in accordance with the CAA Official Record Scheme of Charges.

Advice on ATC requirements may be made to Air Traffic Services Standards Division on 01293 573330.

When military participation at an event has been agreed, the Ministry of Defence (MoD) will require the organiser to complete a separate questionnaire. This MoD form should be completed and returned as requested and **not** sent with this application.

Section 4 – Consultation with Emergency Services

Details of the event, irrespective of the size, must be passed to the police and emergency services as soon as the event is proposed. (CAP 403, Chapter 5 refers)

Section 5 – Airspace Requirements

CAP 403, Chapter 5 details the minimum time scales and contact details in respect of the provision of Temporary Restricted Airspace, air traffic service requirements and aerodrome licence requirements.

Section 7 – Submission Instruction

Notification forms received later than 42 days prior to an event may not always be processed during busy periods. Nevertheless, the requirement remains that a copy of this form **must be** submitted to DAP-AUS for NOTAM action in all cases specified in Section 5, even if the 42 day deadline cannot be met.

Appendix K Specimen Display Authorisation Application and Application for the Renewal or Upgrade of a Display Authorisation Forms (SRG 1301 and SRG 1302)

Form SRG 1302 can be found on the CAA web site at www.caa.co.uk/srg1302.

SRG 1301 is not available on line.

DISPLAY PILOT AUTHORISATION APPLICATION – PART TWO, EVALUATION

(To be completed by the Display Authorisation Evaluator) Only Form SRG 1301 issued by the CAA will be accepted.

Name of Applicant.....

Aircraft Type and mark flown for the Evaluation

Form SRG 1301 – Part 1 correctly Completed by Applicant YES/NO

5. DOCUMENTATION		
Document	Satisfactory/Valid	Unsatisfactory/Not Valid
Applicant's Log Book		
Applicant's previous Spin/Aerobatic Training (if applicable)		
Applicant's Licence/Medical/Cert of Experience or Test/Aircraft Exemption (if required)		
Aircraft Documentation – C of A/Permit to Fly/Release to Service etc. (Foreign Registered Aircraft – Article 225 Permission/Exemption to fly in UK Airspace)		
Applicant has a current copy of CAP 403		

6. GROUND BRIEFING			
Applicant's Knowledge of:	Satis	Unsatis	Comments
CAP 403			
The Air Navigation Order (As amended) (CAP 393)			
The Rules of the Air Regulations			
Licence and DA validity & currency			
Limitations: Aircraft and Engine			
Limitations: Personal			
Display regulations – separation distances, minimum heights etc.			
Mental Attitude to display flying / Human Factors			

7. DISPLAY PLANNING			
Applicant's display sequence – logic, energy management, aerobatic gates and speeds etc/spin planning			
Emergency planning – Escape manoeuvres			
Asymmetric engine planning			

8. FLIGHT DEMONSTRATION			
Type of Demonstration: Solo/Formation/Tailchase/Flypast/Aerobatic/Flat Show/Other			
Planned Limits	Elapsed time	Minutes	
	Weather minima		
	Minimum height agl	Max speed	
	Max G (+ve)	Max G (-ve)	
Evaluation Flight	Satis	Unsatis	Comments
Pre-flight Actions			
Positioning & wind allowance			
Timing – Actual against planned			
Content – Actual against planned			
Presentation and Framing			
Adherence to limits			
Overall safety			
General handling			

12. PAYMENT METHODS

All fees must be paid in advance. Failure to do so will delay your application.

I enclose a Cheque or postal order made payable to CIVIL AVIATION AUTHORITY for £

Card payments (VISA/MASTERCARD/SWITCH) – please complete CARD PAYMENT AUTHORISATION form (SRG\1305) and send with this application.

We are unable to accept American Express, or other charge cards.

13. SUBMISSION INSTRUCTIONS

Please return the completed form together with payment in accordance with the CAA Official Record Scheme of Charges No. 5 to:

Civil Aviation Authority, Flight Ops Inspectorate (General Aviation), 1W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR

Telephone No: 01293 573227/573517/573525

Fax: 01293 573973

General Guidance

- 1) Detailed instructions on the completion of this form are contained in CAP 403. A list of Display Authorisation Evaluators is available from the CAA FOI(GA) Telephone No. 01293 573510/573526.

2) Notes

(a) Applications cannot be processed without receipt of the correct fee in accordance with the CAA Official Record Scheme of Charges No. 5.

(b) Applications should be sent to the CAA **at least 28 days** prior to the date required.

3) Regulation 6(5) of the Civil Aviation Authority Regulations 1991 provides as follows:

'Any person who has failed any test or examination which he is required to pass before he is granted or may exercise the privileges of a personal licence may within 14 days of being notified of his failure request that the CAA determine whether the test or examination was properly conducted.' This provision would also apply to the initial issue, upgrade, or renewal of a Display Authorisation required by Article 162 of the ANO.

The case will be determined by a member or members of the CAA who are appointed by the Secretary of State as opposed to employees of the CAA. In order to succeed the candidate will have to satisfy the CAA that the test or examination was not properly conducted. Mere dissatisfaction with the result is not enough. Any person wishing to appeal against the conduct of a test or examination for the initial issue, upgrade or renewal of a Display Authorisation must do so to the FOI(GA) at the address above.

UK Civil Aviation Authority

DA No.



APPLICATION FOR THE RENEWAL OR UPGRADE OF A DISPLAY AUTHORISATION – PART ONE

(To be completed by the Applicant)

Please complete the form online or in block capitals using black or dark blue ink after reading the following.

- 1) Detailed instructions on the completion of this form are contained in Chapter 6 of CAP 403. A list of Display Authorisation Evaluators is available from the CAA FOI(GA) Department.
- 2) • In the case of an upgrade to a Display Authorisation, applications cannot be processed without receipt of the correct fee in accordance with the CAA Official Record Scheme of Charges.
• In the case of an upgrade to a Display Authorisation, applications should be sent to the CAA **at least 28 days** prior to the date required.
- 3) **Regulation 6(5) of the Civil Aviation Authority Regulations 1991 provides as follows:**

'Any person who has failed any test or examination which he is required to pass before he is granted or may exercise the privileges of a personal licence may within 14 days of being notified of his failure request that the CAA determine whether the test or examination was properly conducted.' This provision would also apply to the initial issue, upgrade, or renewal of a Display Authorisation required by Article 162 of the ANO.

The case will be determined by a member or members of the CAA who are appointed by the Secretary of State as opposed to employees of the CAA. In order to succeed the candidate will have to satisfy the CAA that the test or examination was not properly conducted. Mere dissatisfaction with the result is not enough. Any person wishing to appeal against the conduct of a test or examination for the initial issue, upgrade or renewal of a Display Authorisation must do so to FOI(GA) at the address below.

- 4) Please return the completed renewal form and, in the case of an upgrade to a Display Authorisation, payment in accordance with the CAA Official Record Scheme of Charges No. 5 to:

Civil Aviation Authority, Flight Operations Inspectorate (General Aviation), 1W, Aviation House, Gatwick Airport South, West Sussex RH6 0YR
Telephone No: 01293 573510/573525 Fax: 01293 573973

1. PERSONAL DETAILS	
Personal reference number (if known) <input type="text"/>	<input type="text"/>
Surname	Forenames Title
Address	
.....	
.....	
.....	Postcode
Telephone Number (Day).....	Telephone Number (Evening)
E-mail address	Fax Number

2. LICENCE DETAILS		
Licence Type	Number	Expiry Date
Hours flown: in last 12 months	Total	As P.1
Overall	Total	As P.1
Last Evaluator	Date of DA Expiry	

3. NUMBER OF DISPLAYS, AND PRACTICE DISPLAYS, FLOWN DURING THE LAST 12 MONTHS				
	FLYPAST DISPLAYS ONLY	AEROBATIC DISPLAYS	FORMATION DISPLAYS	PRACTICE DISPLAYS
SINGLE-ENGINE AIRCRAFT				
MULTI-ENGINE AIRCRAFT				
OTHER TYPES				
I apply for renewal of my Display Authorisation				
Signature		Date		

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